EXPOSURE TO COMMUNITY VIOLENCE AND POSTTRAUMATIC STRESS SYMPTOMATOLOGY AMONG DIVERSE, URBAN ADOLESCENTS.

by

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Abstract

EXPOSURE TO COMMUNITY VIOLENCE AND POSTTRAUMATIC STRESS SYMPTOMATOLOGY AMONG DIVERSE, URBAN ADOLESCENTS

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Prevalence rates indicate that those most likely to be exposed to community violence are older adolescents. However, few studies exist comprising samples of culturally diverse older adolescents. The relationship between exposure to community violence and posttraumatic stress symptoms (PTSS) among a diverse sample of older adolescents was investigated in this study.

The theoretical framework chosen to explain the connection between exposure to community violence and PTSS was the combination of two theories, Posttraumatic Stress Disorder (PTSD) and schema theory. PTSD theory provides a descriptive theory and schema theory provides an explanatory theory on how these variables connect. Neither theory was tested in this dissertation.

A quasi-experimental research design was conducted on a sample of 429 research participants (via secondary data). Six hypotheses were tested; the overarching hypothesis is as follows: Among older diverse adolescents, the higher the level of total exposure to community violence the higher the level of PTSS.

Several statistical tests were conducted (e.g. *t*-tests, *F*-tests, multiple regression), confirming most of the hypotheses. The overarching hypothesis was confirmed,

demonstrating that the relationship between total exposure to community violence and PTSS is statistically significant among diverse older adolescents. This relationship also remains the same for both males and females alike; among Whites, African Americans, Latinos and Asians; and when controlling for two potentially contaminating variables (i.e., gender and race/ethnicity). The independent and overlapping relationships between PTSS and total exposure to community violence were also statistically significant. Lastly, a multiple correlation between PTSS and these four variables, victimization by community violence, witnessing of community violence, gender, and race/ethnicity, is substantially larger than any bivariate relationship between PTSS and any one of the antecedent variables. Implications for social work practice, social work policy, and social work education are discussed.

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There are "strong ties between exposure to violence and …posttraumatic stress symptoms, a malady usually associated with those exposed to war. Post-traumatic stress is characterized by nightmares, flashbacks, irritability … and can last for years if left untreated. 'Often these kids are not recognized as victims,' says Dr. Steven Marans, Assistant Professor of Psychoanalysis at Yale University. 'Yet their suffering is really quite extensive and pronounced.'" (Johnson, 1995).

CHAPTER 1

INTRODUCTION

Community violence has been referred to as an epidemic. "Community violence has reached epidemic proportions, as findings suggest that one-third or more of [urban] children have been directly victimized and almost all [urban] children have been exposed" (Vermeiren, Schwab-Stone, Deboutte, Leckman, & Ruchkin, 2003, p. 535). The relationship between total exposure to community violence and posttraumatic stress symptomatology (PTSS) is the focus of this study. It is surprising that such a study has rarely been done before. The first part of this chapter introduces the concept of community violence and how it relates to the field of social work. The second part of this chapter focuses on justifying several aspects of this study.

Total exposure to community violence is a potentially traumatic experience that involves a "threat to one's physical integrity….or...to the physical integrity of another person" (American Psychiatric Association, 2000, p. 463). The term "community violence" is used rather loosely. For example, it may comprise one or more types of violence, e.g., physical assault or direct victimization (Richters & Saltzman, 1990), sexual assault (Foster, Kuperminc, & Price, 2004; Lipschitz, Rmansmusson, Anyan,

Cromwell, & Southwick, 2000; Scarpa et al., 2002), domestic violence (Berton & Stabb, 1996; Singer, Anglin, Song, Lunghofer, 1995), school violence (Boney-McCoy & Finkelhor, 1995), witnessing violence (Fitzpatrick & Boldizar, 1993; Jenkins & Bell, 1993; McGee, 2003), and various time frames (Wilson & Rosenthal, 2003). In order to delimit the present inquiry, this study will focus on older adolescents (males and females of multiple racial/ethnic groups) and the effects of having been directly victimized by or directly witnessing violence inflicted upon non-family members in an open public area (the community) during the prior three years. The term, total exposure to community violence, will be used in this study to refer to the combination of being directly victimized by and directly witnessing community violence. The main reason to delimit the inquiry is because total exposure to community violence is so prevalent amongst adolescents as compared to the other types of violence (see in next half of this chapter) (Margolin & Gordis, 2000).

Relation to the Field of Social Work

There are few studies of community violence in the social work literature. Since social workers likely work with many individuals who have been exposed to community violence, this lack of study is both curious and problematic. As Guterman and Cameron (1997) state, "Social work professionals are especially well positioned to handle this charge (community violence)...[yet]…it ... remains perplexing that so little attention is devoted to the problem of community violence in social work practice ..." (pg. 496).

A search of the social work literature covering the last decade found few articles on the topic. This search was limited to six respected (Bowker, 2002) and well known social work journals (Thyer & Bentley, 1986, p. 71): *Social Work, Social Work Research, Social Service Review, Journal of Social Work Education, Journal of Social Service Research, and Families in Society*–previously known as *Social Casework.*

The search used the following key words: community violence, witness violence, street violence, urban violence, co-victimization, and neighborhood violence. All of the six journals selected are indexed in two databases: *Social Work Abstracts* and *Social Service Abstracts* (see Bowker, 2002); therefore, the searches were conducted in these two databases. Only two publications on community violence were found: Guterman & Cameron (1997) and O'Keefe & Sela-Amit (1997). However, there is a substantial literature on community violence in other fields (e.g. psychology, psychiatry, nursing, law - enforcement & sociology).

A review of the Social Work Almanac (Ginsberg, 1992) and Social Work Speaks (National Association of Social Workers, 2006) produced similar findings: there is a lack of attention to the topic of community violence in the social work literature. It is not clear why social workers have not focused more on community violence, considering its prevalence, the likelihood that social workers work with clients who have been exposed to community violence and its potential negative impact on these clients.

JUSTIFICATION

In addition to studying the relationship between total exposure to community violence and PTSS, this study focuses on older adolescents, 18-20, who are racially and ethnically diverse. It will include an analysis of gender; and of witnessing community violence versus being directly victimized. Each of these variables is justified in this section.

Community Violence

However defined, community violence in the United States is considerably more common than other types of violence (Margolin & Gordis, 2000). Governmental figures have documented aspects of community violence and have reported approximately 860,000 incidents of aggravated assault during 2006. This represents more than 62% of all reported violent crimes (Crime in the United States, 2006). The Uniform Crime Reports (i.e., "the 'official' source of crime statistics in the United States) (Englander, 2003, p. 14) estimate one aggravated assault is committed every 36.6 seconds (Crime in the United States, 2006). These figures provide a fraction of the total incidence of community violence because other crimes undoubtedly go undetected and unrecorded (Englander, 2003).

According to the U.S Surgeon General (U.S. Department of Health and Human Services, 2001), total exposure to community violence is considered a major public

health problem due to its high prevalence (Rosenberg, O'Carroll, & Powell, 1992) and to the potentially traumatic affects (Margolin & Gordis, 2000).

Posttraumatic Stress Symptomatology (PTSS)

Total exposure to community violence may result in a variety of negative outcomes. Some of these include: poor academic performance (Mazza & Overstreet, 2000; Rosenthal & Wilson, 2003a); aggression (Farrell & Bruce, 1997; O'Keefe, 1997); anxiety (Mazza & Overstreet, 2000; Singer et al., 1995); depression (Gorman-Smith & Tolan, 1998; O'Keefe, 1997); psychological distress (Rosenthal & Wilson, 2001; Rosenthal & Wilson, 2003a; Wilson & Rosenthal, 2003); and suicidal behavior (Mazza & Reynolds, 1999).

This exposure, by definition, can fulfill the trauma criteria required for a PTSD diagnosis (American Psychiatric Association, 2000, p. 463). Yet many people, including older adolescents, may have some symptoms but not meet the requirements for the full diagnosis (Giaconia et al., 1995; Kaplan, Sadock, & Grebb, 1994; McMillen, North, & Smith, 2000; Norris, 1992; Terr et al., 1999).

Although PTSS derives from PTSD, it is not a diagnosable mental health disorder, even though it is composed of three psychological clusters: intrusive experiences (i.e., unwanted re-experiencing of disturbing thoughts), defensive avoidance (i.e., avoidance of stimuli associated with negative thoughts), and anxiety (i.e., uneasy feelings, hyper-vigilant condition). More detail about this concept may be found in chapter 2.

Upon discovering that individuals suffer more from a form of PTSD as opposed to the general diagnosis of PTSD, researchers did study PTSS in its own right (Kaplan et al., 1994), including its relationship to community violence (Lipschitz et al., 2000; Ozer & Weinstein, 2004). However, these studies have not focused on older adolescents.

Justification for Studying Older Adolescents

The justification for studying total exposure to community violence and PTSS among older adolescents is threefold. First, older adolescents are the age group most likely to be exposed to community violence (Rennison & Rand, 2003). Victimization rates for individuals peak at the end of adolescence, at age 20, and then steadily decline (Bureau of Justice Statistics, 2003; Perkins, 1997; U.S. Department of Health and Human Services, 2001). When compared with young adults (25 – 34 year olds), adolescents (12 – 19 year olds) are victimized at a much higher rate - 82/1000 versus 20/1000 (Catalano, 2005).

The second reason is that PTSS affects close to half of the adolescent population (Springer & Padgett, 2000). Third, adolescents are in an "inherently stressful stage of development in which they must simultaneously manage a multitude of physical and psychosocial changes" (Hardin, Weinrich, & Weinrich, 1994, p. 429). Since the adolescent time period involves drastic changes in several aspects of their lives, these adolescents may be more susceptible to stressors (Hardin, Carbaugh, Weinrich, Pesut, & Carbaugh, 1992) and if exposed to community violence they may be more likely to develop PTSS than other age groups.

Justification for Studying a Diverse Sample

No studies on the relationship between total exposure to community violence and PTSS have used a diverse racial/ethnic sample of older adolescents. Most studies have been conducted on homogenous samples (Berthold, 1999; Foster et al., 2004; Horowitz, Weine, & Jekel, 1995; Jenkins & Bell, 1994; Lipschitz et al., 2000; Mazza & Reynolds, 1999; Overstreet, Dempsey, Graham, & Moely, 1999; Scarpa et al., 2002; Slovak & Singer, 2002). The few studies using diverse racial/ethnic samples (Boney-McCoy & Finkelhor, 1995; McCart et al., 2007) comprised younger age adolescents.

Different racial/ethnic groups have been found to have different rates of total exposure to community violence. In two separate studies of younger adolescents, African American and Latinos reported more total exposure to community violence than Whites or Asian-American adolescents (Crouch, Hanson, Saunders, Kilpatrick, & Resnick, 2000; O'Keefe & Sela-Amit, 1997). However, there are other studies that report no difference in total exposure to community violence by race/ethnicity (Berman, Kurtinez, Silverman, & Serafini, 1996; Rosenthal & Wilson, 2003b). These inconsistent findings show that more studies need to be conducted on several racial/ethnic groups.

In summary, the high prevalence rate of PTSS and the lack of study between PTSS and total exposure community violence among older adolescents, show that this is a topic that needs to be explored so that we can better understand the psychological symptoms exhibited by older adolescents in relation to their total exposure to community violence.

Justification for Studying Gender

This study will consider gender because there are empirical findings that show a relationship between gender and community violence and between gender and PTSS (as will be described below)—but not connecting the relationship between total exposure to community violence and PTSS by gender.

National governmental data indicate that adolescent males are twice as likely as adolescent females to experience community violence (Bureau of Justice Statistics, 2003; Perkins, 1997). Other studies confirm that males are more likely to be victimized than females (Fehon, Grilo, & Lipschitz, 2001; Gladstein, Rusonis, & Heald, 1992; Jenkins & Bell, 1994; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995; O'Keefe, 1997; Rosenthal, 2000b; Scarpa & Haden, 2006; Schwab-stone et al., 1999; Singer et al., 1995; Slovak & Singer, 2002; Springer & Padgett, 2000). Yet, there are studies that show no gender difference in total exposure to community violence (Cooley-Quille & Lorion, 1999; Foster et al., 2004; Giaconia et al., 1995; Slovak & Singer, 2002; Springer & Padgett, 2000). These inconsistent findings on total exposure to community violence by gender suggest that more studies need to inquire upon this relationship.

Gender does have a relationship with PTSS. Female adolescents report more lifetime PTSS compared to their males counterparts (Foster et al., 2004; Springer & Padgett, 2000). In some cases, females reported more than double that of males: 11% for females versus 2% for males (Reinherz, Giaconia, Leftkowitz, Pakis, & Frost, 1993). This gender difference continues to exist even when both genders are equally likely to

experience the same type of trauma (Reinherz et al., 1993). Therefore, gender will be examined to see if there is a gender difference in the relationship between total exposure to community violence and PTSS.

Justification for Studying Witnessing and Victimization Separately

Total exposure to community violence includes two components: direct victimization by community violence and direct witnessing of community violence. Each component has it unique prevalence rate, which may affect the relationship between total exposure to community violence and PTSS. Studies comparing the two reported that witnessing is the more prevalent of the two (Berman et al., 1996; Berthold, 1999; Fitzpatrick & Boldizar, 1993; Foster et al., 2004; Horowitz et al., 1995; Jenkins & Bell, 1993; Lipschitz et al., 2000; Muller, Goebel-Fabbri, Diamond, & Dinklage, 2000; Rosenthal, 2000a; Rosenthal, Wilson, & Baboolal, 2004; Scarpa et al., 2002; Singer et al., 1995; Slovak & Singer, 2002). Since witnessing of community violence is more prevalent than direct victimization, then the relationship between witnessing and PTSS may be stronger when compared to direct victimization and PTSS. Therefore, the two components should be analyzed separately when examining the relationship between total exposure to community violence and PTSS.

Analyzing the two components separately may also help in considering practical issues. For example, in a therapeutic session, if an adolescent exhibits negative psychological issues, a counselor will not only make an assessment of victimization

exposure but will also do so for the witnessing of community violence. This more precise analysis will help the counselor to better address the needs of the client.

Summary

This study asks: Is there a relationship between total exposure to community violence and PTSS among diverse older adolescents? Total exposure to community violence is a widespread epidemic, especially among older adolescents, and considered a public health problem. It is perplexing that social work research has not addressed this topic, especially since social workers are likely to work with clients who have been exposed to community violence. Related issues that this study will analyze are: 1) The relationship between total exposure to community violence and PTSS by gender and by race/ethnicity; and 2) A comparison of the effects of direct victimization versus the witnessing of community violence on PTSS.

CHAPTER 2

CONCEPTUAL ANALYSIS

Posttraumatic stress disorder (PTSD) theory and schema theory provide the theoretical conceptualization underlying the present study: the relationship between total exposure to community violence and posttraumatic stress symptomatology (PTSS). This chapter will be divided as follows: (a) the concept of PTSS; (b) PTSD theory with its history and progression; (c) a brief introduction to schema theory; and (d) the integration of PTSD and schema theories as the theoretical underpinning of the relationship between total exposure to community violence and PTSS.

Concept of Posttraumatic Stress Symptomatology (PTSS)

The concept of PTSS originated from research and clinical observations on the psychopathology associated with PTSD symptoms. The psychopathology of PTSD resides in three of the symptom clusters of PTSD (i.e., persistently re-experiencing, persistently avoiding, and increased arousal) and not in the diagnosis of PTSD. Therefore, PTSS is the pathological aspect of PTSD. However, PTSS and PTSD are different in that PTSD is dichotomous, PTSS is not; and PTSD is a diagnosis where PTSS is not. Since PTSS is composed of three symptom clusters, individuals may manifest symptoms in none, one, two, or three of these. Therefore, an individual's level of symptomatology may vary from none to high.

An illustration is provided (see Figure 1) for the reader to compare the similarities and differences between PTSD and PTSS. For PTSD, both parts of Criterion A are crucial aspects to the diagnosis; however this is not the case for PTSS. A fearful (A2), threatening event (A1) is not required for PTSS. A diagnosis of PTSD requires Criteria B, C, and D to each have specific degrees of symptomatology (a specific amount of examples that need to be fulfilled for each criterion). However, PTSS differs in that specific amounts are not required. For example, in PTSD, an individual must exhibit one example of persistently re-experiencing (Criterion B), three examples of persistently avoiding (Criterion C), and two example of increased arousal (Criterion D) for a PTSD diagnosis. These strict requirements do not apply to PTSS. Instead, PTSS exists in levels, depending upon the amount of symptom clusters in existence.

Significance of Posttraumatic Stress Symptoms

PTSS, the consequent or central dependent variable of this study, is an important concept to examine because this study is not focusing on identifying a specific event as is required for a PTSD diagnosis. No horrifying threatening events or specific psychological symptoms are required to identify adolescents suffering from PTSS.

Researchers have found relationships between "indirect" traumatic events (Root, 1992, p. 239) and psychological symptoms in situations not strictly adhering to PTSD criteria (Kaplan et al., 1994). These events are insidious and not necessarily horrifying, yet may still lead to PTSS. These researchers assert that even without a diagnosis of PTSD, individuals with *subclinical forms* of PTSD that is, PTSS deserve attention (Stein, Walker, Hazen, & Forde, 1997).

Figure 1

Differences between PTSD and PTSS

Posttraumatic Stress Disorder (PTSD)			Posttraumatic Stress Symptomatology (PTSS)
A diagnosis		≠	A level
Criterion A	Person exposed to traumatic event…	≠	Not Applicable
A – 1	…involved actual or threatened death or serious injury…		
A – 2	…response involved intense fear, helplessness…	≠	Not Applicable
	Symptom clusters		
Criterion B	At least one symptom of persistently re-experiencing trauma	≈	Intrusive re-experiencing symptoms
Criterion C	At least three symptoms of persistently avoiding stimuli associated with trauma	≈	Defensive avoidance symptoms
Criterion D	At least two symptoms of increased arousal	≈	Anxiety symptoms
Criterion E	Duration of disturbance is more than one month	≠	Not Applicable
Criterion F	Disturbance causes clinically significant distress in…important areas of functioning	≠	Not Applicable

Note. ≠ does not match; ≈ resemblance.

When researchers found that many more individuals suffered from PTSS than PTSD, they began to address these "subclinical" symptoms (Kaplan et al., 1994). Among individuals who have suffered devastating natural disasters, there are higher prevalence rates of PTSS versus prevalence rates of a PTSD diagnosis (McMillen et al., 2000; Terr et al., 1999). The prevalence of PTSD diagnosis among those who experience traumatic events varies dramatically depending on the type of trauma (Ozer & Weiss, 2004; Yehuda & McFarlane, 1995). Vietnam veterans have a prevalence rate of PTSD ranging between 15% and 30% (Yehuda & McFarlane, 1995), and individuals exposed to criminal violence, other veterans or disaster victims have prevalence rates that range from 3% to 58% (American Psychiatric Association, 1994). In fact, low rates of PTSD diagnosis among individuals do not necessarily convey low symptoms of PTSD.

Some researchers have speculated on the required criteria for a PTSD diagnosis. They indicate the symptoms' criteria are too strict (McMillen et al., 2000; Norris, 1992; Smith & North, 1993; Schutzwohl, & Maercker, 1999); that irrespective of when the trauma occurred, some symptoms only emerge later in life (North, Smith, & Spitznagel, 1997). Several researchers have even adopted different terms for the phenomenon of having extensive PTSD symptoms but not qualifying for the diagnosis. These term include: "partial PTSD" (Stein et al., 1997); "subsyndromal PTSD" (Schutzwohl, & Maercker, 1999; Terr et al., 1999); "subthreshold" PTSD (Stein et al., 1997; Terr et al., 1999); "subclinical form of PTSD" (Kaplan et al., 1994); "PTSD symptoms" (McMillen et al., 2000; Pfefferbaum et al., 2000); and "posttraumatic stress symptoms" (Briere, 1995; Ozer & Weiss, 2004; Pfefferbaum, 1997; Stein et al., 1997).

Two theories have been integrated to explain the relationship between total exposure to community violence and PTSS. PTSD theory derives from a psychiatric diagnostic model, which posits but does not explain how an individual's exposure to severe horrifying trauma is likely to exhibit debilitating psychological symptoms. For the purpose of this study, schema theory is presented solely to contribute to the descriptive theory of PTSD and to explain how total exposure to community violence is related to PTSS.

Descriptive theory of PTSD

PTSD theory concerns the individual's experiences and feelings during and after the trauma leading to specific psychological symptoms (American Psychiatric Association, 2000, pp. 467 - 468). The basis connecting trauma and psychological symptoms provides a theoretical descriptive connection between total exposure to community violence and PTSS.

History and Etiology of PTSD

The concept of trauma and its psychological effects dates back to the mid 17th century (Saigh, 1992). Initially, the association between trauma and psychological effects focused on serious accidents or injuries, such as large fires, railway derailments or collisions (Saigh, 1992). During the American Civil War and with other subsequent wars, combat soldiers exhibited symptoms that resembled those of individuals who

survived serious accidents or injuries. Some of these soldiers' syndromes were named as follows: "soldier's heart"; "shell shock"; "combat neurosis" or "operational fatigue" (Kaplan et al., 1994, p. 606). "Prompted by the prevalence of war –related psychiatric morbidity after World War II" (Saigh, 1994, pg. 4), the Committee on Nomenclature and Statistics of the American Psychiatric Association included "Gross Stress Reaction" in the first edition of the *Diagnostic and Statistical Manual Mental Disorder* (DSM) (American Psychiatric Association, 1952, p. 40). This disorder included "exposure to severe physical demands or extreme stress, such as in combat or civilian catastrophe" (American Psychiatric Association, 1952, p. 40). However, it did not specify the criteria for a diagnosis.

Throughout the 1950s and 1960s, researchers examined the effects of natural and industrial disasters in comparison to the effects of war-related trauma and found unique distress ("nightmares, avoidance behavior, startle reactions, irritability, and increased sensitivity to traumatic stimuli") among traumatized survivors (Saigh, 1992, p. 4). When the Committee on Nomenclature and Statistics reconvened in 1968, "Gross Stress Reaction" was omitted and a new syndrome was created in the DSM-II: "Transient Situational Disturbance." This new classification included any severe or overwhelming environmental stress that could cause an acute reaction. As in the first edition of the DSM, the DSM-II did not specify the criteria for a diagnosis.

History of Criteria for PTSD Diagnosis

The varied terms and lack of specific criteria for the consequences of a trauma instigated the American Psychiatric Association to create a task force (The Reactive Disorders Committee) in 1980 to integrate existing knowledge and to specify criteria for diagnosis. The following four specific criteria had to be met in order to diagnose an individual as having PTSD: "A. Existence of a recognizable stressor that would evoke significant symptoms of distress in almost everyone; B. Reexperiencing of the trauma as evidenced by at least one of the following (1) recurrent and intrusive recollections of the event (2) recurrent dreams of the event (3) sudden acting or feelings as if the traumatic event were reoccurring, because of an association with an environmental or ideational stimulus; C. Numbing of responsiveness to or reduced involvement with the external world, beginning some time after the trauma, as shown by at least one of the following: (1) markedly diminished interest in one or more significant activities (2) feeling of detachment or estrangement from others (3) constricted affect; and D. At least two of the following symptoms that were not present before the trauma: (1) hyperalertness or exaggerated startle response (2) sleep disturbance (3) guilt about surviving when others have not, or about behavior required for survival (4) memory impairment or trouble concentrating (5) avoidance of activities that arouse recollections of the traumatic event (6) intensification of symptoms by exposure to events that symbolize or resemble the traumatic event." (American Psychiatric Association, 1980, p. 238)

A further revision for a PTSD diagnosis re-defines the examples that fulfill the trauma aspect criteria closer to concepts that are similar to community violence. In

1987, the American Psychiatric Association had revised specific criteria for a diagnosis of PTSD into an updated edition: DSM-III-R. Besides refining Criteria B, C, and D and adding Criterion E that addresses symptom duration, the relevant change in PTSD for this study was in Criterion A. This was modified to include different types of examples that could induce the disorder: "The person has experienced an event that is outside the range of usual human experience and that would be markedly distressing to almost anyone, e.g., serious threat to one's life or physical integrity; serious threat or harm to one's children, spouse, or other close relatives and friends; sudden destruction of one's home or community; or seeing another person who has recently been or is being, seriously injured or killed as the result of an accident or physical violence" (American Psychiatric Association, 1987, p. 250). The examples provided, which included witnessing physical violence, were a new addition to what is considered a possible type of trauma. Some of the examples stated as a trauma stimulus are examples of the focus of this study: total exposure to community violence.

In the DSM-IV and maintained in the DSM-IV-TR, the criteria for a PTSD diagnosis went through further refinement. This included more specific criteria to diagnose an individual with PTSD, making it more different from the concept of PTSS. For example, besides the addition of Criterion F that addresses how the trauma causes impairment of social functioning, Criterion A was further modified by dividing it into two parts. Part one refers to the condition in which the trauma may occur; and part two refers to the immediate reaction that the person has to the trauma (American Psychiatric Association, 1994 and 2000). Dividing Criterion A into two parts shows how a traumatic event alone is not sufficient for Criterion A but adding the immediate response is also

required to fulfill Criterion A. This makes a PTSD diagnosis more stringent and more different from PTSS.

The criteria for a PTSD diagnosis, to some extent, describe the relationship in question for this study: The relationship between total exposure to community violence and PTSS. Schema theory will be introduced briefly to provide an explanation of the relationship between the two variables in question.

Schema Theory

Schema theory provides an explanation of how distressing events may be difficult to understand, thereby possibly leading to symptoms that comprise PTSS. Schemas are involuntary cognitive structures that automatically evolve from birth and develop through life experiences. These cognitive structures are instinctively created on a subconscious level. Individuals instinctively interpret the world based on their developing schemas (D'Andrade, 1992). According to James (2003), schemas are elaborate memory structures starting off as simple units of discrete knowledge. With every new experience, these memory units evolve into complex mental constructs otherwise known as "scripts" (Schank & Abelson, 1977). More specifically, they are "stable cognitive structures that organize life experiences and are represented by beliefs about the self, others, and the world" (McCann, Sakheim, & Abrahamson, 1988, p. 557). Early life experiences shape schemas and new experiences are organized into schemas based on earlier ones. On a subconscious level, schemas may be modified based on an individual's cognitions and feelings.

Schema theory resembles PTSD theory in that they both state similar consequences (i.e., intrusive experiences and defensive avoidance) to certain types of experiences (i.e., traumatic, horrifying, or new experiences). In addition, schema theory explains how psychological symptoms are exhibited when dealing with a "new experience" or "traumatic event."

In schema theory, according to Horowitz (1976), new experiences are processed to be "cognitive completed," which is "the need to match new information with schemata based on older information and the revision of both until new concordant schemata are achieved" (p. 91). Therefore, new experiences are either assimilated into pre-existing schemas or accommodated into a modified version. If a new experience is not assimilated or accommodated, then it is not "cognitively completed" and stays in "active memory." Horowitz posited that "active memory storage has an intrinsic tendency towards repetition of representation of contents until the contents held in active memory are actively terminated" (p. 93). This process of having memories placed into "active memory" leads to one of the psychological symptoms stated in PTSD theory, persistently re-experiencing. That is, when certain traumatic or threatening events are not assimilated or accommodated into a schema, but rather placed into "active memory", then these events continue to be repeated in one's mind.

The second psychological symptom described in schema theory that is similar to the psychological symptoms described in PTSD theory is as follows: "When control capacity [in one's mind] is high, the repetitions can not be warded off, and the result is the phase of ideational denial and emotional numbing" (Horowitz, 1976, p. 100). That is, when an individual can no longer repeat the events in one's mind, then the individual

may exhibit symptoms of numbing, denial and/or avoidance. This description resembles another one of the symptom criteria for a PTSD diagnosis: persistently avoiding.

Theoretical Connection between Community Violence and PTSS (using the combination of Schema & PTSD theories)

Certain aspects of both PTSD and schema theory provide good descriptions of and explanations concerning the relationship between total exposure to community violence and PTSS. Both suggest that certain events or experiences lead to psychological symptoms. PTSD calls these "traumatic events" and schema theory describes them as new experiences that are difficult to accept. Schema theory further elaborates on how these experiences are processed and lead to psychological symptoms. The symptoms described in schema theory resemble two of the three psychological symptom criteria (persistently re-experiencing and persistently avoiding) required for a PTSD diagnosis.

An individual exposed to community violence may, on an unconscious level, have difficulty processing total exposure to community violence into a schema. This may cause an individual to perseverate on the trauma by being overly anxious, by trying to understand the trauma by repeating it over and over in his or her mind, or by trying to avoid anything associated with the trauma. These psychological symptoms are examples of the three symptom clusters that comprise PTSS: anxiety, intrusive experience, and defensive avoidance. These clusters are not mutually exclusive. Anxiety-related symptoms may be caused by experiencing some level of community violence and the anticipation of another episode. Symptoms related to intrusive experience may be due to

an individual having difficulty processing or accepting the experience of community violence, and so it keeps on intruding in flashbacks or nightmares (Van der Kolk & McFarlane, 1996). Symptoms related to avoidance may be caused by the desire to avoid anything related to the experience of community violence or that will remind them of it. (Van der Kolk & McFarlane, 1996).

In conclusion, PTSD and schema theory imply the following explanation for the relationship between total exposure to community violence and PTSS: When an individual is exposed to threatening experiences, the process of assimilating or accommodating the experience into a schema is on-going. The result of this process, along with further total exposure to community violence, may manifest into symptoms of anxiety, intrusive re-experiencing of the event, or trying to avoid things reminiscent of the event. Individuals who suffer from community violence may not have the chance to assimilate or modify their experiences into a schema. Therefore, they are more likely to display posttraumatic stress symptoms. The integration of the two theories provides a theoretical conceptualization of the relationship between total exposure to community violence and PTSS.

CHAPTER 3

EMPIRICAL STATUS OF HYPOTHESES

The literature search was conducted in order to determine whether empirical studies were conducted about each of the hypotheses; and to describe the nature and results of those studies.

Research Hypotheses

Among older adolescents:

1. The higher the level of total exposure to community violence (victimization by community violence and witnessing community violence) the higher the level of posttraumatic stress symptoms.

    1a. The higher the level of victimization by community violence, the higher the level of PTSS.

    1b. The higher the level of witnessing community violence, the higher the level of PTSS.

2. There is both an independent and overlapping relationship between victimization by community violence, witnessing of community violence, and PTSS.
3. The higher the level of total exposure to community violence, the higher the level of PTSS, holding constant gender and race/ethnicity.

4. There is difference in the relationship between total exposure to community violence PTSS by gender.
5. There is a difference in the relationship between total exposure to community violence and PTSS by race/ethnicity.
6. The multiple correlation between PTSS and the combination of the four variables, victimization by community violence, witnessing of community violence, gender, and race/ethnicity, is substantially larger than the bivariate correlation between PTSS and any one of the antecedents.

This chapter includes the following: a description of the literature review process that will identify relevant studies and the description of the findings from the relevant studies based on the research hypotheses of this study.

Literature Review Process

Three aspects of this study were investigated: (1) the antecedent variables (total exposure to community violence, victimization by community violence, witnessing of community violence); (2) the consequent variable (PTSS); and (3) the proposed population (older adolescents). All forms of each term were included.

The following key words were used for this literature search: (a) For the antecedent variables, the key words were: community violence, urban violence, witness crime, neighborhood crime, hit, victim, assault, shot, chase, murder, homicide, threaten, stab, punch, rob, attack, arrest, mug, wound, dead, kill, slap, beat, and gun; (b) for the consequent variable, the key words were: PTSD, posttraumatic stress, posttraumatic

stress disorder, posttraumatic symptomatology, anxiety, intrusive experience, re-experiencing trauma, nightmare, repetitive thought, defensive avoidance, avoidance, and withdrawal; and (c) for the proposed population, the key words used were: youth, teenager, high school senior, college student, and young adult.

This literature search was conducted for the years 1985 - present, and was conducted using the following databases: Academic Search Premier, CINAHL, Medline, PsycInfo, Social Services Abstracts, Social Work Abstracts, and Sociological Abstracts.

Several related studies were found (21) that differed conceptually with at least one of the two main variables, total exposure to community violence and PTSS. These studies have been analyzed based on certain characteristics. A summary and an analysis of their variations may be found in Appendixes A and B, respectively.

In addition to the related studies found in this review, a meta-analysis was found on the relationship between total exposure to community violence and psychological distress among adolescents (Wilson & Rosenthal, 2003). This meta-analysis reviewed 37 independent samples with sizes ranging from 37 to 3,735 for a total of 17,322 participants. The mean ages of the samples were between 12 and 18; this population differs slightly from the focal population of this study. The majority of the studies (33 out of 37) resulted in statistically significant positive relationships between total exposure to community violence and psychological symptoms. This shows that total exposure to community violence is very likely to lead to negative psychological issues. Given the broadness of this meta-analysis, this researcher was most interested in studying community violence, as defined above, with a specific emphasis on psychological distress that is posttraumatic stress symptoms.

Empirical Status of the Hypotheses

The search of the archival literature produced no empirical studies presenting data directly relevant to the specific hypotheses and population in this study. That is, there were no empirical studies found which use both the same population, and the same conceptualization for total exposure to community violence and for PTSS. However, there are studies that use similar populations (adolescents of any age) and similar conceptualizations of this study's proposed variables. In fact, the majority of studies used an "imprecise" definition for total exposure to community violence. This means that they used a too broad definition that is not limited to interpersonal, non-sexual assaults within the community outside the home. Rather the "imprecise" definition includes other kinds of violence and victimization such as sexual assault and domestic violence. These relevant studies will be presented under the following hypotheses:

Hypothesis # 1: Among older adolescents, the higher the level of total exposure to community violence, the higher the level of posttraumatic stress symptoms (PTSS)

No study was found that examined the relationship between total exposure to community violence, including both victimization of community violence and witnessing of community violence, and PTSS as defined in this study (see Appendix C).

The methodologically strongest relevant study was conducted by McCart et al. (2007). It is the strongest study for the following reasons: it is a national study with good measurement, good internal validity and very good external validity. A statistically

significant positive correlation was found between the "imprecise" definition of total exposure to community violence and PTSS. The technical adequacy of the instrument used for the consequent variable was good: The authors showed good reliability for PTSS (interrater kappa = .85) and good concurrent validity for PTSS (kappa coefficient = .71). The reliability and validity was not reported for the total exposure to community violence measurement. Internal validity was shown by correlational analysis (r = .32) with significant results, and in controlling for potentially contaminating variables. External validity is good in generalizing to adolescents. Even though McCart et al.'s study did not conceptualize total exposure to community violence as reflected in this current study, the strength of McCart et al.'s study shows that there is a positive correlation between the "imprecise" definition of total exposure to community violence and PTSS.

In summary, no study was found in the literature that tested this stated hypothesis. Therefore, studies should be conducted to test it.

Hypothesis # 1A: Among older adolescents, the higher the level of victimization by community violence, the higher the level of PTSS

No study was found that examined the relationship between victimization by community violence and PTSS as defined in this study (see Appendix D). The majority of related studies found a positive relationship between the "imprecise" definition of being victimized by community violence and posttraumatic stress symptoms, with the exception of one study (Berman et al., 1996). A variety of statistical procedures were used to confirm the findings (see Appendix D).

Boney-McCoy and Finkelhor (1995) stood out as a strong methodological study, due to it being national with good internal and external validity. The technical adequacy had its shortcomings as follows: no time frame, no reliability or validity was reported for victimization of community violence. PTSS had adequate criterion validity (η = .70) but no reliability was reported. In terms of internal validity, a multivariate analysis provided an *effect size* of .42 between females' experience of aggravated assault and PTSS and an *effect size* of .36 between males' experience of aggravated assault and PTSS. The temporal priority was not addressed in this study, but potentially contaminating variables were addressed. External validity is good for generalizing to children or young adolescents.

In summary, no study was found in the literature that tested this stated hypothesis. However, several studies with different conceptual definitions for being victimized by community violence, including the strongest methodological study, found a relationship between the victimization by community violence and PTSS. One study did not find a relationship.

Hypothesis # 1B: Among older adolescents, the higher the level of witnessing community violence the higher the level of PTSS.

There were no studies found that tested the relationship between witnessing of community violence and PTSS as defined in this study (see Appendix D).

McGee's (2003) study was the methodologically strongest study due to its good measurement, and good internal and external validity. The technical adequacy of the instruments was good overall: Good reliability was shown for the "imprecise" definition

of witnessing of community violence, including school, sexual, domestic, and drug violence (Cronbach's alpha = .73, see Gaba, 1996) and for a component of PTSS, anxiety scale (Cronbach's alpha = .80). The validity of the witnessing scale was not reported; the PTSS anxiety scale has adequate convergent validity, it correlated significantly with another scale [r (327) = .15; $p<.01$] (Reynolds & Richmond, 1997). Internal validity was shown by hierarchical multiple regression analysis, showing that females were more likely to exhibit anxiety compared to males ($R^2 = .31$); and potentially contaminating variables were controlled. In regard to the external validity, this study is good for generalizing the positive relationship between the "imprecise" definition of witnessing of community violence and PTSS to urban adolescents.

In summary, no study was found that examined this hypothesis. However, there is mixed evidence for the "imprecise" definition of witnessing of community violence and PTSS. Although most studies, including the strongest ones methodologically, found a relationship between the two variables, some studies did not find a relationship.

Hypothesis # 2: Among older adolescents, there is both an independent and overlapping relationship between victimization by community violence, witnessing of community violence, and PTSS.

There were no studies found that tested the dynamics as defined in hypothesis #2 among adolescents. A portion of this hypothesis, an independent relationship between victimization of community violence and witnessing of community violence and PTSS, is described in hypothesis #1A and 1B. These hypotheses show that there is an independent

relationship with each component of total exposure to community violence and PTSS. One study was found that examined the independent and overlapping relationship between total exposure to community violence and a component of PTSS [anxiety] (Rosenthal, 2000a).

Rosenthal had good measurement, and good internal and external validity. The technical adequacy of the instruments was good. Both instruments had good reliability: total exposure to community violence (Cronbach's alpha = .89) and anxiety (Cronbach's alpha = .85). Both had good face content validity; and the anxiety scale showed very good criterion validity (91.1% accuracy) and good convergent validity (r = .75). In terms of internal validity, a forced-entry multiple regression analysis was used to obtain the independent and overlapping relationship with victimization of community violence and witnessing of community violence. The combined R^2 for anxiety was .06, with .02 due to the independent effects of victimization by community violence, .02 due to the independent effects of witnessing by community violence, and .02 due to the overlapping effects of the two. Potentially contaminating variables were not controlled. External validity is good for generalizing to older urban adolescents.

Since only one study from the literature review tested both the independent and overlapping relationship between the two components of total exposure and the one component of PTSS (anxiety), this hypothesis needs to be further examined.

Hypothesis # 3: Among older adolescents, the higher the level of total exposure to community violence, the higher the level of PTSS, holding constant gender and race/ethnicity.

There were no studies found that tested the relationship between total exposure to community violence and PTSS, holding constant gender and race/ethnicity, as defined in this study among diverse older adolescents. Two studies (Singer et al., 1995**;** Springer & Padgett, 2000) were found that examined the "imprecise" definition of total exposure to community violence and PTSS, holding constant both gender and race/ethnicity. Five studies (Mazza & Reynolds, 1999; McCart et al., 2007; Overstreet et al., 1999; Self-Brown et al., 2006; Slovak & Singer, 2002) were found that held constant gender but not race/ethnicity. All of these studies found a positive relationship between total exposure to community violence and PTSS holding constant gender and/or race/ethnicity, by multiple regression analysis.

The methodologically strongest study (Singer et al., 1995) had good measurement, and good internal and external validity. The technical adequacy of the instruments was good: they had good reliability for the total exposure to community violence (Cronbach's alpha's ranged from .66 to .87), which included school, domestic, and sexual violence in its definition, and for PTSS (Cronbach's alpha = .87). The validity of the exposure instrument was not reported; there was good concurrent validity for PTSS (r = .67). Internal validity was shown by using multiple regression analyses, obtaining significant results when controlling for gender and race/ethnicity as potentially contaminating variables (R^2 = .37). External validity is good in generalizing to high school age adolescents.

Overall, no study examined this hypothesis as stated in this study. Although, in examining the relationship between the "imprecise" definition of total exposure to

community violence and PTSS, holding constant gender and race/ethnicity, this relationship continues to hold true.

Hypothesis # 4: Among older adolescents, there is difference in the relationship between total exposure to community violence and PTSS by gender.

There were no studies found that tested the relationship between total exposure to community violence and PTSS by gender, as defined in this study among adolescents. Three studies (Berton & Stabb, 1996; Foster et al., 2004; McCart et al., 2007) analyzed the relationship between the "imprecise" definition of total community violence and PTSS by gender. Two out of the three studies (Foster et al., 2004; McCart et al., 2007) found no gender difference in this relationship. That is, females and males had similar correlations in terms of the relationship between total exposure to community violence and PTSS.

Two studies conducted multiple regression analysis (Foster et al., 2004; McCart et al., 2007)**,** and one study used a chi-square analysis (Berton & Stabb, 1996). Of the three studies, McCart et al. (2007) is the strongest methodological study; it was reviewed under Hypothesis #1.

In summary, no study was found that tested this hypothesis. However, there is mixed evidence for the relationship between the "imprecise" definition of total exposure to community violence and PTSS by gender. Two of the three studies, including the strongest methodological study, found no difference in the relationship between the two variables by gender.

Hypothesis # 5: Among older adolescents, there is a difference in the relationship between total exposure to community violence and PTSS by race/ethnicity.

There were no studies found that tested the relationship between total exposure to community violence and PTSS by race/ethnicity, as defined in this study among adolescents**.** One study (Berton & Stabb, 1996) analyzed the relationship between total exposure to community violence, including sexual assaults, and PTSS by race/ethnicity.

Berton and Stabb's (1996) study was adequate; it had adequate technical adequacy, good internal validity, and adequate external validity. The reliability and validity were not reported for the total exposure to community violence variable; however, there was very good reliability for the PTSS measure [Cronbach alpha = .96] (McFall, Smith, Mackay, & Tarver, 1990) and very good criterion validity (90% accuracy). They conducted a multiple regression and did not find differences by race/ethnicity when looking at the relationship between total exposure to community violence and PTSS. External validity is adequate in generalizing to urban high school adolescents.

Only one study was found that analyzed the relationship between the "imprecise" definition of total exposure to community violence and PTSS by race/ethnicity. This shows that this hypothesis needs further examination.

Hypothesis # 6: Among older adolescents, the multiple correlation between PTSS and the combination of the four variables, victimization by community violence, witnessing of community violence, gender, and race/ethnicity, is substantially larger than the bivariate correlation between PTSS and any one of the antecedents.

None of the studies from the literature review tested this hypothesis.

Summary and Conclusions

The empirical literature regarding the six hypotheses has been reviewed; there was no related literature found for the last hypothesis. The review of each hypothesis varied with the amount of related studies found, the results of the findings, and the quality of the studies. Nevertheless, the review presented here provides empirical verification for the assumptions underlying the hypotheses stated in this study (see Appendix E). However, the empirical status of the six hypotheses is unknown and the stated hypotheses have not been verified.

CHAPTER 4

METHOD

This study focuses on four major variables: three antecedent variables—total exposure to community violence, direct victimization by community violence, and witnessing of community violence--and one consequent variable, PTSS. Below, each variable will be conceptually and operationally defined, and its technical adequacy described.

Antecedent Variables

Total Exposure to Community Violence

Conceptual Definition of Total Exposure to Community Violence and its Components. Total exposure to community violence is the degree to which an individual has been victimized by community violence or has seen someone else being physically assaulted. These assaults occurred under the following conditions: by nonhousehold members (no family or domestic members), nonsexual assaults (neither rape, date rape, nor incest), outside the home (on the streets, trains, playground, park – also known as "street violence") during the past three years, excluding violence seen or heard via media sources (i.e., television, radio, newsprint or movies).

Examples of assault are either witnessing or being victimized by the following: being chased by gangs, threatened, slapped–punched-or hit, mugged, knifed, shot at, or

robbed forcefully. Total exposure to community violence is conceptualized as on a continuum, with one end reflecting "no assaults" or "not witnessing assaults" and the other end reflecting "very often assaulted" or "very often witnessing assaults."

Operational Definition of Total Exposure to Community Violence and its Components. On a self-administered questionnaire, research participants responded to a series of 18 items, each reflecting total exposure to community violence. Seven items reflected the degree of being victimized by community violence; and 11 items reflected the degree of witnessing community violence. An example item of being victimized is: "How many times were you, yourself, actually threatened with serious physical harm by someone?" (see Appendix F). An example item for witnessing community violence is: "How many times have you seen someone else being attacked or stabbed with a knife?" (see Appendix G). Prior to responding to the items, a set of instructions directed participants to circle a response best describing their own experiences during the prior three years, and to exclude household violence and violence described in the media or violence heard about. Research participants were asked to choose one of four responses (never, once or twice, several times, or very often). Each response category was coded to reflect the degree of total exposure to community violence (never = 1, once or twice = 2, several times = 3, very often = 4). The scoring process involved summing the coded responses. The sum yielded a total score for exposure to community violence. The theoretical range for total exposure to community violence is from 18 to 72; for victimization by community violence, from 7 to 28; and for witnessing community

violence, from 11 to 44. A higher score reflected higher exposure and a lower score reflected lower exposure.

Technical Adequacy of Total Exposure to Community Violence and its Components. The technical adequacy of total exposure to community violence is addressed below. The reader will recall that technical adequacy comprises feasibility, reliability, and validity of a measure.

The instrument used to collect data on total exposure to community violence and its two components was an adaptation of the Survey of Exposure to Community Violence (SECV) developed by Richters and Saltzman (1990). Rosenthal (2000a) adapted the Survey of Exposure to Community Violence, so that "it covers a narrower range of types of violence, asks about exposure during a specific time period, and uses fewer response categories to reflect frequency of exposure" (Rosenthal & Wilson, 2003a, p. 464). This adapted version of the Survey has been used in several studies and has been shown to be technically adequate (Rosenthal, 2000a; Rosenthal & Hutton, 2001; Rosenthal & Wilson, 2003a; Rosenthal & Wilson, 2003b; Rosenthal, Wilson, & Baboolal, 2004).

The feasibility of obtaining information from research participants is evident in the following three ways: (1) The language on the adapted version of the SECV is suitable for individuals with an 8th grade education, which is sufficient for the research participants of this study; (2) information needed to respond to the items on the adapted version of the SECV was readily available to the research participants, given that the answers to the items were based on their own personal history; and (3) data on total exposure to community violence had already been collected (this study used secondary data).

The reliability of a scale is the degree to which an operational definition used under similar circumstances produces the same results. Cronbach's alpha's for this sample = .89 (total exposure to community violence scale), .72 (victimization scale), .90 (witnessing scale). Cronbach's alpha's for other samples were as follows: .88 and .89, respectively [total exposure to community violence scale] (Rosenthal & Wilson, 2003a; Rosenthal & Wilson, 2001), .70 and .69, respectively [victimization scale] (Rosenthal & Wilson, 2003b; Rosenthal, 2000a), and .91 [witnessing scale] (Rosenthal, 2000a; Rosenthal, 2000b; Rosenthal & Wilson, 2003b).

The validity of a scale is the degree the operational definition of a variable matches its conceptual definition. Face content validity is one method of testing this, and involves recruiting objective individuals to review both conceptual and operational definitions of an identified variable and evaluating how much the two definitions match. The face content validity for the adapted version of the SECV scale and its component scales (victimization scale and witnessing scale) were tested by a panel of experts. The panel comprised 10 mental health professionals from an urban community college, all of whom had graduate degrees. This panel was asked to compare the conceptual and operational definitions of total exposure to community violence and its components; and to rate the degree to which the operational definition measured the conceptual one. Panel experts then made a selection on a 10-point scale (ranging from 1= does not match, to 10 = highly matches). The mean level of matching was nine for each of the three scales. This high number demonstrates good face content validity for the adapted version of the SECV. Therefore, the operational definition for total exposure to community violence

and its components are good reflectors of the conceptual definitions of the same variables.

Consequent Variable

Posttraumatic Stress Symptomatology

Conceptual Definition of PTSS. PTSS comprises three symptom clusters: intrusive experiences, defensive avoidance, and anxiety. In the next three paragraphs, conceptual definitions of each symptom cluster will make reference to two relevant sources: Briere's *Trauma Symptom Inventory: Professional Manual* (1995), and *the Diagnostic and Statistical Manual for Mental Disorders IV-TR (DSM-IV-TR),* under the PTSD section (American Psychiatric Association, 2000). Briere is a relevant source that supports the conceptual definitions of each symptom cluster because in this study his subscales were used (Briere's Trauma Symptom Inventory) to measure PTSS (Briere, 1995). The DSM-IV-TR is also another source that supports the conceptual definitions because their PTSD symptom criteria are similar to the symptom clusters in PTSS.

Intrusive experiences reflect re-experiencing disturbing thoughts--unexpected and unwanted intrusions primarily involving reminiscence or re-experiencing of especially upsetting thoughts. Examples of intrusive experiences are repetitive disturbing thoughts, recurrent distressing dreams, and/or having instantaneous upsetting memories that are easily triggered by current events (American Psychiatric Association, 2000; Briere, 1995).

Defensive avoidance reflects the individual's avoidance of stimuli associated with negative thoughts, as well as a numbing of general responsiveness--the aversive internal experiences that one seeks to avoid, coupled with frequent attempts to eliminate painful

thoughts or memories from conscious awareness. Examples of defensive avoidance are making an effort not to think of upsetting thoughts, numbing of general responsiveness, and/or making an effort not to have any feelings about something that once hurt you (American Psychiatric Association, 2000; Briere, 1995).

Anxiety reflects an individual's uneasiness or fear associated with the anticipation of negative thoughts-- the pervasive hyper-alert and hyper-vigilant conditions experienced. Examples of anxiety are exaggerated startle response, persistent symptoms of increased arousal, and/or nervousness (American Psychiatric Association, 2000; Briere, 1995).

Operational Definition of PTSS. On a self-administered questionnaire, research participants responded to 24 statements, each reflecting a symptom of PTSS. Research participants were instructed to indicate the degree to which they had experienced each symptom during the previous two months. The categories were: Never, Seldom, Sometimes, and Often. Each subscale comprised eight items. Examples of items comprising Intrusive Experiences were: "Nightmares or bad dreams," "Flashbacks," and "Suddenly disturbing memories when you were not expecting them." Examples of items of Defensive Avoidance were: "Trying to forget about a bad time in your life," "Stopping yourself from thinking about the past," and "Pushing painful memories out of your mind." Examples of Anxiety were: "Being startled or frightened by sudden noise," "Feeling tense or on edge," and "Feeling afraid you might die or be injured." (see Appendix H).

Each response was coded (never =1, seldom =2, sometimes =3, often =4). Scoring involved the summation of the coded responses providing a total score for PTSS.

The theoretical range is from 24 to 96 (the lower number reflected a low degree of PTSS and the higher number reflected a high degree of PTSS).

Technical Adequacy of PTSS. Technical adequacy addresses the issue of feasibility, reliability, and validity of a measure. The PTSS scale contains three subscales from the *Trauma Symptom Inventory* (Briere, 1995). Permission was sought and given to use them (see Appendix I). These subscales comprise the complete scale to measure PTSS (see Appendix H). For this study this scale is labeled as the Survey of Posttraumatic Stress Symptomatology. The feasibility of obtaining information from this survey is evident in three ways: (1) the language on the survey is suitable for individuals with an 8th grade education, which is a sufficient level for the intended research participants; (2) information needed to respond to the items on the survey was readily available to the research participants, since answers were based on personal information; and (3) data from the survey were already collected.

No prior study provided the reliability of the three combined scales. However, Briere, the scale's author, (1995) tested each scale separately on a standardized sample. The Cronbach's alpha's are as follows: .89 for intrusive experiences [IE], .90 for defensive avoidance [DA], and .86 for anxiety [ANX] (Briere, 1995, p. 35). Briere also obtained inter-correlations among the three scales and found them significantly inter-correlated (p. 35). The correlations are: .69 between IE and ANX, .68 between DA and ANX, and .83 between IE and DA (p. 35). A reliability test was conducted for the Survey of Posttraumatic Stress Symptomatology for this study; a Cronbach's alpha of .94 was obtained for the total scale and .82 for the anxiety subscale, .88 for the intrusive experience subscale, and .89 for the defensive avoidance subscale.

Briere (1995) conducted convergent validity for each of the three subscales; there was good convergent validity for the anxiety scale (r = .75), intrusive experience (r = .73), and defensive avoidance (r = .69) with other related scales. Face content validity for PTSS was tested by a panel of experts, consisting of 10 mental health professionals from an urban community college, all of whom had graduate degrees. These experts were asked to compare the conceptual and operational definitions of PTSS and to rate the degree to which the operational definition measure the conceptual definition. Panel experts made a selection on a 10-point scale (ranging from 1= does not match, to 10 = highly matches); a mean number of 8.8 was found. This showed that the operational definition of PTSS had good face content validity, indicating that the Survey of Posttraumatic Stress Symptomatology reflected the conceptual definition of PTSS.

Data Collection

Data for this study were made available by Dr. Beth Spenciner Rosenthal. The data are part of a larger study. Dr. Rosenthal has been conducting research on social stress and its psycho-social outcomes among adolescents since 1996. One focus of her research has been on community violence and its psychological consequences. The researcher has been funded by the National Institutes of Health, specifically, the National Institute of General Medical Sciences.

The questionnaire used for the larger study contained 13 pages. This study used items on victimization by community violence [located towards the beginning of the questionnaire] (see Appendix F); items on the witnessing of community violence [located in the middle of the questionnaire] (see Appendix G); items on psychological symptoms including items for PTSS [located following the witnessing items in the questionnaire]

(see Appendix H); and demographics [found in the beginning pages of the questionnaire] (see Appendix J). In the questionnaire, information regarding demographics consisted mostly of single items (gender, age, college credit, income, religion, cultural group, and national origin).

There were some demographics that required either interpreting or combining items, such as living arrangement, household size, ethnicity, and parent education (see Appendix J). To obtain the research participants' living arrangement one item on the questionnaire asked about members of the research participants' household (see Appendix J). Participants were asked to circle all the members that apply. Each member circled was coded and interpreted to provide the research participants' different living arrangements: Single; both parents; no parent; extended family (living with any of the following: grandparents, uncle, aunt, cousin, friend, or spouse); or alone. Similarly, to obtain a research participant's household size, the same item on the questionnaire (members of research participants' household) was used. However, the responses were coded and the summation of the responses provided the number of members that live with the research participant.

To obtain the research participants' race/ethnicity, the responses to two items: (1) Do you consider yourself to be Hispanic or Latino? and (2) What race do you consider yourself to be? (see Appendix J) were combined to provide the research participant's race/ethnicity identity. Likewise, to describe the participants' parents' education two items were combined: "mother education" and "father education" (see Appendix J). To obtain the research participants' ethnic/regional group, the open-ended item yielding 44 responses, was collapsed into regional cultural groups (see Table 1).

Table 1.

Sample Description

Variable	N	Percentage
Gender		
Male	194	45
Female	235	55
Age		
18	247	58
19	132	31
20	50	12 *
College Credit		
0 – 3	347	87
4 – 6	16	4
7 – 9	18	4
10 – 12	21	5

Table 1 (continued). *Sample Description*

Variable	*N*	%
Country of Origin		
U.S. born	265	62
Non U.S. born	164	38
# years in U.S.		
<= 5	44	27
6 – 10	58	35
11 – 15	45	27
16 – 19	17	10*
Parents' Education		
Less than High School	69	16
High School Graduate	115	27
Some College	131	30
College Graduate	110	26
Missing	5	1
Household Income		
< $15,000	72	17
$15K– $34,999	120	28
$35K - $54,999	88	21
> $55K	97	23
Missing	52	12

Table 1 (continued). *Sample Description*

Variable	N	Percentage
Race/ethnicity		
Asian	82	19
Black/African American	87	20
Latino/Hispanic	124	29
White	111	26
Other	25	6
Living Arrangement		
One Parent	124	25
Both Parents	226	53
Extended Family	65	21
Alone	6	1
Household Size		
Live Alone	6	1
Self plus 1 person	37	9
Self plus 2 persons	96	22
Self plus 3 persons	167	39
Self with over 4 people	123	29

Table 1 (continued). *Sample Description*

Variable	N	Percentage
Ethnic/ Regional Group		
African	34	8
Central/South American	82	19
East Asian	43	10
European	45	11
North American	25	6
South Asian	16	4
West Indies	51	12
Mixed Origin/other	57	13
Missing	76	17
Religion		
Christian	279	65
Muslim	28	7
Jewish	18	4
Other	68	16
Missing	36	8

Note. *may not add up to 100% due to rounding.

Questionnaires were self-administered in classroom settings by research assistants (who are ethnically diverse undergraduate and graduate level students) under the supervision of Dr. Rosenthal. Data for this study were collected from a first semester course in an urban community college located in an urban area of a northeastern state. The research assistants introduced the study to prospective research participants and read the consent form out loud while the participants read it silently. The informed consent informed research participants that participation was voluntary, would not affect classroom performance in any way, and that they could stop participating at any time. Signed consent forms were collected separately from the completed questionnaires in order to ensure the anonymity of the research participants. The refusal rate was 20%.

Prior to data collection, the Principal Investigator had obtained permission from the Institutional Review Board of the community college.

Data Entry

Undergraduate research assistants were given proper training in data entry until 100% data entry accuracy was reached. Prior to data entry, questionnaires were reviewed and determined to be either complete or incomplete. Completed questionnaires had fewer than two missing items on Victimization by Community Violence, Witnessing of Community Violence or PTSS. The data were entered into the computer using SPSS. Missing data were given appropriate missing data codes and erroneous data, e.g., outliers, were noted and corrected.

Sample Selection

The following four criteria were required for the sample selection of this study:

1) The age range of the research participants was between 18 and 20.

2) The amount of prior earned college credits was limited to 12. Even though the majority of the research participants were first semester students, some had accumulated more than 12 credits. A limit of 12 credits was chosen because some lower freshmen have earned some college credits during high school (through special programs, such as College Now) and/or through taking summer courses prior to their first semester.

3) Only students who attended U.S. high schools were included.

4) Only students who were enrolled in one specific urban community college during three semesters (spring 2001, spring 2003, and fall 2003) of data collection were included.

Thus, the sample comprised 429 first semester college students ranging in age from 18 and 20 who had attended high school in the United States and who had earned no more than 12 credits. At the time of data collection, the students lived in a large urban area in the northeast.

Sample Description

The following description of the sample of this study is displayed in Table 1. Fifty-five percent of the sample was female (mean, median and modal age = 18) and 87%

had earned fewer than three college credits. Thirty-eight percent were foreign born; however, most of them have resided in the United States for over six years.

The research participants' parents' educational levels ranged from less than a high school education to college graduate, with a modal category of "some college" education. Most had at least a high school education. The household income of the research participants varied between "less than $15,000" to "over $100,000," with a mean household income in the $35,000 – $54,999 range. The median income, at the time of data collection, for a four person household in the same northeastern state was approximately $46,569 (Census Bureau, n.d.).

Hispanics were the largest ethnic group (29%), followed by Whites (26%), Black/African Americans (20%), and Asians (19%). Approximately 25% of the research participants lived in a one-parent household and 21% lived in an extended family household. About seventy percent of the research participants lived in a household with three or more persons in addition to herself.

Nineteen percent of the sample was categorized as Central/South American, followed by West Indies (12%). Research participants identified their ethnic identity throughout many countries, which were combined into ethnic/regional areas (e.g., European, East Asian). Sixty-five percent of the research participants identified themselves as Christian, and 28% identified as other religions.

Research Design

There are two aspects in research design: (1) external validity, that is, "the extent to which the relationship depicted in a study can be generalized beyond the study conditions" (Rubin & Babbie, 1993. p. 264) and (2) internal validity, that is, "the confidence we have that the results of a study accurately depict whether one variable is or is not [related with] another" (Rubin & Babbie, 1993. p. 263).

External Validity

External validity is the degree to which a sample is representative of the intended population. The more representative the sample is, the greater the external validity. This study used a convenience sample which limits external validity. However, the sample is similar to incoming freshmen enrolled at the community college (n = 2000) based on gender, race/ethnicity and age (Calise, 2007). In addition, if the findings of this sample are comparable to existing related literature, then with caution, this sample may be representative of older urban adolescents.

The sample comprised 429 first semester older urban adolescent students enrolled in public community college. The students at this college resided primarily in one borough.

Internal Validity

Internal validity encompasses the three issues: covariation, controlling for potentially contaminating variables, and temporal priority. These three conditions need to be met in order to establish internal validity.

Covariation

Identifying a statistically significant relationship between the antecedent variables and the consequent variables addresses covariation. The outcome will show either that there is a relationship between these two variables (they co-vary or go together) or that there is no relationship. For this study, a Pearson Correlation Coefficient was used to test if there was covariation between the antecedent variables (total exposure to community violence and its components) and the consequent variables (PTSS and its components). To test the relationship between total exposure to community violence with PTSS by gender, a correlation analysis was conducted separately for each gender. Then, a *t* test for difference between two correlation coefficients was conducted to see if the results differed significantly from one another. To test the relationship between total exposure to community violence and PTSS by race/ethnicity, correlations were conducted for each race/ethnicity separately and then the results were compared via Chi Square for Heterogeneity to see if they differed statistically. The remaining three research hypotheses were tested using multiple regressions. These hypotheses are: whether the multiple correlation between PTSS and the combination of four antecedent variables is

substantially larger than the bivariate correlation between PTSS and any one of the antecedent variables; whether the relationship between total exposure to community violence and PTSS obtained when controlling for two contaminating variables; and the overlapping and independent relationship between the components of community violence with PTSS.

Controlling for Potentially Contaminating Variables

Identifying variables that may confound a relationship between two variables will be stated and explicated in this section. That is, is there a variable that has a statistically significant relationship with the antecedent variable as well as with the consequent variable?

Gender and race/ethnicity were tested to see if they potentially contaminate the relationship between the antecedent variables and the consequent variable. First, *t*-tests were conducted for each gender with community violence and PTSS. Since race/ethnicity is not dichotomous, *F* tests were conducted to see if there are relationships between race/ethnicity and community violence and PTSS. If the results show statistically significant relationships, then a multiple regression would be conducted controlling for the variables that are known to potentially contaminate the relationship between the antecedent variables and the consequent variable.

Temporal Priority

Temporal priority considers which variable in a hypothesis precedes the other. In this study, temporal priority can be logically deduced. Research participants were instructed to consider only the prior three years when answering items pertaining to the antecedent variables. To answer questions pertaining to items that comprise the consequent variables, research participants were instructed to consider only symptoms they had during the prior two months. Since the consequent variable, PTSS, refers to a prior two-month time frame while the antecedent variables refer to a prior three-year time frame, PTSS is logically preceded by victimization by community violence and witnessing of community violence. Therefore, one can assert that the antecedent variables precede the consequent variables. This establishes temporal priority. Refer to wording of sets of items to establish this (see Appendixes F, G, & H).

Data Analysis

Procedures for statistically analyzing the data are presented below. The data were collected from the instrument, coded, verified, and entered in SPSS. Data collection was at a quasi-interval level "somewhere between an ordinal scale and a true interval scale" (Kachigan, 1991, p. 14). Classical multivariate statistical procedures are very often used to analyze quasi-interval data. Multiple regression analysis is considered the method of choice when the relationship between the consequent variable and a group of two or more antecedent variables is being studied (Huck, Cormier, & Bounds, 1974). Correlations

and multiple regression procedures were utilized and the null hypotheses were rejected if findings were positive and $p < .05$.

CHAPTER 5

FINDINGS

The findings in this study will be described in two sections: descriptive statistics (illustrating the distributions of the major variables and their components for a total of seven variables) and inferential statistics (explaining the results of hypotheses testing).

Descriptive Statistics

Distributions of seven variables are presented below: three antecedent variables (total exposure to community violence, victimization by community violence and witnessing of same) and four consequent variables (PTSS, intrusive experiences, defensive avoidance, and anxiety). The median for each variable is used as the typical score as it is not affected by extreme data.

Total Exposure to Community Violence and its Components

Overall, 94% of the research participants (n = 429) reported experiencing some total exposure to community violence, 53% reported being victimized at least once, and 92% reported witnessing some form of community violence during the prior 3 years (see Table 2).

Table 2

Prevalence of Exposure to Community Violence (Victimization & Witnessing) (*N* = 429)

Prevalence	Type of exposure to community violence					
	Total exposure (V & W combined) (18 items)		Victimization (7 items)		Witnessing (11 items)	
Category	n	%	n	%	n	%
[a] None	28	6	204	47	33	8
[b]Little	193	45	166	39	151	35
[c]Some	155	36	52	12	138	32
[d]Considerable	51	12	7	2	99	23
[e]Great deal	2	1	0	0	8	2

Notes. V = victimization, W = witnessing. [a]None = no exposure (V & W: score = 18; V: score = 7; W: score = 11). [b]Little = at least one item but fewer than ½ items reported as "once or twice" (V & W: score =19-26; V: score = 8-10; W: score = 12-16). [c]Some = at least ½ of the items reported "once or twice" but none reported "several times" (V & W: score = 27-36; V: score = 11-14; W: score = 17-22). [d]Considerable = all items reported at least "once or twice" and one or more reported "several times" (V & W: score = 37-54; V: score = 15-21; W: score = 23-33). [e]Great deal = all items reported at least "several times" and one or more reported "very often" (V & W: [a]score = 55-72; V: score = 22-28; W: score = 34-44).

The research participants reported a wide range of total exposure to community violence, scoring between 18 and 58. This is a somewhat narrower range than the theoretical range (18 – 72). Research participants also reported a narrower range for being victimized by community violence. However, they reported the full theoretical range for witnessing community violence (see Table 3).

The typical (median) score is 26 for total exposure to community violence and 8 for victimization, placing a "typical" research participant in the *little* category for each type of exposure. The typical score for witnessing community violence is 18, placing the "typical" research participant in the *some* category for exposure. (See Tables 2 & 3)

The mean, median, and mode for each exposure category were very close. For example, research participants' modal score for being victimized was 7 and the mean and median score was 8 (see Table 3).

The distribution for all three exposure variables were positively skewed with a high number of research participants reporting low levels (*little*), and a gradual decline towards a low number reporting high levels (*great deal*)[see Table 2]. Virtually no one reported experiencing all the items on total exposure to community violence as *always*. The majority (81%) of the participants reported *little* or *some* exposure to total community violence.

In terms of being victimized, nearly half of the participants (47%) were not directly victimized, nearly two-fifths (39%) were victimized a *little*, and 14% were victimized more than this (*some* to *considerable*). No one reported being victimized a *great deal* (see Table 2).

Table 3

Distribution of Antecedent Variables (*N* = 429)

Descriptor		Type of exposure to community violence		
		Total exposure (V & W combined)	Victimization	Witnessing
Range				
	Theoretical	18 – 72	7 – 28	11 – 44
	Actual	18 – 58	7 – 21	11 – 44
Mode		22	7	13
Median		26	8	18
M		27	8	19
SD		7	2	6

Note. V = victimization, W = witnessing.

Over two-thirds of the research participants reported witnessing little to some degree of community violence during their high school years. Fewer than one-tenth (8%) of the research participants had not witnessed community violence, and one-quarter (25%) had witnessed more than this (a *considerable* amount to a *great deal*) (see Table 2).

Posttraumatic Stress Symptomatology (PTSS) and its Components

The descriptive statistics for PTSS and its components--intrusive experiences, defensive avoidance and anxiety--will be reviewed in this section. Over 98% of the research participants reported experiencing PTSS and similarly high percentages were reported for the components of PTSS. Fewer than 2% reported no symptoms during the prior 2 months (see Table 4).

The research participants' PTSS scores (24 – 88) covered nearly the entire theoretical range (24 – 96). The responses for the components of PTSS also nearly covered the entire theoretical range; especially the responses for defensive avoidance (see Table 5).

The typical scores are: 49 for PTSS, 15 for intrusive experiences, 17 for defensive avoidance, and 16 for anxiety; these scores show that a "typical" research participant is placed in the *moderate* category for exhibiting PTSS, intrusive experiences, defensive avoidance, and anxiety (see Tables 4 & 5).

The mean PTSS score = 50, *SD* =15, and the modal score is 30; for the mean, SD, and modal score of the components of PTSS, see Table 5.

Close to one-quarter (23%) of the participants had *low* PTSS and three-fourths (75%) had *moderate* to *high* levels of PTSS during the prior 2 months (see Table 4). Eleven percent of the research participants reported "clinically significant" PTSS [as determined by the scale's author] (Briere, 1995). The responses to PTSS are comparable to those of a national standardized sample [PTSS mean = 45, *SD* = 17] (Briere, 1995).

Table 4

Prevalence of PTSS, Intrusive Experiences, Defensive Avoidance, and Anxiety (*N* = 429)

	Symptoms of stress							
Prevalence	PTSS (24 items)		Intrusive experience (IE) (8 items)		Defensive avoidance (DA) (8 items)		Anxiety (ANX) (8 items)	
Category	N	%	N	%	N	%	N	%
[a]None	6	2	40	9	33	8	12	3
[b]Low	99	23	100	23	81	19	79	18
[c]Moderate	275	64	231	54	233	54	299	70
[d]High	49	11	58	14	82	19	39	9

Notes. [a]None = all items reported as "never" (PTSS: score = 24; IE: score = 8; DA: score = 8; ANX: score = 8). [b]Low = at least one item reported as more than "never" but fewer than ½ items reported as "seldom" (PTSS: score = 25-36; IE: score = 9-12; DA: score = 9-12; ANX: score = 9-12). [c]Moderate = more than ½ items reported as "seldom" but none scored as "often" (PTSS: score = 37-71; IE: score =13-23; DA: score = 13-23; ANX: score = 13-23). [d]High = all items at least reported as "sometimes" and one or more items reported as "often" (PTSS: score = 72-96; IE: score = 24-32; DA: score = 24-32; ANX: score = 24-32).

Table 5

Distribution of Consequent Variables (*N* = 429)

Descriptors		Symptoms of stress			
		PTSS	Intrusive experience	Defensive avoidance	Anxiety
Range					
	Theoretical	24 – 96	8 – 32	8 – 32	8 – 32
	Actual	24 – 88	8 – 31	8 – 32	8 – 31
Mode		30	8	20	13
Median		49	15	17	16
M		50	15	17	17
SD		15	6	6	5

Fifty-four percent of the research participants scored in the *moderate* category, corresponding to *sometimes* feeling symptoms of intrusive experiences during the prior 2 months (see Table 4). Less than one-tenth (9%) reported never having symptoms of intrusive experiences, three-quarters reported *low* to *moderate* levels of intrusive experiences, and one-seventh (14%) reported *high* levels of intrusive experiences. Fourteen percent reported "clinically significant" levels of intrusive experiences [as determined by the scale's author] (Briere, 1995). The responses to the subscale of

intrusive experiences are comparable to responses from a national standardized sample [intrusive experience mean = 14, *SD* = 5] (Briere, 1995).

Fifty-four percent of the research participants are in the *moderate* category, corresponding to *sometimes* feelings symptoms of defensive avoidance (see Table 4). Less than one-tenth (8%) of the research participants never had defensive avoidance symptoms, nearly three-quarters (73%) reported *low* to *moderate* levels of defensive avoidance, and close to one-fifth (19%) had higher levels. Nineteen percent reported "clinically significant" symptoms of defensive avoidance [as determined by the scale's author] (Briere, 1995). The responses to the subscale of defensive avoidance are comparable to responses from a national standardized sample [defensive avoidance mean = 15, *SD* = 6] (Briere, 1995).

Grouped data indicates only 3% of the research participants reported not having anxiety symptoms in the same period, close to one-fifth (18%) reported *low* levels of anxiety, and 79% reported more than this (*moderate* to *high* levels, see Table 4). Nine percent reported "clinically significant" levels of anxiety (Briere, 1995). The responses to the subscale of anxiety are comparable to responses from a national standardized sample [anxiety mean = 16, *SD* = 6] Briere, 1995).

Inferential Statistics

Covariation

Covariation involves the testing of two variables to examine if they co-vary or go together (the increase or decrease in one variable's outcome is accompanied by an increase or decrease in the other's variable outcome — thus revealing a positive or negative relationship).

Hypothesis #1: Among older adolescents, the higher the level of total exposure to community violence, the higher the level of posttraumatic stress symptoms (PTSS).

A bivariate analysis (Pearson Product Moment Correlation Coefficient) was conducted to test Hypothesis #1. As shown in Table 6, there is a statistically significant relationship between total exposure to community violence and PTSS ($r = .27$, $p < .0001$), meaning they positively co-vary (the higher the total exposure to community violence, the higher the PTSS).

Determining the variance is another way of explaining the findings. Variance indicates how much variation in the consequent variable may be explained by the antecedent variable. The amount of variance explained (r^2) between total exposure to community violence and PTSS is .07, meaning that seven percent of the variance in PTSS is explained by knowledge of total exposure to community violence.

Table 6

Zero Order Correlations between Exposure to Community Violence and PTSS (N = 429)

	Type of exposure to community violence		
Symptoms	Total Exposure (V & W combined)	Victimization	Witnessing
PTSS	.27***	.21***	.26***
Intrusive experience	.27***	.20***	.26***
Defensive avoidance	.23***	.18***	.22***
Anxiety	.24***	.20***	.22***

Notes. V = victimization, W = witnessing.

*** $p < .0001$.

Hypothesis #1A: Among older adolescents, the higher the level of victimization by community violence, the higher the level of PTSS.

Hypothesis #1B: Among older adolescents, the higher the level of witnessing of community violence, the higher the level of PTSS.

Bivariate analyses (Pearson Product Moment Correlation Coefficient) were conducted to test Hypothesis #1A and #1B. As shown in Table 6, there is a statistically significant relationship between victimization by community violence and PTSS (r = .21, $p < .0001$), meaning they positively co-vary (the higher the victimization the higher the PTSS) and there is a statistically significant relationship between witnessing of

community violence and PTSS ($r = .26$, $p < .0001$), meaning they positively co-vary (the higher the witnessing the higher the PTSS).

Additional bivariate relationships between the total exposure to community violence and each of the three PTSS subscales (intrusive experience, defensive avoidance, and anxiety) were tested. All relationships were statistically significant; *r*'s ranged between .23 and .27 ($p < .001$). The following variances were indicated: 7% of the variance in intrusive experience is explained by knowledge of total exposure to community violence, 5% of the variance in defensive avoidance is explained by the knowledge of total exposure to community violence, and 6% of the variance in anxiety is explained the same way.

Hypothesis # 2: Among older adolescents, there is both an independent and overlapping relationship between victimization by community violence, witnessing of community violence, and PTSS.

In order to obtain the independent and the overlapping effect of the two focal variables with PTSS, a hierarchical forced entry multiple regression analysis was conducted. As shown in Table 7, the total R^2 for PTSS was .07, with .03 from the independent effect of witnessing of community violence, .01 from the independent effect of victimization by community violence, and .03 from the overlapping effect of both.

Table 7

Variance Explained (R^2) by Different Sources for PTSS

	Source of variance explained			
	[a]Victimization Independently	[b]Witnessing Independently	[c]Overlapping of Victim & Witness	Victim & Witness Combined (Total)
PTSS	.01*	.03***	.03 ***	.07***

Notes. [a]F [1,426] = 17.08, p < .0001. [b]F [1, 426] = 17.08, p < .0001.

*p < .05. ***p < .0001

Hypothesis # 3: Among older adolescents, the higher the level of total exposure to community violence, the higher the level of PTSS, holding constant gender and race/ethnicity.

Since gender and race/ethnicity may be potentially contaminating variables (see Tables 8 & 9), a multiple regression was conducted holding gender and race/ethnicity constant (see Table 10). Findings indicate that the relationship between total exposure to community violence and PTSS remains statistically significant when gender and race/ethnicity are held constant. Thirteen percent of the variance in PTSS is accounted for by the combination of victimization and witnessing holding gender and race/ethnicity constant.

Table 8

Distribution of Exposure to Community Violence and PTSS by Gender (*N* = 429)

	Males (*n* = 194)		Females (*n*= 235)		Male *M* – Female *M*
Variables	*M*	*SD*	*M*	*SD*	
Total Exposure	29.3	8.1	25.6	5.9	+3.7***
Victimization	8.9	2.3	7.9	1.5	+1.0***
Witnessing	20.4	6.7	17.7	5.1	+2.7***
PTSS	46.0	15.1	53.3	14.9	-6.6***
Intrusive experience	14.5	5.5	16.9	5.7	-2.4***
Defensive avoidance	15.7	6.2	18.8	6.0	-3.1***
Anxiety	15.7	4.7	17.5	4.9	-1.8***

Note. *** $p < .0001$.

Table 9

The Relationship between Race/Ethnicity and Exposure Community Violence (*N* = 429)

	Exposure to community violence					
	Total Exposure (18 items)		Victimization (7 items)		Witnessing (11 items)	
Race/ethnicity	*M*	*SD*	*M*	*SD*	*M*	*SD*
Asian (*n* = 82)	26	7	9	2	17	5
African American (*n* = 87)	30**	8	8	2	21***	7
Latino (*n* = 124)	28	7	9	2	19	6
White (*n* = 111)	26	6	8	2	18	5
	F (df = 3 + 404)= 3.1		*F* (df = 3 + 404) = 1.3		*F* (df = 3 + 404) = 4.9	

Notes. The sample per race/ethnicity does not add up to the study's total sample due to the exclusion of an "other" category due to low sample size.

** African Americans > other categories, $p < .001$. *** African American > other categories, $p < .0001$.

Table 10

Hierarchical Multiple Regression Analysis for Total Exposure to Community Violence and PTSS, Holding Demographics Constant (N = 429)

	PTSS				
Variable	*R*	R^2	R^2 *Change*	*F*	*Df*
Block 1	.25***	.06	.06	5.45	5,423
Gender					
White					
Black					
Hispanic/Latino					
Asian					
Block 2	.43***	.19	.13	32.49	2,421
Victimization					
Witnessing					

Note. ***$p < .0001$.

Hypothesis # 4: Among older adolescents, there is a difference in the relationship between total exposure to community violence and PTSS by gender.

Results indicate that there were no statistically significant differences between males and females in the relationship between total exposure to community violence and PTSS, victimization and PTSS, and witnessing and PTSS (see Table 11).

Hypothesis # 5: Among older adolescents, there is a difference in the relationship between total exposure to community violence and PTSS by race/ethnicity.

Results from a Chi Square Test for Heterogeneity show that there were no statistically significant differences among the four race/ethnicity categories in the relationship between total exposure to community violence and PTSS (see Table 11).

Hypothesis # 6: Among older adolescents, the multiple correlation between PTSS and the combination of the four variables (victimization by community violence, witnessing of community violence, gender, and race/ethnicity) is substantially larger than the bivariate correlation between PTSS and any one of the antecedents.

Combining the two potentially contaminating variables and the two focal variables provided a multiple $R = .43$ and an R^2 of .19 (F [2, 421] = 13.75, $p < .0001$). Nineteen percent of the variance in PTSS is accounted for by the combination of all four variables (i.e., victimization, witnessing, gender and race/ethnicity).

Table 11

Comparisons of Correlations between PTSS and Types of Exposure by Race/Ethnicity and by Gender (N = 429)

	Type of Exposure to Community Violence		
	Victimization	Witnessing	Total Exposure
	r	*r*	*r*
Race/ethnicity			
Asian (*n* = 82)	.12	.133	.15
African American (*n* = 87)	.09	.21	.20
Latino (*n* = 124)	.24	.32	.33
White (*n* = 111)	.29	.32	.34
	† χ^2 (df = 3) = 2.82, ns	† χ^2 (df = 3) = 2.57, ns	† χ^2 (df = 3) = 2.88, ns
Gender			
Males (*n*= 194)	.22	.33	.34
Females (*n* = 235)	.38	.33	.38
	†† t = -1.8; ns	†† t = 0; ns	†† t = .5; ns

Notes. The sample per race/ethnicity does not add up to the study's total sample due to the exclusion of an "other" category.

† Chi Square Test for Heterogeneity among several correlation coefficients. †† t-test for difference between two correlation coefficients.

The prediction equation for PTSS, based on the generic equation, $y^1 = b_o + b_1 x_1 + b_2 x_2$, is: PTSS = 33.25 + (.84) (victimization) + (.52) (witnessing).

Effect Size

The size of a relationship is expressed in terms of effect size (Cohen, 1988). Effect size is a "statistic that quantifies the degree (of the) magnitude" of a relationship being studied (Vaccha-Haase & Thompson, 2004, p. 473; Cohen, 1992). The following statement in the most recent edition of the APA Publication Manual supports the importance of including the effect size: "For the reader to fully understand the importance of your findings, it is almost always necessary to include some index of effect size or strength of relationship..." (American Psychological Association, 2001, p. 25). There have been design and reporting research defects when there is "failure to report effect sizes" (p. 5).

The indices of the effect size for this study are: The Pearson Product Moment Correlation Coefficient (*r*); and multiple *R*. These are "standard" indicators of effect size. The reader will recall that .10 is considered a small effect size, .30 is considered a medium effect size, and .50 is considered a large effect size (Cohen, 1992).

The effect sizes for the relationship between total exposure to community violence and PTSS is *r* = .27 (nearly medium effect size). The effect size for the independent and overlapping relationship with victimization by community violence and witnessing of community violence with PTSS are as follows: *r* = .17 is the independent

contribution of witnessing, and $r = .10$ is the independent contribution of victimization (small effect size). The effect sizes for all the other findings of this study range between .18 and .27, a small to medium effect size.

CHAPTER 6

INTERPRETATION AND IMPLICATIONS

This chapter contains the summary and interpretation of the findings; the limitations of the study; implications for social work practice, social work education, social work policy; future research; and the conclusion.

Summary of the Study

The purpose of this study was to test the relationship between total exposure to community violence and PTSS. Additionally, this study examined the effect that potentially contaminating variables, gender, race/ethnicity, may have had on the relationship between total exposure to community violence and PTSS. The independent and overlapping relationships of victimization and witnessing of community violence on PTSS was also tested.

The study was conducted for several reasons. First, exposure to community violence is widespread among older adolescents, yet there was limited social work research found on this topic among this population. Second, the literature that does exist shows that older adolescents seem to exhibit PTSS more than PTSD. Yet, individuals who exhibit PTSS largely go undetected. Lastly, social workers are likely to work with older adolescents who have been exposed to community violence. Therefore, this is an important issue for social workers to know more about.

This study used secondary data that were retrieved from a large database. The sample chosen consisted of incoming freshmen attending a community college. Only students who resided in the United States during their high school years, who had earned fewer than 12 college credits, and were between 18 and 20 years of age were included. A quasi-experimental study was conducted on 429 research participants. Correlations, multiple regressions, *t* test, *F* test, and chi squared test for heterogeneity were used to study the research hypotheses.

The majority of the hypotheses were confirmed demonstrating a statistically significant positive relationship between total exposure to community violence and PTSS. The unique findings were: 1) among this diverse, older adolescent sample, there was a statistically significant positive relationship between total exposure to community violence and PTSS; 2) there were no differences in the relationship between total exposure to community violence and PTSS by gender; 3) there were no differences in the relationship between total exposure to community violence and PTSS by race/ethnicity; 4) there were independent and overlapping relationships between PTSS and being victimized by community violence and witnessing community violence; 5) when controlling the two potentially contaminating variables of gender and race/ethnicity, the relationship between total exposure to community violence and PTSS was maintained; and 6) a multiple correlation between PTSS and four variables is substantially larger than a correlation between PTSS and any one of the four variables.

Interpretation of the Findings

Descriptive Analyses

This and other studies found comparably high rates for total exposure to community violence (Rosenthal, 2000a; Singer et al., 1995), for witnessing of community violence (Foster et al., 2001; Mazza & Reynolds, 1999; Muller et al., 2000; Rosenthal, 2000a; Rosenthal et al., 2004; Scarpa et al., 2002), and somewhat similar average rates for being victimization by community violence (Berman et al., 1996; Foster et al., 2001; Muller et al., 2000; Rosenthal, 2000a; Rosenthal, Wilson, & Baboolal, 2004; Scarpa et al., 2002).

Other studies, in which the prevalence rate for total exposure to community violence was lower when compared to this study's findings, used a different method of analysis. They separated the analyses for every type of victimization (e.g. separating assault from being chased) instead of combining all incidents of being victimized. Therefore, the prevalence of being victimized by community violence in this study was slightly higher than those reported in other studies (see Note 1, Appendix K). There was also a higher prevalence rate of witnessing community violence compared to those reported in other studies (see Note 2, Appendix K).

The high rates found for both the total exposure to and witnessing of community violence shows that community violence is widespread among older urban American adolescents. This is a social problem that should be addressed (see Implications).

Some of the consequent variables of this study (PTSS, intrusive experiences, defensive avoidance, and anxiety) were comparable to other studies in regard to "clinical level," and others were comparable to other studies in regard to prevalence rate (see Note 3, Appendix K). However, few studies reported a higher percentage of individuals with clinical levels of PTSS compared to those reported in this study. The higher levels reported in other studies may have been due to the sample used, which was mostly female (Berton & Stabb, 1996), or of a minority background/*high risk* (Berman et al., 1996; Berton & Stabb, 1996; Springer & Padgett, 2000), or of a younger age (Springer & Padgett, 2000).

The high prevalence rates reported for three symptom clusters that comprise PTSS (intrusive experiences, defensive avoidance and anxiety) are comparable to those reported in a standardized sample of females between the ages of 18 and 54 (Briere, 1995). Other studies on urban adolescents also reported a comparable prevalence rate (Fitzpatrick & Boldizar, 1993; Horowitz et al., 1995). The clinical levels reported for the components of PTSS were not reported in other related studies. However, since the prevalence rates are similar, PTSS appears to be widespread among urban American adolescents.

The high prevalence reported among urban adolescents should motivate professionals to conduct future research on this issue. It should also motivate us to provide better assessment tools and therapeutic services (see Implications).

Hypotheses Analyses

Many of the findings of this study are unique and add knowledge concerning the phenomenon of community violence and PTSS. Several studies were found that used similar terms but differed conceptually from the main variables used for this study.

There are six unique findings in this study. They are:

(1) There is a statistically significant relationship between total exposure to community violence and PTSS among diverse older adolescents (see Note 4, Appendix K). Also, when looked at separately, victimization by community violence and witnessing of community violence each has a relationship with PTSS (see Note 5, Appendix K).

(2) Regarding older urban adolescents, each component of total exposure to community violence provides an independent contribution to its relationship with PTSS and they each contribute to an overlapping relationship with PTSS. Only one other study examined this overlapping relationship and a component of PTSS, anxiety. Our result is comparable to that of another study (Rosenthal, 2000a) indicating that victimization by and witnessing of community violence need to be considered both separately and together when assessing adolescents.

(3) The relationship between total exposure to community violence and PTSS obtains even after controlling for gender and race/ethnicity (see Note 6, Appendix K). It matters not what gender or race/ethnic background an adolescent identifies as, the more the individual is exposed to community violence, the more likely the individual is to exhibit PTSS.

(4) For male and female urban adolescents alike, the more the total exposure to community violence experienced, the greater the likelihood of exhibiting PTSS. Only two other studies were found with "imprecise" definitions of total exposure to community violence. However, the result of this hypothesis is comparable to the result of these two other studies (Foster et al., 2004; McCart et al., 2007). This shows that there is no gender difference in this relationship.

(5) Asians, Hispanics, African Americans, and Whites do not differ in the relationship between total exposure to community violence and PTSS. Only one other study (Berton & Stabb, 1996) somewhat supports this statement. However, this study differs conceptually with the exposure variable yet it provides a similar finding.

(6) PTSS is obviously a result of many influences, yet the combination of four variables studied (victimization by community violence, witnessing of community violence, gender, and race/ethnicity) provides us with a fairly good understanding of PTSS. No other study in the literature was found that looked at this relationship.

Despite the fact that there is a robust relationship between total exposure to community violence and PTSS, much of the variance in PTSS remains unexplained. This is not an artifact of poor internal validity or of a lack of technical adequacy of the measurement procedures, for the following three reasons: (1) Gender and race/ethnicity, were identified as potentially contaminating variables and controlled; (2) Temporal priority was logically deduced; and (3) The antecedent and consequent variables were all measured by scales that had good reliability and validity. Reliability of the total exposure to community violence scale and its components ranged from .69 to .91. Reliability of the PTSS scale and its components ranged from .88 to .94. Both, the total exposure to

community violence scale and the PTSS scale were judged by a panel of academic professionals to be highly valid.

Although some of the unexplained variance is attributable to the "noise" resulting from the less than perfect reliability of each of the scales, most of the unexplained variance must be attributed to an incomplete theoretical understanding of the phenomenon. A more complex theory of the dynamics underlying PTSS is required to explain more of the variance. The theoretical framework guiding this study was a combination of PTSD and schema theories. These theories explain how individuals process negative and unusual experiences, which may be perceived as traumatic; and how that may lead to PTSS. Therefore, it may be said that individuals who suffer from total exposure to community violence may not have a chance to assimilate or modify their experiences into a schema. This means that they are more likely to display symptoms of PTSS.

The theories used in this study do not provide explicit information or guidance as to why some individuals exposed to identical community violence exhibit PTSS, while others do not. Additional information may address why this is so. This may include both "internal factors" (an individual's belief system, coping style) and "external factors" [the severity of the trauma, singular vs. multiple events, level of support] (Wilson, 1989). Also, knowledge of these other variables may assist further in the explanation of the relationship between total exposure to community violence and PTSS. For example, including an individual's *level of social support* in the analysis of the relationship between total exposure to community violence and PTSS may illuminate why some individuals exhibit PTSS and others do not. Identifying an individual's perceived level of

social support may additionally provide information regarding the relationship between total exposure to community violence and PTSS.

The prediction equation for this study is: PTSS = 33.25 + (.84) (victimization) + (.52) (witnessing). This equation provides us with the information necessary to predict an individual's level of PTSS based on his or her level of victimization by community violence and witnessing of community violence. We can predict the amount of PTSS an individual will have based on his or her level of exposure to community violence.

In summary, the findings of this study add new insights into the phenomenon of total exposure to community violence and PTSS among older urban adolescent. These insights are as follows: Males, females and members of various racial/ethnic backgrounds have the same likelihood of exhibiting PTSS once exposed to community violence; identifying an adolescent's gender or race/ethnicity has no affect on the relationship between total exposure to community violence and PTSS; victimization by and witnessing of community violence each contribute to independent and overlapping relationships with PTSS; when additional variables are studied concerning the relationship between total exposure to community violence and PTSS, more knowledge will be discovered; and lastly, a prediction equation may be helpful in predicting the level of PTSS based on knowledge of the components of total exposure to community violence.

Limitations of the Study

Self-administered measuring tools.

The study used self-reports to measure all variables; and this information-gathering method should be taken into consideration when interpreting the results. When research participants self-report, their memory may be distorted or less than accurate (Squire, Schmolck, & Buffalo, 2001). However, there are advantages to self-reporting. If it is done anonymously, the responses are very likely to be accurate (Sierles, 2003). There is also a higher response rate with self-administered survey/questionnaires as opposed to mail-ins (Sierles, 2003).

External Validity

External validity is limited by the convenience sample used in this study. Since the sample is not random, inferences are constrained. However, the sample is representative of the college from which it was selected (Calise, 2007). Also, the distributions on being victimized are consistent with those of other studies. Thus, the findings can be cautiously inferred to the population of older urban adolescents in the United States.

Implications for Social Work Practice

The following findings may be applied to the field of social work practice in regard to older urban adolescents: The prevalence rate of total exposure to community violence is high; there is a positive significant relationship between total exposure to community violence and PTSS; high levels of either total exposure, victimization or

witnessing, will likely show high levels of PTSS; males and females have similar rates of PTSS in regard to the total exposure to community violence; Asians, Hispanics, African Americans, and Whites do not differ regarding the relationship between total exposure to community violence and PTSS.

From these findings, there are five points that can be applied to social work practice:

First, in-service training should be provided to educate social work practitioners about the widespread nature of community violence. Practitioners should also be made aware of the positive relationship between total exposure to community violence and PTSS, and how this relationship applies across gender and ethnic groups.

Second, given the prevalence of total exposure to community violence, PTSS, and their significant relationship, social workers who work with adolescents should create a more comprehensive intake questionnaire to include questions pertaining to total exposure to community violence and PTSS. This will assist in identifying adolescents' possible exposure and possibly resultant PTSS.

Third, if a client divulges total exposure to community violence, follow-up questions should involve assessing for PTSS. Likewise, if a client manifests PTSS, follow-up questions should involve assessing for total exposure to community violence.

Fourth, similar to self-administered depression scales, where individuals check off their symptoms and then calculate the level of depression they have, a self-administered assessment scale should be developed to identify issues related to total exposure to community violence and PTSS. This scale should be included with various other self-administered scales already available for adolescents (e.g., during health screening days,

posted on websites frequented by adolescents). Once an adolescent takes the self-administered assessment scale, and calculates his/her level of PTSS, appropriate recommendations should be provided on the same form (e.g., seek therapeutic services).

Fifth, there are specialized therapeutic approaches that appear to be effective when working with clients with PTSD -the concept from which PTSS is derived (Dieperink et al., 2005). Social work practitioners should receive training in these services in order to assist clients who exhibit PTSS. Exposure therapy (or cognitive behavioral treatments) is another very effective therapeutic approach that reduces PTSD symptoms (Rothbaum & Schwartz, 2002). Exposure therapy involves stimulating a fear response based on an upsetting event in a structured safe environment. The goal is to assist the client into "modifying the pathological elements of the trauma memory" into a memory that does not stimulate anxiety or other psychological negative symptoms (Rothbaum & Schwartz, p. 60). This approach may be helpful in assisting adolescents who exhibit PTSS by reducing the PTSD symptoms of anxiety, intrusive thoughts, and defensive avoidance.

Another potential therapeutic technique in working with adolescents who exhibit PTSS is to focus on reducing one of the symptoms, anxiety. Researchers have explored the most effective way of reducing anxiety- related issues and the results show that both cognitive therapy and relaxation therapy are effective techniques (Siev & Chambless, 2007). Practitioners may choose to use either cognitive therapy or relaxation therapy in assisting young adolescents with PTSS.

Other therapeutic approaches may also be applicable when assisting young adults with PTSS. These include providing individual therapy with a focus on coping skills, and conducting and facilitating support groups.

Implications for Social Work Policy

This study should influence social work policy twofold: by acknowledging that community violence is a social problem; and by focusing on prevention.

In acknowledging that community violence is considerably widespread and related to negative psychological symptoms, social workers should see that this is a social problem. This will create the foundation needed to educate social workers and encourage research to develop new policies to address this problem.

Policies addressing community policing and community programs, such as after school programs, are a first step in preventing further exposure. More police and safety patrols should be present in urban communities. Community programs should educate adolescents to resolve conflicts by reducing physical aggression. This may also reduce community violence. Currently, there are several "effective" programs in existence to prevent youth violence (National Center for Injury Prevention, 2007; U.S. Department of Health and Human Service, 2000). These programs should be implemented as policy and replicated throughout the nation to address the youth violence epidemic.

Implications for Social Work Education

Social work educators should consider including topics related to community violence and its relation to PTSS in their lectures and reading materials. This action will make prospective social workers more apt to assess and address these issues with their adolescent clients. Another method to integrate content concerning community violence is to include this topic in the social work curriculum. By so doing, future clinicians will be more knowledgeable in assessing their clients' issues and assisting them within their therapeutic sessions. In addition, prospective social workers should also be made aware that this issue affects male and female adolescents alike, as well as those of various cultural backgrounds. Focusing on community violence as a social problem will give it more status as an issue that needs to be assessed, addressed and further researched.

Future Research

This study raises further questions that need to be researched. For example, why do adolescents exhibit varying degrees of PTSS after identical exposure to community violence? This raises another question: Do either internal or external factors make a difference?

Some other research questions are: Is PTSS more likely to occur immediately after an incident of exposure to community violence? How long may an individual exhibit PTSS? What is an appropriate treatment plan for adolescents who exhibit PTSS if PTSS is related to exposure to community violence? How is an adolescent's academic

performance affected when exposed to community violence? Where in a community is the violence occurring? How can this violence be reduced?

Conclusions

Community violence and PTSS are widespread among older adolescents. Practitioners who work with adolescents should be aware of the following: The likelihood of total exposure to community violence is related to the likelihood of exhibiting PTSS; regardless of gender and racial/ethnic background this relationship occurs; victimization by and witnessing of community violence should be considered together as well as separately when assessments are made; and the more variables that are considered when researching the relationship between total exposure to community violence and PTSS, the more insights will obtain. Therefore, social workers and other professionals should be trained to assess and assist those adolescents who are exposed to community violence. The findings of this study should be considered for future research, as well as a source for change in social work practice, policy, and education.

Appendix A

Literature Search Studies on Exposure to Community Violence
and PTSS among Adolescents coded by 18 Characteristics.

Study	Sample [1] N; age range (M), gender, ethnicity, urbanicity, setting, region	Variables [2] Independent instrument, content (alpha), time frame, Reliability/Validity; Dependent instrument (alpha), time frame, validity.	Findings [3] Statistical procedure; relationship, effect size, or *r*.
Berman et al. (1996)	96; 14-18 (m=16.4), ethnic diverse, u, phs, SE	SECV, V (n/a), W (n/a), L, no R/V; PTSD-R (.89) high criteria validity. *r*= .91 with clinical cases of PTSD sx, no time frame.	ANOVA; showed no relationship between ECV, V & W, towards PTSS.
Berthold (1999)	76; 11 – 19 (m=15), Khmer refugees metropolitan west coast	SECV, L, SV, & other war related violence items, no R/V; The LA PTSD (.88), L, assesses PTSD sx, no validity.	Least square regression analyses; ECV predicted PTSS, $r = 38$
Berton & Stabb (1996)	97; 15 – 19 (m=17), 76% Female, 47% AA, 19% Latino, 25% white, u, phs, SS	Self report of CV, DV, no time frame, no R/V; Keane PTSD scale & Civilian Miss scale for PTSD (M-PTSD), no time frame, good reliability and validity for latter scale.	Self reported ECV predicted clinical scores on the Keane PTSD and Civilian Miss PTSD scale, Regression, $r^2 = .14$

Appendix A (continued). Literature Search...Characteristics.

Study	Sample [1]	Variables [2]	Findings [3]
Boney-McCoy & Finkelhor (1995a)	2,000; 10 – 16, 1,042 boys, diverse ethnic, national sample	Constructed CV, SLV, no time frame, no R/V; The Symptom Checklist-90-R, past week, PTSS, criterion validity (η = .70) with structured clinical interviews diagnosed with PTSD	A multivariate analysis; between aggravate assault & PTSS, *es* = .36.
Boney-McCoy & Finkelhor (1995b)	2,000; 10 – 16, 958 girls, diverse ethnic, national sample	Constructed CV, SLV, no time frame, no R/V; The Symptom Checklist-90-R, past week, PTSS, criterion validity (η = .70) with structured clinical interviews diagnosed with PTSD	A multivariate analysis; between aggravate assault & PTSS, *es* = .42.
Fitzpatrick & Boldizar (1993)	221; 7 -18 (m=11.9), AA, low income, summer program, SS	SECV, SV, DV, V (.55), W (.65), no time frame, no validity; Purdue Post-Traumatic Stress Scale (.76), m, PTSS, no validity.	Regression revealed 57% of the variance in PTSS was accounted for by V & 28% of variance in PTSS accounted by W aspect of ECV.
Foster et al. (2004a)	84; 11 – 16 (m=13.6), males, AA, u, SE	CECV (Richters and Martinez, 1993), SV, V (.73), W (.91), no time frame, no validity reported; TSC-C (2 subscales, PTSS (.87), no time frame, no validity reported.	Correlation; positive relationship between V & PTSS (.30), no significance relationship between W & PTSS.

Appendix A (continued). Literature Search...Characteristics.

Study	Sample [1]	Variables [2]	Findings [3]
Foster et al. (2004b)	62; 11 – 16 (m=13.6), females, AA, u, SE	CECV (Richters and Martinez, 1993), SV, V (.73), W (.91), no time frame, no validity reported; TSC-C (2 subscales, PTSS (.87), no time frame, no validity reported.	Correlation; no significant relationship between V & PTSS. No significant relationship between W & PTSS.
Hastings & Kelley (1997)	214; 13 – 18 (m=14.62), all AA, pms, phs, u, SS	SAVE (.94), y, no Validity; TSC-C, PTSS (.87), no time frame, convergent validity (with local crime rate).	Correlation; no significant relationship between CV & PTSS.
Horowitz et al. (1995)	79; 12 – 21 (m=16), females, 81% AA and 15% L, medical clinic, u, NE	Constructed own measure for CV, SV, DV, no time frame, no R/V; PSS, no time frame, PTSS, high reliability, good concurrent & excellent convergent validity.	Correlation; positive relationship between CV & PTSS, *r* = .63; between V & PTSS =.50; no significant relationship found between W & PTSS.
Jenkins & Bell (1994a)	84; 13 – 18 (m= 16), all males, all AA, phs, inner-city, NE.	SECV, V, W, SV, no time frame, no R/V; CCDS (.80), 6m, PTSD sx, no validity.	Correlation; positive relationship b/w V & PTSS, *r* = .25. No significant relationship between W & PTSS.
Jenkins & Bell (1994b)	78; 13 – 18 (m= 16), all females, all AA, phs, inner-city, NE.	SECV, V, W, SV, no time frame, no R/V; CCDS (.80), 6m, PTSS, no validity.	Correlation; positive relationship between V & PTSS, *r* = .22. W and PTSS, *r* = .33.
Lipschitz et al. (2000)	90; 12 – 21 (m=17.3), all females, 88% AA, outpatient clinic, u, NE	CEVC (.83), DV, SV, L, no validity; Child PTSD checklist, PTSS, m, no R/V.	ANOVA; girls with PTSD sign more types of trauma vs those in the partial PTSD and no PTSD group.

Appendix A (continued). Literature Search...Characteristics.

Study	Sample [1]	Variables [2]	Findings [3]
Lipschitz et al. (2000)	90; 12 – 21 (m=17.3), females, 88% AA, outpatient clinic, u, NE	CEVC (.83), DV, SV, L, no validity; Child PTSD checklist, PTSS, m, no R/V.	ANOVA; girls with PTSD significantly more types of trauma vs those in the partial PTSD and no PTSD group.
Mazza & Reynolds (1999)	94; 11 – 15 (m= 12.5), 57 females and 37 males, 70% AA, 22% L, ps, low-income, u, NE	EVQ (α = .82), y, W, no validity; APS-PTS (.84), 6 m, PTSS- r & h. No validity reported.	HMR determined the variance in PTSS explained by witnessing community violence.
McCart et al. (2007)	1,245; 12 – 17 (m=14); 51% female, diverse ethnic, national sample	Constructed CV (n/a), L, no R/V; NWS-PTSD, 6 m, interrater kappa (.85), concurrent validity.	Correlation; CV & PTSD sx, *r* = .32, females more PTSS; African American more CV.
McGee (2003)	500; 12 – 18 (m=15), 52% males, 86% AA, u, SS	SECV (.92), V, W, DV, SLV, SV, KV,y, no validity; Anxiety (RCMAS, α=. 93), no time frame, good convergent validity,	Correlation; positive relationship between V & Anxiety, *r* = .32. Positive relationship between W & Anxiety, *r* = .29. Females more likely to exhibit anxiety
Overstreet et al. (1999)	75; 10 – 15 (m=12.5), low income AA, summer program, SS	"Things I Have Seen and Heard" (.83), KV, L, no validity; CCDS (.80), past 6 months, PTSS, no validity.	Correlation; positive relationship between CV & PTSS.
Rosenthal (2000)	455; 17 – 19 (m=18), ethnic diverse, u, pc, NE	SECV (.89), V (.69), W (.91), 3 y, good face content validity; Anxiety scale (.82), 2 m, from the TSI, has adequate criterion validity.	Correlation; V & anx =.21; W & anx = .20; MR b/w CV & anx, *R* = .25. HMR showed 6% of the variance in anx is accounted for by CV.

Appendix A (continued). Literature Search...Characteristics.

Study	Sample [1]	Variables [2]	Findings [3]
Rosenthal & Hutton (2001)	92; 16 – 19 (m=17.3), all AA, u, local community setting, NE	SECV (.89), V (.69), W (.91), 3 y, good face content validity; Anxiety scale (.86, Briere, 1995), past 2 m, from the TSI, adequate criterion validity.	Correlation; V & anx =.27, W & anx = .36; MR significant relationship between CV & anx, *R* = .39.
Scarpa et al. (2002)	494; 17 – 22, 81% white, 5% AA, 8% Asian, 3% L, pc, SS	SECV, V (.55), W (.72), L, DV, SV, construct validity (with interpersonal violence); PPTSD-R (α=. 93), m, PTSS, no validity.	ANOVA & Tukey a; significant difference with high V, W group versus low V, W group with PTSS.
Self-Brown et al., (2006)	121; 13 – 16 (m = 15), 61 females, 97% AA, u, phs, SS	SAVE (Hastings & Kelley, 1997), CV (.92), no time frame, construct validity; TSCC (.86), no time frame, construct & convergent validity.	Correlation; positive relationship between CV & PTSS, *r* = .41.
Singer et al. (1995)	3735; 14 – 19 (m=16), 35% AA, 33% white, 2% Latino, 6 phs in two different states, Ohio and Colorado	Constructed ECV (est. m =.63), DV, SLV, SV, L, no validity; TSC-C, posttraumatic stress (.87), no time frame, good concurrent validity.	MR; explained variance for PTSS: R^2 = .22 based on CV
Slovak & Singer (2002)	549; 8 – 15 (m=11.2), rural white youths, from four different schools in Ohio.	Reexamined Singer's survey of ECV (est. m = .74), DV, SLV, L, no validity; TSC-C includes posttraumatic stress, no time frame, no R/V.	MR; violence exposure explained 35% of the variance in PTSS.

Appendix A (continued). Literature Search...Characteristics.

Springer & Padgett (2000)	621; 11 – 14 (m=12.8), 64% Latino & 32% AA, pms, NE	Constructed EVC, SLV, DV, SV, 4 m, no R/V; IES (.91), past week, PTSS (da), no validity information.	MR; revealed that V provided significant associations with avoidance aspect of PTSS

[1] AA= African American, L= Latinos, ps= parochial school, phs= public high school, pms=public middle school, pc= public college, u=urban, met=metropolitan area, s=suburban, NE=northeastern, MD=Midwest, SS=southern state, SW=southwest

[2] SECV= Survey of Exposure to Community Violence, EVQ= Exposure to Violence Questionnaire, SAVE= the Screen for Adolescent Violence Exposure, CEVC= Child Exposure to Violence checklist,
V= Victim, W=Witnessing, SV=sexual violence, DV= domestic violence, SLV= school violence, KV= known of violence, R/V = reliability and validity information, est. m= estimated mean;
PPTSD= Purdue Posttraumatic Stress Disorder Scale, PTSD-R = Posttraumatic Stress Disorder Reaction Index, TSC-C = the Trauma Symptom Checklist for Children, APS-PTS = Adolescent Psychopathology Scale-Posttraumatic Stress Disorder Scale, PSS= PTSD Symptom Scale, CCDS= Checklist for Children's Distress symptoms, IES = Impact of Events Scale, PTSS= posttraumatic stress symptoms or PTSD sx, PCA= Principal Component Analysis, h = hyperarousal, r = re-experiencing, da=defensive avoidance; L = lifetime, m = past month, y = past year

[3] HMR= hierarchical multiple regression analysis, MR= multiple regression, Correlation = pearson correlation, Tukey a= Tukey HSD post-hoc, es = effect size, sx = symptoms, CV = exposure to community violence, b/w =between, V=victimization, W = witnessing of community violence, anx = anxiety

Appendix B

Analyses of the Variations within the Relevant Studies

The 21 related studies varied in terms of size of sample, age of population, representativeness of late adolescents, urbanicity, ethnicity, gender, setting of the study, conceptual definition of the antecedent variables and consequent variables, and the technical adequacy of the instruments used. These variations will be described.

Variation on the Size of the Samples

The size of the sample among the studies differed in the following way: three studies (Boney-McCoy & Finkelhor, 1995; McCart et al., 2007; Singer et al., 1995) had sample sizes between 1,245 and 3,735, a few studies were between 400 and 700 (McGee, 2003; Rosenthal, 2000a; Scarpa et al., 2002; Slovak & Singer, 2002; Springer & Padgett, 2000), other studies had sample sizes between 100 and 300 (Fitzpatrick & Boldizar, 1993; Foster et al., 2004; Hastings & Kelley, 1997; Jenkins & Bell, 1994; Self-Brown et al., 2006), and several others had fewer than 100 subjects (Berman et al., 1996; Berthold, 1999; Berton & Stabb, 1996; Horowitz et al., 1995; Lipschitz et al., 2000; Mazza & Reynolds, 1999; Overstreet et al., 1999; Rosenthal & Hutton, 2001).

Variations among the Demographics of the Samples

The variations among several demographic characteristics were analyzed based on the following: gender, age, representativeness, urbanicity, race/ethnicity, and setting of studies. Both genders were used in the samples of all of the studies with the exception of two cases (Horowitz et al., 1995; Lipschitz et al., 2000) that only had female subjects. The majority of the studies used samples composed primarily of older adolescents, with an overall mean age of 16 (Berman et al., 1996; Berton & Stabb, 1996; Hastings &

Kelley, 1997; Horowitz et al., 1995; Jenkins & Bell, 1994; Lipschitz et al., 2000; McGee, 2003; Rosenthal, 2000a; Rosenthal & Hutton, 2001; Scarpa et al., 2002; Self-Brown et al., 2006; Singer et al., 1995). Other studies used children and/or younger adolescents (Berthold, 1999; Boney-McCoy & Finkelhor, 1995; Fitzpatrick & Boldizar, 1993; Foster et al., 2004; Mazza & Reynolds, 1999; McCart et al., 2007; Overstreet et al., 1999; Slovak & Singer, 2002; Springer & Padgett, 2000) with a mean age of 13.

The samples' representativeness were as follows: there were two national studies (Boney-McCoy & Finkelhor, 1995; McCart et al., 2007), one study represented two states [a Midwest and mountain state] (Singer et al., 1995), and all of the remaining studies used local sources (Berman et al., 1996; Berthold, 1999; Berton & Stabb, 1996; Fitzpatrick & Boldizar, 1993; Foster et al., 2004; Hastings & Kelley, 1997; Horowitz et al., 1995; Jenkins & Bell, 1994; Lipschitz et al., 2000; Mazza & Reynolds, 1999; McCart, et al., 2007; McGee, 2003; Overstreet et al., 1999; Rosenthal, 2000a; Rosenthal & Hutton, 2001; Scarpa et al., 2002; Self-Brown et al., 2006; Slovak & Singer, 2002; Springer & Padgett, 2000).

With regard to urbanicity, the majority of the studies used urban samples. The national study (Boney-McCoy & Finkelhor, 1995) and one other study (Singer et al., 1995) used a combination of metropolitan, urban or suburban settings; one study used a rural sample (Slovak & Singer, 2002).

There was some variability in race/ethnicity in the samples. Many samples were predominantly African American (Fitzpatrick & Boldizar, 1993; Foster et al., 2004; Hastings & Kelley, 1997; Jenkins & Bell, 1994; Lipschitz et al., 2000; McGee, 2003; Overstreet et al., 1999; Rosenthal & Hutton, 2001; Self-Brown et al., 2006), three had a

combination of African American and Latino subjects (Horowitz et al., 1995; Mazza & Reynolds, 1999; Springer & Padgett, 2000), two studies had predominately white subjects (Scarpa et al., 2002; Slovak & Singer, 2002), a few had multiple ethnic backgrounds (Berman et al, 1996; Berton & Stabb, 1996; Boney-McCoy & Finkelhor, 1995; McCart et al., 2007; Rosenthal, 2000a; Singer et al., 1995), and one study used Khmer refugees (Berthold, 1999).

The settings where the studies took place also varied. The national studies were conducted via telephone (Boney-McCoy & Finkelhor, 1995; McCart et al., 2007), two studies were in public colleges (Rosenthal, 2000a; Scarpa et al., 2002), and several other studies took place in public high school settings (Berman et al., 1996; Berthold, 1999; Berton & Stabb, 1996; Hastings & Kelley, 1997; Jenkins & Bell, 1994; Mazza & Reynolds, 1999; Self-Brown et al., 2006; Singer et al., 1995; Slovak & Singer, 2002; Springer & Padgett, 2000). Three studies were conducted in special programs (Fitzpatrick & Boldizar, 1993; Foster et al., 2004; Overstreet et al., 1999), while two were in outpatient medical clinics (Horowitz et al., 1995; Lipschitz et al., 2000), and one was in a local community setting (Rosenthal & Hutton, 2001). The remaining study used various settings (McGee, 2003).

Variation in the Conceptual Definitions of Total Exposure to Community Violence

The term "total exposure to community violence" was variously defined in the literature. In some studies, total exposure to community violence meant the degree to which one was directly subjected to assault (as a victim and/or a witness to community violence) outside the home by non household members (Berman et al., 1996; Hastings & Kelley, 1997; Rosenthal, 2000a; Rosenthal & Hutton, 2001). In other studies, they had

an "imprecise" definition of total exposure to community violence, meaning a too broad definition that is not limited to interpersonal, non-sexual assault within the community outside the home. Rather, the "imprecise" definition includes other kinds of violence and victimization such as sexual assault and domestic violence. The studies that included other types of violence are as follows: sexual violence (Berthold, 1999; Fitzpatrick & Boldizar, 1993; Foster et al., 2004; Horowitz et al., 1995; Jenkins & Bell, 1994; Lipschitz et al., 2000; McCart et al., 2007; Scarpa et al., 2002; Springer & Padgett, 2000), and/or domestic violence (Berton & Stabb, 1996; Fitzpatrick & Boldizar, 1993; Horowitz et al., 1995; Lipschitz et al., 2000; Scarpa et al., 2002; Singer et al., 1995), and/or school violence (Boney-McCoy & Finkelhor, 1995; Mazza & Reynolds, 1999; McGee, 2003; Singer et al., 1995; Slovak & Singer, 2002), or the use of illegal drugs (Foster et al., 2004; McGee, 2003). In still two other studies, total exposure to community violence included violence that was indirectly experienced via hearing about it (Overstreet et al., 1999; Self-Brown et al., 2006).

Variation in the Measures of Total Exposure to Community Violence

Several studies (Berman et al., 1996; Berthold, 1999; Fitzpatrick & Boldizar, 1993; Jenkins & Bell, 1994; McGee, 2003; Rosenthal, 2000a; Rosenthal & Hutton, 2001; Scarpa et al., 2002) used an adapted version of the Survey of Exposure to Community Violence (Richters & Saltzman, 1990) to measure the total exposure to community violence. This multi-item additive scale was designed to measure the "various kinds of violence and things related to violence that [participants] may have experienced, witnessed, or heard about" (Richters & Saltzman, 1990, p. 2). The remaining studies

used different instruments (see appendix A) to measure the total exposure to community violence; these measure included sexual, domestic, or school violence.

The time frame in which the total exposure to community violence had been made varied from lifetime (Berman et al., 1996; Berthold, 1999; Lipschitz et al., 2000; Overstreet et al., 1999; McCart et al., 2007; Scarpa et al., 2002; Singer et al., 1995; Slovak & Singer, 2002), to the past three years (McGee, 2003; Rosenthal, 2000a; Rosenthal & Hutton, 2001), to the past year (Berton & Stabb, 1996; Hastings & Kelley, 1997; Mazza & Reynolds, 1999; McGee, 2003), to past four months (Springer & Padgett, 2000). Some studies did not specify a time frame (Boney-McCoy & Finkelhor, 1995; Fitzpatrick & Boldizar, 1993; Foster et al., 2004; Horowitz et al., 1995; Jenkins & Bell, 1994; Self-Brown et al., 2006).

The technical adequacy of the measures of total exposure to community violence also varied. The reader will recall that the reliability of a scale is the degree to which an operational definition used under similar circumstances produces the same results. In this review, the reliability of total exposure to community violence ranged from excellent [Cronbach's alpha's = .91+] (Foster et al., 2004; Rosenthal, 2000a; Rosenthal & Hutton, 2001; Self-Brown et al., 2006), to good [alpha's between .75 and .90] (Hastings & Kelley, 1997; Lipschitz et al., 2000; Mazza & Reynolds, 1999; Overstreet et al., 1999), to moderate [alpha's between .55 and .74] (Fitzpatrick & Boldizar, 1993; McGee, 2003, see Gaba, 1996; Singer et al., 1995; Slovak & Singer, 2002). Other studies did not provide information about reliability (Berman et al., 1996; Berthold, 1999; Boney-McCoy & Finkelhor, 1995; Horowitz et al., 1995; Jenkins & Bell, 1994; McCart et al., 2007; Springer & Padgett, 2000).

The reader will recall that validity is the degree to which the operational definition of a variable matches its conceptual definition. In this review, validity was addressed in various manners. Two studies had good face content validity (Rosenthal, 2000a; Rosenthal & Hutton, 2001), others showed from adequate to good construct validity [r = . 23] (Hastings & Kelley, 1997; Self-Brown et al., 2006), [chi-square result, x^2 = 51.81] (Scarpa et al., 2002), but most did not report anything on validity (Berman et al., 1996; Berthold, 1999; Boney-McCoy & Finkelhor, 1995; Fitzpatrick & Boldizar, 1993; Foster et al., 2004; Horowitz et al., 1995; Jenkins & Bell, 1994; Lipschitz et al., 2000; Mazza & Reynolds, 1999; McCart et al., 2007; McGee, 2003; Overstreet et al., 1999; Singer et al., 1995; Slovak & Singer. 2002; Springer & Padgett, 2000).

Variation in the Conceptual Definitions of PTSS

The conceptual definitions of PTSS had two variations in the literature. The reader will recall that PTSS is a set of pathological symptoms (intrusive experiences, defensive avoidance, and anxiety) that resemble the symptom criteria for a PTSD diagnosis. Of the twenty-one studies found that dealt with PTSS, few studies conceptualized PTSS with at least one of its three symptom clusters (Hastings & Kelley, 1997; McGee, 2003; Rosenthal, 2000a; Rosenthal & Hutton, 2001; Singer et al., 1995; Slovak & Singer, 2002). The remaining studies, incorporated in this review, included all three PTSS symptom clusters in its conceptualization (Berman et al., 1996; Berthold, 1999; Berton & Stabb, 1996; Boney-McCoy & Finkelhor, 1995; Fitzpatrick & Boldizar, 1993; Foster et al., 2004; Horowitz et al., 1995; Jenkins & Bell, 1994; Lipschitz et al., 2000; Mazza & Reynolds, 1999; McCart et al., 2007; Overstreet et al., 1999; Scarpa et al., 2002; Self-Brown et al., 2006; Springer & Padgett, 2000). These studies did not use

subjects diagnosed with PTSD, nor did they try to make a diagnosis of PTSD. Mostly, they correlated total exposure to community violence to PTSD symptoms – hereafter referred to as PTSS.

Variation in the Measure of PTSS

Of the 21 studies in this review much variation was found in the measure used for PTSS. Five studies (Foster et al., 2004; Hastings & Kelley, 1997; Self-Brown et al., 2006; Singer et al., 1995; Slovak & Singer, 2002) used subscales of the Trauma Symptom Checklist for Children (Briere, 1995), two studies used The Trauma Symptom Inventory (Rosenthal, 2000a; Rosenthal & Hutton, 2001), and no two of the remaining studies used the same scale as one another to measure PTSS. Some of the other measures used were as follows: The LA PTSD (Berthold, 1999), The Symptom Checklist – 90-R (Boney-McCoy & Finkelhor, 1995), The Purdue Post-Traumatic Stress Scale (Fitzpatrick & Boldizar, 1993), The National Women's Study PTSD module (McCart et al., 2007), and The Child PTSD checklist (Lipschitz et al., 2000).

There was also variation in the time frame measuring PTSS: lifetime (Berthold, 1999), past six months (Jenkins & Bell, 1994; Mazza & Reynolds, 1999; McCart et al., 2007; Overstreet et al., 1999), within past two months (Fitzpatrick & Boldizar, 1993; Lipschitz et al., 2000; Rosenthal, 2000a; Rosenthal & Hutton, 2001; Scarpa et. al., 2002), past week (Boney-McCoy & Finkelhor, 1995; Springer & Padgett, 2000), some studies did not report the time frame (Berman et al., 1996; Berton & Stabb, 1996; Foster et al., 2004; Hastings & Kelley, 1997; Horowitz et al., 1995; McGee, 2003; Self-Brown et al., 2006; Slovak & Singer, 2002; Singer et al., 1995).

The technical adequacy of the scales in terms of reliability and validity also varied. (The reader will recall that the reliability of a scale being the degree to which an operational definition used under similar circumstances produces the same results.) Some studies had excellent reliability [Cronbach's alpha's = .91+] (Berton & Stabb, 1996; McFall, Smith, Mackay, & Tarver, 1990; Scarpa et al., 2002; Springer & Padgett, 2000), several had good reliability [Cronbach's alpha's between .80 & .89] (Berman et al., 1996; Berthold, 1999; Foster et al., 2004; Hastings & Kelley, 1997; Jenkins & Bell, 1994; Mazza & Reynolds, 1999; McGee, 2003; Overstreet et al., 1999; Rosenthal, 2000a; Rosenthal & Hutton, 2001; Self-Brown et al., 2006; Singer et al., 1995; Slovak & Singer, 2002), and a couple had only acceptable reliability (Cronbach's alpha's between .65 & .79) (Boney-McCoy & Finkelhor, 1995; Fitzpatrick & Boldizar, 1993). Other studies also reported high inter-item agreement for two raters [Cohen's Kappa = .89; Kappa = .91, Kappa = .85, respectively] (Berman et al., 1996; Horowitz et al., 1995, see also Foa, Riggs, Dancu, & Rothbaum, 1993; McCart et al., 2007). One study did not supply reliability information (Lipschitz et al., 2000).

Validity of measures of PTSS found in the literature varied. Several researchers tested their instruments for criterion validity (also referred to as concurrent validity) with very good results (Berman et al., 1996; Berton & Stabb, 1996; Rosenthal, 2000a; Rosenthal & Hutton, 2001); an example of testing for criterion validity was by comparing the results of this scale with the results of structured clinical interviews for the same population at the same time. Four studies had adequate to good criterion validity [η = .70; *r*'s between .52 to .81; kappa coefficient = .71; *r* = . 67, respectively] (Boney-McCoy & Finkelhor, 1995; Horowitz et al., 1995; McCart et al., 2007; Singer et al., 1995), and

four studies (Berman et al., 1996; Berton & Stabb, 1996; Rosenthal, 2000a; Rosenthal & Hutton, 2001, see also Briere, 1995) had very high criterion validity (approximately 90% accuracy). Convergent validity (also referred to as construct validity) was tested by other researchers (Hastings & Kelley, 1997; Self-Brown et al., 2006); an example of this is conducting correlation analyses between the results obtained from the instrument being tested with results obtained from conceptually related measures (McFall et al., 1990). These results were also good and reported as follows: [r = .48] (Hastings & Kelley, 1997); [r (327) = .15; p <.01] (McGee, 2003; see also Reynolds & Richmond, 1997); [r = .65] (Self-Brown et al., 2006, see also Foa, Cashman, Jaycox, & Perry, 1997). Other researchers did not report on validity (Berthold, 1999; Fitzpatrick & Boldizar, 1993; Foster et al., 2004; Jenkins & Bell, 1994; Lipschitz et al., 2000; Overstreet et al., 1999; Scarpa et al., 2002; Slovak & Singer, 2002; Springer & Padgett, 2000). One study (Mazza & Reynolds, 1999) reported "good" validity without presenting evidence.

Summary of the Variability among Samples

There was much variation among the 21 studies reviewed that were related conceptually to the variables of this study. Variability was found in population (a mixture of early and late adolescents ranging in age from 7 to 22), size of sample (from fewer than 100 to 3,735), setting of a study (from participant's home, school, to medical outpatient clinics), conceptual definition of total exposure to community violence (including other types of violence: sexual, domestic, school, or hearing about it), and with the technical adequacy (from excellent reliability and validity of the scales used to not addressing this). This variation shows that there is little uniformity in the literature.

Appendix C

Note for Hypothesis #1

Three studies were found that examined total exposure to community violence, including victimization by community violence and witnessing of community violence, and the consequent variable, PTSS or a component of PTSS with a sample somewhat similar to the current study's proposed sample (Berman et al., 1996; Rosenthal, 2000a; Rosenthal & Hutton, 2002). Ten studies were found that examined an "imprecise" definition of total exposure to community violence with PTSS (Berthold, 1999; Berton & Stabb, 1996; Hastings & Kelley, 1997; Horowitz et al., 1995; Lipschitz et al., 2000; Overstreet et al., 1999; McCart et al., 2007; Self-Brown et al., 2006; Singer et al., 1995; Slovak & Singer, 2002). "Imprecise" refers to a too broad definition that is not limited to interpersonal, non-sexual assault within the community outside the home. Rather, the "imprecise" definition includes other types of violence and victimization such as sexual assault and domestic violence.

The majority of the studies found a significant positive relationship between total exposure to community violence, including victimization and witnessing, and posttraumatic stress symptoms. Of the 13 studies reviewed, 11 supported the relationship between total exposure to community violence and PTSS (Berthold, 1999; Berton & Stabb, 1996; Horowitz et al., 1995; Lipschitz et al., 2000; McCart et al., 2007; Overstreet et al., 1999; Rosenthal, 2000a; Rosenthal & Hutton, 2002; Self-Brown et al., 2006; Singer et al., 1995; Slovak & Singer, 2002). However, two studies (Berman et al., 1996; Hastings & Kelley, 1997) found no relationship between total exposure to community violence and PTSS.

Several statistical procedures were used to obtain these findings. A number of studies used multiple regression analyses (Berton & Stabb, 1996; Berthold, 1999; Rosenthal, 2000a; Singer et al., 1995; Slovak & Singer, 2002), some used correlation analyses (Hastings & Kelley, 1997; Horowitz et al., 1995; McCart et al., 2007; Overstreet et al., 1999; Rosenthal & Hutton, 2001; Self-Brown et al., 2006), and one study used ANOVA (Lipschitz et al., 2000) in their investigation of the association between total exposure to community violence and PTSS.

Appendix D

Notes for Hypothesis #1A and # 1B

Hypothesis # 1A

Three studies were found that examined being victimized by community violence and PTSS or a component of PTSS with a sample somewhat similar to the current study's proposed sample (Berman et al., 1996; Rosenthal, 2000a; Rosenthal & Hutton, 2001). Seven studies analyzed an "imprecise" definition of being victimized by community violence [some studies included domestic, sexual, school, or drug violence] (Boney-McCoy & Finkelhor, 1995; Fitzpatrick & Boldizar, 1993; Horowitz et al., 1995; Jenkins & Bell, 1994; McGee, 2003; Scarpa et al., 2002; Springer & Padgett, 2000) and component(s) of PTSS with a sample somewhat similar to the current study's proposed sample.

Several studies used multiple regression analyses (Fitzpatrick & Boldizar, 1993; Rosenthal, 2000a; Springer & Padgett, 2000), some used correlation analyses (Horowitz et al., 1995; Jenkins & Bell, 1994; McGee, 2003; Rosenthal & Hutton, 2001), two studies used ANOVA (Berman et al., 1996; Scarpa et al., 2002), and another used analysis of covariance (Boney-McCoy & Finkelhor, 1995).

Hypothesis # 1B

Three studies were found that examined witnessing of community violence and PTSS or a component of PTSS with a sample somewhat similar to the current study's proposed sample (Berman et al., 1996; Rosenthal, 2000a; Rosenthal & Hutton, 2001). Seven studies were found that included an "imprecise" definition of witnessing violence

[including sexual, domestic, drugs, school, or hearing about violence] (Fitzpatrick & Boldizar, 1993; Horowitz et al., 1995; Jenkins & Bell, 1994; Mazza & Reynolds, 1999; McGee, 2003; Scarpa et al., 2002; Springer & Padgett, 2000) in relationship with PTSS and a sample somewhat similar to the current study's proposed sample.

Most of the studies found significant positive correlation between witnessing of community violence and PTSS (Fitzpatrick & Boldizar, 1993; Jenkins & Bell, 1994; Mazza & Reynolds, 1999; McGee, 2003; Rosenthal, 2000a; Rosenthal & Hutton, 2001; Scarpa et al., 2002; Springer & Padgett, 2000). However, two studies (Berman et al., 1996; Horowitz et al., 1995) found no relationship between witnessing community violence and PTSS.

A variety of statistical procedures was used in these studies, resulting in conflicting findings. Several studies used multiple regression analyses (Fitzpatrick & Boldizar, 1993; Rosenthal, 2000a; Springer & Padgett, 2000), some used correlation analyses (Jenkins & Bell, 1994; Horowitz et al., 1995; McGee, 2003; Rosenthal & Hutton, 2001), and others used ANOVA (Berman et al., 1996; Scarpa et al., 2002) in their analyses of the association between witnessing of community violence and PTSS.

Appendix E

Summary of the Relevant Studies by Research Hypotheses

In regard to Hypothesis #1, the 13 relevant studies show varied methodology and a positive correlation between the "imprecise" definition of total exposure to community violence and PTSS among adolescents with the exception of two studies. Most of the studies included domestic, sexual, drug, and school violence in their definition of total exposure to community violence. The strongest study described above had good technical adequacy, good internal validity, and very good external validity.

Hypothesis #1 had two additional sub-hypotheses, Hypothesis # 1A and Hypothesis #1B. Both of these sub-hypotheses show considerable evidence (10 studies for each sub-hypothesis) with varied methodology. The majority of findings indicate a positive correlation between the "imprecise" definition of victimization by community violence and PTSS with the exception of one study; and a positive correlation between the "imprecise" definition of witnessing of community violence and PTSS with the exception of two studies.

In regard to Hypothesis #2, one strong methodological study was found (good technical adequacy, good internal validity and good external validity) indicating both an independent and overlapping relationship between victimization by community violence, witnessing of community violence, and a component of PTSS (anxiety) among adolescents.

In regard to Hypothesis #3, all seven relevant studies indicate that among older adolescents, the higher the level of total exposure to community violence, the higher the level of PTSS, holding constant gender and/or race/ethnicity. As in most of the other

articles reviewed, the conceptual definition of the total exposure to community violence variable in these studies included domestic, sexual, school, drug, and hearing about violence. The strength of the methodology varied. The strongest study described above had good technical adequacy, good internal validity, and good external validity.

In regard to Hypothesis #4, the three relevant studies show varied methodology with two out of the three findings indicating no difference by gender in the relationship between the "imprecise" definition of total exposure to community violence and PTSS. The strongest study described for this hypothesis had good technical adequacy, good internal validity, and very good external validity.

In regard to Hypothesis #5, one study was found that did not indicate a difference among older adolescents in the relationship between the "imprecise" definition of total exposure to community violence and PTSS by race/ethnicity. This study showed adequate technical adequacy, good internal validity, and adequate external validity.

In regard to Hypothesis # 6, no study was found that matched this assumption: among older adolescents, the multiple correlation between PTSS and the combination of the four variables, victimization by community violence, witnessing of community violence, gender, and race/ethnicity, is substantially larger than the bivariate correlation between PTSS and any one of the antecedents.

Appendix F

The Adaptation of the Survey of Exposure to Community Violence (Ad-SECV): Victimization by Community Violence Subscale

The following questions ask about you own experience with community violence during the past three years. For each question, circle a letter that best describes your experience. (Do NOT include in your answers violence between members of your household, yourself included; and do NOT include things you may have seen or heard about on TV, radio, the news or the movies.)

1. During the past three years, how many times were you, yourself, chased by gangs or individuals? (circle only one)
a) never b) once or twice c) several times d) very often

2. During the past three years, how many times were you, yourself, actually threatened with serious physical harm by someone? (circle only one)
a) never b) once or twice c) several times d) very often

3. During the past three years, how many times were you, yourself, actually slapped, punched, or hit by someone? (circle only one)
a) never b) once or twice c) several times d) very often

4. During the past three years, how many times were you, yourself, actually beaten up or mugged? (circle only one)
a) never b) once or twice c) several times d) very often

5. During the past three years, how many times were you, yourself, actually attacked or stabbed with a knife? (circle only one)
a) never b) once or twice c) several times d) very often

6. During the past three years, how many times were you, yourself, actually shot or shot at with a gun? (circle only one)
a) never b) once or twice c) several times d) very often

7. During the past three years, how many times has someone taken something from you (for example, cash or property), using force or threat of force? (circle only one)
a) never b) once or twice c) several times d) very often

Each response category was coded to reflect the degree of victimization by community violence (never = 1, once or twice = 2, several times = 3, very often = 4). Scoring involved the sum of the coded responses that provided a total. Subject's response total for victimization by community violence may range from 7 to 28, the higher score reflecting high exposure to community violence as a victim and the lower score reflecting minimal exposure to community violence as a victim.

Appendix G

The Adaptation of the Survey of Exposure to Community Violence (Ad-SECV): Witnessing of Community Violence Subscale

The following questions ask you about community violence that you may have seen happen to someone else during the last 3 years. For each question, circle a letter that best describes your experience. (REMEMBER: do NOT include in your answers violence between members of your household: and do NOT include things you may have seen or heard about on TV, radio, the news or the movies.)

1. During the past three years, how many times have you seen someone else get chased by gangs or individuals? (circle only one)
a) never b) once or twice c) several times d) very often

2. During the past three years, how many times have you seen someone else being picked up, arrested or taken away by the police? (circle only one)
a) never b) once or twice c) several times d) very often

3. During the past three years, how many times have you seen someone else being threatened with serious physical harm by someone? (circle only one)
a) never b) once or twice c) several times d) very often

4. During the past three years, how many times have you seen someone else being slapped, punched, or hit by someone? (circle only one)
a) never b) once or twice c) several times d) very often

5. During the past three years, how many times have you seen someone else getting beaten up or mugged? (circle only one)
a) never b) once or twice c) several times d) very often

6. During the past three years, how many times have you seen someone else carrying or holding a gun or a knife? (do not include police, military, or security officers) (circle only one)
a) never b) once or twice c) several times d) very often

7. During the past three years, how many times have you seen someone else seriously wounded after an incident of violence? (circle only one)
a) never b) once or twice c) several times d) very often

8. During the past three years, how many times have you seen someone else being attacked or stabbed with a knife? (circle only one)

a) never b) once or twice c) several times d) very often

9. During the past three years, how many times have you seen someone else get shot or shot at with a gun? (circle only one)
a) never b) once or twice c) several times d) very often

10. During the past three years, how many times have you actually seen a dead person somewhere in the community? (do not include wakes and funerals) (circle only one)
a) never b) once or twice c) several times d) very often

11. During the past three years, how many times have you seen someone else being killed by another person? (circle only one)
a) never b) once or twice c) several times d) very often

Each response category was coded to reflect the degree of witnessing of community violence (never = 1, once or twice = 2, several times = 3, very often = 4). Subject's response total for witnessing may range from 11 to 44, the higher score reflecting high witnessing of community violence and the lower score reflecting minimal witnessing of community violence.

Scoring for the overarching variable, Exposure to Community Violence, involved the sum of the coded responses from both the victimization by community violence subscale of the Ad-SECV and the Witnessing of community violence subscale of the Ad-SEVC. Subject's response total from the whole Ad-SECV may range from 18 to 72; the higher score reflecting high exposure to community violence and the lower score reflecting minimal exposure to community violence.

Appendix H

The Survey of the Posttraumatic Stress Symptomatology (SPTSS)

How often have you experienced each of the following in the last two months? (Put an "X" in the appropriate blank for each feeling.)

	Never	Seldom	Some -times	Often
Intrusive Experiences items:				
1. Nightmares or bad dreams	____	____	____	____
2. "Flashbacks" (sudden memories or images of upsetting things)	____	____	____	____
4. Suddenly remembering something upsetting from your past	____	____	____	____
5. Suddenly being reminded of something bad	____	____	____	____
6. Violent dreams	____	____	____	____
7. Just for a moment, seeing or hearing something upsetting that happened earlier in your life.	____	____	____	____
8. Frightening or upsetting thoughts popping into your mind	____	____	____	____
Defensive Avoidance items:				
9. Trying to forget about a bad time in your life	____	____	____	____
10. Stopping yourself from thinking about the past	____	____	____	____
11. Pushing painful memories out of your mind	____	____	____	____
12. Staying away from certain people or places because they reminded you of something	____	____	____	____
13. Trying to block out certain memories	____	____	____	____
14. Not letting yourself feel bad about the past	____	____	____	____
15. Trying not to have any feelings about something that once hurt you	____	____	____	____
16. Trying not to think or talk about things in your life that were painful	____	____	____	____

Anxiety items:				
17. Nervousness	____	____	____	____
18. Being startled or frightened by sudden noise	____	____	____	____
19. Feeling tense or "on edge"	____	____	____	____
20. Feeling afraid you might die or be injured	____	____	____	____
21. Periods of trembling or shaking	____	____	____	____
22. Feeling jumpy	____	____	____	____
23. Worrying about things	____	____	____	____
24. High anxiety	____	____	____	____

Items # 1 – 8 reflect intrusive experience, items # 9 – 16 reflect defensive avoidance, and items # 17 – 23 reflect dissociation.
Each response was coded for scoring purposes (Never =1, Seldom =2, Sometimes =3, Often =4). Scoring involved the sum of the coded responses that provided a total. Subject's response total may range from 25 to 100 (the lower number reflecting a low degree of PTSS and the higher number reflecting a high degree of PTSS).

Appendix I

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Appendix J

Demographic Items used from the Questionnaire

1) Gender: Male Female
2) Age (at last birthday) _____
3) What is the highest educational level attained by your mother? Elementary school, some high school, high school graduate, some college, college graduate, or postgraduate
4) What is the highest educational level attained by your father? Elementary school, some high school, high school graduate, some college, college graduate, or postgraduate
5) What was your household's income last year (the combined income of all members of your household)? Under $15,000, $15-24,999, $25 – 34,999, $35-44,999, $45- 54,999, $55 – 99,999, $100,000+
6) During the last three years, your zip code was _____
7) During the last three years, the members of your household were: (circle all that apply) mother father brother(s) sister(s) grandparent(s) spouse child(ren) friend(s) uncle(s) aunt(s) cousin(s)
8) Were you born in the US? Yes No
9) If not born in the US, country of origin _____
10) If not born in the US, number of years living in US?
11) Did you attend high school in the US? Yes No
12) How many college credits have you earned so far? (Do not include this semester's; if none, write "0.") ___

13) Do you consider yourself to be Hispanic or Latino? (Hispanic or Latino means: a person of Mexican, Puerto Rican, Cuban, South or Central American, or other Spanish culture or origin, regardless of race.) Check the one answer that best describes you. __I consider myself to be Hispanic or Latino. ___I do not consider myself to be Hispanic or Latino.

14) What race do you consider yourself to be? Check all that apply.

___American Indian or Alaska Native

___Asian

___Black or African American

___Naive Hawaiian or Other Pacific Islander

___White

15) People in the US are often grouped according to ethnic group. An ethnic group is a group of people who share a specific cultural or language or national background or other such characteristics. Some examples are: African-American, Haitian, Guyanese, Puerto Rican, Dominican, Korean, Mixed Race, etc. Please write the name of the ethnic group to which you and your family belong on the line below. (Do NOT limit yourself to the examples given.) _____

16) What is your religion? (mark the one group with which you identify most)

___Buddhist ___Christian

___Confucian ___Hinduism

___Jewish ___Muslim

___Other (Please specify) _____

___None

Appendix K

Notes for Chapter 6

NOTE 1: The studies referred to are: Boney-McCoy & Finkelhor, 1995; Fitzpatrick & Boldizar, 1993; Horowitz et al., 1995; Lipschitz et al., 2000; Overstreet et al., 1999; Singer et al., 1995; Slovak & Singer, 2002; Springer & Padgett, 2000.

NOTE 2: The studies referred to are: Berthold, 1999; Fitzpatrick & Boldizar, 1993; Jenkins & Bell, 1994; Horowitz et al., 1995; Lipschitz et al., 2000; O'Keefe, 1997; Overstreet et al., 1999; Shakoor, & Chalmers, 1991; Singer et al., 1995; Slovak & Singer, 2002; Springer & Padgett, 2000.

NOTE 3: The "clinical level" (Briere, 1995) for PTSS reported in this study is comparable to those reported in other studies (Berthold, 1999; Foster et al., 2004; Lipschitz et al., 2000; Mazza & Reynolds, 1999; Overstreet et al., 1999).

NOTE 4: Although other relevant studies included other forms of violence when looking at this relationship (Berthold, 1999; Berton & Stabb, 1996; Horowitz et al., 1995; Lipschitz et al., 2000; McCart et al., 2007; Overstreet et al., 1999; Rosenthal, 2000a; Rosenthal & Hutton, 2002; Self-Brown et al., 2006; Singer et al., 1995; Slovak & Singer, 2002), these studies also found positive results between similar concepts.

NOTE 5: Other relevant studies that differ conceptually also support this relationship for victimization (Boney-McCoy & Finkelhor, 1995; Fitzpatrick & Boldizar, 1993; Horowitz et al., 1995; Jenkins & Bell, 1994; McGee, 2003; Rosenthal, 2000a; Rosenthal & Hutton, 2001; Scarpa et al., 2002; Springer & Padgett, 2000; Wilson & Rosenthal, 2003) and for witnessing community violence (Fitzpatrick & Boldizar, 1993;

Jenkins & Bell, 1994; Mazza & Reynolds, 1999; McGee, 2003; Rosenthal, 2000a; Rosenthal & Hutton, 2001; Scarpa et al., 2002; Springer & Padgett, 2000).

NOTE 6: Other studies include: Mazza & Reynolds, 1999; McCart et al., 2007; Overstreet et al., 1999; Self-Brown et al., 2006; Singer et al., 1995**;** Slovak & Singer, 2002; Springer & Padgett, 2000.

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