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Abstract

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Keywords

Adolescent, Crime Victims, Depression, Female, Humans, Male, Mental Disorders, Nurse-Patient Relations, Psychiatric Nursing, Psychology, Adolescent, Urban Population, Violence

Disciplines

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The Relationship between Community Violence Exposure and Mental Health Symptoms in Urban Adolescents

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Abstract

Urban adolescents are exposed to a substantial amount of community violence which has the potential to influence psychological functioning. To examine the relationship between community violence exposure and mental health symptoms in urban adolescents, a literature review using MEDLINE, CINAHL, PubMed, PsycINFO, CSA Social Services, and CSA Sociological Abstracts was conducted. Search terms included adolescent/adolescence, violence, urban, mental health, well-being, emotional distress, depression, anxiety, posttraumatic stress disorder, and aggression. Twenty six empirical research articles from 1997–2007 met inclusion criteria for review. Findings indicate an influence of community violence exposure on mental health symptoms, particularly posttraumatic stress and aggression. Mediators and moderators for community violence exposure and mental health symptoms help explain relationships. Limitations in the literature are the lack of consistency in measurement and analysis of community violence exposure, including assessment of proximity and time frame of exposure, and in analysis of victimization and witnessing of community violence. Knowledge about identification of urban adolescents exposed to chronic community violence and who experience mental health symptoms is critical to mental health nursing practice and research.

Keywords

Adolescent; Community Violence; Mental Health; Urban

Urban adolescents report very high rates of community violence exposure (CVE); more than 85% witness some form of violence in their lifetime (Farrell & Bruce, 1997; Overstreet & Braun, 2000; Mazza & Reynolds, 1999; Pastore, Fisher, & Friedman, 1996) and as many as 69% report direct victimization (Duckworth, Hale, Clair, & Adams, 2000; Howard, Feigelman, Li, Cross, & Rachuba, 2002; Overstreet & Braun, 2000). These rates make it important to examine the effects of CVE on the psychological well-being of urban adolescents. For this paper, CVE is considered to be “deliberate acts intended to cause harm against a person or persons in the community” (Cooley, Turner, & Beidel, 1995, p. 202). CVE encompasses direct victimization and witnessing violence against others.

Depression, anxiety, posttraumatic stress disorder (PTSD), and aggression have negative associations with CVE in urban adolescents (Cooley-Quille, Boyd, Frantz, & Walsh, 2001; Foster, Kuperminc & Price, 2004; Gorman-Smith & Tolan, 1998; Mazza & Reynolds,

1999). These relationships between CVE and mental health, however, are not always consistent, and the impact of CVE on urban adolescents' psychological functioning is not clearly established (Farrell & Bruce, 1997; White, Bruce, Farrell, & Kliewer, 1998). Some investigators discuss desensitization, where adolescents adapt by having lower than expected mental health symptoms in response to CVE (McCart et al., 2007; Ng-Mak, Salzinger, Feldman, & Stueve, 2004). These discrepancies call for a better understanding of the correlates between CVE and mental health.

The purpose of this article is to examine the research on the relationships between CVE and mental health symptoms in urban adolescents, identify major findings, and discuss gaps for future exploration. This integrative analysis aims to garner a better understanding of the effects of CVE on mental health and help to provide direction for nursing research and practice. This information can provide mental health nurses crucial information to aid in caring for the mental health needs of vulnerable and often disadvantaged adolescents.

Methods

A literature search in MEDLINE, CINAHL, PubMed, PsycINFO, CSA Social Services Abstracts, and CSA Sociological Abstracts was conducted. In the first search, keywords included: adolescent/adolescence, violence, urban, mental health, well-being, and emotional distress. The additional key terms of depression, anxiety, PTSD, and aggression were then used to target these four mental health symptoms as primary variables of interest as identified from the initial search. In order to analyze the most current literature, included in analysis were peer-reviewed, English-language journal articles on human research from 1997–2007. Empirical studies on the relationship between CVE and mental health variables were included. To be included, studies had to capture at least one of the core characteristics of CVE: direct victimization or witnessing violence in the community. Samples of adolescents in these studies had to be within the age range of 10–19 years, recruited via school or community settings, and living in or attending school in urban areas in the United States (Center for Disease Control, 2007; World Health Organization, 2004). Selecting community based samples of adolescents draws from the implication that findings from clinically referred samples may not be as generalizable as non-referred samples (Ozer, 2005; Ozer & McDonald, 2006; Ozer & Weinstein, 2004).

Excluded from analysis were studies including both urban and suburban samples; studies with urban and suburban participants do not always distinguish between settings when analyzing the relationship between CVE and mental health (e.g. Flannery, Singer, & Wester, 2003; O'Keefe, 1997). Studies with samples of refugee and homeless adolescents were excluded. Refugees may experience multiple traumas and losses, often related to war, and present with a unique set of mental health problems (Ehnholt & Yule, 2006). Homeless adolescents are particularly vulnerable to victimization in their settings and are at great risk for mental health problems (Stewart et al., 2004). Studies examining substance abuse did not fit inclusion criteria or were excluded because it was often treated as a risk behavior, not in the same context as other mental health symptoms (e.g. Albus, Weist & Perez-Smith, 2004). Twenty six articles met criteria for analysis and were examined through study sample and design, measurement of key variables, and key findings on the relationship between CVE and mental health symptoms (see Table 1).

Results

An integrative review of the 26 articles produced seven longitudinal and 19 cross-sectional designs. No papers had a lead investigator who was a nurse and only one nurse scholar was a secondary author among the 26 articles (Davis of McGee et al., 2001). Seventeen studies

had samples with greater than 50% African American adolescents and four were predominately Hispanic/Latino populations. Almost all of the studies were conducted with adolescents of disadvantaged socioeconomic status. Eleven different measurements of CVE were used. The time frame for exposure varied, including the prior six months, year, three years, during high school, and over the adolescent's lifetime. All studies used adolescent self-report measures of CVE and mental health variables. Six studies included parent or teacher report of adolescent behaviors (Gorman-Smith & Tolan, 1998; Ng-Mak et al., 2004; Ozer, 2005; Ozer & McDonald, 2006; Ozer & Weinstein, 2004; Richards et al., 2004). Two studies used experience sampling methods (ESM) to obtain information on daily experiences to supplement self-report data (Hammack, Richards, Luo, Edlynn, & Roy, 2004; Richards et al., 2004).

Parameters of CVE differed across studies. Investigators measured a combination of victimization, witnessing, and/or hearing about violence in the community – either in isolation or together. Of the 24 studies assessing both victimization and witnessing, 11 statistically examined the relationship of victimization and witnessing with adolescent mental health symptoms separately (Cooley-Quille et al., 2001; Duckworth et al., 2000; Foster, et al., 2004; Hammack et al., 2004; Howard et al., 2002; Richards et al., 2004; Rosenthal, 2000; Rosenthal & Hutton, 2001; Rosenthal & Wilson, 2003; Ruchkin, Henrich, Jones, Vermeiren, & Schwab-Stone, 2007; Schwab-Stone et al., 1999). Two assessed witnessing only (Farrell & Bruce, 1997; White et al., 1998). All others assessed CVE as a composite of witnessing and victimization. Three explicitly stated that sexual assault was included in their measurement of CVE (Duckworth et al., 2000; Moses, 1999; Ng-Mak et al., 2004). Many used a modified version of established instruments, with specific modifications, deletions or additions not always explicit. Only one study did not use an established instrument (Moses, 1999). All but three studies used CVE instruments developed in low-income neighborhoods with minority children and adolescents (Gorman-Smith & Tolan, 1998; McCart et al., 2007; Self-Brown et al., 2006).

Twenty-seven different instruments were used to assess depressive symptoms, PTSD symptoms, anxiety, distress, aggression, and suicidal ideation. In all studies, analysis of the relationships between CVE and mental health correlates were based on symptom severity through correlation, regression, and structural equation modeling (SEM). Some reported descriptive statistics of scores indicative of clinical significance, but these were not used in analysis of relationships (Duckworth et al., 2000; Foster et al., 2004; Mazza & Reynolds, 1999; McCart et al., 2007; Overstreet, Dempsey, Graham, & Moely, 1999; Rosenthal & Wilson, 2003; Self-Brown et al., 2006).

Anxiety, Depressive Symptoms, and Suicidal Ideation

Although there was a substantial amount of investigation into anxiety and depressive symptoms as unique symptoms, the discussion of depressive symptoms and anxiety at times overlapped with the terms internalizing symptoms, emotional distress, and anxiety/depression. Studies did not specify that these were synonymous, but acknowledged that the two were related or measured together (Gorman-Smith et al., 1998; Schwab-Stone et al., 1999). Strengths of correlations between CVE and depressive symptoms ranged from $r=.11$ to $r=.51$ and for CVE and anxiety from $r=.20$ to $r=.50$ (Cooley-Quille et al., 2001; Dempsey, 2002; Foster et al., 2004; Hammack et al., 2004; Mazza & Reynolds, 1999; Moses, 1999; Ozer, 2005; Ozer & McDonald, 2006; Ozer & Weinstein, 2004; Rosenthal, 2000; Ruchkin et al., 2007; Self-Brown et al., 2006).

One study indicated a moderate association between CVE and suicidal ideation for both males and females (Mazza & Reynolds, 1999). Two found no significant relationship between CVE and depressive symptoms (Cooley-Quille et al., 2001; Overstreet et al., 1999);

one found no significant relationship between CVE and emotional distress (measured as depression and anxiety) (Farrell & Bruce, 1997); and one found no relationship between CVE and anxiety in males (White et al., 1998). Two reported significant small to moderate correlations with symptoms of anxiety and depression combined as one variable (Gorman-Smith & Tolan, 1998; Schwab-Stone et al., 1999). Overall, a majority indicated a relationship between CVE and depressive symptoms and anxiety.

Regression analyses occasionally revealed a different relationship between CVE and depression from simple correlation. Controlling most often for age and gender, studies specified that CVE accounted for 7–11% of the variance in depressive symptoms and anxiety (Dempsey, 2002; Foster et al., 2004; Overstreet et al., 1999). Even though there was a significant positive moderate correlation between CVE and depressive symptoms, when PTS and suicidal ideation were controlled for, the relationship lost significance (Mazza & Reynolds, 1999). Similarly, CVE and suicidal ideation had a moderate association, but lost significance when depressive symptoms and PTS were controlled for (Mazza & Reynolds, 1999). Controlling for the other mental health variables was not a consistent step in the studies analyzing CVE and depressive symptoms and anxiety, but proved to be an important strategy in determining the strength of variation accounted for by a single variable. In addition, when controlling for previous symptom levels, CVE still accounted for a small amount of the variance in changes of anxiety/depression (Gorman-Smith & Tolan, 1998) and intrusive symptoms (Ozer, 2005).

Three studies used SEM to assess the relationship between CVE and depressive and anxiety symptoms. Schwab-Stone et al. (1999) pointed to the strengths of SEM, in which data on multiple measurements of well-being could be aggregated into latent constructs and measurement error is incorporated to reflect a more accurate picture of the relationship between CVE and mental health symptoms. Indeed, studies using SEM provided new and more refined information about CVE and mental health. Using emotional distress as an inferred latent variable for anxiety and depression, no relationship was found with CVE (Farrell and Bruce, 1997). CVE was associated only with internalizing symptoms (anxiety and depression) in younger adolescents, and was not related to changes in emotional distress (anxiety/depression) over time (Farrell & Bruce, 1997; Schwab-Stone et al., 1999).

Posttraumatic Stress

The relationship of PTSD, the symptom clustering of intrusive recollections, avoidant/numbing symptoms, and hyper-arousal symptoms, and CVE was unique (American Psychiatric Association, 2000). The terms distress, PTS, and PTSD were used to describe some of the symptoms associated with PTSD in this sample. No study used the clinical diagnosis of PTSD. Thus, the term PTS will be used to discuss the findings associated with distress, PTS, and PTSD symptoms.

Positive correlations between PTS and CVE were generally significant with small to moderate effect sizes ($r=.19-r=.62$) (Cooley-Quille et al., 2001; Dempsey, 2002; Duckworth et al., 2000; Foster et al., 2004; Mazza & Reynolds, 1999; McCart et al., 2007; Overstreet & Braun, 2000; Overstreet et al., 1999; Ozer & Weinstein, 2004; Rosenthal & Wilson, 2003; Self-Brown et al., 2006). Regression analysis also supported a relationship, with CVE predicting 3–19% of the variance of PTS (Cooley-Quille et al., 2001; Dempsey, 2002; Duckworth et al., 2000; Foster et al., 2004; Howard et al., 2002; McCart et al., 2007; Ng-Mak et al., 2004; Ozer & Weinstein, 2004). When controlling for depression and suicidal ideation, Mazza and Reynolds (1999) still found CVE to be a predictor of PTS. In regression analysis, victimization and witnessing separately were not as strong predictors of PTS as when they co-existed. Ozer and McDonald (2006) found that daily hassles and CVE were powerful predictors, together accounting for 42% of the variance in PTS. One study used

SEM to assess CVE and PTS, indicating a moderate relationship between CVE and the latent variable of stress (Richards et al., 2004).

Aggression

Aggression is defined as hostile or violent behavior or attitudes (Soanes & Stevenson, 2006). Aggression in adolescents was referred to by a variety of terms, including externalizing behavior, delinquency, perpetration of violence, antisocial behavior, hostility, anger, and aggressive behavior. These terms are not interchangeable, but measurements of these variables were used to reflect aggression in adolescents. Thus, the term aggression will be used as an indicator of these terms. Aggression had moderate to strong relationships with CVE, both in correlation and regression analysis. Correlation strength measured $r=.14$ for a single description of CVE (being beaten up/jumped) (Moses, 1999) and $r=.30$ to $r=.75$ for CVE as summed by the instrument (Farrell & Bruce, 1997; Foster et al., 2004; Gorman-Smith & Tolan, 1998; McCart et al., 2007; Ozer, 2005; Ozer & McDonald, 2006; Ruchkin et al., 2007; Schwab-Stone et al., 1999). Overall, these correlations were stronger than those associated with PTS, depressive symptoms, or anxiety.

In regression analysis, CVE accounted for 5–37% of the variance in aggression (Duckworth et al., 2000; Foster et al., 2004; Gorman-Smith & Tolan, 1998; McCart et al., 2007; Ng-Mak et al., 2004; Ozer, 2005; Ozer & McDonald, 2006; Rosenthal, 2000). A strong association between CVE and aggression remained when using SEM, and CVE was predictive of aggression in females (Farrell & Bruce, 1997; Richards et al., 2004; Ruchkin et al., 2007; Schwab-Stone et al., 1999). Ozer and McDonald (2006) found that CVE and daily hassles were powerful predictors of aggression (total $R^2=.34$).

Victimization and Witnessing of CVE

Not all studies distinguished victimization and witnessing of violence. Yet studies that did make this distinction found differential impact of CVE on mental health. Rosenthal (2000) found that victimization and witnessing CVE were independently related to various distress symptoms. Victimization had a slightly stronger association with depression, and witnessing had a slightly stronger association with anger, though both had small to moderate relationships and predicted a small amount of the variance. Overall, there was no consistency in the outcomes of victimization and witnessing. Rosenthal (2000) concluded that in order to assess the full impact of CVE, as well as their overlapping relationship, victimization and witnessing must be considered together.

Some investigators measured and analyzed victimization and witnessing separately and found that they were highly correlated ($r=.50$) and showed similar relationship to symptoms (both $r=.26$ with PTSD symptoms) (Ozer & Weinstein, 2004). Even though victimization and witnessing were correlated, Hammack et al. (2004) ($r=.60$, $p<.001$) and Howard et al. (2002) ($r=.66$, $p<.000$), both analyzed each independently, citing that the two were not mutually exclusive experiences. Findings indicated that mental health symptoms associated with the predictive model of victimization (despondency and lack of belongingness) were different than that of witnessing (intrusive thoughts, vigilance/avoidance, and distraction) (Howard et al., 2002). Other investigators also found differences in these relationships (e.g. Cooley-Quille et al., 2001; Foster et al., 2004). Failure to identify consistent findings associated with victimization and witnessing CVE may be due to the implausibility of finding an adolescent in an urban setting who has not experienced one without the other (Overstreet et al., 1999).

Few studies discussed the impact of specific events of CVE. Moses (1999) focused on six single items, assessing the impact of a major traumatic event, such as being shot at or

witnessing violence against family. Witnessing violence against family had small, but significant relationships with depression and aggression; being shot/stabbed was also correlated with aggression. Though data were not collected from a standardized instrument, the unique and specific information from these items helped to identify key characteristics of CVE that may be more detrimental to mental health. Three studies included items on sexual assault in the measurement of CVE, all indicating correlations between CVE and distress or depression (Duckworth et al., 2000; Moses, 1999; Ng-Mak et al., 2004). This specific victimization experience may also have a unique impact on mental health symptomatology.

Moderators to Mental Health Symptoms

A moderator is a variable that “affects the direction and/or strength of the relation between the independent or predictor variable and the dependent or criterion variable” (Baron & Kenny, 1986, p. 1174). Nine studies examined moderators for CVE and mental health symptoms in urban adolescents, including gender (Foster et al., 2004; Schwab-Stone et al., 1999), family relationship characteristics (Gorman-Smith & Tolan, 1998; Hammack et al., 2004; Overstreet et al., 1999; Ozer, 2005; Ozer & Weinstein, 2004; White et al., 1998), school connectedness (Ozer, 2005), parental mental health (Self-Brown et al., 2006), ethnicity, and grade level (Schwab-Stone et al., 1999).

Discrepant results were identified for the moderating role of family support. White et al. (1998) found that family support was not a moderator for CVE and anxiety. Gorman-Smith and Tolan (1998) found that CVE was significantly related to aggression for youth with high family structure and youth with low family cohesion CVE was significantly related with increased depression and anxiety. In other studies, the presence or absence of, and helpfulness of mother, father, and siblings varied in their moderating effects (Overstreet et al., 1999; Ozer, 2005; Ozer & Weinstein, 2004). Specifically, the less helpful/absent mother was a moderator for CVE and depressive, PTSD symptoms, and aggression (Overstreet et al., 1999; Ozer, 2005; Ozer & Weinstein, 2004). Hammack et al. (2004) reported that social support (a self-report measure of social support and measures of time spent with family and maternal closeness) was a protective and stabilizing force for adolescents exposed to CVE. This multidimensional framing of social support may have contributed to the findings. Parental mental health was also found to be a moderator for CVE and PTS (Self-Brown et al., 2006). School connectedness was not found to be a moderator of the effects of CVE (Ozer, 2005; Ozer & Weinstein, 2004).

Mediators to Mental Health Symptoms

A mediator is present when variation in the independent variable accounts for variation in the proposed mediator, variation in the mediator accounts for variation in the dependent variable, and when the first two relationships are controlled for, the significant relationship between the independent and dependent variable loses significance (Baron & Kenny, 1986). Six studies examined mediators of CVE and mental health symptoms including negative coping (Dempsey, 2002), community chaos (Duckworth et al., 2000), PTS symptomatology (Mazza & Reynolds, 1999; Ruchkin et al., 2007), neighborhood safety, and family conflict (Overstreet & Braun, 2000). Community chaos, as a significant mediator for witnessing violence and PTS and problem behaviors, places emphasis on the role of community instability (Duckworth et al., 2000). Overstreet and Braun (2000) found neighborhood safety to be a mediator for CVE and PTS. Even though negative coping acted as a mediator for CVE and PTSD, depression, and anxiety, positive coping did not have the inverse effect (Dempsey, 2002).

Investigating the role of PTS as a mediator for CVE helped to further explain the intricate and complex relationship of CVE and mental health symptoms. Investigating PTS as a

mediator indicated that PTS was both an outcome of CVE and also preceded other mental health symptoms such as depression, anxiety, or aggression. This is complex because of similarities that may exist between anxiety, depression, aggression, and PTS (Mazza & Reynolds, 1999). In this review, support was found for the mediating role of PTS. PTS functioned as a mediator to depression for witnessing and victimization of CVE (Mazza & Reynolds, 1999; Ruchkin et al., 2007). Gender differences were identified, where PTS acted as a partial mediator for CVE and commission of violence in males, but not females (Ruchkin et al., 2007). The role of PTS as a mediator has important clinical implications for assessment and care of urban adolescents exposed to CVE. PTS symptoms were not only an outcome of CVE, but also a risk factor for the development of other mental health sequelae in urban adolescents.

Gender Differences in Relationships of CVE and Mental Health Symptoms

Males and females alike are exposed to substantial amounts of violence, but the influence of such exposure varied. The majority of samples were predominately female. Findings indicated that there was little consensus on the differing effects of CVE on mental health for males and females. Some results found that females exposed to CVE were more likely to exhibit anxiety and depressive symptoms than their male counterparts (McGee et al., 2001; Moses, 1999). Anxiety was related to CVE only in females (White et al., 1998), as was violent behavior (Farrell & Bruce, 1997). Other results indicated that anxiety was associated with victimization in males, but not females (Foster et al., 2004). Although males were more distressed by victimization than witnessing, females had no difference in the impact of either victimization or witnessing.

There are likely mediating and moderating effects in gender. Schwab-Stone et al. (1999) found that the strength of the association between CVE and internalizing and externalizing behavior was not moderated by gender. Foster et al. (2004), however, found that gender moderated the relationship between witnessing and depressive symptoms and anxiety, with females who witnessed high levels of CVE having higher symptoms of depression and anxiety. Gender did not necessarily have the same moderating effect for victimization and symptoms. Ruchkin et al. (2007) assessed the mediating role of PTS and the findings suggested that males exposed to CVE and who experienced PTS committed more violence. The effects of the gender variable in mediation and moderation analysis presented conflicting results, indicating that further investigation is needed.

Discussion

Key Findings

Although the research shows discrepant findings about the relationship between CVE and mental health symptoms in urban adolescents, there was clear and convincing evidence of an association between CVE and increased depressive symptoms, anxiety, PTS, and aggression. Aggression and PTS had the strongest relationships with CVE. Depression and anxiety had significant correlations with CVE, but with regression analysis, results often lost significance. Controlling for variables and confounders in regression helped to give a clearer picture of the effect of CVE on mental health. After controlling for the other mental health variables and confounders, PTS and aggression had the strongest relationships with CVE. Potentially, the relationship of CVE and depression/anxiety is more complex with findings changing based on the statistical methods of examining the relationships. The relationship, however, with PTS and aggression seem more stable; regardless of simple correlation or more complex approaches, there is always a relationship. SEM augmented the results with the construction of latent variables and inclusion of measurement error to better describe

relationships. Additional analysis beyond correlation is needed to assess the relationships between CVE and mental health symptoms.

The role of mediators and moderators in assessing the mechanisms by which CVE influences mental health symptoms is critically important in understanding the mental health status of urban adolescents. Many studies to date indicate that neighborhood and family characteristics may have had a mediating effect for CVE and mental health. Better understanding these mediating effects is key to future investigative efforts. Clarification of the role of PTS as a mediator and an outcome can be helpful in identifying urban adolescents who might benefit from mental health services. CVE is substantial among male and female urban youth, and consequences of exposure did not appear to have consistent findings in gender differences.

Limitations and Gaps in Knowledge

The lack of consistency in the examination of CVE was a major limitation. The discrepancies stem from different time periods of recall for exposure, modification of instruments, and analysis of CVE as victimization, witnessing, or both. Comparing the results of studies that assess the impact of lifetime CVE versus the past year may not be explicating a true understanding of relationships with mental health symptoms. Even among studies using the same instruments, different time frames were used, possibly causing methodological flaws. Witnessing a shooting in the community two years prior to administration of the instrument would not be captured in an evaluation of CVE in the prior year. Recall of the time frame of CVE may not be consistent. The influence of time in development of mental health symptoms can also be of key importance. Additionally, modifications in instruments, such as deletion of items, were not always specified, making it difficult to effectively compare findings across studies. Furthermore, differences among victimization, witnessing, and total CVE were inconsistent. Not all studies separated witnessing and victimization, creating a complicated comparison across studies, nor was there consensus about the value of distinguishing between the two.

Another methodological issue was the lack of information on proximity and relationship of the adolescent to the victim. Failure to collect data on this information limits the knowledge of how these characteristics affect mental health of urban adolescents. Few instruments measuring CVE were extensive, and those that did include more detailed questions about proximity and relationships did not incorporate these results in the data analysis (Duckworth et al., 2000). For example, there did not appear to be assessment of comparing witnessing a murder as opposed to witnessing a fight. Items used by Moses (1999) provided the most detail for proximity and relationship of victim, but these items was not part of a standardized instrument.

The methods and design of these studies point to another limitation. Self-report data are the mainstay of the evaluation of the relationship between CVE and mental health symptoms in urban adolescents. Although few studies incorporated teacher and parent report of behaviors, findings indicated that these assessments did not have the same findings as self-report (Ng-Mak et al., 2004; Ozer & McDonald, 2006; Ozer & Weinstein, 2004). Adolescents experienced symptoms of depression, anxiety or PTS, but adults were not aware or able to see a display of these emotions. In addition, cross-sectional data were collected in the majority of the studies. With cross-sectional data, there is the possibility that urban adolescents experiencing depressive symptoms or anxiety are more at risk to have CVE. Longitudinal analysis supported a strong argument for the directionality of the relationship between CVE and mental health and also allowed for control of previous levels of symptomatology in analysis (Farrell & Bruce, 1997; Gorman-Smith & Tolan, 1998; Ozer, 2005; Ruchkin et al., 2007; White et al., 1998).

Overall, CVE had a strong correlation with, and was a predictor, for aggression. The assessment of aggression, though, sometimes virtually overlapped with CVE. Acts of perpetration of violence, delinquency, and other aggressive behavior by urban adolescents could be argued as reflective of CVE. For example, items regarding CVE included events such as witnessing someone being shot and for perpetration of violence, items included events such as using a weapon to get something from someone (Ozer & McDonald, 2006). The questions assessing these variables may in fact be overlapping. Indeed, externalizing symptoms all appeared to be related to the mental health and well-being of urban adolescents. Many studies examined both internalizing and externalizing symptoms, indicating that these behaviors were reflective of mental health and psychological functioning (Cooley-Quille et al., 2001; Ozer, 2005; Ozer & McDonald, 2006; Schwab-Stone et al., 1999).

Desensitization, or adaptation and emotional numbing to CVE, has been offered as a possible explanation for results which indicate that CVE does not affect mental health status (Fitzpatrick, 1993; Osofsky, Wewers, Hann, & Fick, 1993). Some findings of this review pointed to desensitization when there was no relationship with CVE and mental health symptoms (Farrell & Bruce, 1997; Moses, 1999; Ng-Mak et al., 2004; White et al., 1998). Ng-Mak et al. (2004) also discussed the presence of pathologic adaptation in a small subset of their sample, in which adolescents did not experience internalizing distress symptoms such as being sad, worrying, or crying, but increased their aggressive behavior. McCart et al. (2007), however, found minimal support for desensitization in their probability sample of urban adolescents. In their regression analyses, however, CVE was not isolated from family violence and sexual assault. Overall, significant relationships between CVE and mental health symptoms indicate that desensitization or pathological adaptation may not be the normative response to CVE. In this review, there was no consensus for desensitization or pathological adaptation as an explanation for non-significant findings. The role of mediators, moderators, and other mental health problems such as PTS, may also help to explain non-significant findings.

Detailed information about relationships and proximity of CVE is lacking. Increased knowledge of the effects of witnessing a violent event in close proximity or against a person in close personal relations with the adolescents could help to determine how these factors affect mental health symptoms. Identification of these aspects may be methodologically difficult, but further exploration is needed. Current instruments that do include these characteristics are often modified or the shortened version is used. In addition, knowledge about victimization characteristics would also help to augment the knowledge.

Conclusions

Implications for Mental Health Nursing

Nursing is virtually absent from this body of science. Yet, nurses working in mental health settings have the opportunity to engage in assessment and care of urban adolescents threatened by CVE. Knowledge about identification of urban adolescents exposed to chronic CVE who experience symptoms of depression, aggression, anxiety, or PTS would be an important contribution to nursing research and practice. Relationships between CVE and mental health symptoms exist for urban adolescents, and mental health nurses can position themselves to become actively engaged in identification and care of this vulnerable population. This is a prime opportunity to explore the understanding of the mechanisms to which CVE affects mental health through education, practice, and research.

Education efforts for psychiatric and mental health nursing should target knowledge about the detrimental effects of violence in the community, as well as interventions that are

successful in helping adolescents who are vulnerable to CVE. In clinical practice with urban adolescents, assessment for violence exposure, as well as depression, anxiety, aggression, and PTS should be routine. Assessment of CVE, through mode and proximity, can provide nurses in clinical practice knowledge and opportunities for intervention for potential vulnerabilities to mental health consequences in this population. Given the mediating effects of PTS, early screening, identification, and intervention would be beneficial for improved mental health outcomes. Nursing science must also become involved in this area of research. Nursing inquiry into the understanding of effects of CVE will help to identify what augments healthy development in urban adolescents.

The continued high rates of chronic CVE to which urban adolescents are exposed necessitate assessment of the impact and the mechanisms by which CVE influences mental health. The empirical research conducted with urban adolescents and the relationship between CVE and mental health symptoms have created a strong base from which future studies can be designed. Knowledge of these relationships and continued investigation of mediators and moderators for CVE and mental health symptoms remains an important initiative. There is still a great deal of exploration needed to understand the relationships between CVE and mental health in urban adolescents. Nursing science must be involved in this area of health care for urban adolescents.

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Table 1

Studies Examining CVE and Mental Health in Urban Adolescents

Authors	Setting, Sample & Design	Instruments Used to Measure CVE and Mental Health Variables	Key Findings (Victimization=V; Witnessing=W)
Cooley-Quille et al., 2001	Inner-city Parochial High School (HS) Phase I: N=185 Ages 13–18 43.8% Female 56.2.5% Male 90% African American Phase II: N=33 No SES data Cross-sectional with 2 phases	Phase I: Violence Exp: CREV Anxiety: STAIC Behavior (Internalizing & Externalizing (I&E): YSR (I & E separately) Phase II: Depressive Symptoms: CDI Diagnostic Interview: ADIS-C Fears: FSSC-R	Phase I: (Age and gender covaried) High CVE group had more fears, internalizing behaviors, and trait anxiety than low CVE group. No difference in externalizing behaviors between low and high CVE groups. Females with high CVE reported more internalizing problems (withdrawal, anxiety, depressive symptoms)-Level of CVE did not affect males' behaviors. Phase II: PTSD symptoms correlated with CVE (.42)* and V (.41)*. Separation anxiety correlated with CVE (.50)* and W (.56)**. (Regression) CVE predicted PTSD symptoms ($R^2=.16$)*. W predicted separation anxiety symptoms ($R^2=.20$)*.
Dempsey, 2002	Inner-city Elementary (ES) & Middle (MS) Schools. N=120 Ages 10–14 55% Female 45% Male 100% African American Avg \$6,000/yr Cross-sectional	Violence Exp: "Things" Distress/PTSD Symptoms: CCDS Depressive Symptoms: CDI Trait Anxiety: STAIC	CVE correlated with depression (.36)***, PTSD symptoms (.45)***, and trait anxiety (.28)**. (Regression) CVE predictive of PTSD ($\Delta.R^2=.19$)*, depression ($\Delta.R^2=.10$)** and anxiety ($\Delta.R^2=.08$)**. Negative coping was a mediator to PTSD (reduced predictive ability of CVE by 38%), depression (by 47%) and anxiety (by 31%). Together, negative coping and CVE explained moderate degree of variance.
Duckworth et al., 2000	Urban area MS N=181 Ages 11–15 68% Female 32% Male 100% African American 88% eligible for free lunch program (FLP):(Less than \$9999 per year in this study) Cross-sectional	Violence Exp: SCECV PTS: PTSDRI-C Behavior I&E: YSR (total score)	PTS correlated with W (.25)** , V (.19)** , and Community Chaos (CC) (.30)** . Problem behaviors correlated with W (.27)** , V (.28)** , and CC (.29)** . (Regression) V predictive of behavior problems ($\Delta.R^2=.03$)* . CC predictive of PTS ($\Delta.R^2=.02$)* . CC mediated relationship between W and PTS. CC mediated relationship between W and behavior problems. Full model of age, CC, V and W accounted to 10% variance in PTS and 12% variance in problem behaviors.
Farrell & Bruce, 1997	Urban public MS N=436 at 3 data points. Ages 11–15 58% Female 42% Male 94% African American 52% eligible FLP Longitudinal- 9/94-6/95	Violence Exp: "Things" Emotional Distress: 3 items each from the Depression and Anxiety subscales of Emotional Distress scale of the WAI Violent Behavior: BFS	CVE (W) in females and males correlated with violent behavior (.38)** (.40)** but not emotional distress at Time 1. (SEM) CVE (W) not related to changes in depression or anxiety over time. CVE (W) related to changes in frequency of violent behavior in females, but not in males.
Foster et al., 2004	Boys & Girls Clubs in a major metropolitan area N=146 Ages 11–16 42.5% Female 57.5% Male	Violence Exp: CECV Anxiety, Depression, Anger, PTS symptoms, & Dissociation: TSSC	V correlated with anxiety (.31)** , depression (.33)** , anger (.59)** , dissociation (.52)** and PTS (.30)** for males. W correlated with anger (.30)**

Authors	Setting, Sample & Design	Instruments Used to Measure CVE and Mental Health Variables	Key Findings (Victimization=V; Witnessing=W)
	<p>“Predominately African American” community “Lower income” Cross-sectional</p>		<p>and dissociation (.23)** for males. V and W correlated with depression (.32)* (.31)*, anger (.41)** (.39)** and dissociation (.31)* (.32)* for females. (Regression) W predictor in anger ($\Delta.R^2=.14$)** and dissociation ($\Delta.R^2=.09$)*. V predictor in anxiety ($\Delta.R^2=.08$)**, depression ($\Delta.R^2=.11$)** anger ($\Delta.R^2=.27$)***, PTS ($\Delta.R^2=.07$)*, and dissociation ($\Delta.R^2=.20$)*. Gender moderated relationship between W and depressive symptoms and W and anxiety. Gender did not moderate for V and symptoms. Males more distressed by V than W; Females had no difference in impact of V or W.</p>
Gorman-Smith & Tolan, 1998	<p>5th & 6th grades in public schools from the CYDS N=245 at 2 data points Ages 11–15 100% Male African American and Latino (% not reported) 48% <\$10,000/yr Longitudinal-1 yr</p>	<p>Violence Exp: Exposure to Violence Interview (Tolan & Gorman-Smith, 1991) Depression, anxiety, and aggression: subscales of the CBCL completed by adolescent, parent, and teacher (combined standardized scores from each source)</p>	<p>CVE correlated with aggression Time 1 (.22)** and Time 2 (.31)**. CVE correlated with anxiety/depression Time 1 (.19)** and Time 2 (.21)** (Significant interactions): CVE related to low cohesion in family and anxiety/depression (.30)***. CVE also related to aggression in families with high levels of structure (.38)*** (Multiple regression) CVE over past year related to current level of depression/anxiety ($\Delta.R^2=.03$)*** and aggression ($\Delta.R^2=.05$)***, controlling for previous level of symptoms</p>
Hammack et al., 2004	<p>6th & 7th grades in six inner-city public schools N=196 at Time 1 and N=159 at Time 2 6th and then 7th graders Gender not reported 100% African American Median between \$10,000-\$20,000 Longitudinal-1 yr</p>	<p>Violence Exp: “My Exposure to Violence Interview” Anxiety: STAIC Depressive Symptoms: CDI</p>	<p>W correlated with depressive symptoms at Time 1 (.13)* & Time 2 (.16)* for females only. V correlated with depressive symptoms at Time 1 (.14)* & Time 2 (.18)*. (Regression) Anxiety at Time 1: Protective-stabilizing effects for W and maternal closeness ($\Delta.R^2=.02$)* and W and social support in females ($\Delta.R^2=.02$)*. At Time 2: Promotive-reactive for W and time with family for females ($\Delta.R^2=.02$)* and for W and V and social support in females (both $\Delta.R^2=.02$)*. Depressive symptoms at Time 1: Protective-stabilizing for V and social support ($\Delta.R^2=.02$)*. Promotive-reactive effects for W and time with family ($\Delta.R^2=.04$)** and V and daily support for females ($\Delta.R^2=.05$)**. Protective-stabilizing effects for V and daily support for males ($\Delta.R^2=.05$)** and for W and daily support for males ($\Delta.R^2=.04$)**. At Time 2: Promotive-reactive for V and maternal closeness for males ($\Delta.R^2=.03$)*.</p>
Howard et al., 2002	<p>Community based-Low-income public housing in city N=349 Ages 9–15 44% Female</p>	<p>Violence Exp: SCECV Distress: CCDS</p>	<p>V and W each related to intrusive thoughts (.16)** (.26)***, distraction (.12)* (.24)** and lack of belongingness (.26)*** (.19)**.</p>

Authors	Setting, Sample & Design	Instruments Used to Measure CVE and Mental Health Variables	Key Findings (Victimization=V; Witnessing=W)
	56% Male 96% African American Low-income Cross-sectional		(Regression) W part of predictive model for intrusive thoughts, vigilance/avoidance, and distraction. V part of predictive model for despondency about the future and lack of belongingness.
Mazza & Reynolds, 1999	Inner-city Parochial 6th–8th N=94 Ages 11–15 61% Female 39% Male 70% African American 22% Hispanic School in 'Low-income area' Cross-sectional	Violence Exp: EVQ Depression: RADS Suicidal Ideation: SIQ-J PTS: APS-PTS	For females and males, measures of CVE correlated with RADS (.29) [*] (.51) ^{**} , SIQ-J (.39) ^{**} (.42) ^{**} , and APS-PTSDS (.51) ^{***} (.62) ^{***} . (Regression) CVE did not add to depression severity or suicidal ideation when other variables controlled. CVE predicted PTSD symptomatology ($\Delta R^2=.07$) ^{***} . PTSD symptomatology functioned as a mediator between CVE and depression and suicidal ideation.
McCart et al., 2007	Telephone survey of urban-dwelling youth N=1245 Ages 12–17 51% Female 49% Male 53% White (Non-Hispanic), 27% African American, 15% Hispanic, 3% Native American, 2% Asian American No data on SES Cross-sectional	Violence Exp: Structured Interview from the National Survey of Adolescents PTSD: NWS-PTSD Module Delinquency: Modified SRDS	CVE correlated with PTSD symptoms (.32) ^{***} and delinquency (.38) ^{***} . (Regression-Model also included indicators for family violence and sexual assault in the same step as CVE) CVE had significant linear effects on PTSD symptoms for males ($\Delta R^2=.12$) ^{***} and females ($\Delta R^2=.12$) ^{***} . No curvilinear effects of CVE and PTSD symptoms in males, but small negative curvilinear effects for females ($\Delta R^2=.02$) ^{**} . CVE had a linear effect on delinquency for males ($\Delta R^2=.14$) ^{***} . CVE had a significant positive curvilinear effect on delinquency for females ($\Delta R^2=.03$) ^{**} .
McGee et al., 2001	Census tract data from school, church & community org servicing inner-city youth N=306 Ages 12–18 49% Female 51% Male 86% African American No data on SES Cross-sectional	Violence Exp: SCEVC Depression: CDI Anxiety: RCMAS Delinquency: Indicators developed by Jang & Thornberry (1998)	Females exposed to CVE were more likely to exhibit anxiety or depressive symptoms than males exposed to CVE.
Moses, 1999	City Public HS N=337 Ages 14–19 62% Female 38% Male 44.5% African American 50.9% Hispanic 'From low SES neighborhoods' Cross-sectional	Violence Exp: 6 questions from a non-published instrument. Depression and Hostility: Scales of the SCL-90-R	W violence against family (.11) [*] and rape (.21) ^{***} correlated with depression scores. Being shot/stabbed (.23) ^{***} , beaten up/jumped (.14) ^{**} , rape (.17) ^{***} , W violence against friends (.20) ^{***} , and W violence against family (.21) ^{***} all correlated with hostility. Total CVE correlated with depression for females (.14) [*] , but not for males. W violence against family correlated with depression scores for males (.20) [*] . (Regression) CVE predicted hostility in males (adj.R2 .11) ^{***} and females (adj.R2 .07) ^{***} . CVE predicted depression in females (adj.R2 .08) [*] .
Ng-Mak et al., 2004	Inner-city 6th grade N=471	Violence Exp: SCEVC	(Regression) Linear association between CVE and distress self-report symptoms

Authors	Setting, Sample & Design	Instruments Used to Measure CVE and Mental Health Variables	Key Findings (Victimization=V; Witnessing=W)
	Mean age 12.3, 51% Female 49% Male 34.6% African American 62.2% Hispanic 59% on public assistance Cross-sectional	Distress: 3 items from CICS and Parent report of CBCL (parent report and adolescent report scored separately) Aggression: PCAP and Parent report of items from the CBCL	($\Delta.R^2=.07$) ^{***} . Linear association between CVE and aggressive behavior self report ($\Delta.R^2=.16$) ^{***} and parent report ($\Delta.R^2=.03$) ^{***} . Quadratic effect of CVE on distress self-report symptoms ($\Delta.R^2=.01$) ^{**} .
Overstreet & Braun, 2000	Inner-city free Summer camp for 5th–8th graders N=70 Ages 10–15 54% Female 46% Male 100% African American Avg \$6,000/yr Cross-sectional	Violence Exp: Exposure to Community Violence (ECV), a modified version of “Things” Distress/PTSD: CCDS	CVE related to PTS symptomatology (.40) ^{***} . (Regression) Decreased neighborhood safety and increased family conflict mediated impact of CVE on PTS symptoms.
Overstreet et al., 1999	Inner-city free Summer camp for 5th–8th graders N=75 Ages 10–15 52% Female 48% Male 100% African American Avg \$6,000/yr Cross-sectional	Violence Exp.: ECV A modified version of “Things” PTSD: CCDS Depression: CDI	CVE correlated with PTSD symptoms (.41) ^{***} (Regression) CVE contributed to prediction of PTSD (CVE + Family Support $\Delta.R^2=.28$) and depressive symptoms (CVE + Family Support $\Delta.R^2=.07$). Availability of family support did not moderate effects of CVE on PTSD symptoms. Absence of mother moderated effects of CVE on depression ($\Delta.R^2=.14$) ^{**} , but not on PTSD symptoms. Presence of mother did not have a moderating effect for PTSD or depression.
Ozer, 2005	Metropolitan Public MS N=73 participating at two data points Age range not provided-7th and 8th graders 55% Female 45% Male 18% African American 40% Latino 7% White or European American No data on SES Longitudinal-1 yr	Violence Exp: CREV PTS and Anxiety: TSCC Depression: CDI and teacher report of TRF Aggression: 6 items from the perpetration of violence scale developed by the National Longitudinal Study of Adolescent Health and teacher report of TRF (Teacher report and adolescent report scored separately)	CVE correlated with self-reported intrusive (.32) ^{**} and anxiety (.28) [*] symptoms and aggression (.67) ^{**} . (Regression) CVE predicted increases of intrusive ($\Delta.R^2=.12$) ^{**} , anxiety ($\Delta.R^2=.09$) [*] symptoms and aggression ($\Delta.R^2=.37$) ^{***} . Low mother helpfulness moderator for CVE and increase in aggression ($\Delta.R^2=.04$) ^{**} , and depressive symptoms ($\Delta.R^2=.07$) ^{**} . More helpful mothers moderator for CVE and decreased depressive symptoms ($\Delta.R^2$ not reported). Less helpful siblings moderator for CVE and depressive symptoms ($\Delta.R^2=.05$) ^{**} . No relationship with fathers. School connectedness not a moderator.
Ozer & McDonald, 2006	Metropolitan Public MS N=71 Median Age 12 55% Female 45% Male 100% Chinese American No data on SES Cross-sectional	Violence Exp: CREV PTSD: TSCC Depression: CDI and teacher report of TRF Perpetration of Violence: 6 items from National Longitudinal Study of Adolescent Health Anxiety and teacher report the TRF (Teacher report and adolescent report scored separately)	CVE correlated with self-reported depressive (.41) ^{**} , PTSD (.51) ^{**} symptoms and perpetration of violence (.60) ^{**} . (Regression) CVE predicted self-reported depressive ($\Delta.R^2=.08$) [*] , PTSD symptoms ($\Delta.R^2=.13$) ^{**} , and aggression ($\Delta.R^2=.08$) [*] . Together, daily hassles and CVE was a powerful predictor of depressive symptoms (total $R^2=.27$) PTSD symptoms (total $R^2=.42$) and aggression (total $R^2=.34$). CVE did not predict teacher report of anxiety/depressive symptoms.

Authors	Setting, Sample & Design	Instruments Used to Measure CVE and Mental Health Variables	Key Findings (Victimization=V; Witnessing=W)
Ozer & Weinstein, 2004	Metropolitan Public MS N=349 Median Age 12 48% Female 52% Male 21% African American 39% Asian American 28% Hispanic No data on SES Cross-sectional	Violence Exp: CREV PTSD: TSCC Depression: CDI and teacher report of the TRF Anxiety: Teacher completed the TRF (Teacher report and adolescent report scored separately)	CVE correlated with self-reported depressive (.15)** and PTSD (.29)** symptoms. (Regression) CVE predictive of self-reported depressive ($\Delta R^2=.01$)* and PTSD symptoms ($\Delta R^2=.03$ **). Less helpful mother moderator for CVE and depressive ($\Delta R^2=.02$)* and PTSD ($R^2=.01$)* symptoms. Less helpful father moderated for CVE and PTSD ($\Delta R^2=.02$)*. Less helpful sibling moderated for CVE and depressive ($\Delta R^2=.01$)*.
Richards et al., 2004	8 Public ES in Chicago N=167 Median age 12.5 54% Female 46% Male 100% African American Median incomes \$12,852 to \$37,892 Cross-sectional	Violence Exp: "Things" Delinquency: SRDS Aggression and Delinquency: Parent report of the CBCL Stress/PTSD: CCDS Stress/Anxiety/Depression: Parent Report of CBCL (When adolescent and parent report not factored together, parent measure dropped)	(SEM) (parameter estimates) CVE related to stress (.49)* and delinquency (.89)*. CVE partially mediated the effect of time in risky context (% time with friends, unmonitored free time, unstructured leisure time, socialization, & media use) on stress and delinquency. CVE partially mediated the effect of time in protective context (% structured free time & time with family) on stress and delinquency.
Rosenthal, 2000	Public 4 year College in NYC N=455 Median age 18 75% Female 25% Male 50% African American 20% Latino Median \$30,000/yr Cross-sectional	Violence Exp: SECV Anger, Anxiety, Depression & Dissociation: TSI	V and W correlated with anger (.30)* (.35)*, anxiety (.21)* (.20)*, depression (.17)* (.13)* and dissociation (.18)* (.20)* symptoms. (Regression) Total CVE (V+W+Overlap) related to anger ($R^2=.16$ **), anxiety ($R^2=.06$ **), depression ($R^2=.04$ **), and dissociation ($R^2=.05$ **).
Rosenthal & Hutton, 2001	Community sample living in area of NYC public college N=92 Ages 16-20 50% Female 50% Male 100% African American 55% below \$35,000/yr Cross-sectional	Violence Exp: SECV Anger, Anxiety, Depression & Dissociation: TSI	No significant differences in the sample of non-college students and college students in the correlations between total CVE, V and W and psychological outcomes.
Rosenthal & Wilson, 2003	Public 4 year College in NYC N=468 Ages 17-19 70% Female 30% Male 34% African American 42% Latino/Hispanic Median \$30,000/yr Cross-sectional	Violence Exp: Modified Version of the SECV Anger, Anxiety, Depression & Dissociation: TSI	Distress symptoms associated with W (.22)** V (.19)**, and CVE (V+W) (.25)**.
Ruchkin et al., 2007	Public HS data from SAHA N=1488 at two data points Mean age 12.4 52.1% Female 47.9% Male 61% African American 23% Hispanic-American 76% on FLP Longitudinal-2 yr	Violence Exp: Modified SCEVC PTS: PTSDRI-C Depression & Anxiety: BASC Commission of Violence: 6 items from the SAHA	During Year 1 in females/males, W correlated with anxiety (.13)(.14)***, depression (.18)(.17)***, PTS (.34)(.39)*** and commission of violence (.36)(.37)***: V with anxiety (.21)***(.09)*, depression (.30)(.19)***, PTS (.33)(.36)*** and commission of violence (.33)(.44)*** During Year 2 in females/males, W

Authors	Setting, Sample & Design	Instruments Used to Measure CVE and Mental Health Variables	Key Findings (Victimization=V; Witnessing=W)
			correlated with depression (.09) [*] (.12) ^{***} , PTS (.24)(.29) ^{***} , commission of violence (.40)(.46) ^{***} and anxiety males only (.09) [*] : V with anxiety (.09) [*] (.22) ^{***} , depression (.19)(.21) ^{***} , PTS (.28)(.20) ^{***} and commission of violence (.29)(.48) ^{***} : (SEM) PTS (Year 2) fully mediated association of V with anxiety, partially with depression. PTS served as a partial mediator for V and W and commission of violence in males (not females).
Schwab-Stone et al., 1999	Urban public schools (6th 8th 10th grades) from SAHA N=2600 participating at two data points. Grades 6-8 53% Female 47% Male 52% African American 25% Latino 49% on FLP Longitudinal-2 yr	Violence Exp: Victimization by Violence and Witnessing Violence Questions (Modified from the subscales of the CECV) Depression, Anxiety & Antisocial Behavior: BASC Willingness to use physical aggression: 4 items from the NASHS	For Initial/Follow-up Sample: CVE associated with internalizing (.38)(.40) ^{***} (depression and anxiety) and externalizing symptoms (.74)(.75) ^{***} (willingness to use aggression and antisocial behavior). (SEM) Grade level moderated relationship between CVE and internalizing (younger more likely to report than older). Strength of association between CVE and internalizing and externalizing not moderated by gender or ethnicity. CVE in Year 1 associated with internalizing (just younger (.43) ^{***}) and externalizing (younger (.68) ^{***} & older (.61) ^{***}) 2 years later.
Self-Brown et al., 2006	Public MS & HS in mid-size city N=121 pairs of adolescents and parents Ages 13-16 50% Female 50% Male 97% African American 71% <\$20,000/yr Cross-sectional	Violence Exp: SAVE PTS & Depression: TSCC	CVE correlated with adolescent depression (.37) ^{**} and PTSD (.41) ^{**} . (Regression) Parental mental health (PTSD severity score) was a moderator between adolescent CVE and PTSD, but not between CVE and depression.
White et al., 1998	Urban public school 6th grade N=385 participating at two data points. Age at T1: 11-14.4 53% Female 47% Male 96% African American or Black ~52% on FLP Longitudinal-6 mos.	Violence Exp: "Things" Anxiety: RCMAS	(Regression) Females who reported high CVE at Time 1 reported greater increases in concentration anxiety at Time 2. Social Support not a moderator between CVE and anxiety.

* p<.05,
 ** p<.01,
 *** p<.001

(ADIS-C) Anxiety Disorders Interview Schedule (Silverman, 1991; Silverman & Nelles, 1988)
 (APS-PTS) Adolescent Psychopathology Scale-Posttraumatic Stress Disorder Subscale (Reynolds, 1998)
 (BASC) Behavioral Assessment System for Children (Reynolds & Kamphaus, 1992)
 (BFS) Behavioral Frequency Scale (Farrell, Danish, & Howard, 1992)
 (CBCL) Child Behavior Checklist (Achenbach, 1991a)
 (CCDS) Checklist of Children's Distress Symptoms (Richters & Martinez, 1990a)

(CDI) Children's Depressive Inventory (Kovacs, 1979, 1985)
(CICS) Cairns Interpersonal Competence Scale (Cairns, Leung, Gest, & Cairns, 1995)
(CREV) Children's Report of Exposure to Community Violence (Cooley, Turner, & Beidel, 1995)
(CYDS) Chicago Youth Development Study
(EVQ) Exposure to Violence Questionnaire (Reynolds & Mazza, 1995)
(FSSC-R) Fear Survey Schedule for Children-Revised (Ollendick, 1983)
"My Exposure to Violence Interview" (Buka, Selner-O'Hagan, Kindlon, & Earls, 1997)
(NASHS) National Adolescent Student Health Survey (American School Health Association, Association for the Advancement of Health Education, & Society for Public Health Education, 1991)
(NWS-PTSD Module) National Women's Study PTSD Module (Kilpatrick, Resnick, Saunders, & Best, 1989)
(PCAP) Predatory Crimes Against Persons (Elliott & Ageton, 1980)
(PTSDRI-C) Posttraumatic Stress Disorder Reaction Index-Child (Pynoos et al., 1987)
(RADS) Reynolds Adolescent Depression Scale (Reynolds, 1986)
(RCMAS) Revised Children's Manifest Anxiety Scale (Reynolds & Richmond, 1978)
(SAHA) Social and Health Assessment (Weissberg, Voyce, Kaspro, Arthur, & Shriver, 1991) (Schwab-Stone et al., 1999)
(SAVE) Screen for Adolescent Violence Exposure (Hastings & Kelly, 1997)
(SCECV) Survey of Children's Exposure to Community Violence (Richters & Saltzman, 1990a)
(SECV) Survey of Exposure to Community Violence (Richters & Saltzman, 1990b)
(SCL-90-R) Symptom Checklist 90-Revised (Derogatis, 1994)
(SIQ-J) Suicidal Ideation Questionnaire-Junior (Reynolds, 1987)
(SRDS) Self-Report Delinquency Scale (Elliott, Huizenga, & Ageton, 1985)
(STAIC) State-Trait Anxiety Inventory for Children (Spielberger, 1973)
("Things") "Things I Have Seen and Heard" (Richters & Martinez, 1990b)
(TRF) Teacher Report Form (Achenbach, 1991c)
(TSCC) Trauma Symptom Checklist for Children (Briere, 1996)
(TSI) Trauma Symptom Inventory (Briere, 1995)
(WAI) Weinberger Adjustment Inventory (Weinberger, Feldman, Ford, & Chastain, 1987)
(YSR) Youth Self Report (Achenbach, 1991b)