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Supportive Relationships as Protective for Children Exposed to Violence: Exploring Underlying Mechanisms

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SUPPORTIVE RELATIONSHIPS AS PROTECTIVE FOR
CHILDREN EXPOSED TO VIOLENCE: EXPLORING
UNDERLYING MECHANISMS

by

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Marquette University,
in Partial Fulfillment of the Requirements for
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ABSTRACT
SUPPORTIVE RELATIONSHIPS AS PROTECTIVE FOR
CHILDRENEXPOSED TO VIOLENCE: EXPLORING
UNDERLYING MECHANISMS

Jessica L Houston, M.S.

Marquette University, 2016

The present study examined supportive relationships with parents, teachers, peers, and neighbors as protective for youths exposed to violence. To explore how support promotes resilience, four potential mediators were examined: secure attachment, adaptive coping, processing traumatic experiences with a supportive person (parent, teacher, friend, or community adult), and an optimistic outlook on life. An at-risk sample of 107 students (71% male) aged 8-19 years (M=15) who were predominantly African American completed measures of violence exposure, social support, attachment security, coping ability, trauma-processing, and optimism. Resilience was assessed with multiple measures that included self-esteem, competence in several domains (social, scholastic, athletic, and creative), and lower levels of externalizing and internalizing symptoms. Together, social support from parents, teachers, peers, and neighbors accounted for significant variance in resilience. Additionally, attachment security, processing trauma with a parent, processing trauma with a friend, adaptive coping, and optimism significantly predicted resilience. Of the four mediators that were examined, processing trauma with a parent and having a more optimistic outlook mediated the relationship between social support and resilience. These results highlight seeking out a parent to process a traumatic or stressful life event and having a positive outlook as a first step in understanding how supportive others can help promote adaptive functioning in youths exposed to violence.

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INTRODUCTION

"The world remains a threatening, often dangerous place for children and youths. And in our country today, the greatest threat to the lives of children and adolescents is not disease or starvation or abandonment, but the terrible reality of violence" (U.S. Department of Health and Human Services, 2001). This statement remains as true today as it did a decade ago (Herrenkohl, 2011), and understanding how to protect youths from the negative effects of violence exposure is an important step in promoting resilience. A protective factor for children exposed to violence that consistently has been linked to more adaptive outcomes is supportive relationships, including those with family (e.g. Jain, Buka, Subramanian, & Molnar, 2012; Sousa et al., 2011; Graham-Bermann, Gruber, Howell, & Girz, 2009), peers (e.g. Kim & Cicchetti, 2010; Tajima, Herrenkohl, Moylan, & Derr, 2011; Rosario, Salzinger, Feldman, & Ng-Mak, 2008), in the school (e.g. Klika, Herrenkohl, & Lee, 2012; Hardaway, McLoyd, & Wood, 2012; Benhorin & McMahon, 2008), and in the community (e.g. Chen, Voisin, & Jacobson, 2013; Jaffee, Caspi, Moffitt, Polo-Tomás, & Taylor, 2007; Li, Nussbaum, & Richards, 2007). Youth development is influenced by multiple ecological contexts. Thus, understanding how support across systems collectively and uniquely promotes positive outcomes allows for a more comprehensive understanding of resilience in violence-exposed children. This study aimed to understand these protective processes by first, examining whether supportive relationships with family, teachers peers, and neighbors uniquely promoted resilience in violence-exposed children and then taking an initial step towards identifying possible mechanisms underlying these relationships.

Violence Exposure

Psychological research on violence in family and community settings has conceptualized violence in both narrow and broad ways. Definitions generally include the idea of intentional harm, but vary in whether the harm is physical or emotional, how severe it is, and whether harm was threatened or realized. Conceptualizing children's "exposure" to violence varies similarly and encompasses hearing or seeing violence and being directly victimized (Boxer & Sloane-Power, 2013). For example, measures of community violence include events such as hearing gunshots, being robbed, and witnessing murder (Brandt, Ward, Dawes, & Flisher, 2005), and can pertain to any context outside of the home, but typically excludes political conflicts and war. Family violence can include witnessing aggression between parents (intimate partner violence or IPV), directly experiencing physical and sexual abuse.

Although estimates of youth exposure to violence vary depending on the operational definitions used, measurement, and sampling (Jouriles, McDonald, Norwood, & Ezell, 2001), evidence consistently indicates that violence is a widespread and detrimental problem for children. In a nationally representative sample of 4,549 children from the ages of 0 to 17, the majority of children (61%) endorsed some form of direct or witnessed victimization in past year, including exposure to violence, abuse, and crime (Finkelhor, Turner, Ormrod, & Hamby, 2009). Approximately half of this sample had experienced direct community violence in the previous year and in their lifetime. While less common than community violence exposure, lifetime experiences of childhood maltreatment, including physical, sexual, and psychological/emotional abuse, and neglect were endorsed by 19% of the sample. Rates for indirect experiences of violence ranged

from 16% (exposure to IPV) to 21% (exposure to community violence). These rates illustrate the pervasiveness of exposure to violence in children and adolescents, which is alarming considering the negative effect violence exposure has on youths.

Decades of research have resulted in an extensive list of negative outcomes associated with children's exposure to violence in the community and the home. Meta-analytic reviews reveal that childhood exposure to violence disrupts youths' functioning in several psychosocial domains and is linked to depression, anxiety, suicidal behavior, Post-Traumatic Stress Disorder (PTSD), substance abuse, delinquency and crime, aggression and antisocial behaviors, social problems, academic difficulties, and future perpetration of child maltreatment (e.g. Fowler et al., 2009; Kitzmann, Gaylord, Holt, & Kenny, 2003; Mazza & Overstreet, 2000). However, research in this area consistently finds that not all children who are exposed to violence experience these negative outcomes (DuMont, Widom, & Czaja, 2007; Grogan-Kaylor, Ruffolo, Ortega, & Clarke, 2008; Herrenkohl, 2011; Jaffee et al., 2007; McGloin & Widom, 2001). In studies that examine psychological adjustment in children exposed to violence, a group exhibiting relatively positive adjustment generally emerges (Haskett et al., 2006). For example, Kaufman and colleagues (1994) found that 75% of children with histories of maltreatment demonstrated academic competence and 21% exhibited social competence. A 30-year longitudinal study of abused individuals showed that about 45% of the sample reported no psychopathology in adulthood (Collishaw et al., 2007). Understanding what differentiates children who succeed despite violence exposure– i.e. those who are "resilient," – from those who do not function as well can help practitioners and

policymakers take a strength-based approach to foster resilience and lead to more adaptive outcomes in violence-exposed youths.

Resilience

Resilience generally is operationalized as successful adaptation despite challenging or threatening circumstances (Masten, Best, & Garmezy, 1990; Luthar, 2003). A major concern in this literature is that the majority of studies examining resilience in youths exposed to violence have conceptualized *successful adaptation* as the absence of negative outcomes rather than the presence of healthy adaptation and have relied solely on measures of maladjustment to identify resilient youths (e.g. Child Behavior Checklist, Youth Self Report; Houston & Grych, *in prep*). Although understanding why violence-exposed individuals do not develop clinical levels of pathology is important, researchers have more recently highlighted the need for examining what promotes *good outcomes* in those exposed to adversity (Grych, Hamby, & Banyard, 2015). Despite the lack of attention to positive outcomes in the literature, well-being displays significant unique effects on future success, health, and stronger relationships, even when considering the effect of pathology on outcomes (Howell et al., 2016). Similarly, Masten and Curtis (2000) recommended integrating competence and psychopathology to better understand adaptation. Thus, resilience in this study was conceptualized in a number of domains, including positive outcomes (self-esteem and perceived competence in academic, social, athletic, and creative domains), as well as the absence of negative outcomes (below median levels of externalizing and internalizing symptoms).

The current study focused on support from others, including parents, teachers, peers, and neighbors, as a predictor of resilience in children and adolescents exposed to violence. In a review of 75 studies of protective factors for youths exposed to violence (Houston & Grych, *in prep*), two-thirds focused on family, school, peer, or community support. The majority of these studies found evidence for the protective function of family, school, and peer support (64-71%), while studies on community support (44%) were more inconsistent. To build on this body of research, the present study provides a notable contribution in examining the combined and unique effects of support from parents, teachers, peers, and neighbors within the same study. Additionally, conceptualizing resilience in relation to positive outcomes is a new direction in understanding positive adaptation more comprehensively. This study also takes a step beyond determining which factors are protective for violence-exposed youths and explores potential mediators as an initial effort to understand how supportive relationships promote resilience.

Protective factors are characteristics within the individual and aspects of the individual's environment (family, school, community) that promote resilience. Fergus and Zimmerman (2005) described several models explaining how protective factors are believed to promote healthy functioning (also see Grych, Hamby, & Banyard, 2015). *Additive* models propose that protective factors promote adaptation in all children regardless of how much adversity they have faced. Fergus and Zimmerman (2005) refer to this as a "compensatory" effect because by fostering health and well-being, protective factors compensate for the adverse impact of stress and trauma. For example, school support directly and uniquely predicts fewer internalizing and externalizing symptoms in

violence-exposed youths (e.g. Hardaway, McLoyd, & Wood, 2012; Ozer, 2005).

Buffering models propose that protective factors promote resilience by reducing the

effects of an adverse event on children's adjustment. This type of mechanism describes a

moderating or interactive effect rather than a direct effect of a protective factor on child

outcomes. For example, several studies have shown that family support weakens the

relationship between violence exposure and maladaptive outcomes and thus buffers the

adverse impact of violence on children (e.g. Gorman-Smith, Henry, & Tolan, 2004;

Kliewer et al., 2006a). The current study focused on identifying whether the protective

effect of support better fits the *additive* or the *buffering* model. This distinction is

important to make for informing programs that seek to promote resilience in violence-

exposed youths. For example, additive protective factors are appropriate targets in

universal programs targeting all children regardless of violence exposure, whereas

buffering effects may be better addressed by programs specifically aimed at

counteracting the effects of violence, targeting a select group of children with a history of

violence exposure.

Because children develop within multiple, nested contexts, such as the home and

community, resilience is best conceptualized as context-dependent (Goldstein & Brooks,

2005). Drawing on Bronfenbrenner's (1977) ecological theory and Sameroff and

Chandler's (1975) transactional perspective, the transactional-ecological approach offers

a comprehensive and holistic framework for understanding the effects of violence

exposure on youths (Cicchetti & Lynch, 1993; Salzinger, Feldman, Stockhammer, &

Hood, 2002; Belsky, 1980). With this approach, effects of violence are explored within

the context of the community, family, culture, and individual characteristics of the child.

Consistent with the Resilience Portfolio Model (Grych, Hamby, & Banyard, 2015), this study utilized a strength-based approach to explore how a child's resources contribute to greater well-being (presence of perceived competency and self-esteem and absence of pathology) in the face of violence-exposure. As Grych et al (2015) suggested, protective factors likely shape how an individual responds to or copes with exposure to violence, and a major aim of the current study was to better understand the mechanisms through which supportive others contribute to resilient outcomes. Drawing on the Resilience Portfolio Model and an ecological-transactional framework, parent, teacher, peer, and neighbor support were examined as protective for children exposed to violence.

Parent Support

One of the most well-established protective factors for youths exposed to violence is a supportive family environment characterized by closeness, cohesion, and structure, as well as parental warmth and acceptance (Proctor, 2006). Houston and Grych (*in prep)* reviewed 44 studies that examined parent support as protective, and these studies documented both additive (e.g. Benhorin, & McMahon, 2008; O'Donnell, Schwab-Stone, & Muyeed, 2002; Rosenthal, Feiring, & Taska, 2003) and buffering (e.g. Ozer, 2005; Li, Nussbaum, & Richards, 2007; Skopp, McDonald, Jouriles, & Rosenfield, 2007) effects of parent support on children exposed to violence. Additive effects of parent support were more consistently supported with significant effects found in 78% of the studies reviewed. For instance, an additive effect of parental support was found when predicting a variety of adaptive outcomes such as decreased aggression, fewer depressive symptoms, more self-reliance, and more perceived social competence in predominantly African American and Hispanic youths exposed to community violence, both cross-

sectionally (Benhorin, & McMahon, 2008) and over a period of two years (O'Donnell, Schwab-Stone, & Muyeed, 2002). Similarly, in sexually abused youths, parental support predicted fewer depressive symptoms, fewer behavioral problems, and better self-esteem when these outcomes were assessed a year later (Rosenthal, Feiring, & Taska, 2003).

The majority (59%) of studies that examined a moderating role of parent support also found significant effects (Houston & Grych, *in prep)*. Parental support buffered the effects of community violence on youths' internalizing and externalizing symptoms in both an ethnically diverse sample (Ozer & Weinstein, 2004) and an African American sample of middle-schoolers (Li, Nussbaum, & Richards, 2007). In addition, when assessed a year later, parent support had mitigated the effects of community violence on adolescent depressive symptoms and aggressive behaviors (Ozer, 2005). Parent support also displayed a buffering effect on externalizing behaviors for children exposed to violence between caregivers (Skopp, McDonald, Jouriles, & Rosenfield, 2007). Hardaway, McLoyd, & Wood, (2012) found both an additive and a buffering effect of parental support on internalizing and externalizing symptoms in a longitudinal study over the course of 3 years for African American and Hispanic adolescents exposed to community violence. Despite substantial evidence for the protective effect of parent support on violence-exposed youths, 29% of the studies have failed to find either additive or buffering effects of parent support on maltreated youths' externalizing and internalizing symptoms (e.g. Jaffee et al., 2007; Edmond, Auslander, Elze, & Bowland, 2006; Kim & Cicchetti, 2004).

Teacher Support

The school setting is a particularly important influence on youth outcomes, especially as children age and spend more than half their waking time in school (Englund, Levy, Hyson, & Sroufe, 2000; Roeser, Eccles, & Sameroff, 2000). Violence-exposed children who perceived their school environment to be more supportive displayed better adjustment in 13/14 studies (additive effects); however only 1/8 studies found that school support buffered the effects of violence exposure (Houston & Grych, *in prep*). Additive effects of teacher support were found when predicting fewer aggressive behaviors in African American children exposed to community violence (Benhorin & McMahon, 2008) and fewer purging behaviors in maltreated female adolescents (Perkins, Luster, and Jank, 2002). Other evidence for the protective effect of supportive relationships with teachers on violence-exposed children appears to be focused on school-related outcomes (Ozer & Weinstein, 2004; O'Donnell, Schwab-Stone, & Muyeed, 2002). For instance, perceptions of teachers as helpful buffered the effects of exposure to community violence on adolescents' adaptive functioning in the classroom, as rated by teachers, but teacher support did not have additive or buffering effects on youths' internalizing symptoms (Ozer & Weinstein, 2004). Additionally, school support, characterized by participants' attachment to school and perceived teacher support, predicted less substance abuse and school misconduct in a sample of diverse adolescents, and these effects became more significant when adolescents were assessed two years later; however, school support also predicted more depressive and somatic symptoms in this sample over two years (O'Donnell, Schwab-Stone, & Muyeed, 2002). O'Donnell et al (2002) pointed to the possibility that children who view teachers as supportive may

feel an increased drive to succeed, creating additional stress for youths and increased internalizing symptoms if these goals are not met.

<u>Peer Support</u>

As children age, peers become increasingly important sources of support, especially as young adolescents seek more independence from their parents and form more nonfamilial attachment relationships (Salzinger et al., 2011; Hazan & Shaver, 1994). The potential for supportive peers to protect youths from the adverse effects of exposure to violence has been studied primarily in relation to community violence and child maltreatment, and the majority of these studies provide empirical support for both additive (67%) and buffering (75%) effects (Houston & Grych, *in prep*). In African American and Hispanic middle-schoolers exposed to community violence, supportive peer relationships predicted fewer aggressive behaviors (Benhorin & McMahon, 2008) and fewer internalizing symptoms two years later (Rosario et al., 2008). In another longitudinal study focused on maltreated children, peer acceptance predicted fewer internalizing and externalizing symptoms after a year (Kim & Cicchetti, 2010). Tajima and colleagues (2011) found evidence for the buffering effect of friend support on youths exposed to violence when assessing depressive symptoms, high school dropout, and running away from home from childhood into adolescence.

Two longitudinal studies provided evidence for both additive and buffering effects of peer support on children exposed to community violence. Salzinger and colleagues (2011) found that inner-city adolescents' attachment to peers predicted fewer internalizing and externalizing symptoms and weakened the relation between exposure to high levels of community violence and internalizing symptoms a year later; the buffering

effect of peer support was stronger than parental support at high levels of exposure to community violence (Salzinger et al., 2011). In addition, friend support predicted fewer internalizing symptoms over eight years for youths exposed to community violence and buffered the effects of community violence on internalizing symptoms (Jain et al, 2012).

However, other studies have found that peer support magnifies rather than reduces the association between exposure to violence and maladjustment. For instance, O'Donnell and colleagues (2002) found that peer support predicted increased substance abuse and school misconduct in a diverse urban sample of adolescents exposed to community violence. Levendosky and colleagues (2002) found differential effects of social support on adolescent dating aggression, depending on the level of IPV exposure. At lower levels of IPV exposure, peer support weakened the effects of exposure to IPV on dating violence perpetration, victimization, and negative communication with dating partners; however, at high levels of IPV exposure, perceived social support strengthened the effects of IPV exposure on dating violence experiences. Hammack and colleagues (2004) also found that the moderating role of social support was dependent on the severity of exposure to community violence in African American inner-city adolescents. At lower levels of violence exposure, perceived social support buffered the effects of violence on internalizing symptoms; however, social support was not protective under conditions of high risk. This pattern of results suggests that peer support may have no effect or a negative effect at more increased levels of violence exposure. When youths are in more violent contexts, they may be involved with peers who encourage aggression, substance use, or other antisocial behaviors. These mixed findings about supportive peers as protective for children highlight the need for more research in this area.

Neighborhood Support

Neighborhood support has been studied most frequently as a protective factor for children exposed to community violence, with mixed results. Cohesive communities are defined as those that are close-knit and have helpful, involved, and trustworthy neighbors. Houston and Grych (*in prep)* found that 3/5 studies supported an additive effect and only 1/4 studies supported a buffering effect of neighborhood support on adjustment in violence-exposed youths. Li and colleagues (2007) found both an additive and buffering effect of parent-reported neighborhood cohesiveness and involvement, such that neighborhood cohesion predicted fewer internalizing and externalizing symptoms and weakened the relation between exposure to community violence and externalizing symptoms in urban youths. Additionally, neighborhood cohesion predicted fewer antisocial behaviors in children exposed to community violence (Chen et al., 2013) and maltreated youths followed from age 5 to 7 years (Jaffee et al., 2007). In contrast, two studies examined the additive and buffering effects of neighborhood support and failed to find significant effects (Jain et al., 2012; Kliewer et al., 2004). Kliewer et al (2004) found that perceived neighborhood cohesion and support was marginally associated with fewer internalizing symptoms in inner-city African American youths exposed to community violence and did not buffer the effects of community violence on internalizing and externalizing symptoms assessed six months later. Neighborhood cohesion did not predict fewer internalizing symptoms over eight years in children exposed to community violence (Jain et al., 2012). Compared to parent, school, and peer support, research has focused less on the impact of neighborhood support on children exposed to violence, and it seems less helpful.

Mechanisms

Research on resilience in youths exposed to violence has focused on identifying factors that protect children and adolescents from the negative effects of violence exposure, but a necessary next step is to understand *how* these factors buffer the effects of violence. Twenty-five years ago Masten (1990) stated "it is the task of future investigators to portray resilience in research questions that shift from the 'what' questions of description to the 'how' questions of underlying processes that influence adaptation" (p. 439). The need to investigate the mechanisms underlying resilience remains salient today, as this understanding will enable practitioners and policymakers to best utilize and enhance the strengths and resources available to youths. For example, if supportive relationships protect by promoting better coping in children exposed to violence, intervention efforts can help parents and teachers learn how to best foster positive coping in children. Alternatively, if supportive relationships promote resilience through more secure attachments in children exposed to violence, an intervention that focuses on strengthening relationships and increasing warm, safe, and reliable behaviors in parents and other supportive figures may have the greatest impact. The current study investigated four factors that will function as mediators: secure attachment, adaptive coping, processing traumatic experiences with a supportive person (parent, teacher, peer, and community adult), and optimism.

Attachment Security

Supportive relationships in the home, school, or community may foster a secure attachment style in children, which in turn promotes self-esteem and competence.

Attachment theory (Bowlby, 1969/1982) proposes that infants are born with the instinct to seek and maintain support, warmth, and safety from caregivers in response to a threat as a means of regulating distress. Based on these early attachment experiences, individuals form an internal working model that serves as a foundation for their expectations about others and general approach to interpersonal relationships (Bowlby, 1969/1982). Attachment in childhood has been categorized into four styles: (1) secure-viewing others as trustworthy, finding it relatively easy to form close relationships, (2) avoidant- viewing others as untrustworthy, discomfort in forming close relationships, (3) anxious/ambivalent- wanting to be closer to others than they prefer, fear of abandonment, and (4) disorganized- displaying unrelated or distressed behaviors, causing difficulty in classification (Ainsworth, Blehar, Waters, & Wall, 1978; Hazan & Shaver, 1987).

Although attachment style is rooted in infancy and early childhood interactions with caregivers, working models are proposed to change to accommodate and incorporate new interpersonal experiences throughout development (Bowlby, 1969/1982). Thus, attachment styles may be influenced not only by supportive relationships with caregivers, but also with peers (Hazan & Shaver, 1994; Gorrese & Ruggieri, 2012), teachers (Verschueren & Koomen, 2012) and other supportive adults (Jain et al., 2012; Herrenkohl, Tajima, Whitney, & Huang, 2005). If children's attachment needs for support, warmth, and safety are consistently met, they will develop a secure attachment style and internalize a sense of safety and ability to trust others. Securely attached children are more likely to internalize feelings of self-worth and develop the capacity to effectively regulate their emotions (Fonagy, Gergely, & Target, 2007). These individuals also tend to develop more supportive relationships with others throughout their lifespan

(Ducharme, Doyle, & Markiewicz, 2002). Thus, supportive relationships may be protective for youth exposed to violence by means of fostering a secure attachment style.

<u>Coping Ability</u>

Promoting more adaptive coping in violence-exposed youth may be another avenue by which supportive relationships with parents, teachers, peers, and neighbors promote resilience. Although there are several ways to conceptualize and categorize child and adolescent coping, one common way it is defined is "conscious, volitional efforts to regulate emotion, cognition, behavior, physiology, and the environment in response to stressful events or circumstances" (Compas et al., 2001, p. 89). Consistent with social learning theory (Bandura, 1973), children look to others as models for behavior and coping with stressful situations. Supportive caregivers, teachers, peers, or community members may be good role models for children when it comes to effective coping by demonstrating appropriate ways to manage behavioral and emotional reactions, which youths can learn to use when coping with violence exposure (Graham-Bermann et al., 2009; Kliewer et al, 2006b; Crooks, Scott, Wolfe, Chiodo, & Killip, 2007; Herrenkohl et al., 2005). Not only can supportive others model coping and emotion regulation, they may also actively coach children in positive coping, such as suggesting ways to relax when feeling disregulated or recommending positive activities to manage sadness. For example, in community-violence exposed youths, parent coaching and modeling of positive coping predicted youths' use of adaptive coping strategies, which was related to decreased internalizing and PTSD symptoms, as well as improved self-esteem and school performance (Kliewer et al., 2006b).

In addition, youths who perceive teachers as an important source of support may want to please them by engaging in and internalizing prosocial behaviors and values, which are highly promoted in the school setting (Hawkins, Guo, Hill, Battin-Pearson, & Abbott, 2001). This could contribute to positive choices about coping with stressful experiences (e.g. seek support from others, engage in self-care behaviors), as opposed to maladaptive coping choices (e.g. drug use, acting out against authority). Support in the school and community could contribute to more resources for coping positively. For instance, youths who spend more time in organized activities spend significantly less time unsupervised (Gottfredson, Gerstenblith, Soule, Womer, & Lu, 2004). If children feel supported by their teachers, peers, or community members, they may be more likely to enroll in athletic teams or clubs and channel their stress-related feelings into more adaptive activities. For instance, a child who feels connected to a teacher may choose to participate in a sport the teacher coaches or an organization the teacher leads. Having supportive peers may encourage a child to engage in positive activities with these peers both in and outside of the school setting. Involvement in these activities could limit opportunities for negative coping behaviors such as aggression or delinquency and promote more resilient outcomes.

Opportunity for Processing Trauma

Cognitive therapies for trauma exposure are based on the idea that discussing the traumatic event and related thoughts and feelings with a supportive individual will reduce stress-related symptoms (Smith et al., 2007). Although research has been conducted to support this approach as effective within the therapeutic setting for violence-exposed youths (for a review, see Cohen, Mannarino, Murray & Igelman, 2006), knowledge about

the effect of processing trauma with supportive others outside of psychotherapy is limited. Ozer and Weinstein (2004) examined children exposed to community violence and found that those who had a supportive mother and felt more comfortable discussing their exposure to violent events endorsed fewer PTSD symptoms. Supportive teachers, peers, and individuals within the community could provide additional outlets for youths to discuss stressful experiences and process related negative thoughts or feelings. As this is an approach commonly taken in therapies for traumatized children, processing trauma and difficult reactions to stress while feeling supported in these discussions may be one possible reason supportive relationships are protective for violence-exposed youths.

Optimism

The majority of research on the role of violence-exposed youths' expectations and attitudes has taken a risk-oriented approach by focusing in negative attitudes and perceptions (Bradshaw & Garbarino, 2004; Dodge & Pettit, 2003). However, little is known regarding how youths' positive attitudes contribute to adaptive outcomes following exposure to violence from a strength-based or protective approach. Supportive relationships with parents, teachers, peers, or individuals in the community may promote a more optimistic outlook (Gillham & Reivich, 2004), which could in turn prevent the development of internalizing symptoms and influence positive outcomes (e.g. social competency, self-worth). Supportive figures may engender optimism in youths through actively encouraging positive viewpoints or, less overtly, by providing consistent positive experiences that cultivate a positive schema of people and a more general positive view of the world. Youths who are exposed to high levels of violence are more likely to interpret ambiguous situations as hostile and are hypersensitive to threat cues, a view that

has been labeled the hostile attribution bias (for reviews, see Bradshaw & Garbarino, 2004; Dodge & Pettit, 2003). Although being attuned to threat in an aggressive environment is adaptive, this way of perceiving the world may also contribute to aggressive behaviors in non-threatening situations (Guerra, Huesmann, & Spindler, 2003; Schwartz & Proctor, 2006). Additionally, having a positive outlook may lead youths to develop more helpful appraisals of violence exposure and prevent development of anxiety or depressive symptoms. Support for the role of optimism in resilient outcomes stems from research on sexually abused adolescents. Optimism, operationalized as feelings of hope and positive expectations about the future, predicted fewer psychological symptoms in sexually abused teenage girls in the foster care system (Edmond, Auslander, Elze, & Bowland, 2006) and in a diverse group of sexually abused adolescent boys and girls (Williams & Nelson-Gardell, 2012). Optimism also has been linked to resilience in children in additional contexts, such as chronic illness (Ey et al., 2005).

Goals of the present study

This study addresses limitations in research on resilience in children exposed to violence in five ways. First, although there is substantial evidence for supportive relationships as protective for violence-exposed children, few studies have examined both unique and combined effects of support across contexts, such as the home, school, and neighborhood (e.g. Kim & Cicchetti, 2006; O'Donnell, Schwab-Stone, & Muyeed, 2002). Child development is influenced by multiple ecological levels, and understanding how supportive relationships across contexts both collectively and uniquely predict adaptive outcomes provides a more holistic understanding of resilience.

Second, the majority of studies on supportive relationships conceptualize resilience solely as the absence of psychopathology (Houston & Grych, *in prep*). Although understanding how to prevent or reduce internalizing and externalizing symptoms after violence exposure is a key component of resilience, a more comprehensive approach would involve predicting positive outcomes as well (Grych, Hamby, & Banyard, 2015). Consistent with the domains of competence highlighted by Masten and colleagues (1995), resilience in this study was conceptualized by perceived competency in several domains, including scholastic, social, athletic, and creative. A measure of creative competency (art and music) was included to assess an additional area of competency for at-risk adolescents. Youths' reported self-esteem was also included as a measure of resilience. Utilizing a multi-dimensional approach provides the opportunity to capture more of children's perceived strengths (Harter, 2012).

Third, although it is helpful to identify *what* factors promote resilience in children and adolescents exposed to violence; understanding *how* these factors protect youths will help influence and improve prevention and intervention programs aimed at mitigating the effects of violence. The current study took an initial step in identifying mediators that may explain the relationship between support and adaptive functioning.

Fourth, resources can be protective in a number of ways, including through additive and buffering processes (Grych, Hamby, & Banyard, 2015; Fergus & Zimmerman, 2005). Research examining both additive and buffering processes is limited, making it difficult to draw conclusions about which process best describes the protective nature of supportive relationships. Understanding whether additive or buffering effects best explain youths' adaptive outcomes will help inform how to most effectively

intervene. If support acts to promote resilience independent of violence exposure (additive), a universal prevention program targeting all children would be most appropriate, as they should experience positive effects regardless of violent experiences; however, if support has a buffering effect on children's adjustment, intervention efforts would be more efficient if they target violence-exposed youths specifically.

Finally, several studies on resilience in youths exposed to violence have suggested possible differences in protective effects and violence exposure depending on gender (Rosario et al., 2008; Brookmeyer, Henrich, & Schwab‑Stone, 2005) and age (Finkelhor et al., 2009). However, these findings have not shown a consistent pattern. For instance, Rosario et al (2008) found that parent support was protective for girls but not boys, whereas Brookmeyer at el (2005) found that parent support buffered the effects of violence for boys but not girls. Although Finkelhor et al (2009) found differences in type and severity of violence exposure based on age, knowledge about how protective factors vary based on age is limited. Additionally, peers may be more influential on older kids, as they rely more on peers for support. The current study explored differences in the protective effect based on gender and age.

Research Questions

To address the limitations in resilience research identified above, the following research questions were investigated. Adaptive functioning was assessed in a number of ways, including self-reported competency in multiple domains and global self-worth, and low levels of parent- and self-reported internalizing and externalizing symptoms.

1. A) Do supportive relationships with family, teachers, peers, and neighbors collectively and uniquely promote adaptive functioning in youths exposed to violence?

   B) If so, are these protective effects additive or buffering?

2. Do attachment style, coping ability, trauma processing, or optimism mediate associations between supportive relationships and adaptive functioning?

3. Do associations between support and resilience differ for boys and girls or by age? As power to examine gender and age differences was low in this study, these analyses were exploratory in nature.

METHOD

Participants

Participants included 107 6th-12th graders (71% male) aged 11-19 years (M=15) who were predominantly African American (70%) and multiracial (17%). A detailed description of sample characteristics can be found in Table 1. Participants were students enrolled in behavioral reassignment schools, because they had previously violated their school Code of Conduct and were at-risk of dropping out of school (as defined by the Wisconsin Children At-Risk of Not Graduating from High School Law; State Statue 118.53). This school setting provided an opportunity to study resilience in a particularly high-risk sample of children and adolescents. The majority of the sample (93.5%) endorsed exposure to at least one type of violence, including witnessed and direct experiences, and all of the participants endorsed at least one major stressful life event. Results remained the same when analyses were conducted only on participants who endorsed violence exposure, and thus the results for the entire sample are included.

Procedure

After their child's assignment to the behavioral reassignment school, parents met with the school intake staff and received a description of this study's purpose and methods. Parents were also contacted by a graduate research assistant to answer any further questions about the study. For parents who were interested in participating in the study, parental consent for involvement in the study was obtained, and the child's primary caretaker completed the Aggressive Behaviors and Anxious/Depressed subscales of the Child Behavior Checklist (Achenbach, 1991). In addition to parental consent,

youths' written consent to participate in the study was obtained. Research assistants, comprised of graduate students in clinical psychology and advanced undergraduate psychology students, worked individually with each participant to complete the measures. After assessing participants' ease of reading and responding to the questions (using sample questions), research assistants read questions to the participants if concerns about participants' ability to complete measures arose. Participants completed a demographic form and measures of exposure to violence, behavioral adjustment, perceived competence in social, academic, athletic, and creative domains, and self-esteem. Youths also completed measures of social support (parent, teacher, peer, community), attachment style, coping, trauma processing experiences with a parent, teacher, peer, or community adult, and optimism.

The graduate and undergraduate research assistants received extensive training in working with children and adolescents, particularly in discussing material of a sensitive nature (i.e. exposure to violence). Research assistants also were trained in mandatory reporting and each school's guidelines for reporting issues of possible abuse (e.g. getting the school social worker or counselor involved). However, no reportable concerns were brought up while working with the students. To ensure confidentiality, each participant was assigned an identification (ID) number and identifying information was removed.

Measures

Exposure to Violence

The *Juvenile Victimization Questionnaire-Key Domains Short Form* (Hamby, Grych, & Banyard, 2013) assessed youths' exposure to violence. This measure was adapted from the *Juvenile Victimization Questionnaire* (JVQ; Finkelhor, Hamby, Turner,

& Ormrod, 2005), a widely used measure of interpersonal victimization, and was modified by Hamby et al (2013) to assess five areas of victimization: assault, peer victimization, exposure to family violence, parent-child dysfunction, and witnessed violence. Participants responded "yes" or "no" to 21 questions about lifetime experiences of witnessed violence (e.g. "Have you ever seen anyone get attached or hit on purpose with a stick, rock, gun, knife, or something that would hurt? Somewhere like at home, at school, at a store, in a car, on the street, or anywhere else?"), direct experiences of violence (e.g. "Not including spanking on the bottom, has a grown-up in your life ever hit you?"), neglect (e.g. "Have you ever had to go looking for a parent because the parent left you alone, or with brothers and sisters, and you didn't know where the parent was?"), and other forms of victimization (e.g. "Have any kids ever told lies or spread rumors about you, or tried to make others dislike you?").

The JVQ was designed to be used with children ages 10 to 17 as a self-report measure and has been used with children from diverse ethnic backgrounds (Finkelhor et al., 2005; Hamby Grych, & Banyard, 2013). In a nationally representative sample of 2,030 children, Finkelhor and colleagues (2005) found few indicators of participant confusion and little resistance to questions, including those of a sensitive nature. The *JVQ* has displayed good construct validity (associated with other measures of adversity and trauma symptoms) and good internal reliability ($\alpha=.80$; Finkelhor et al., 2005; Hamby, Grych, & Banyard, 2013). In the current study, the JVQ also displayed good internal consistency ($\alpha=.79$).

<u>Resilient Outcomes</u>

Positive adjustment was assessed by youth reports of perceived competence and self-esteem. Participants completed three subscales of the *Self-Perception Profile for Adolescents* (SPPA, Harter, 1988): Scholastic Competence (e.g. "Some people feel like they are just as smart as others their age"), Social Competence (e.g. "Some people find it hard to make friends"), and Athletic Competence (e.g. "Some people do very well at all kinds of sports"). Each subscale contained five items. Harter's (1988) original questionnaire requires adolescents to choose between two dissimilar statements ("Some teenagers are able to make really close friends" BUT "Some teenagers are unable to make really close friends") and decide if that statement is "really true of me" or "sort of true of me." Consistent with Wichstraum (1995), a revised format of the SPPA was used, in which each question contains only one statement to avoid difficulties in comprehension of questions or inclination to respond in a socially desirable way. Youths chose (0) "Not at all true," (1) "Somewhat true," (2) "Mostly true," or (3) "Very true" for each statement. To obtain an additional measure of youths' perceived competence, a 5-item measure of creative competence was developed (Appendix B), using the structure of the SPPA (Harter, 1988). Questions from the Athletic Competence subscale were adapted to represent competence in a creative or artistic domain (e.g. "Some people think they could do well at just about any new creative or artistic project"). Participants responded on a 4-point Likert scale from "Not at all True" to "Very True." Items related to scholastic, social, athletic, and creative competence were summed with higher numbers indicating greater perceived competence (α=.74).

Youths' self esteem was measured with the 10-item *Rosenberg Self-Esteem Scale* (RSES; Rosenberg, 1965), one of the most widely used measures of self-esteem in social science research (Sinclair et al., 2010). This measure assesses global self-worth with both positive (e.g. "On the whole, I am satisfied with myself") and negative statements (e.g. "I feel I do not have much to be proud of") about the self and is considered uni-dimensional. Participants answered questions using a 4-point Likert scale format ranging from strongly disagree to strongly agree. A review of child and adolescent measures of self-esteem (Butler & Gasson, 2005) showed that the RSES has been used with children ages 11 and older and displayed good test-retest reliability, internal consistency (α= .77-.88), and validity. Similarly, the RSES displayed good internal reliability in this study (α=.79).

Parent- and self-reported behavioral adjustment was assessed with the Achenbach (1991) *Child Behavior Checklist for Ages 6-18* (CBCL) and *Youth Self-Report Form* (YSR), Anxious/Depressed and Aggressive Behaviors subscales. The Anxious/Depressed subscale consists of 13 items assessing anxious and depressive symptoms and includes questions such as "worries a lot" and "cries a lot." The Aggressive Behaviors subscale consists of 18 items and includes questions such as "gets into many fights" and "is mean to others." Both measures require respondents to indicate how true a statement is of their child (CBCL) or themselves (YSR) "now or within the past 6 months" by endorsing (0) "Not true," (1) "Somewhat or sometimes true," or (2) "Very true or often true." The CBCL and YSR are two of the most well-normed and widely used measures of child and adolescent adjustment (Lambert et al., 2003) and have strong psychometric properties, including validity and reliability (for a review, see Achenbach & Rescorla, 2001). For this study, z-scores for the CBCL and YSR were created and summed into an overall

continuous behavioral adjustment score with higher numbers indicating poorer adjustment. Parents did not complete the CBCL in 16% of the sample, and thus these participants' adjustment score reflects only self-reported internalizing and externalizing behaviors. Independent samples t-tests were conducted to determine if participants with parent measures differed significantly from those without parent measures on resilience, social support, and the mediator variables. No significant differences were found. Internal consistency for the behavioral adjustment composite in this study was acceptable (α=.71).

Support

Adolescents responded to three subscales of the *Child and Adolescent Social Support Scale* (CASSS; Malecki, Demaray, Elliott, & Nolten, 1999) to assess parent, teacher, and peer support. Each subscale consists of 10 questions in which adolescents indicate how true a statement is of them on a 4-point scale. Example questions include "My parent(s) show they are proud of me," "My teacher(s) understands me," and "My close friend spends time with me." In a large, representative sample of 1,110 students, grades 3 through 12, the CASSS displayed good reliability and construct validity (Malecki & Demaray, 2002). Items were summed for each subscale to obtain a score of support for a parent, teacher, and friend, with higher numbers indicating more perceived support (α=.88-.92).

Youths' perceived neighborhood support was obtained with the *Neighborhood Cohesion Scale* (Seidman et al., 1995), a 6-item measure adapted from the *Neighborhood Cohesion Index* (Buckner, 1988) and designed more specifically for use with low-income inner-city youths. Adolescents responded "Not at all true" (0) to "Very true" (3) to questions about perceived neighborhood support such as "The relationships I have with

my neighbors mean a lot to me." Seidman and colleagues (1995) reported good internal consistency (α = .83). Participants' responses were summed to obtain a total score of neighborhood support, with higher numbers indicating greater perceived support (α=.76).

Mediators

Attachment Style: The *Attachment Styles Questionnaire* (ASQ; Mikulincer, Florian, & Tolmacz, 1990) was used to assess youths' attachment security. The ASQ consists of 15 statements that reflect working models associated with secure (e.g., "I find it relatively easy to get close to others"), avoidant (e.g., "I find it difficult to allow myself to depend on others"), and anxious (e.g., "I often worry that others won't want to stay with me") styles of attachment (5 items per scale). Participants rated how true each statement is of them on a 4-point scale. A more general attachment style was assessed, as opposed to a relationship-specific attachment style (e.g. parent-child), to avoid overlap with the social support variables. The ASQ has displayed good construct validity (for a review, see Shaver & Clark, 1994) and good internal consistency (Bauminger, Finzi-Dottan, Chason, & Har-Even, 2008). Given the study's emphasis on a strength-based approach to understanding resilience, the secure attachment subscale (α = .57) was included in the mediation analyses.

Coping: To assess youths' coping ability, the *Coping Appraisal Questionnaire* and *Coping Behaviors Questionnaire* were used (Hamby, Grych, & Banyard, 2013). The *Coping Appraisal Questionnaire* was adapted from the widely used Coping Strategies scale (Holahan & Moos, 1987) and includes seven items regarding cognitive coping such as "When dealing with a problem, I spend time trying to understand what happened." The *Coping Behaviors Questionnaire* includes six questions regarding self-care coping

behaviors (e.g. "When dealing with a problem, I often use exercise, hobbies, or meditation to help me get through a tough time") and avoidant coping behaviors (e.g. "When dealing with a problem, I often wait it out and see if it doesn't take care of itself"). The Participants responded to items on both measures using a 4-point scale from (0) "Not at all true," (1) "Somewhat true," (2) "Mostly true," and (3) "Very true." Scores were summed to create an overall score of coping (avoidant coping questions were reverse-scored), with higher numbers representing more adaptive coping. Hamby, Grych, and Banyard (2013) reported good internal consistency (α =.88 and .73) and good construct validity with their sample. Similarly, internal consistency with the current sample was good (α=.86).

Trauma Processing: Youths' use of social support for processing traumatic or stressful experiences was assessed with 12 items (see Appendix B) that were adapted from the Social Support Seeking- Emotional Support subscale of the *Ways of Coping Checklist* (WCCL; Folkman & Lazarus, 1980). These questions reflect three key aspects of processing a traumatic or stressful experience: talking about the experience and related feelings with someone, receiving a supportive and empathetic reaction from that individual, and feeling better after discussing the experience (Cohen, Mannarino, Murray, & Igelman, 2006). This measure was administered after the JVQ, and instructions for adolescents included choosing one of the victimization items that was most difficult or stressful (or if no items were endorsed, a particularly stressful or difficult time was used instead) and answer how much they utilized various sources of support (parent, teacher, peer, or adult in the neighborhood or community) on a scale of 0 (*not at all)* to 3 (*very much*). For example, participants were asked how much did they

"Talk to a parent or parent-figure about the stressful time and how you were feeling,"

"Feel a parent or parent-figure understood what you were going through," and "Feel that

talking to a parent or parent-figure helped to feel better about what happened." These

three types of questions were asked about each source of support. Responses for each

support figure were summed to create four subscales of trauma processing (parent,

teacher, peer, and community adult), with higher numbers indicating more use of social

support for processing traumatic or stressful experiences. Internal consistency for each

subscale was good (α=.80-.86).

Optimism: The Optimism Subscale of the *Youth Life Orientation Test* (YLOT; Ey

et al., 2005) was used to assess participants' optimistic outlook. This measure, based on

the Life Orientation Test-Revised (LOT-R; Scheier, Carver, & Bridges, 1994), was

adapted to be more developmentally appropriate for use with children and adolescents.

Youths responded to the six items on a 4-point scale of (0) "Not at all true," (1)

"Somewhat true," (2) "Mostly true," and (3) "Very true" regarding how true each

statement is of them. The YLOT scales' internal consistency is comparable to other child

self-report measures and is more internally consistent than the adult LOT when given to

youth in previous studies (Ey et al., 2005). In addition, the YLOT has displayed good

test-retest reliability, as well as convergent, discriminant, and predictive validity (Ey et

al., 2005). The YLOT contains three questions that are worded positively (e.g. "In

uncertain times, I usually expect the best.") and three negatively worded questions (e.g.

"If something can go wrong for me, it will."). With the current sample, when scores in

these six items were summed to obtain a total score for optimism, this variable displayed

poor internal consistency (α=.53), influenced by the lack of correlation between the

negatively and positively worded items. The negatively worded items in this scale may be a better assessment for the trait of pessimism. Thus, for the purposes of this study only the positively worded items were summed to create a total optimism variable, which displayed better internal reliability (α=.64).

Demographic

The sociodemographic information collected from youths included gender, age, grade, ethnicity ("yes" or "no" to a Hispanic or Latino background), race ("White," "Black," "Asian," "American Indian or Alaskan Native," "Native Hawaiian or other Pacific Islander"; option to check more than one racial background), and parental marital status (participants will be asked to check one of the following about each parent "Married to your biological parent," "Married to someone else," "Unmarried but living with a partner," "Separated," "Divorced," "Widowed," "Single, never married," "Deceased," and "Unknown"). These questions were drawn from a broader demographic questionnaire (Hamby, Grych, and Banyard, 2013).

RESULTS

Resilience Composite

As resilience is conceptualized as positive adaptation in several areas of

functioning (e.g. Luthar, Cicchetti, & Becker, 2000; Luthar & Cushing, 1999), the

measures of functioning assessed in the study were combined into a global composite

utilizing the "summative" approach (Luthar & Cushing, 1999, p. 144) used in other

studies of resilience (e.g., Cicchetti & Rogosch, 2007; Banyard & Williams, 2007).

Participants were given a score of 0 or 1 in each of the following domains using the

median score of each scale as a cut-off: behavioral adjustment, self-esteem, and perceived

competency in scholastic, social, athletic, and creative domains (Barnyard & Williams,

2007). These scores were subsequently added together to create an overall resilience

composite, with higher numbers indicating better adjustment.

Descriptive Analyses

Descriptive statistics for each of the support variables, mediators, the resilience

composite, and violence exposure can be found in Table 2. On average, participants

reported support from a parent, teacher, peer, and neighbor as moderate to high (M=

1.67-2.34 on a scale of 0-3). Although differences between reports of social support were

minimal, youths perceived teachers as more supportive than a parent or neighbor, and

perceived neighbor support was the lowest. Compared to a sample of 357 minority

students in 3rd-12th grade (Malecki & Demaray, 2002), participants in this study reported

lower support from parents, teachers, and peers. Additionally, students in Malecki and

Demaray's (2002) study rated teachers as the least supportive and friend support was the

highest, whereas students in the current sample rated teachers as more supportive than parents and neighbors. Similarly, youths in the current study reported lower neighborhood support than a diverse sample of almost 3,000 middle schoolers (Chen, Voisin, & Jacobson, 2013). These mean values indicate that participants generally felt less supported at home, at school, with peers, and in the neighborhood compared to other samples using the same measures of social support. Participants noted moderate to high levels of attachment security (M= 2.84), positive coping (M= 2.6), and optimism (M= 3), all of which were rated on scales of 1 to 4. For the Processing Trauma Questionnaire, youths reported talking the most with parents about a violent or stressful experience and processed these experiences the least with peers.

The indicators of resilience revealed that participants felt most competent in the scholastic domain (M= 16.00) and least competent in creativity (M= 13.78). Self-esteem was rated as high on average among this sample (M= 3.21 on a scale of 1-4). Youth and parent reports of externalizing (r= .27, *p*= .01) and internalizing (r= .25, *p*= .02) behaviors were significantly correlated, and both reports showed higher levels of externalizing behaviors (M= 9.21-9.82) than anxious or depressive symptoms (M= 5.20-6.10). Out of the six domains included in the resilience composite, a large majority of the sample (93.5%) displayed resilience in at least one domain, while 54.2% of the sample identified resilience in at least three domains.

As previously noted, violence exposure was reported by 93.5% of the sample; however, on average, participants responded "yes" to at least five questions about lifetime experiences of violence. The measure used to assess violence did not account for frequency of violence exposure and instead the average of five indicates that participants

generally experienced five different types of violence at some point in their lifetime (e.g. direct community, interparental) and not five instances of violence. Its possible the youths in this sample had multiple experiences of one or more types of violence, which was not assessed. Reported experiences of violence in this study were greater than compared to a nationally representative sample (Finkelhor, Turner, Ormrod, & Hamby, 2009), which would be expected given the high-risk nature of this sample.

Correlational analyses were conducted for the variables including parent, teacher, peer, and neighbor support; each of the mediators (attachment security, coping, processing trauma with a parent, teacher, peer, or neighbor, and optimism); the resilience composite; and violence exposure. These associations are presented in Table 3. Although parent, teacher, and peer support were related to each other, neighbor support was only associated with more optimistic views. Teachers and peer support were related to all of the mediators, whereas parent support was positively related to coping ability and processing trauma (with a parent, teacher, and community adult). Processing a traumatic or stressful experience with a friend was positively associated with violence exposure and negatively related to resilience. Resilience displayed positive correlations with each of the variables except neighbor support and processing trauma with a teacher or community adult. Additionally, violence exposure was negatively correlated with parent support, neighbor support, and resilience.

Research Question 1: *Do supportive relationships with family, teachers, peers, and neighbors collectively and uniquely promote adaptive functioning in youths exposed to violence? If so, are these protective effects additive or buffering?*

Separate regression analyses were conducted to explore whether supportive relationships with family, teachers, peers, and neighbors were associated with the resilience composite. First, to examine the unique and combined *additive* effects of support on adjustment in violence-exposed youths, a hierarchical multiple regression analysis was conducted using the resilience composite as the outcome variable (Table 4). Violence Exposure was entered in the first step of the model and explained approximately 4% of the variance in resilience. In the next step, parent, teacher, peer, and neighborhood support were included, and results indicated that support predicted resilience beyond the effects of violence exposure. Support explained an additional 9% of the variance in resilience, F change $(4, 100) = 2.60$, $p = .04$. The total variance explained by the model as a whole was 13.2% $F(6, 100) = 3.06$, $p = .01$. Although the combined additive effects of support on adjustment were significant, there were no significant unique effects of parent, teacher, peer, or neighborhood support on resilience.

Second, to explore the *buffering* effects of support on resilience in children exposed to violence, four hierarchical multiple regression analyses were conducted, one each for parent, teacher, peer, and neighborhood support (Table 5). For each of these analyses, violence exposure was entered in the first step, the support variable was entered in the second step, and an interaction variable was entered in the third step. As recommended by Aiken and West (1991) and Cohen and colleagues (2003), the interaction term was created by centering the support variable and the exposure to violence variable and then, multiplying these two variables together. Across these four analyses, no significant moderation effects were found. However, significant additive effects were found for teacher ($b = .22$, $p = .02$) and peer ($b = .27$, $p = .01$) support.

Research Question 2: *Do attachment style, coping ability, trauma processing, or optimism mediate associations between support and adaptive functioning?*

To explore attachment, trauma processing, coping style, and optimism as possible mediators, multiple regression analyses were conducted. To limit the number of analyses and preserve power, the support variables (parent, teacher, peer, and neighborhood) were combined into one composite support variable (α=.80) for analyses examining attachment, coping, and optimism as mediators (Table 6). However, separate support predictors were used when assessing trauma processing as a mediator, as specific subscales exist for processing trauma with a parent, teacher, peer, and community adult (Table 7). Consistent with Preacher and Hayes (2004), mediation analyses included first assessing the direct effects of support on resilience and on the proposed mediator, as well as the direct effect of the mediator on resilience. Finally, the indirect effect of support on resilience was tested for significance when entered with the mediator using a Sobel test.

Attachment

Results of the analysis for attachment as a mediator indicated that social support ($b = .29$, $p = .003$) and attachment security (b=.25, $p = .01$) both significantly predicted resilience. Social support also significantly predicted attachment security (b=.20, $p = .04$). However, the effect of social support on resilience remained significant when considering attachment security in the model ($b = .25$, $p = .01$), and the indirect effect of support on resilience was not significant (Sobel= 1.48, $p = .14$).

Coping

In examining coping as a mediator, significant direct effects were found for both social support ($b = .29$, $p = .003$) and coping style ($b = .21$, $p = .03$) on resilience. Social

support also significantly predicted coping style ($b = .26$, $p = .01$). The mediation effect of coping on the relationship between social support and resilience displayed a marginal effect. When both coping style and social support were entered into the model, social support significantly predicted resilience ($b = .25$, $p = .01$), and the indirect effect of social support on resilience with coping as a mediator just missed conventional levels of significance (Sobel = 1.83, $p = .07$). The combined effects of social support and coping accounted for 10% of the variance in resilience.

Trauma Processing

Four regression analyses were conducted to assess the mediation effect of processing trauma with a parent, teacher, peer, or adult in the community on the relationship between social support (parent, teacher, peer, neighborhood) and resilience. Of these four mediation analyses, only processing trauma with a parent showed a significant mediation effect (Figure 1). Direct effects were found for both parent support ($b = .24$, $p = .01$) and parent processing ($b = .29$, $p = .002$) on resilience, as well as parent support predicting parent processing ($b = .40$, $p < .001$). When accounting for processing trauma with a parent, parent support no longer significantly predicted resilience ($b = .14$, $p = .16$), and the indirect effect of parent support on resilience was significant, consistent with a full mediation effect of parent processing (Sobel = 2.60, $p = .01$). The combined effects of parent support and processing trauma with a parent accounted for 10% of the variance in resilience.

For the remaining mediation analyses on trauma processing with a teacher, peer, and community adult, only significant direct effects were found. These include the direct effects of teacher support ($b = .23$, $p = .02$) and peer support ($b = .29$, $p = .003$) on

resilience. These effects remained significant when accounting for trauma processing as a mediator. In addition, teacher support significantly predicted processing trauma with a teacher ($b = .26$, $p = .01$), and processing trauma with a friend significantly predicted resilience ($b = .20$, $p = .04$). No direct effects were found for neighborhood support or processing trauma with a community adult.

Optimism

Results of the regression analyses for optimism as a mediator indicated significant direct effects of social support on resilience ($b = .29$, $p = .003$), social support on optimism ($b = .38$, $p < .001$), and optimism on resilience ($b = .34$, $p < .001$). Additionally, optimism displayed a significant mediation effect (see Figure 2). Consistent with a full mediation effect, social support no longer significantly predicted resilience after controlling for optimism ($b = .18$, $p = .07$), and the indirect effect of support on resilience with optimism as a mediator was significant (Sobel $= 2.75$, $p = .006$). Approximately 14% of the variance in resilience was accounted for by the combined effects of optimism and social support.

Research Question 3: *Do associations between support and resilience differ for boys and girls or by age?*

Moderation analyses were conducted to examine whether associations between support and resilience differed for boys and girls or for children of varying ages. Separate hierarchical regression analyses were conducted for each support variable: parent, teacher, peer, and neighborhood. No significant interactions were found, and the relationship between support and resilience did not vary by gender or age.

DISCUSSION

The present study expanded on resilience research in children and adolescents exposed to violence by examining multiple types of supportive relationships as protective and exploring potential mediators of the association between social support and resilience. There has been a growing focus on children who exhibit healthy functioning despite adverse circumstances to better understand how to foster resilience in youths exposed to violence (Grych, Hamby, & Banyard, 2015). The majority of children and adolescents in this study (54.2%) displayed resilience in at least three areas of functioning including perceived competence (scholastic, athletic, social, and creative), self-esteem, and self- and parent-reported internalizing and externalizing symptoms. These rates are consistent with longitudinal studies of resilience in children exposure to violence (e.g. DuMont, Widom, & Czaja, 2007; Collishaw et al., 2007; Kaufman et al., 1994). By exploring *which* strengths help predict variability in youths' functioning and *how* these factors operate, prevention and intervention efforts can be more focused and effective in promoting positive adaptation in the context of violence exposure.

Protective Effects of Support

Support from parents, teachers, peers, and community adults collectively predicted resilience above and beyond the effects of violence exposure, but did not buffer the effects of violence on youth outcomes. These results support the *additive* effects of supportive others over *buffering* effects, a pattern that is consistent with resilience literature. In a review of protective factors for children exposed to violence (Houston & Grych, *in prep)*, additive effects were more often supported for children exposed to

maltreatment (78%) and community violence (79%), and only 33-48% of studies that examined buffering effects found significant moderation effects. It is possible that methodological factors play a role in this discrepancy, since more power is needed to detect interaction than direct effects. However, several studies with sample sizes of over 1,000 participants have investigated but failed to find moderating effects (Chen, Voisin, & Jacobson, 2013; Brookmeyer, Henrich, & Schwab‑Stone, 2005; Jain et al., 2012), suggesting a conceptual rather than methodological explanation for the lack of buffering effects. That is, it may be that protective factors primarily promote resilience by enhancing health and functioning in all people, and thereby compensating for the adverse effects of violence, rather than buffering the impact of violence on adjustment.

As emphasized in an ecological-transactional framework, considering multiple protective factors at varying ecological contexts has the largest impact on child outcomes. In the current study, the combined effects of parent, teacher, peer, and community support predicted more resilient outcomes, while no support variable accounted significantly for a unique amount of the variance in resilience. Similarly, Herrenkohl et al (2005) found that the variance explained in adolescent behavior problems was highest when considering the combined effects of multiple protective factors on antisocial behavior rather than the unique role of specific factors.

Mechanisms

A major strength of this study was its unique focus on better understanding *how* supportive others promote resilience. Two factors were identified as mechanisms underlying the relationship between social support and resilience: processing trauma with a parent and optimism. Despite a clinical research base on how processing traumatic

experiences in therapy contribute to better outcomes (Cohen et al., 2006), it has been unclear how these interactions with natural supports outside of a therapy setting might promote resilience. One exception is a study showing that children who felt comfortable speaking with their mother about violence reported fewer trauma symptoms (Ozer & Weinstein, 2004). The current study provided evidence that processing an experience of violence with a parent helps explain the relationship between parental support and resilience in areas beyond trauma symptoms. Speaking with a parent about a stressful event may help youths to express their feelings in a caring and understanding environment, discuss troubling thoughts, and receive a more helpful perspective from a supportive caregiver. Parents may also provide ideas and encouragement to help children make positive choices about coping with difficult experiences (e.g. seeking support, engaging in enjoyable activities, finding meaning), which may lead to internalizing a sense of self-worth and avoiding maladaptive reactions to violence exposure (e.g. antisocial behaviors, anxiety, depression).

Supportive relationships with parents, teachers, peers, or individuals in the community also promote resilience in violence-exposed youths by cultivating a more positive or optimistic outlook. Although optimism displayed poor internal reliability ($\alpha=.64$), this would have made it more difficult to detect significant effects. With improved internal consistency, it is possible the mediation effect of optimism would have been more robust. Youths may benefit from supportive individuals through explicit discussion about more positive ways to view situations; additionally, consistent experiences of support from various people may contribute more generally to a positive perspective of people, the self, and the world. Optimism predicts fewer psychological

symptoms in various child populations (e.g. Edmond et al., 2006; Williams & Nelson-Gardell, 2012; Ey et al., 2005). Children who view the world more positively may react to experiences of violence in adaptive ways, such as making meaning from their experiences or creating more helpful appraisals of their circumstances (for example, "This is not my fault," "The world is still a safe place," or "I can move past this"). These reactions might help combat symptoms that often accompany traumatic experiences, such as anxiety, depression, or antisocial behaviors. In addition to preventing negative outcomes, the current study suggests that optimistic views may contribute to increased self-esteem and perceived competency. However, the direction of these effects is not clear, as the cross-sectional design of the study precludes inferences about causality. It also is possible that children and adolescents who report more competency, better self-esteem, and fewer internalizing and externalizing symptoms generally view the world more positively. These constructs may be bi-directional and without multiple time-points, it would be difficult to determine the direction of these effects.

Coping displayed a marginal mediation effect on social support predicting resilience, and with a larger sample size it is possible that this effect would have reached significance. Similar to optimism, supportive others may cultivate positive coping habits in youths exposed to violence through active teaching or positive modeling. This is consistent with prior research in violence exposed youths, where both parent coaching and modeling of positive coping predicted children's use of adaptive coping strategies, and youths' positive coping was related to resilience (competence, self-esteem, and internalizing symptoms; Kliewer et al., 2006b). Further research on coping as an

underlying mechanism for resilience in children exposed to violence will be helpful in determining whether coping is a major factor in explaining how support is protective.

Attachment security did not significantly mediate the relationship between social support and resilience. The attachment security variable displayed poor internal consistency ($\alpha = .57$), which may have played a role in this result. Both attachment and optimism had lower internal reliability, possibly reflecting youths' difficulty in answering questions about their internal states (thoughts, beliefs). Additionally, the attachment measure used in this study assessed a more general attachment style, as opposed to specific attachment to a caregiver. A more narrow attachment measure reflecting attachment to a caregiver or supportive individual may have had better internal consistency and possibly displayed different results than found in this study.

Descriptives and Demographics

Although previous studies have found gender (Rosario et al., 2008; Brookmeyer, Henrich, & Schwab‑Stone, 2005) and age (Finkelhor et al., 2009) differences in resilience for children exposed to violence, the present study found no differences in associations between support and resilience for boys and girls and for participants of varying ages. These analyses were exploratory, as the sample size of 107 did not allow sufficient power to effectively assess gender and age as moderators for the associations explored in this study. Additionally, with 87% of the sample identifying as African American or multiracial, differences in race were not explored.

Initial descriptive analyses resulted in some associations between variables that were unexpected. For instance, neighborhood support was not significantly related to other support variables, mediators, or resilience. It is important to note that this sample

reported lower levels of neighborhood support in general, which may reflect the adverse community context of students in these inner-city, behavioral reassignment schools. On the measure of violence exposure, 75% of the sample reported witnessing physical violence in their lifetime. Although this question did not specify violence within the community, rates for witnessed physical aggression at home were much smaller (14-20%), suggesting that the majority of witnessed violence happened outside of the home setting. With a potentially dangerous community context, it is not surprising that participants rated support in the neighborhood as lower compared to support in other contexts. Additionally, community support has failed to show protective effects in a number of previous studies (e.g. Kliewer et al., 2004; Jain et al 2012; Chen, Voisin, & Jacobson, 2013). As the community is a more distal system for a child compared to the home or school systems, the lack of associations with resilience, support, or other variables in this study may reflect that community support has less of an impact on youth outcomes than more proximal factors.

The Processing Trauma Questionnaire, which was adapted for this study, highlighted not only a positive association between resilience and processing trauma with a parent, but also a negative association between resilience and processing a traumatic or stressful event with a peer. While this may seem counterintuitive, especially when a positive correlation was found for supportive peers and resilience, there is precedence for the negative impact peers can have on behavioral adjustment (e.g. O'Donnell, Schwab-Stone, & Muyeed, 2002; Levendosky, Huth-Bocks, & Semel, 2002). Whether peer support predicts better or worse adjustment in children exposed to violence likely depends on the types of peers providing the support. Prosocial peers could foster positive

choices for coping with violence exposure. In contrast, affiliating with antisocial peers could exacerbate the effects of violence by encouraging more aggressive or delinquent behavior (Allen et al., 2005; Fergusson, Swain-Campbell, & Horwood, 2002). As previously described, the participants in this study were in a school environment surrounded by students at risk for dropping out of school, who had violated their school's code of conduct. The negative correlation between processing trauma with a peer and resilience may be related to the types of friends being sought out for support or advice regarding experiences of violence.

Implications

Understanding that social support predicts resilience in violence-exposed youths through mechanisms of optimistic thinking and processing stressful experiences with a parent can guide intervention and prevention programs for children and adolescents exposed violence. As highlighted by Grych, Hamby, & Banyard (2015), prevention efforts typically focus on addressing risk factors, whereas this study was consistent with the Resilience Portfolio Model and identified specific strengths and protective factors that promote resilience. There are a number of prevention and intervention programs targeted specifically at children and adolescents exposed to violence, including therapeutic interventions in a clinical (e.g. *Trauma-Focused Cognitive-Behavioral Therapy*, Cohen & Mannarino, 1993; *Child-Parent Psychotherapy*, Lieberman, 2004; *Parent-Child Interaction Therapy*, Chaffin et al., 2004) and school setting (e.g. *Cognitive-Behavioral Intervention for Trauma in Schools*, Stein, et al., 2003). Although these treatments have substantial empirical support, the current results regarding the *additive* effects of support

on resilience highlight the importance of universal prevention programs aimed at a large group of children despite their level of violence exposure or adverse circumstances.

Taking an ecological-transactional approach, the combined protective effect of supportive individuals in various contexts suggests that programs aimed at incorporating individuals across the multiple systems involved in children's development may most effective (e.g. *The Fourth R*, Crooks et al., 2007; *The Family Checkup,* Dishion & Stormshak, 2007). Given the desire to access large numbers of children, schools offer a key context for promoting protective factors such as supportive others and positive thinking. Social and emotional learning (SEL) programs are implemented in the classroom and foster perceived competence, emotion regulation ability, and social skills, focusing on self-awareness, self-management, social awareness, relationship skills, and decision-making (Collaborative for Academic, Social, and Emotional Learning, 2005). SEL programs can be effectively incorporated into routine educational practices (Durlak et al., 2011) and reach a large number of students. The competencies promoted in SEL programs foster not only a more optimistic or positive outlook, but also emphasize social skills that would enable youths to form supportive relationships with others. The mediators for resilience supported in the present study point to the need for instilling positive views in children and increasing opportunities for processing stressful experiences with parents in a positive and supportive way. In addition to programs aimed at children, these results point to the parental relationship as a major factor in promoting resilience. Incorporating an aspect of parent training would be beneficial, specifically targeted at helping parents respond to their children in empathetic and effective ways when being sought out to process violence exposure or stressful experiences.

Understanding these mechanisms for explaining how support is protective is a first step in enabling practitioners and policymakers to best utilize and enhance the strengths and resources available to youths.

Limitations and Future Research

Some aspects of this study limit the conclusions that can be drawn from the findings. First, the data are cross-sectional and cannot be used to assess causal relationships among social support, the mediators, and resilience; future research should utilize longitudinal methods to better assess whether temporal relationships among these constructs are consistent with the moderations and mediations examined in this study. Second, because of the sample size of 107, power was not sufficient for analyzing research questions with structural equation modeling. This approach would have allowed for more complex analyses, such as moderated-mediation, to more comprehensively answer the research question of whether support buffers the effect of violence and factors mediate that relationship. Separate analyses were used in the current study to answer those two questions. Third, the limited power with this sample also prevented a strong understanding of differences in the analyses conducted based on demographic characteristics, such as age or gender. Although the present study incorporated exploratory analyses to assess for gender or age differences, these differences would be difficult to detect with this sample size. Finally, various aspects of violence such as severity, the perpetrator, and chronic versus acute forms of violence may interact with protective factors and mediators. For example, Molnar et al (2001) found differences in the effect of coping depending on whether violence exposure was chronic, acute, or accompanied by other stressors. Research on the nature of violence exposure in relation

to resilience and protective effects may highlight important contextual considerations to better help children and adolescents positively adapt despite in adverse environments.

The current study added a unique contribution to the field of resilience. The construct of resilience used in this study was more comprehensive than the norm, such that positive outcomes (self-esteem, competence) were included in addition to the absence of internalizing and externalizing symptoms. Over 20 years age, Masten (1990) highlighted the need to move past questions of *what* predicts resilience and begin asking *how* these factors promote resilience. This study takes an important first step in identifying possible mechanisms underlying the protective nature of social support. The question of *how* factors promote resilience continues to be an area of study in demand to help combat the negative effect of violence exposure in youths today.

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Table 1
Demographic Characteristics of Sample (N=107)

Characteristic	*n*	*%*
Gender		
Male	76	71
Female	31	29
Age		
11-13 years	23	22
14-16 years	59	55
17-19 years	25	23
Grade		
6	8	8
7	13	12
8	25	23
9	26	24
10	18	17
11	13	12
12	4	4
Race		
African American	75	70
Caucasian	4	4
Other	10	9
Multiracial	18	17
Ethnicity		
Hispanic or Latino	19	18
Non-Hispanic	88	82

Table 2

Descriptive Statistics for Support, Mediators, Resilience, and Violence (N = 107)

Variables	M	SD	Range	α
Social Support				
Parent	26.49	6.76	5-36	.88
Teacher	28.12	7.26	0-36	.92
Peer	27.43	7.57	1-36	.92
Neighborhood	13.36	5.80	1-24	.76
Mediators				
Attachment Security	13.03	3.12	5-20	.57
Coping Ability	28.69	7.24	11-44	.86
Trauma Processing				
Parent	4.29	2.90	0-9	.84
Teacher	2.25	2.57	0-9	.83
Peer	0.29	0.60	0-3	.80
Community Adult	1.56	2.38	0-9	.86
Optimism	9.11	2.16	4-12	.64
Resilience Composite	2.79	1.69	0-6	
Violence Exposure	5.24	3.12	0-14	.79

Table 3

Correlational Statistics for Support, Mediators, Resilience, and Violence (N = 107)

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1. Parent Support	-											
2. Teacher Support	.33**	-										
3. Peer Support	.31**	.65**	-									
4. Neighbor Support	.12	.16	.12	-								
5. Attachment	.03	.32**	.42**	-.03	-							
6. Coping Ability	.23*	.39**	.41**	-.04	.34**	-						
7. Process Parent	.40**	.25**	.35**	-.12	.13	.35**	-					
8. Process Teacher	.23*	.26**	.22*	-.01	.13	.16	.41**	-				
9. Process Peer	-.12	.02	-.06	-.04	-.14	-.12	-.07	.01	-			
10. Process Neighbor	.26**	.25**	.22*	.17	.10	.16	.20*	.43**	-.08	-		
11. Optimism	.17	.42**	.29**	.21*	.36**	.18	.21*	.12	-.14	.12	-	
12. Resilience	.24*	.23*	.29**	.12	.25**	.21*	.29**	.02	-.20*	.09	.34**	-
13. Violence	-.29**	-.05	-.06	-.32**	-.01	-.11	-.04	-.02	.47**	-.13	-.06	-.21*

* p < .05 **p < .01

Table 4

Regression Analysis for Support and Violence Exposure Predicting Resilience (N = 107)

		Resilience	
Variable	β	F	ΔR^2
Step 1		4.64*	
Violence Exposure	-.21*		
Step 2		3.06*	.09
Violence Exposure	-.15		
Parent Support	.10		
Teacher Support	.06		
Peer Support	.22		
Neighborhood Support	.01		
Total R^2 = .13			

Note: * $p < .05$

Table 5

Hierarchical Regression Analyses for Social Support as a Moderator between Violence
Exposure and Resilience (N=107)

	Resilience			
	Parent Support	Teacher Support	Peer Support	Neighbor Support
Variable	β	β	β	β
Step 1				
Violence Exposure	-.14	-.20*	-.20*	-.19
Step 2				
Support Variable	.19	.22*	.27**	.06
Step 3				
Interaction	.01	.004	-.03	.03

Note: * $p < .05$, ** $p < .01$

Table 6

Multiple Regression Analyses for Attachment, Coping, and Optimism as Mediators between Social Support and Resilience (N=107)

	Direct Path β	Indirect path through the following mediators		
		Attachment	Coping	Optimism
Direct Path				
Support → Resilience	.29**			
Indirect Path				
Support → Mediator		.20*	.26**	.38**
Mediator → Resilience		.25*	.21*	.34**
Support → Mediator		.20*	.25*	.18
Sobel		1.48	1.38	2.75**
R^2		.12	.11	.14

Note: * $p < .05$, ** $p < .01$

Table 7

Multiple Regression Analyses for Processing Trauma as Mediators between Social Support and Resilience (N=107)

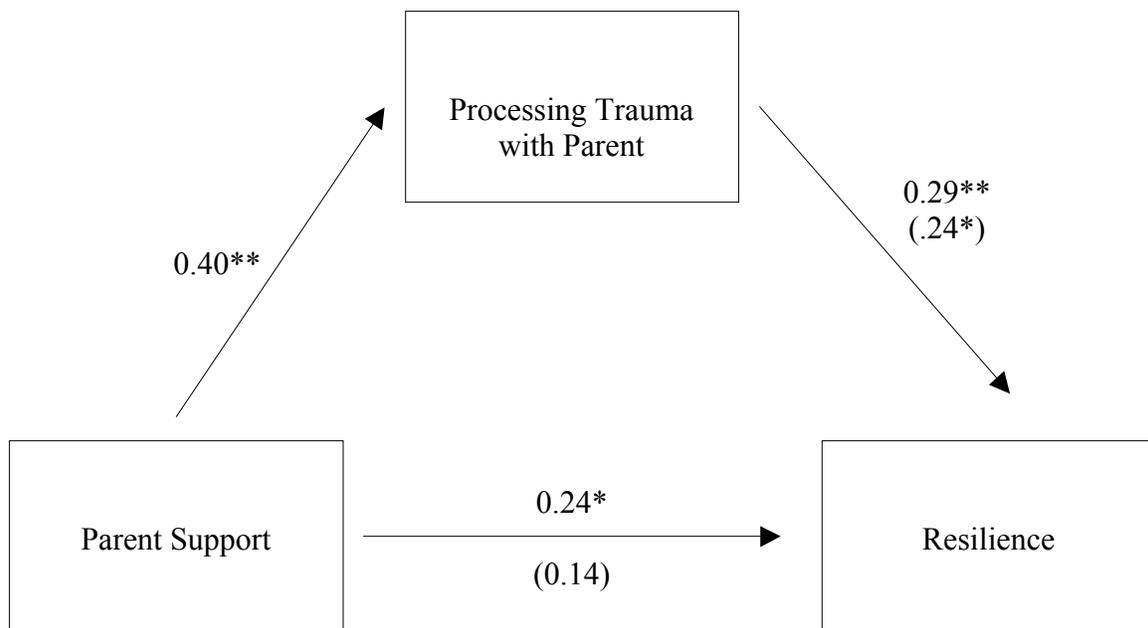|	Social Support and Mediator Variables			
	Parent	Teacher	Peer	Neighbor
Direct Path				
Support → Resilience	.24*	.23*	.29**	.12
Indirect Path				
Support → Mediator	.40**	.26**	-.06	.17
Mediator → Resilience	.29**	.02	-.20*	.09
Support → Resilience	.14	.24*	.27**	.12
Sobel	2.60**	.20	.60	.82
R^2	.10	.06	.11	.02

Note: * $p < .05$, ** $p < .01$

Figure 1: Processing as a mediator on the relationship between parent support and resilience.
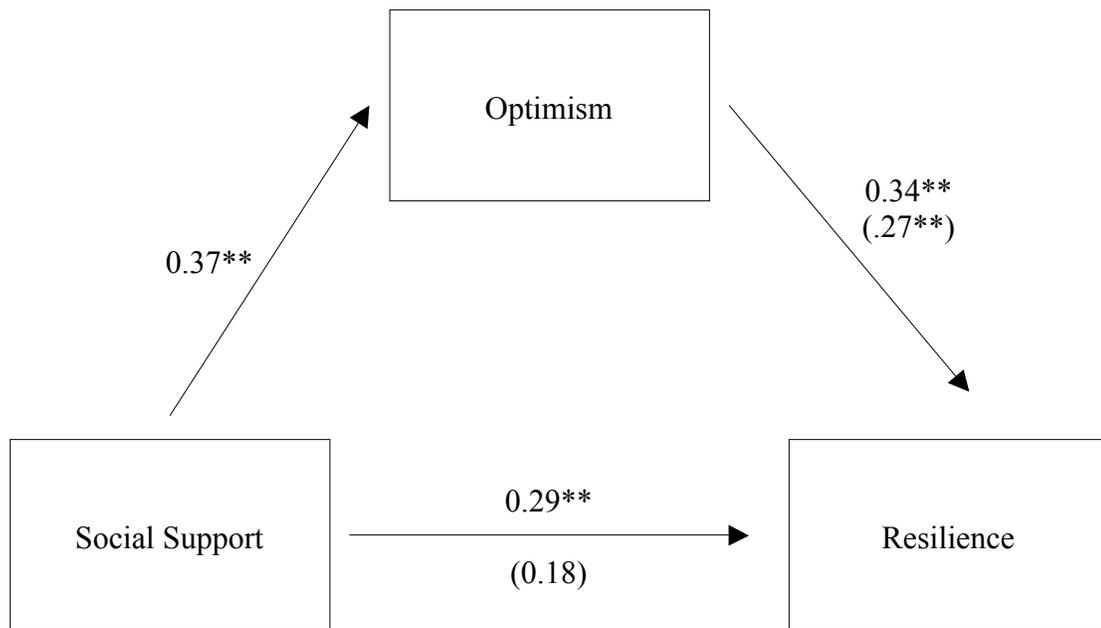*p < .05
** p < .01

Figure 2: Optimism as a mediator on the relationship between social support and resilience.
*p < .05
** p < .01

Appendix A

Processing Trauma Questionnaire

For the following questions, if you checked "Yes" to one or more of the previous questions, think about the most difficult or stressful time for you. If you did not check "Yes" to one of the previous questions, think about a time in your life that was particularly stressful or difficult.
During this stressful or difficult time, how much did you:

	Not at all			Very Much
1. Talk to a parent or parent-figure about the stressful time and how you were feeling?	0	1	2	4
2. Talk to a teacher about the stressful time and how you were feeling?	0	1	2	4
3. Talk to a friend about the stressful time and how you were feeling?	0	1	2	4
4. Talk to an adult in your neighborhood or community about the stressful time and how you were feeling.	0	1	2	4
5. Feel a parent or parent-figure understood what you were going through?	0	1	2	4
6. Feel a teacher understood what you were going through?	0	1	2	4
7. Feel a peer understood what you were going through?	0	1	2	4
8. Feel an adult in your neighborhood or community understood what you were going through?	0	1	2	4
9. Feel that talking to a parent or parent-figure helped you feel better about what happened?	0	1	2	4
10. Feel that talking to a teacher helped you feel better about what happened?	0	1	2	4
11. Feel that talking to a peer helped you feel better about what happened?	0	1	2	4
12. Feel that talking to an adult in your neighborhood or community helped you feel better about what happened?	0	1	2	4

Appendix B

Creative Competence Questionnaire

1. Some people do very well at all kinds of creative projects, such as those related to music or art.	Not at all True 0	1	2	Very True 4
2. Some people think they could do well at just about any new creative or artistic project.	Not at all True 0	1	2	Very True 4
3. Some people don't have the creative skills to be good at art or music.	Not at all True 0	1	2	Very True 4
4. Some people feel that they are more creative than others their age.	Not at all True 0	1	2	Very True 4
5. Some people do not feel that they are very artistic.	Not at all True 0	1	2	Very True 4