Pathways from Polyvictimization to Youth Problem Behaviors: The Critical Role of School Engagement

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Abstract

School engagement has a powerful influence on youth development. Youth who fail in school are at significant risk for a host of subsequent psychosocial outcomes, including substance use, risky sexual behaviors, gang involvement, and increased contact with juvenile justice authorities. Although school engagement is an important determinant of key developmental outcomes, few studies have adequately considered how polyvictimization may not only compromise school engagement but also negatively impact psychological functioning, lead to negative peer affiliations with gangs, thereby subsequently increasing the risk for drug use and subsequent juvenile justice involvement. In addition, no studies have considered how key factors such as age, gender, race/ethnicity and parenting styles may moderate those risk relationships. Based on the existing empirical literature and several unifying theories, we present a conceptual model that documents pathways from polyvictimization to multiple youth problem behaviors, with school engagement as a key mediator. This review is intended to help guide future research in these areas. We conclude with recommendations for school-based interventions and future research based on this innovative model.

Keywords: Polyvictimization, Psychological symptoms, School engagement, Youth problem behaviors, Peer relationships

1. Introduction

In the United States (U.S.) youth are exposed to high rates of multiple forms of violence (e.g., child maltreatment, witnessing interparental violence, community violence and bullying). Recent national surveys have found that over 60% of children are exposed to some form of violence (Finkelhor, Ormrod, & Turner, 2009). Emerging research documents that such exposures are individually associated with youth problem behaviors across mental health, school, peer and sexual domains. For instance, research provides evidence that youth exposed to repeated community and family violence report less positive school engagement (e.g., student-teacher connectedness and grade point average) and higher psychological symptoms (i.e., PTSD, internalizing and externalizing behaviors) (Margolin & Gordis, 2000; Voisin, Neilands, & Hunnicutt, 2011). However, the extant literature has not considered how these individual and combined forms of violence exposures are associated with individual risk behaviors. Additionally, there is a dearth of conceptual models that present empirical and theoretical formulations that may help us to better understand why polyvictimization and multiple youth problem behaviors often occur.

Moreover, the role of school engagement as a point of intervention between violence exposures and youth problem behaviors has been underexplored. School engagement is a multi-dimensional construct reflecting the degree to which students are engaged emotionally, behaviorally and academically in school (Furlong & Christenson, 2008) and has a powerful impact on youth outcomes. In the United States (U.S.) most states mandate that all youth be enrolled in school (Alexander & Alexander, 2011). Given the significant hours spent in classes and the intended prosocialization of youth to mainstream societal norms and values, engagement in school can be an important source of youth upward mobility (Rumberger, 1987). Such engagement may be especially important for youth living in families and neighborhoods with limited resources (Hao & Pong, 2008). For instance, various components of school engagement (e.g., connection to teachers and students and academic achievement) have been linked to lower rates of aggression, substance abuse, and delinquency (Bryant, Schulenberg, O'Malley, Bachman, & Johnston, 2003; Elsaesser, Gorman-Smith, & Henry, 2013; Maddox & Prinz, 2003). Conversely, poor school engagement can increase the risk for a host of critical youth problem behaviors such as substance abuse, gang membership, and risky sex (Resnick et al., 1997; Voisin & Neilands, 2010; Voisin et al., 2004; Voisin et al., 2005). In spite of the important role school engagement may play in mediating the impact of such violence exposures on subsequent youth problem behaviors, few conceptual models have illuminated these pathways.

1.1 Objective of this Paper

While there is a dearth of conceptual models addressing pathways of influence for victimization on youth problem behaviors in the extant literature, a few such models are now emerging. For instance, a recent review posited a meditational model accounting for the link between witnessing intimate partner violence (IPV) and youth bullying and victimization (Voisin & Hong, 2012). Though this model can be highly informative to future research, it posited one form of violence exposure—namely IPV and its relationship to bullying behaviors and victimization by peers—ignoring polyvictimization, which often clusters among children and youth (Nishina & Juvonen, 2005; Saunders, 2003).

Data on polyvictimization highlights that there is significant overlap in various forms of victimization among youth. Failure to account for polyvictimization, therefore, may result in studies which assert that outcomes are correlated with a particular category of victimization when in fact they are the consequence of another unmeasured form of violence, the cumulative result of exposure to multiple categories of victimization, or a complicated interaction of violence forms and episodes (Saunders, 2003). For these reasons, researchers increasingly recognize the need to consider the impact of multiple violence exposure and avoid artificial compartmentalization of violence research into separate forms that do not approximate the real world settings (Margolin, Vickerman, Oliver, & Gordis, 2010)

Based on emerging evidence on polyvictimization and the broader literature on youth problem behaviors, and informed by theories of social control and social learning, we posit a conceptual model linking polyvictimization and youth problem behaviors (e.g., peer victimization, bullying, risky sex, substance abuse, arrests). Additionally, we highlight the critical role of school engagement, psychological symptoms and negative peer influences and as mediators of this relationship. Finally, we consider how important social constructs such as age, gender, race/ethnicity and parenting styles might moderate these relationships.

2. Literature review

2.1 Definition of Polyvictimization

Polyvictimization has been defined in numerous ways, but in this review, we conceptualize it as exposure to community violence exposure, child maltreatment, intimate partner violence, and bullying, which is consistent with one widely utilized definition in the literature (Finkelhor, Ormrod, Turner, & Hamby, 2005). Other forms of violence can also fall into the category of polyvictimization, such as sibling and elder abuse. However, ee focus on CVE, child maltreatment, IPV and bullying because these forms of violence are the most common and represent the domains where there are significant literatures. Moreover, since literature on the relationship of sibling and elder abuse and the mediators discussed in this model (i.e., school engagement, psychological symptoms, negative peer influences) is sparse, their focus falls beyond the scope of this paper.

2.2 Rates of Violence among Youth

Prevalence data documents that youth are exposed to high rates of CVE, defined as events in the local neighborhood involving crime, weapons use, and violence or potential violence perpetrated by persons outside the immediate family (Bell & Jenkins, 1993; Voisin, 2003). CVE is a serious concern in major urban areas. Nearly two-thirds of 14- to 17-year-olds have witnessed assaults in the community over their lifetime (Finkelhor et al., 2009). Moreover, African American and Latino/Hispanic youth bear the highest burden of such exposures. Although CVE is very common in the U.S., rates are disproportionately higher in poor inner cities, which points to one reason why racial minorities bear a significant burden of such exposures (World Health Report, 2002). Official crime statistics on homicide rates only reflect one narrow measure of such exposures; however, it documents that CVE is higher for young males and racial minorities. For instance, males aged 15–19 years are four times more likely than females to die from homicide (World Health Report, 2002). Additionally, in 2006, the homicide rate for black male teens was 66.4 per 100,000, nearly 20 times higher than the rate for white males (3.4 per 100,000). Rates for other groups were 28.4 per 100,000 for Hispanic males, 16.9 per 100,000 for American Indian males, and 11.5 per 100,000 for Asian and Pacific Islander males (Centers for Disease Control and Prevention, 2010).

Family violence is another form of victimization that is common among youth. Family violence is a broad concept that includes violence among family members (e.g. child maltreatment, sibling violence or elder abuse) and IPV (Corvo & deLara, 2010). Child maltreatment can include neglect, as well as emotional, physical, and sexual abuse. Estimates of child maltreatment vary due to differing definitions of victimization as well as methods of data collection (Margolin & Gordis, 2000). For example, the Children's Bureau found that in 2011, approximately 3.7 million children were the subjects of at least one form of maltreatment in the U.S., 78% of whom have experienced a form of neglect, 17% physical abuse, 18% psychological maltreatment, and 10% sexual abuse, with percents totaling over 100% because of overlap in maltreatment forms (U.S. Department of Health and Human Services, Administration on Children, Youth and Families, Children's Bureau, & Administration for Children and Families, 2012). Other studies have found much higher rates of child maltreatment, particularly as children get older. A recent study estimated that more than one in 10 children suffer some form of maltreatment, with rates rising to one in six as children enter adolescence (Finkelhor et al., 2009).

Rates of witnessing IPV are also difficult to assess, given that youth who witness domestic violence do not have official designations as crime victims (Nishina & Juvonen, 2005; Saunders, 2003). However, conservative estimates suggest that such youth exposures are widespread. For example, the Bureau of Justice (2011) reported that 552,000 females and 101,000 males experienced non-fatal violence victimization by an intimate partner at home in 2008. Studies also show that IPV tends to be more prevalent in households with a higher proportion of children younger than the age of five (Fantuzzo & Mohr, 1999), among less educated parents (perhaps a proxy for socioeconomic status), and in households where there is problem drinking by parents (Farmer & Tiefenthaler, 2003; Grossman & Lundy, 2007; Jewkes, Levin, & Penn-Kekana, 2002; Leonard, 2001; Rennison & Planty, 2003). Data shows that rates of family violence vary by ethnicity. National rates of family violence exposure are high among African American youth, who have twice the reported rate of family victimization (25.2 per 1,000) as whites (10.1 per 1,000), with Hispanics showing similar rates of family violence as African Americans (Freund, Bak, & Blackhall, 1996). Some researchers, however, hypothesize that poverty and unemployment may be stronger predictors of family violence than race/ethnicity (Cunradi, Caetano, Clark, & Schafer, 2000; McNulty & Bellair, 2003).

While researchers agree that being bullied poses a significant threat to youth development (Hawker & Boulton, 2000; Klomek, Marrocco, Kleinman, Schonfeld, & Gould, 2008), similar to other forms of victimization, prevalence estimates vary depending on how bullying is categorized and measured (Solberg & Olweus, 2003). Peer victimization and bullying are often used interchangeably in the broader literature (e.g., Espelage & Swearer, 2003); in this review we will use the term bullying for the sake of consistency. Bullying has been conceptualized to include overt, direct, indirect, relational, and physical forms (Klomek et al., 2008). Approximately 10 to 20% of adolescents have been bullied by peers, with rates peeking between middle childhood and early adolescence (Finkelhor et al., 2009; Nansel, 2001). Some studies have found that males are bullied more than females (Nansel, 2001), but other research has indicated that girls are exposed to higher rates of relational bullying, while boys are exposed to higher rates of physical bullying (Crick, Casas, & Ku, 1999). Studies investigating rates of bullying by ethnicity have yielded inconsistent results. Some studies have found no significant differences in rates of bullying among Latino, African American and White youth (Seals & Young, 2003), while other studies have found that minority youth may be less likely to be bullied than their white peers (Sawyer, Bradshaw, & O'Brennan, 2008). Inconsistent findings might be related to the various ways bullying is assessed.

The prevalence of community, family and peer violence exposures are common and interrelated among youth (Elliott, Alexander, Pierce, Aspelmeier, & Richmond, 2009; Finkelhor, Ormrod, & Turner, 2007). For example, a recent study found that of 71% of youth who had experienced any victimization in the last 12 months, 69% had been exposed to an additional, different form of victimization in the last year (Finkelhor et al., 2007). The distribution of polyvictimization varies. For example, Romano and colleagues found that polyvictimization exposure (defined as exposure to at least two of the following: school social exclusion, discrimination, verbal harassment, physical assault threat physical assault) is more prevalent among ethnic minorities and those in low-income and urban households (Romano, Bell, & Billette, 2011). Additionally, while males face an overall higher risk of polyvictimization, females are more often victims of verbal and relational victimization while males are more often victims of physical aggression (Romano et al., 2011).

3. Conceptual Model Linking Polyvictimization and Youth Problem Behaviors

Figure 1 illustrates our proposed conceptual model. Solid lines depict linkages with some empirical evidence, and dotted lines depict relationships we posit. Based on exiting research we state that polyvictimization (i.e., CVE, child maltreatment, IPV, and/or bullying) is related to increased risk for psychological symptoms (e.g., PTSD, internalizing and externalizing behaviors). Additionally, combined forms of violence exposures are correlated with low school engagement (Margolin, Vickerman, Oliver, & Gordis, 2010; Shonk & Cicchetti, 2001). Informed by social control theory, our model posits that the relationships between multiple forms of violence exposures and low school engagement may be mediated by psychological symptoms. One interpretation of social control (Hirschi, 2004) suggests that youth exposed to community or family violence may struggle to develop critical attachment bonds with teachers as they are more likely to demonstrate increased psychological symptoms (e.g., aggressive, anxiety, depression) and/or have poor academic performance as a result of the trauma inflicted by such exposures (Hurt, Malmud, Brodsky, & Giannetta, 2001; Mathews, Dempsey, & Overstreet, 2009). Such dynamics increase the risk of poor connections to prosocial adults and institutions, involvement in problematic peers groups, and further modeling of aggressive and criminal behaviors, which may increase the risk of youth coming into contact with the juvenile justice authorities.

Exposure to multiple forms of violence may also lead to poor youth outcomes through negative peer influences. For example, children exposed to family violence report lower levels of social competencies (Fantuzzo & Mohr, 1999; Repetti, Taylor, & Seeman, 2002) and are less likely to be involved in social activities compared to peers not exposed to family violence (Margolin & Gordis, 2000). The further that youth stray from normative social and academic trajectories in school, the more likely they may develop attachments to other anti-social peers or those with similar behavioral tendencies (Voisin & Hong, 2012). Behaviors such as skipping school, bullying, and using drugs in turn may lead to juvenile justice system involvement. This pathway is in congruence with other studies that have

also identified negative peer interactions as a mediator that influences a number of other youth problem behaviors, including bullying (Bender, 2010; Voisin & Hong, 2012), and risky sex (Voisin, Jenkins, & Takahashi, 2011).

Our model proposes common pathways by which exposure to multiple forms of violence may impact youth outcomes. However, we are aware that different forms of violence may influence youth development in unique ways. For example, family violence may play an especially important role in forming children's expectations of others. In line with social learning theory (Akers, 2009), children who are abused by their parents may learn to emulate such aggressive, manipulative behavior (Bandura, 1978). Recent theories related to IPV highlight that because children exposed to IPV often face situations they cannot control, these youth might experience a compromised sense of safety and heightened anxiety (Davies & Woitach, 2008). Moreover, CVE may have unique effects on youth outcomes given that it impacts the sense of safety of not just the child but also the parents, possibly compromising parental caretaking ability (Margolin & Gordis, 2000). These differential pathways are an important line of inquiry; however, such pathways are not the focus of this model. Here, we are interested to explore what common pathways may exist between various forms of victimization and negative youth outcomes.

The model we propose, emphasizing polyvictimization, builds on studies in the broader literature pointing to the accumulation of risk factors. The literature on cumulative risk documents that when youth reside in communities with multiple risk factors (e.g., unsafe neighborhoods, maternal depression, maternal abuse history and low household income), cumulative risk factors are more predictive of future child maltreatment than single risk factors alone, with no single variable providing odd-ratios as powerful as the predictive power of a cumulative index (MacKenzie, Kotch, Lee, Augsberger, & Hutto, 2011; MacKenzie, Kotch, & Lee, 2011). In addition, findings from LONGSCAN (longitudinal studies of child/abuse and neglect) document that child victimization and witnessing family violence are significantly correlated (Cox, Kotch, & Everson, 2003), and that the risk of maltreatment is twice as likely when there is evidence of domestic violence (Litrownik, Newton, Hunter English, & Everson, 2003).

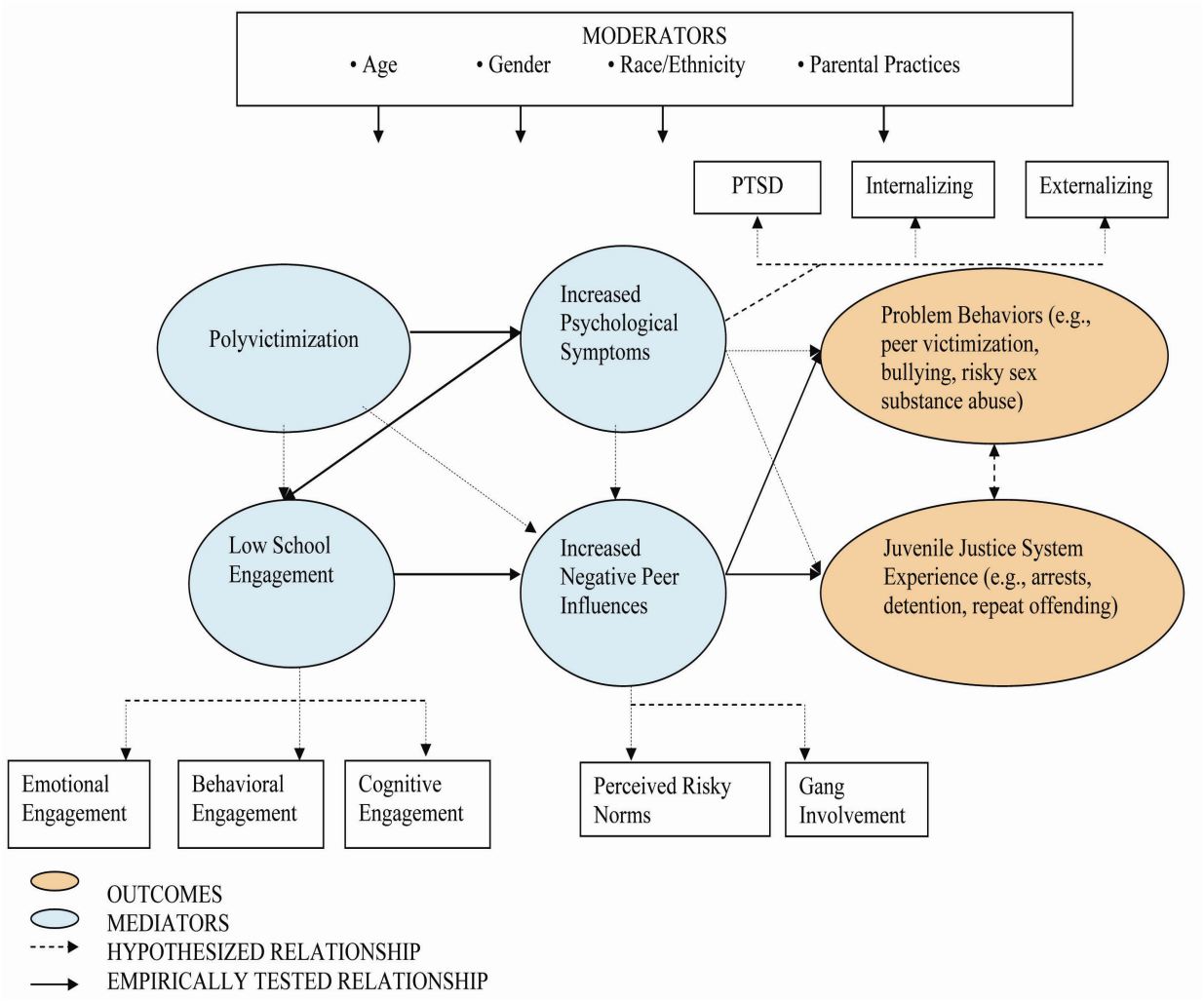

Figure 1. Conceptual model linking witnessing IPV and bullying behaviors and victimization

3.1 Polyvictimization is Associated with Psychological Symptoms

Although some findings are mixed, the majority of research has documented that several forms of exposure to violence (e.g., CVE, IPV, child maltreatment) are associated with increased risk for psychological symptoms. Recent literature reviews have highlighted that youth exposed to IPV face greater risk of both internalizing and externalizing symptoms (Evans, Davies, & DiLillo, 2008; Holt, Finkelhor, & Kantor, 2007; Voisin & Hong, 2012). In addition, post-traumatic stress disorder (PTSD) symptoms have been linked to CVE (Moretti, Obsuth, Odgers, & Reebye, 2006), as well child abuse (Kendall-Tackett, Williams, & Finkelhor, 1991; Vranceanu, Hobfoll, & Johnson, 2007) and IPV (Lehmann, 1997). Similarly, youth who are bullied are more likely to report symptoms of depression and suicidality (Klomek et al., 2008; Roland, 2002). The relationship between being bullied and externalizing behaviors is less clear, with some evidence that this connection may exist only for those youth who are bully-victims (Kim, Leventhal, Koh, Hubbard, & Boyce, 2006).

Emerging research on the impact of trauma on the brain also provides support for our assertion that polyvictimization may result in a higher likelihood of psychological problems symptoms. For instance, research in neuroscience implies that changes in the brain due to early stress such as abuse and violence exposure may pre-dispose child victims to these psychological sequelae (Heim, Shugart, Craighead, & Nemeroff, 2010). Drawing on a stress-diathesis model, in this framework, neural reactivity is considered adaptive for short-term stressors, as it designates resources to promote escape and survival (Heim et al., 2010). However, chronic stress may lead to a hypo- or hyper- active stress response. Recent reviews of the literature suggest that exposure to such chronic stress, especially while the child is still developing, leads to excess reactivity of certain neural systems that increase children's vulnerability to these stress responses (Heim, Newport, Mletzko, Miller, & Nemeroff, 2008; Heim et al., 2010; Neigh, Gillespie, & Nemeroff, 2009).

There are a variety of changes in the brain that may mediate the relationship between early violence exposure and psychological sequelae. Dysregulation of the hypothalamic-pituitary-adrenal (HPA) axis has been well documented as a mediator of the long term effects of abuse (Heim et al., 2010; Tyrka et al., 2009). The HPA axis is a major neuroendocrine stress response system that allows individual to adapt to changes in demands and is critical to maintaining health and wellbeing (McEwen, 2004).

Reviews of the literature also suggest that early life stress may also result in changes in brain structure such as a reduced hippocampus, a part of the HPA axis critical to regulatory control and cognitive functioning (Heim et al., 2010). The hippocampus is a plastic part of the brain; stress impairs the hippocampus development (Lupien, McEwen, Gunnar, & Heim, 2009). For example, one study found that among women with major depression, those with childhood trauma has smaller hippocampal volume than those without childhood abuse (Vythilingam et al., 2002). Severe life stressors in childhood are associated with long term disturbance in HPA axis among depressed patients (Heim, Mletzko, Purselle, Musselman, & Nemeroff, 2008). These findings suggest that increases HPA activity previously associated with depression may actually be indicative of early trauma. However, not all youth exposed to violence develop negative symptoms, and some of this variation may be genetic. For example, variation in the gene MAOA has been found to moderate the development of psychopathology following exposure to violence (Kim-Cohen et al., 2006).

Evidence is building that youth exposed to multiple forms of violence (e.g. CVE, family violence, and bullying) may face especially high risk for psychological symptoms. Arata and colleagues found that adolescents exposed to multiple forms of abuse (neglect, emotional, physical and sexual abuse) exhibit higher levels of depression, delinquency, and suicidality than youth exposed to a single form (Arata, Langhinrichsen-Rohling, Bowers, & O'Brien, 2007). Moreover, polyvictimization is more predictive of trauma symptoms than single exposures. A recent study found that when polyvictimization (defined as exposure to four or more different forms of victimization in a single year) was considered alongside individual forms of violence exposure, the association between these individual forms and symptoms was either greatly reduced or eliminated (Finkelhor et al., 2007). There is also evidence that different forms of violence exposure (family violence and CVE) may have a cumulative effect on psychological symptoms. A study simultaneously examining the impact of IPV, child abuse, and CVE found that violence exposure in multiple contexts had a cumulative effect on depressive symptoms, anxiety, and delinquent behaviors, such that as youth experienced additional forms of violence exposure they also experienced more symptoms (Margolin et al., 2010).

3.2 Polyvictimization is Associated with Low School Engagement

Youth who have been exposed to various forms of violence are also at increased risk for low school engagement. CVE has been linked to poor academic performance (Milam, Furr-Holden, & Leaf, 2010; Schwartz & Gorman, 2003)

and decreased reading ability (Delaney-Black et al., 2002). Both IPV and child maltreatment have been connected with poor school outcomes, including lower grades, lower test scores, and higher absences (Hurt et al., 2001; Kurtz, Gaudin Jr., Wodarski, & Howing, 1993; Leiter & Johnsen, 1994). While a small number of studies have found that bullying is unrelated to academic performance (Woods & Wolke, 2004), a recent meta-analytic review found a small but significant negative correlation between bullying and academic achievement (Nakamoto & Schwartz, 2010).

Youth who are exposed to multiple forms of violence may have even greater difficulties in school than youth exposed to a single form. Only a handful of studies have examined the relationship between polyvictimization and school outcomes, but more are warranted. School-aged children must adapt to the school environment, requiring the ability to concentrate, regulate emotions, and attend to increasingly challenging cognitive tasks. Children who have been victimized in multiple domains may have few sources of safety and security, and their defensive coping may generalize to all domains. For example, a student who is abused by her parents and who witnesses community violence may mistrust adult figures, limiting her ability to form relationships with teachers. Children who have been victimized in multiple spheres may develop heightened concerns for security, possibly biasing their responses to teachers and peers and limiting their ability to concentrate. While few studies have examined the relationship between polyvictimization and academic achievement among adolescents, a recent study found that violence exposure in multiple domains (child abuse, IPV, and CVE) has a cumulative impact on academic failure (Margolin et al., 2010). For every one-point increase in a cumulative violence exposure index, risk for academic failure increased by 20%. The theoretical and empirical evidence point to the significant impact polyvictimization has youth's ability to do well in school.

3.3 The Relationship between Polyvictimization and Low School Engagement May Be Mediated by Psychological Symptoms

Violence exposures may negatively impact positive school engagement through psychological symptoms. Youth exposed to violence often experience primary symptoms that are a direct results of trauma, such as interpersonal difficulties, problems sustaining attention, and oppositional behavior. These symptoms may have the secondary effect of making engagement in school more difficult. For example, youth who exhibit oppositional behavior may be frequently disciplined and miss class, and youth who cannot concentrate will struggle to master new material in school. This pathway may be especially true for youth who have been exposed to multiple forms of violence. Youth who have been victimized in multiple domains may exhibit cascading trauma symptoms of increasing severity, as recent theories of complex trauma have highlighted (Cook et al., 2005). These increasingly severe psychological symptoms, as well as possible comorbidity of symptoms, make it even more difficult for youth to perform the developmental task of doing well in school.

The existing evidence indicates that psychological symptoms may play a critical meditational role between CVE and school success (Henrich, Schwab-Stone, Fanti, Jones, & Ruchkin, 2004; Schwartz & Gorman, 2003). However, studies examining this connection have been cross-sectional (Voisin et al., 2011) and do not examine the moderating effects of race/ethnicity, age or family structure (Henrich et al., 2004; Schwartz & Gorman, 2003; Voisin, Neilands, et al., 2011). Another recent cross sectional study documented that exposures to family and community violence were linked to lower school success mediated by psychological symptoms with gendered outcomes for African American youth (Voisin et al., 2011). Though these results were informative, the cross-sectional design did not allow for the establishment of temporal ordering among variables and findings were limited only to African American youth. While the theoretical and empirical evidence suggest that polyvicitmization influences school success through psychological symptoms, more research is warranted in this area. Such studies are vital to understanding how violence exposure impacts academic engagement, and may provide clear targets for intervention.

3.4. The Relationships between Low School Success and Multiple Youth Problem Behaviors May Be Mediated by Negative Peer Influences

Researchers have demonstrated the importance of the school experience (e.g., school success) in buffering students from risk and socializing them to conventional norms (Catalano, Oesterle, Fleming, & Hawkins, 2004; McNeely & Falci, 2004). Decreased school and student/teacher connectedness are associated with greater drug and other delinquent behaviors among adolescents (Resnick 1997; Voisin et al., 2004). A cross-sectional study documented that among youth with a history of detention—controlling for demographic and socioeconomic status, truancy, number of days in the detention center, and family factors—adolescents who reported low teacher connectedness, relative to their peers reporting high teacher connectedness, were twice as likely to use marijuana and amphetamines (Voisin et al., 2005). Another study, using data from the National Longitudinal Study of Adolescent Health, found

that school engagement was associated with delayed sexual debut (McNeely & Falci, 2004). These studies demonstrate the critical role of school engagement in protecting youth against problem behaviors.

The relationship between low school engagement and youth problem behaviors may function through negative peer influences, defined as gang involvement and perceived risky norms. Young people who are often truant or who act out violently at school (e.g., bullying and aggressive behaviors) may be turned over to law enforcement authorities, making them less prone to successfully reintegrate into or succeed in their school setting (Katsiyannis, Ryan, Zhang, & Spann, 2008). Scholars have further suggested that the more entrenched youth become in the juvenile justice system, the further they stray from a normative developmental trajectory (Chung, Little, & Steinberg, 2005). Virtually all theoretical models of risky adolescent behaviors acknowledge the observed relationship between risky peer norms and the initiation and repetition of risk behaviors (Brook, Nomura, & Cohen, 1989; Jessor et al., 1994; Thornberry, Lizotte, Krohn, Farnworth, & Jang, 1994; Voisin & Neilands, 2010).

Ample evidence has demonstrated that negative peer influences are connected to a wide array of youth problem behaviors. Gang involvement has been associated with early sexual debut and risky sex (Harper & Robinson, 1999; Wingood et al., 2002). Additionally, peers have a powerful influence on alcohol use and substance use (Mounts & Steinberg, 1995; Trucco, Colder, & Wieczorek, 2011). The empirical evidence is only beginning to explore whether negative peer influences explain the relationship between low school engagement and youth problem behaviors. For example, in a sample of African American adolescents, males with low student teacher connectedness were at risk for risky sex, which was mediated by gang involvement. Among females, lower grade achievement was correlated with risky sex and mediated by risky peer norms (Voisin & Neilands, 2010). Particularly given that adolescence is a time of heightened peer influence (DiClemente, Salazar, Crosby, & Rosenthal, 2005), more studies are warranted to test whether negative peer influences mediate the relationship between low school engagement and a broader array of problem behaviors, such as juvenile justice involvement, substance use, and violent behavior.

3.5 Factors Moderating Polyvictimization and Its Effects

A number of factors may moderate exposure to polyvictimization and the consequences we outline in Figure 1. Given that this conceptual model has yet not been empirically tested, we posit several factors based on the extant literature. Future research with large enough sample sizes would need to empirically examine whether these factors moderate specific or multiple forms of violence exposures. Nevertheless, factors such as gender, age, race/ethnicity, and parenting practices are meta-factors that are likely to mitigate the strength of the relationship between exposure to polyvictimization and its associated sequelae.

Gender differences are likely to arise in the experience and expression of polyvictimization and its associated consequences. Theorists have highlighted that boys and girls have different social roles, and that through the process of development, boys and girls experience different developmental pathways and risks. The empirical evidence supports that boys and girls have different experiences with respect to violence exposure and its consequences. As this review has noted, scholars have documented gender differences in the patterns of violence exposure. There is evidence that girls are more likely than boys to report indirect exposure to violence, such as emotional abuse and relational victimization, whereas boys are more likely to experience physical abuse (Liben & Bigler, 2008; Wichstrøm, 1999). Additionally, gender differences have been documented with respect to school engagement (Wang, Willett, & Eccles, 2011), negative peer influences (Bjerregaard & Smith, 1993), psychological symptoms (Voisin, Neilands, & Hunnicutt, 2011), and maladaptive youth outcomes (Newman & Zimmerman, 2000; Rounds-Bryant, Kristiansen, Fairbank, & Hubbard, 1998). Moreover, given gender socialization, it is typically expected that young males would express trauma in more externalizing ways and females would manifest trauma symptoms in internalizing forms (Houston & Alvarez, 1991), although these patterns have not always been consistent (Voisin & Neilands, 2010). Gender is therefore likely to matter when considering polyvictimization exposure and its consequences.

Another factor likely to moderate the relationships posited in this model is age. This review has highlighted that rates of violence exposure vary by age, with CVE increasing as youth enter adolescence (Kuo, Mohler, Raudenbush, & Earls, 2000) and rates of bullying peaking in middle adolescence (Nansel et al., 2001). Moreover, scholars have highlighted that children are likely to have their own age-specific ways of responding to violence exposure (Kerig et al., 2000). Kerig and colleagues point out that pre-school, school-age and adolescent youth manifest different symptoms in response to trauma (Kerig et al., 2000). The level of autonomy, as well as the ability to communicate and process emotions is much different between pre-school students and adolescents, raising the likelihood that children at different ages will respond to violence exposure in developmentally specific ways. For example, younger children have a limited ability to process their experiences, for which reason some scholars have argued that

exposure to violence among toddlers may manifest itself in these children as temper tantrums, despondency, and anxiety (Cunningham & Baker, 2004). Older children have higher levels of autonomy than younger children, raising the likelihood that older children will manage the stress of violence exposure through activities such as substance abuse and risky sexual behavior. These factors together underscore the importance of considering differences by age in the consequences of exposure to multiple forms of violence.

Race/ethnicity is an additional important moderating factor for the negative sequelae of polyvictimization. Prevalence data has documented that various exposures to violence often varies by race/ethnicity (Black et al., 2010; Centers for Disease Control and Prevention, 2012). However, it is critical to move beyond simply documenting differences in outcomes between Caucasian and minority youth. Rather, it is important to explore whether pathways between victimization and negative sequalae may potentially vary by ethnicity given that household compositions and other social factors often vary across ethnicities. Given that pathways to risk outcomes often vary by gender (Voisin & Neilands, 2010), it is also feasible that pathways from polyvictimization to youth multiple problem behaviors may vary by race/ethnicity given that minority and nonminority youth in the U.S. often live in different socioecological niches. For example, research has found that minority youth exposed to IPV demonstrated fewer externalizing behaviors compared to their white peers (Graham-Bermann & Hughes, 2003). While other studies have not found differences among racial groups in the response to violence (McGruder-Johnson, Davidson, Gleaves, Stock, & Finch, 2000).

Additionally with regards to CVE, a recent study employing Wave III Add Health found evidence of racial/ethnic differences in the risk effects of CVE on rates of risky sexual behaviors. Specifically, African American young adults reported higher rates of CVE but less negative sexual sequelae associated with CVE than Caucasians (Voisin, Chen, Jackobson, & Fullilove, 2013). These findings may reflect support for the desensitization hypothesis, whereby individuals who live in environments with repeated exposure to violence learn to adapt over time, leading to attenuation of future negative responses to CVE. The desensitization hypothesis has been supported most frequently in studies of CVE and youth internalizing problems (Farrell & Bruce, 1997; Fitzpatrick & Boldizar, 1993), although evidence has been mixed (Lynch, 2003; McCart et al., 2007; Mrug & Windle, 2009). A recent review and meta-analysis found that the effects of CVE on internalizing behavior were weaker among studies with predominantly African American youth (Fowler, Tompsett, Braciszewski, Jacques-Tiura, & Baltes, 2009), consistent with the pattern of racial/ethnic differences observed by Voisin et al., 2013.

Finally, it is important to consider the moderating effect of parenting practices on the consequences of violence exposure. Scholars studying various forms of violence exposure have found that a supportive relationship—particularly from a parent—buffers against the negative consequences associated with children's exposure to violence (Margolin & Gordis, 2000). For example, parental warmth and praise have been found to buffer youth exposed to marital conflict from negative outcomes such as academic achievement, emotional regulation, and peer relations (Katz & Gottman, 1997). However, violence exposure can also result in negative parenting practices. Particularly in the case of IPV, such violence may compromise the ability of a parent to provide the support and discipline a child needs; it is likely that an abused parent feels helpless and is emotionally unavailable to her children (Appleyard & Osofsky, 2003). Such relationships should be explored when considering the negative consequences of polyvictimization exposure. In summary, given that this is an innovative model that integrates forms of violence exposures and social domains often compartmentalized, large scale studies would be needed to specify more precise, common and unique factors that may moderate the relationships we propose in this model.

4. Discussion

There are several important limitations in the literature we have drawn on for this model. The issue of polyvictimization and its effects are very complex. The relationship to perpetrator may be an important consideration for the sequalae of polyvictimization. Victimization at the hands of family members versus trauma inflicted by strangers might have a very different impact on youth, yet current studies of polyvictimization have not always examined these dynamics.

Moreover, most of the studies examining the impact of polyvictimization and its consequences are cross-sectional (e.g., Arata, Langhinrichsen-Rohling, Bowers, & O'Farrill-Swails, 2005; Holt, Finkelhor, & Kantor, 2007). Given the use of cross-sectional data, the temporal ordering of variables cannot be established, and the short and long term consequences of polyvictimization exposure are not yet well understood. Of the few studies that have drawn on longitudinal data, most have been based on telephone interviews, excluding those households without telephones, with potentially those high risk youth most likely to be polyvictims (e.g., Finkelhor et al., 2009; Finkelhor, Ormrod, Turner, & Hamby, 2005). Additionally, given the complexity of this issue and the number of potential moderators in

this model, large sample sizes are important. This points to the need for large-scale community-based longitudinal studies to moving the field forward.

We positioned the literature review within the context of social leaning and control theories as *one* formulation for accounting for the relationships between polyvictimization and youth problem behaviors. Arguably, there are others such as the role of affective dysregulation (flight freeze or flight responses) resulting from trauma. In addition, the literature on polyvictimization is in its infancy and more studies are needed to better ascertain the cumulative effects of individual versus certain combinations of violence on youth problem behaviors and outcomes. With respect to moderators of polyvicitmization, we proposed that gender and race/ethnicity are two important factors that may moderate the impact of polyvicitmization on youth development. However, it is also important to look at within group differences based on gender and race/ethnicity. Despite these considerations in testing this model, we believe our conceptual model has important utility for future research given that it provides an organizing framework that can guide future inquiries to address the limitations we have identified.

4.1 Implications for future research

Researchers are only beginning to explore the impact of polyvictimization on youth development. As the literature is in its early stages, scholars have the opportunity to move forward with conceptual clarity and specificity. Such theoretical clarity is critical to the ability for the scholarly community to compare findings across studies and to utilize studies to inform interventions. Toward this goal, we proposed a conceptual model highlighting multiple ecological factors that explain the effect of polyvictimization on youth problem behaviors.

Our model posits that one important direction for future research is investigating the role of school engagement as mediating the impact of violence exposure on youth problem behaviors. Most studies examining role of academics with respect to violence exposure have focused on limited metrics, such as GPA and test scores (e.g. Henrich, Schwab-Stone, Fanti, Jones, & Ruchkin, 2004; Holt, Finkelhor, & Kantor, 2007; Margolin, Vickerman, Oliver, & Gordis, 2010). School engagement, in contrast, captures multiple dimensions of youth's relationship to school (Furlong & Christenson, 2008). These dimensions—such as relationships with teachers and participation in extracurricular activities—are important components of youth's experience in school. The empirical evidence has shown that violence exposure is related to both risk youth behavior and impacts school engagement, and that school engagement impacts youth risk behavior. However, the majority of research on the role of academic success in relation to violence exposure focuses on univariate associations rather than on intermediary processes by which these outcomes are produced; we found no studies that formally tested whether school engagement mediates this relationship. Exploring school engagement as a mediating pathway in this relationship is an important step for informing interventions.

Moreover, our model suggests the need for studies to examine multiple forms of violence simultaneously. Scholars have highlighted that studies that fail to account for multiple victimizations limit our knowledge of the overall effect of violence exposure and may overstate the impact of a singular form of violence (Saunders, 2003). While the literature has generally found a linear relationship between childhood adversity and adverse child outcomes (Appleyard, Egeland, van Dulmen, & Sroufe, 2005), studies examining cumulative violence exposure have found a curvilinear effect, with a steep increase in symptoms for youth with the highest cumulative violence (Margolin et al., 2010). Clarifying the nature of risk associated with violence exposures is important to move the field forward.

The literature is already replete with models that are extremely complicated that are near impossible to test. One of the strengths of this proposed model is that it is testable in parts or as a whole. Examining this model would require longitudinal samples and statistical methods that allow for testing of pathways of influence, such as structural equation or hierarchical linear modeling. Further, to test this conceptual model, we need to utilize prospective surveys that repeatedly assess over time a wide array of victimization types, including child maltreatment, intimate partner violence, community violence exposure, and bullying.

While the conceptualization of polyvictimization has varied, research has shown that polyvictimization can be effectively measured in multiple ways and still capture the elevated risk associated with such exposure. For example, constructs of polyvictimization based on surveys assessing past year versus lifetime incidents of victimization have yielded similar results (Finkelhor et al., 2009). Moreover, in another study, Finkelhor and colleagues found that the association between polyvictimization and psychological symptoms were high regardless of whether the term was measured with a longer or reduced set of screeners, whether certain forms such as sexual abuse were weighted, and whether victimizations in the same incident was double-counted (David Finkelhor et al., 2005).

However, since the field has yet to develop a consensus with respect to how to define polyvictimization, it is critical researchers studying polyvictimization clearly define and justify their conceptualizations. The field must also clearly outline whether to weight certain forms of victimization to be especially harmful (e.g. sexual abuse), include past year or lifetime assessments, take in broader conceptualizations of victimization (e.g. bias attack), and double count victimizations occurring in the same incident.

In summary, this conceptual model builds on the current literature by integrating numerous domains of youth development that are seldom considered together. It is increasingly clear that the field must move beyond considering single domains of violence exposure to a more holistic assessment of youth victimization. We hope that our review and critique of the literature will provide researchers with promising new paths for research and conceptual inquiry.

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