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The impact of neighborhood disorganization on neighborhood exposure to violence, trauma symptoms, and social relationships among at-risk youth☆

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ABSTRACT

Previous research has demonstrated that exposure to violence (ETV) is a serious concern across the north-south socioeconomic divide. While studies have found that social support is a protective factor for youth exposed to violence and trauma, little is known about the impact of trauma symptoms on forming and maintaining social relationships which are key to accessing a vital social resource that fosters resilience in youth experiencing trauma symptomatology. Building on previous models that examine the impact of neighborhoods on exposure to violence and trauma, the current study examines the impact of neighborhood disorganization on ETV among youth and ETV's effects on trauma symptoms and social relationships. Data were collected on 2242 juvenile justice-involved youth with behavioral health issues in 11 urban and rural counties in the Midwestern United States. Using structural equation modeling (SEM), our data demonstrated that living in highly disorganized neighborhoods was associated with higher levels of ETV and that ETV was positively associated with trauma symptoms. Mediational analysis showed that trauma symptoms strongly mediated the effect of ETV on social relationships. Freely estimating structural paths by gender revealed that hypothesized associations between these variables were stronger for females than males. Findings here highlight the need to provide trauma-informed care to help youth to build and maintain social relationships. Identification and treatment of trauma symptoms that is culturally informed is a critical first step in ensuring that identified protective factors in local contexts, such as social relations and social support, have opportunities to minimize the impact of ETV among youth across northern and southern nations.

Youth exposure to community violence is recognized as a significant global public health issue (Finkelhor et al., 2013; O'Donnell et al., 2011; Seedat et al., 2004; World Health Organization [WHO], 2008; Zinzow et al., 2009). For example, in a representative sample of 3164 U.S. youth, 37.8% of adolescents witnessed assaults with weapons; sexual assaults; robberies; threats with weapons; or physical assaults (Zinzow et al., 2009). Research on community exposure to violence (ETV) has been primarily conducted in the US (O'Donnell et al., 2011). This community ETV, either through victimization or witnessing, is disproportionately distributed through populations within nations, based on socioeconomic and demographic factors (Buka et al., 2001; Haj-Yahia et al., 2011; Snyder and Sickmund, 2006; Wolf et al., 2014). Childhood ETV is linked with negative outcomes including trauma symptomatology (Buka et al., 2001; Finkelhor et al., 2007; Singer et al., 1995). These findings support the WHO's assertion that violence prevention is a global health priority (Krug et al., 2002). The current study applies a social determinants of health framework by examining the effect of neighborhood ETV on trauma at the individual level. Specifically, we propose a statistical model that depicts the impact of neighborhood disorganization on neighborhood ETV, trauma symptoms, and social relationships.

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Poor urban minority U.S. males are disproportionately exposed to community violence compared to their female peers (Stein et al., 2003). This trend has also been identified, for example, in Arab youth in Israel; males were more likely to be exposed to witnessing assaults with weapons or witnessing beatings than females (Haj-Yahia et al., 2011). While studies have generally found that males report higher ETV in the neighborhood (Ceballo et al., 2001; Singer et al., 1995), females who are exposed to violence exhibit higher levels of trauma symptoms as a result (Chen, 2010; Cooley-Quille et al., 2001).

Similar to youth in poor urban areas, research on youth involved in the juvenile justice system in the US have found high levels of ETV and trauma symptomatology in comparison with the general population (Cauffman et al., 1998; Ford et al., 2008; Kretschmar et al., 2014). One study found that 67% of a sample of detained youth reported at least two and up to 16 separate incidents of traumatic events in their lifetime (Ford et al., 2008). As with community samples, research on juvenile justice youth have found strong associations between traumatic exposure and behavioral health issues such as depression, anxiety, suicidal ideation, and substance use (Kerig et al., 2009). Among juvenile justice-involved youth, females report particularly high levels of trauma symptoms (Cauffman et al., 1998; Kerig et al., 2009).

An ecological model of violence prevention takes into account not only individual level characteristics (such as gender), but also social networks (of family and peers) and community contexts (such as poverty), to identify appropriate targets for intervention. For example, youths residing in poor urban communities across the north-south socioeconomic divide are at increased risk of ETV, both as witnesses and as victims (Buka et al., 2001; Rhodes et al., 2012; United Nations [UN], 2003). Social disorganization theory identifies that neighborhood factors such as resource deprivation, family disruption, and residential mobility contribute to diminished social controls and a community's inability to maintain common values through informal and formal social networks (Kawachi et al., 1999; Sampson and Groves, 1989).

While research in the past has examined the effect of social disorganization on neighborhood level crime, recent research has examined the implications of social disorganization on individual level consequences including ETV (Chauhan et al., 2009; Gibson et al., 2009) and mental health issues such as depression and anxiety (Stockdale et al., 2007; Xue et al., 2005). This perspective parallels a social determinants of health framework in which epidemiological methods investigate the association between neighborhood characteristics, such as high levels of poverty and crime, and health (e.g. Kawachi et al., 1999). Recent research using structural equation modeling has found that the relationship between neighborhood disorganization and trauma is mediated by ETV and that the impact of ETV on trauma is further mediated by social support (Turner et al., 2013). Along these general lines, Sampson (2012) argued that community level interventions may mitigate the impact of these neighborhood effects on individuals by enhancing social relationships or peer mentorship for youth. However, these interventions do not take into account the potential for these identified neighborhood effects to increase risks to experience affective disturbances, such as trauma symptoms, which in turn affect the youth's ability to build and maintain social relationships.

Social support, dependent on an individuals' social relationships within social networks, has been demonstrated in both US and international samples to be a protective factor for trauma symptomatology among youth exposed to violence (Berkman et al., 2000; Betancourt et al., 2012; Kennedy et al., 2010; Salami, 2010; Turner et al., 2013). However, social support and mental health symptoms may have a reciprocal relationship. Disclosure of trauma symptoms, for example, may consequently affect social networks' responses to individuals' symptoms, or use of coping strategies. For example, avoidance can be a reaction to non-supportive familial or peer social networks (Guay et al., 2006). Trauma symptoms such as anger or dissociation, may impede possibilities of supportive relationships, which may further erode perceived or enacted social support (Guay et al., 2006). Research on US war veterans shows that PTSD symptoms moderate social support and diminish the protective factors of such support (Bertram and Dartt, 2009; Jakupcak et al., 2010). Youth in contexts of urban disorganization may also only have access to social networks whose own abilities to provide social support are likewise diminished due to persistent community stressors (Bertram and Dartt, 2009). Although social support has been examined as a key protective factor for trauma symptoms resulting from ETV, there has been no investigation into the complex relationships between neighborhoods, ETV, trauma, and social relationships among at-risk youth.

1. Current study

Existing research has generally found that childhood ETV is associated with increased trauma symptomatology (Finkelhor et al., 2007; Singer et al., 1995). Further, recent research has extended the concept of neighborhood disorganization to test individual level outcomes such as ETV and associated trauma symptoms (Stockdale et al., 2007; Turner et al., 2013). Studies have also shown gender differences in the prevalence of neighborhood ETV and differential effects of ETV on trauma symptomatology (Chen, 2010). In our study we attempt to integrate the findings of social disorganization studies and the recent research on ETV and trauma to map the pathways from these neighborhood effects to individual trauma symptoms. We theorize that these symptoms may negatively impact the ability to initiate and maintain a significant protective factor, social relationships. While researchers have conceptualized social support as a protective factor that may mediate the role between ETV and trauma symptoms (Turner et al., 2013; Kennedy et al., 2010), there has been little research testing the role of trauma symptoms on social relationships. Trauma may in fact be a mediating variable that affects a youth's ability to build and maintain social relationships. Conceptualizing the model in this way may have a significant impact on treating youth exposed to violence. To address these limitations in the literature, we propose a theoretical model that tests the associations already found in the existing literature and extend the model by examining the impact of trauma symptoms on social relationships. We hypothesize that the direct effect of neighborhood disorganization on trauma is mediated by ETV. Additionally, we hypothesize that the effect of ETV on social relationships is mediated by trauma symptoms. In addition to testing the hypothesized model, we propose to test whether the hypothesized model is equivalent across gender.

2. Method

2.1. Sample

This sample consists of juvenile justice-involved youth with behavioral health issues participating in the Behavioral Health Juvenile Justice (BHJJ) initiative, a U.S. community based program in 11 urban and rural counties in the state of Ohio, that diverts youth from the criminal justice system into mental health treatment programs (Kretschmar et al., 2014). Youth must have a history of juvenile justice involvement, at least one DSM-IV diagnosis, and be between the ages of 10 and 18. Additional optional eligibility criteria include: behavioral impairment, substance abuse diagnosis, criminal behavior, history of trauma or domestic violence, and a

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