Emotion dysregulation mediates the relationship between traumatic exposure and aggression in healthy young women

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ABSTRACT

Research has linked trauma-sequelae, such as posttraumatic stress disorder, to aggression. However, not all who experience a trauma become violent, suggesting non-trauma factors, such as emotion dysregulation, influence aggression expression and if confirmed, may influence treatment approaches. Aggression can be considered a multifaceted construct with Impulsive Aggression (IA) as emotional, reactive, and uncontrolled and Premeditated Aggression (PA) as deliberate, planned, and instrumental. We hypothesized that parceling apart IA and PA may further refine predictors of aggression in the context of trauma exposure. We tested this hypothesis in undergraduate women ($N = 208$) who completed trauma, emotion, and aggression measures. Path analysis indicated that Borderline Features, including emotion dysregulation, mediated the relationship between trauma exposure and IA and PA. The finding extends clinical literature by providing evidence that emotion dysregulation influences both IA and PA in a non-clinical sample, while clinical sample research shows emotion dysregulation more specifically mediated the relationship between trauma and IA. Factors responsible for these differences are discussed.
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1. Introduction

Worldwide, violence is one of the leading causes of death for people between the ages of 15 and 44 (World Health Organization, 2002). In the United States, violence and injuries cost more than $406 billion in medical care and lost productivity per year (Finkelstein, Corso, & Miller, 2006). Understanding individual differences in aggression expression may be critical to accurate violence prevention and treatment.

Emotion regulation has been examined in an attempt to understand the underlying mechanisms of aggression. Emotion regulation is the ability to recognize and accept emotions along with the skills to control impulses and utilize context-appropriate regulation strategies (Gratz & Roemer, 2004). Ineffective emotion

regulation is referred to as emotion dysregulation and has been related to aggression. In a community sample of violent individuals, emotion dysregulation was associated with aggressive acts even after controlling for normative beliefs about aggression and education level (Roberton, Daffern, & Bucks, 2014). Similarly, in a treatment-seeking sample of individuals with borderline personality disorder (BPD), emotion dysregulation at three months into treatment fully mediated the relationships between BPD and psychological and physical aggression at nine months (Scott, Stepp, & Pilkonis, 2014).

These findings (Roberton et al., 2014; Scott et al., 2014) suggest the inability to regulate emotions is related to overall aggression, yet aggression is not universally considered a one-dimensional construct. Two primary aggression subtypes have been identified—Impulsive and Premeditated (Stanford et al., 2003). Impulsive Aggression can be characterized as emotionally charged, reactive, and uncontrolled. Impulsive Aggression can be contrasted with Premeditated Aggression which is deliberate, instrumental, and planned (Stanford et al., 2003). It is important to note, the

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construct "Impulsive Aggression" only refers to the nature of the aggression rather than overarching personality structure of the aggressor. For example, a person can be impulsive and not aggressive, and both Impulsive and Premeditated aggressors are generally impulsive and self-report anger (Barratt, Stanford, Kent, & Felthous, 1997b). Although most people primarily engage in one type of aggression, an individual can engage in both aggression types depending on the situation and individual difference factors (e.g. level of arousal, cognitions, and emotional state). The aggression types are not mutually exclusive; however, impulsive aggressors can be distinguished from premeditated aggressors by lower verbal skills, less sensitive neural arousal levels for novel stimuli, and fewer *planned* aggressive acts (Barratt et al., 1997b). Additionally, impulsive aggressive acts decreased when aggressors were given anticonvulsant medications, while Premeditated Aggression did not (Barratt, Stanford, Felthous, & Kent, 1997a). Therefore, studies that do not take aggression subtypes into account have the potential to obscure or wash-out important within-group variation among aggressive individuals.

Emerging evidence suggests symptoms and difficulties resulting from traumatic events, such as exposure to, or the threat of, death, injury, or sexual violence (American Psychiatric Association, 2013), are uniquely associated with Impulsive Aggression in clinical samples. In Veterans, Impulsive but not Premeditated Aggression was related to posttraumatic stress disorder (PTSD) diagnoses (Teten, Miller, Bailey, Dunn, & Kent, 2008; Teten et al., 2010), suggesting that Veterans with PTSD more often experience emotionally charged, reactive, and uncontrolled aggression rather than planned aggressive acts. Yet, even with this finding, few studies have examined emotion dysregulation and aggression together in trauma-exposed samples or parceled apart Premeditated and Impulsive Aggression. For example, Tull and colleagues (2007) found that for men who both experienced and perpetrated violence, experiential avoidance and lack of emotional expressivity (forms of emotion dysregulation) mediated the relationship between PTSD symptoms and behavioral hostility. However, the authors did not examine Impulsive and Premeditated Aggression separately, a nuance that may further refine predictors of aggression.

Additionally, Tull's (2007) all-male sample that experienced and perpetrated violence may limit the generalizability of their findings to non-clinical, female samples. In the current study, we addressed this gap by testing if emotion dysregulation was related to Impulsive and Premeditated Aggression in a female, non-clinical sample with varying levels of trauma exposure. We selected a non-clinical sample to provide information on a group that may not be seeking psychiatric care but has a higher risk of experiencing traumatic events. Between 12.5% and 19% of collegiate women experience sexual assault (Krebs, Linquist, Warner, Fisher, & Martin, 2009; Walsh et al., 2012), a trauma that leads to 2.4–8.2 higher odds of victims developing PTSD than non-victims. In addition, young people are at risk for experiencing other traumatic events such as dating violence and motor vehicle accidents (Breiding et al., 2014; Centers for Disease Control and Prevention, 2012). The understanding of how emotion dysregulation influences aggression in these at-risk women has the potential to inform treatments for trauma and aggressive behavior.

In order to understand how collegiate women who may have experienced traumatic events could behave aggressively, we utilize the General Aggression Model (GAM: Anderson & Bushman, 2002). The model proposes that person and situation events (inputs) are registered and filtered through an individual's present internal states, including affect, cognition, and arousal. This filter influences how the person will appraise a situation and his/her subsequent actions. The appraisal can be thoughtful or impulsive, which can lead to different outcomes. Following the outcome, the individual will appraise the encounter, creating a feedback loop to influence additional input interpretations resulting in general knowledge structures, or typical ways to interpret the environment. The input of a traumatic exposure and an internal state marked by emotion dysregulation may influence the individual to act in an impulsive aggressive manner. The GAM leads to the prediction that emotion dysregulation will mediate the relationship between trauma exposure and Impulsive Aggression (emotional and uncontrolled), but not the relationship between trauma exposure and Premeditated Aggression (controlled and planned).

2. Method

2.1. Participants

Participants were 214 undergraduate women from a private Southern university. Five participants were excluded for failing to meet the validity criteria (outlined below in Instrument and Procedure sections), and one participant was excluded for missing data. The remaining sample consisted of 208 undergraduates with an average age of 19.42 years ($SD = 1.43$). A mix of grade levels was represented with 40.9% of the participants being freshmen, 20.2% were sophomores, 20.2% were juniors, and 18.8% were seniors. Most participants identified as Caucasian (62.5%), followed by Hispanic (12.0%), Asian/Pacific Islander (11.5%), African American (9.1%), and "other" or multi-racial (4.8%). Participants that were excluded for invalid or missing data did not differ from the current sample in terms of age, gender, race, or year in school.

2.2. Instruments

2.2.1. The Personality Assessment Inventory – Short Form (PAI-SF)

The PAI-SF (Morey, 1991) is an abbreviate version of the 344-item PAI (Morey, 2007). The PAI-SF has 160 items answered on a 4-point scale from 0 (*false, not at all true*) to 3 (*very true*). Studies have demonstrated the PAI-SF had reliability (internal consistency) and validity (extra test correlates) comparable to the full PAI in census-matched normative (Morey, 2007), inpatient psychiatric (Sinclair et al., 2009), and forensic (Sinclair et al., 2010) samples. Selected PAI-SF validity and clinical scales were used in the current study (described below).

2.2.2. Validity scales

Infrequency (INF) is a 4-item scale that indicates if the participant is responding to items carelessly, randomly, or idiosyncratically. Raw scores greater than or equal to 5 reflect inconsistent responding. An example item is, "My favorite poet is Raymond Kertezc." In the current sample, the internal consistently estimate (Cronbach's alpha) was .17, which is to be expected since the scale measures random responding rather than a psychological construct.

Negative Impression (NIM) is a 4-item scale that assesses if the person is exaggerating or presenting an unfavorable impression. An example item is, "Sometimes I cannot remember who I am." Raw scores greater than or equal to 6 represent an exaggerated unfavorable impression. The alpha coefficient was .24 in the current sample.

Positive Impression (PIM) is a 4-item scale that measures if the participant is trying to present a favorable impression and does not want to admit minor flaws. An example is the reversed scored item, "Sometimes I let little things bother me too much." Raw scores greater than 11 represent an overly favorable impression. The alpha coefficient was .65 in the current sample.