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# Factors influencing the pathway from trauma to aggression: A current review of behavioral studies

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ABSTRACT

Psychiatrists frequently find themselves faced with aggressive behavior on the part of their patients. A large body of literature indicates that traumatic experiences in the anamnesis might be a risk factor for violent behavior. But, not all maltreated children became perpetrators of violence themselves. The present review assembled actual behavioral studies that focus on factors which might influence the pathway from trauma to aggression. Substance use to cope, occurrence of post-traumatic stress disorder, depression, altered impulsivity and emotional dysregulation are some of the phenomena that seem to be of importance. Also, possible diagnostics and treatment implications for both general and forensic psychiatry are discussed.



**Contents**



## 1. Introduction

Associations between maltreatment in childhood and violent behavior in adolescence and adulthood have been documented in many studies (Lansford et al., 2007; Malinosky-Rummell & Hansen, 1993; Wilson, Stover, & Berkowitz, 2009). These associations have been validated in prisoners (Dudeck et al., 2011) and in clinical samples (Banducci, Hoffman, Lejuez, & Koenen, 2014; Lang, af Klinteberg, & Alm, 2002). The phenomenon that abused children are at risk of becoming perpetrators of violence themselves is known as the "cycle of violence" (Widom, 1989). However, not all maltreated children end up on the criminal path. According to the study of Widom (1989), only 28% of the abused/neglected children were involved in delinquency, criminality or violent criminal behavior when they grew up. Thus, further factors may modify the association between maltreatment in childhood and subsequent aggressive behavior.

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The aim of this review is to summarize and discuss current literature focusing on the relationship between traumatization and aggression and to examine possible mediators between these factors. Prior work found that the relationship was partially mediated by mental disorders like post-traumatic stress disorder (PTSD) and depression (Douglas et al., 2010; Simpson & Miller, 2002). Recent studies also shed light on dimensional constructs like impulsivity, emotional dysregulation and substance use to cope as influencing factors. Furthermore, we discuss differences with regard to gender and to the two types of aggressive behavior (reactive and proactive) and their possible implications for research and practice. Understanding the underlying mechanisms may improve treatment programs, clinical outcomes, help reducing recidivism, and support implementing preventive procedures.

## 2. Factors influencing the pathway from trauma to aggression

### 2.1. Post-traumatic stress disorder

PTSD is diagnosed after a person experiences a traumatic event and reacts with fear or disorganized behavior (American Psychiatric Association, 2000). A review of the PTSD literature reveals that experiences of severe trauma of interpersonal origins (i.e., child abuse, neglect or sexual assault) heighten the risk for PTSD. In forensic samples, the majority had been severely victimized (emotional abuse: 75%, neglect: 59%, and physical abuse: 52%) and nearby half meet diagnostic criteria for complex PTSD (Spitzer, Chevalier, Gillner, Freyberger, & Barnow, 2006). In psychiatric samples, the reported incidence rates of PTSD resulting from maltreatment in childhood range from 42% to 90% (McLeer, Callaghan, Henry, & Wallen, 1994). And, according to an elaborate performed literature review, PTSD rates within inmates fall between 4% and 21% (Goff, Rose, Rose, & Purves, 2007). Meta-analyses show that PTSD symptom severity is associated with aggressive behavior (Orth & Wieland, 2006; Taft, Watkins, Stafford, Street, & Monson, 2011). Those who meet full criteria for PTSD report significantly more anger reactivity and interpersonal aggressive behavior than those without the diagnosis (Jakupcak et al., 2007; Makin-Byrd, Bonn-Miller, Drescher, & Timko, 2012; Taft, Street, Marshall, Dowdall, & Riggs, 2007). Recent studies show that trauma-related symptoms mediated the relationship between child maltreatment and dating violence in adolescence (Wolfe, Wekerle, Scott, Straatman, & Grasley, 2004) and that PTSD mediated the association between childhood trauma and partner aggression among male intimate partner violence offenders (Swopes, Simonet, Jaffe, Tett, & Davis, 2013).

Although numerous studies see PTSD as a mediator between traumatic events and aggression, there are others who argue, that violent behavior may serve as a protective factor for trauma-related disorders. According to Weierstall et al. (2011) there are two ways to deal with trauma. Some who are exposed to traumatic stress develop PTSD, but others who become perpetrators of violence themselves kind of "immunize" against adverse effects of traumatic stressors. These perpetrators experience violent behavior as rewarding and affectively positive, hence significantly reducing their risk of developing PTSD. The rationale behind it: Homicide has evolved as a profitable strategy in man leading to greater reproductive success. An evolutionary advantage of perpetrating violence would be eliminated if the exposure to aggressive acts would traumatize the perpetrator. An appetitive instead of an aversive perception of violence, which would be responsible for enjoying violent behaviors, from the passive pleasure of consuming media violence to the thrill of severe abuse, prevents trauma-related mental illness in the perpetrator.

Based on this data, the role of PTSD is still unclear. Further studies should examine whether there are differences between domestic violence and community/wartime violence and specify the conditions that cause either traumatic stress or an increase in appetitive violent behavior.

### 2.2. Substance abuse

Across different samples it has been reliably reported, that child abuse increases the risk of substance use disorders (Fergusson & Lynskey, 1997; Grayson & Nolen-Hoeksema, 2005; Herrenkohl, Huang, Tajima, & Whitney, 2003; Rowe, Wang, Greenbaum, & Liddle, 2008). In turn, drug use is associated with violence (Borowsky & Ireland, 2004; Bureau of Justice Statistics, 2006; Carlson, Shafer, & Duffee, 2010; DuRant et al., 2000). For instance, half of prison inmates convicted of violent crimes reported using illicit drugs in the month before committing their offense and a quarter reported using drugs at the time of their offense (Bureau of Justice Statistics, 2006). Furthermore, in a large sample of inmates, experiencing childhood trauma was related to self-reported substance abuse problems for men and women (Carlson et al., 2010).

One explanation is that people who are traumatized use drugs as a possibility to "medicate" themselves in order to reduce trauma-related negative emotional states (Afful, Strickland, Cottler, & Bierut, 2010). In accordance therewith rates of lifetime posttraumatic stress disorder within various samples of substance abusers add up to 59% (Chilcoat & Breslau, 1998; Johnson, Striley, & Cottler, 2006). Another explanation has been proposed by Cottler, Compton, Mager, Spitznagel, & Janca (1992) who assume that abusing drugs causes exacerbations of impulse-control problems, interpersonal difficulties and emotional and physical problems, which in turn increase the likelihood of potentially traumatic experiences. Within this context, a large body of literature has documented that both the prevalence of traumatic experiences as well as substance abuse are associated with the perpetration of violence. Numerous studies demonstrated that the prevalence of substance abuse is much higher among inmates who were victims of childhood abuse (Brems, Johnson, Neal, & Freemon, 2004; Langan & Pelissier, 2001) and one most recent investigation revealed the association between childhood physical abuse and arrests, charges for assault and charges for weapons offenses in adults with substance use disorders (Banducci et al., 2014). Sarchiapone, Carli, Cuomo, Marchetti, & Roy (2009) reported that, within inmate samples, individuals who endorse higher rates of abuse also self-report higher levels of aggression. Thus, both theories to explain the relationship between substance abuse and trauma are also capable to explain the pathway to aggression.

In a large sample of women who had experienced sexual assault as an adult, a higher degree of lifetime trauma exposure and sexual abuse severity in childhood were each associated with a greater use of substances to cope with the adult assault (Ullman, Relyea, Peter-Hagene, & Vasquez, 2013). This relationship was mediated by occurrence of PTSD and supports the self-medication hypothesis. Furthermore, a differential impact of trauma type was found. Solely interpersonal traumas were able to predict substance use to cope suggesting that self-medication may result from a loss of trust in one's social network after interpersonal traumas. Similar findings were reported in a sample of about 700 trauma-exposed individuals, whereas avoidance symptoms mediated the pathway from trauma to alcohol abuse (Müller et al., 2015). However, in low-income African-Americans PTSD mediated only partially the relationship between childhood trauma and problematic substance use (Cross, Crow, Powers, & Bradley, 2015). Some authors suggest that there may be differential pathways between substance use and trauma depending on the onset of trauma and the substance in question (Ulibarri, Ulloa, & Salazar, 2015). In