

Adverse Childhood Experiences, Trauma Symptoms, Mindfulness, and Intimate Partner Violence: Therapeutic Implications for Marginalized Men

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Adverse childhood experiences (ACEs) and trauma symptoms have been linked with intimate partner violence (IPV) perpetration and victimization among men, yet the field lacks depth in several key areas hampering progress toward violence intervention. Specifically, posttraumatic stress disorder (PTSD) dominates the field's scope of trauma symptoms under study, limiting understanding of other manifestations of trauma especially among men. Furthermore, most research focuses exclusively on men's physical IPV perpetration and rarely focuses on other types of IPV, severity of violence, or men's victimization. Also, few studies examine potential protective factors grounded in the ACE framework, such as mindfulness, among clinical populations. Finally, most research has not focused on men of color, despite some racial/ethnic minority groups disproportionate rates of IPV exposure. Therefore, the relationships between IPV frequency and severity (psychological, physical, injury) and ACEs, PTSD, trauma symptomology (separate from PTSD), and mindfulness self-efficacy were examined in a sample of 67 predominantly low-income men of color in a batterer intervention program. More than half of the sample (51.5%) reported exposure to four or more ACEs, and 31.1% met the clinical cutoff for a probable PTSD diagnosis. Higher ACE scores predicted increased rates for nearly all types of self-reported IPV perpetration and victimization. PTSD symptoms and complex trauma symptom severity together explained between 13% and 40% of IPV outcomes, and each was uniquely associated with certain types of self-reported IPV victimization and perpetration frequency and severity. Mindfulness self-efficacy was associated with decreased self-report psychological IPV perpetration and victimization frequency and severity. Clinical implications relevant to marginalized men are reviewed, including screening, training, and potential therapeutic interventions.

Keywords: Intimate Partner Violence; Trauma; Racial Minority; Men; Mindfulness

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INTRODUCTION

Despite significant efforts to prevent and mitigate the effects of intimate partner violence (IPV), it remains a serious public health problem disproportionately affecting families from marginalized groups worldwide. In the United States, the highest prevalence estimates of physical and sexual violence are evident for Native American, multiracial, and Black non-Hispanic women and men compared to White non-Hispanic, Hispanic, and Asian/Pacific Islander women and men (Black et al., 2011). The most recent research shows similar rates of IPV victimization across gender, with 31% of women and men reporting lifetime physical victimization (Smith et al., 2018), though discrepancies exist relative to the severity and impact of violence. That is, nearly 21% of women and 15% of men report severe physical victimization, and nearly 20% of women and 11% of men report some negative IPV-related effect (e.g., fear for safety, need of medical care) due to victimization (Smith et al., 2018). Victims of IPV have an increased risk of physical injuries and stress-related consequences such as mental health disorders (e.g., depression), unhealthy coping behaviors (e.g., reliance on alcohol or drugs), and a myriad of chronic health conditions that contribute, in part, to the health disparities seen with marginalized groups (Evans & Kim, 2010).

The intersectional framework illuminates how multiple social identities that interact with power dynamics (e.g., race and ethnicity, sexuality and gender identity, socioeconomic status, religion) to shape the social position or “location” of individuals in society given the cultural and historical context (Crenshaw, 1990; Settles, 2006). Applying an intersectional framework and developmental lens to the experience of IPV is better translated to clinical practice, as sociocultural context and development are essential to working with individuals or families. Thus, understanding key developmental and proximal factors influencing IPV severity among socioeconomically disadvantaged, racial/ethnic minority groups may help develop or enhance interventions tailored to the experiences of these groups, ultimately advancing equitable programs and policies that undo historical harms perpetrated against marginalized populations and promote empowerment.

Theoretical Frameworks

The intergenerational transmission of violence theory focuses on the process of children learning violence through “modeling” or witnessing IPV between adults and internalizing these abusive behaviors either as the victim or perpetrator in adulthood (Smith-Marek et al., 2015). Along these lines, feminist theory suggests that patriarchal cultural norms, in addition to violent behaviors, are learned from parental abusive behaviors via normalizing the use of violence against women (Neighbors et al., 2010). More recently, researchers have called for the field to adapt these theoretical orientations grounded in cognition (i.e., learning of behaviors and cultural norms) to include a developmental and trauma-focused framework (Voith, Logan-Greene, Strodtthoff, & Bender, 2018).

Studies of the effect of adverse childhood experiences (ACEs) on different developmental domains (e.g., Carlson, Voith, Brown, & Holmes, 2019) suggest that violent and aggressive behaviors are not caused solely by cognitive processes (e.g., learning the violent behaviors) but also by neurobiological responses to trauma experienced early in life that interrupt key developmental processes as children age (Shonkoff & Garner, 2012; Voith et al., 2018). Specifically, ACEs can prompt changes in the brain’s structural and functional interconnections necessary for emotion regulation, stress response, and attachment, setting the stage for developmental vulnerability to environmental triggers, unhealthy coping mechanisms, and mental illness that can increase their likelihood of IPV victimization or perpetration in adulthood (Anda et al., 2006; Shonkoff & Garner, 2012). Grounded in the ACE framework, researchers have explored factors that may mitigate the

neurological and physiological effects of traumatic experiences in order to understand how individuals recover from trauma. A burgeoning area of study is mindfulness, or the ability to attend in a nonjudgmental way to one's own physical and mental processes, and its effects on emotion regulation (e.g., Roemer, Williston, & Rollins, 2015), stress reduction and regulation (Samuelson, Carmody, Kabat-Zinn, & Bratt, 2007), and impulse control and concentration (Friese, Messner, & Schaffner, 2012) as they affect a variety of physical, mental, and behavioral health outcomes. IPV researchers and clinicians employing this framework, however, have focused primarily on women's victimization, with few applying it to perpetration and victimization with men.

Considering the historical and cultural experiences of racial and ethnic minorities, theorists have also called for attention to the intergenerational transmission of trauma such as the Post Traumatic Slave Syndrome among African Americans (DeGruy Leary, 2005), the conceptual model of historical trauma with indigenous people in the United States (Brave Heart, Chase, Elkins, & Altschul, 2011), and intergenerational trauma with Holocaust survivors (Rowland-Klein & Dunlop, 1998). Bolstered by empirical support, theorists assert that the effects of the prolonged and severe nature of trauma perpetrated against entire communities of people have long-standing physical and behavioral effects that are passed down to subsequent generations through psychosocial processes (Rowland-Klein & Dunlop, 1998) and changes in genetic expression (i.e., epigenetics; Brockie, Heinzelmann, & Gill, 2013), affecting individuals' stress response systems and world views.

Adverse Childhood Experiences (ACEs), Trauma Symptoms, and IPV

ACEs include direct forms of victimization (e.g., physical and sexual abuse) and forms of household dysfunction (e.g., family member with mental illness, witnessing IPV) experienced during childhood (Felitti et al., 1998), with more recent studies expanding this scope to include structural and environmental adversities (e.g., poverty, community violence; Cronholm et al., 2015). A recent meta-analysis (Godbout et al., 2019) of 66 studies examining men's exposure to child maltreatment (sexual, physical, and psychological abuses, neglect, and witnessing IPV) and adulthood IPV perpetration and victimization found an overall significant association (global effect size, $r = .19$). Given the gaps in research, Godbout and colleagues (2019) called for studies to include a wider scope of childhood adversities and men's experience of victimization in addition to perpetration. Furthermore, many studies have relied on primarily White samples, with far less research with men of color (e.g., Menon, Cohen, Shorey, & Temple, 2018).

Studies also show a positive relationship between trauma symptoms, particularly post-traumatic stress disorder (PTSD), and IPV perpetration among men. A meta-analysis of 31 studies reported medium-sized associations between PTSD diagnoses and IPV physical and psychological perpetration among predominantly White, middle- to high-SES military and civilian samples (Taft, Watkins, Stafford, Street, & Monson, 2011). Research has focused mostly on military and community populations with predominantly White samples and has almost exclusively measured trauma symptoms in the form of PTSD. Few studies have examined other forms of trauma symptoms beyond PTSD among men in batterer intervention programs (BIPs), with most focusing on other mental health diagnoses and symptoms such as negative internalizing emotions (e.g., Birkley & Eckhardt, 2015; Capaldi, Knoble, Shortt, & Kim, 2012). A robust body of research, however, exists to disentangle PTSD symptomology and other psychopathology stemming from trauma (commonly referred to as "complex reactions to trauma" and measured as Disorders of Extreme Stress Not Otherwise Specified in the DSM-5) in other populations (e.g., veterans, female survivors of childhood trauma; see Resick et al., 2012; Wolf et al., 2015). Though the field has not come to a conclusion on the distinct nature of these psychopathologies, it is clear

there is a wide range of symptomatology experienced by trauma survivors (Resick et al., 2012). Understanding how trauma symptoms broadly manifest and affect IPV perpetration and victimization among racial/ethnic minority men is essential to tailor effective interventions for disproportionately affected populations.

Interventions for IPV Perpetration and Victimization Among Men

Batterer intervention programs (BIPs) are the primary intervention modality for men who perpetrate IPV in the United States, with anger management programs and family therapy in private practice and community organizations as alternatives for nonmandated clients. Nearly 90% of BIPs in the United States have used a one-size-fits-all model (Price & Rosenbaum, 2009), with the majority of programs employing the Duluth Model (i.e., power and control), cognitive behavioral therapy, or a psychoeducational model (Cannon, Hamel, Buttell, & Ferriera, 2016). Interventions for male victims of IPV appear far less often in the literature (Tarzia, Forsdike, Feder, & Hegarty, 2017), though research suggests a need for interventions to consider bidirectional aspects of IPV given the detrimental effects of IPV on male victims' health (Aaron & Beaulaurier, 2017). Despite strong empirical evidence of the association between ACEs, trauma symptoms, and IPV perpetration and victimization, the ACE framework has yet to be fully incorporated into treatment modalities for men who perpetrate violence. For example, a couple of mindfulness-based BIPs have emerged (e.g., acceptance and commitment therapy) and preliminary findings on violence cessation are promising (Zarling, Bannon, & Berta, 2017). However, these programs are not grounded in the ACE framework and have primarily been tested with women and rarely with racial/ethnic minority men (Zarling, Lawrence, & Marchman, 2015).

Gaps and the Current Study

We call attention to several key gaps that limit progress in addressing IPV. First, Native American, non-Hispanic Black, and multiracial men who are socioeconomically marginalized are underrepresented in the literature, despite their disproportionate rates of exposure to and perpetration of IPV. Second, research on trauma symptoms and IPV has focused primarily on PTSD, despite clinicians calling attention to clients presenting with a wider range of symptoms more characteristic of prolonged trauma (Resick et al., 2012). Third, the literature has shown a lack of attention on the impact of mindfulness on men's IPV perpetration and victimization although mindfulness has been studied to be a transdiagnostic component associated with multiple stress-related disorders, such as anxiety and depression, which can increase the odds of perpetrating IPV (Breet, Seedat, & Kagee, 2019; Greeson et al., 2018). Lastly, far less is known about the relationship between ACEs, trauma, and IPV severity among clinical populations, such as men in violence intervention programs (e.g., BIPs; Hahn, Aldarondo, Silverman, McCormick, & Koenen, 2015).

To address these gaps, we will investigate if adverse childhood experiences (RQ1); posttraumatic stress disorder and severe complex trauma symptomology in the past month (RQ2); and mindfulness self-efficacy (RQ3) are significantly associated with the frequency and severity of IPV perpetration and victimization among a sample of predominantly low socioeconomic status (SES) men of color in a BIP. We hypothesize that higher ACE scores (RQ1) and PTSD and severe complex trauma symptomology in the past month (RQ2) will be positively associated with IPV frequency and severity, and higher levels of mindfulness self-efficacy will be inversely associated with IPV frequency and severity (RQ3).

METHOD

This study utilized a cross-sectional design to collect self-report survey data from men attending the largest BIP as a requirement of a domestic violence charge in a major metropolitan area of a Midwest City. A total of 360 men were referred to the BIP as part of probation, and 67 men consented to complete the survey. Men in the sample were an average age of 35 years old, and the majority reported being employed (86.6%), Black (76.1%), never married (65.7%), having a high school education (49.3%), and an annual income less than \$20,000 (71.6%; see Table 1 for complete demographic information). Twenty-two men (32.8%) reported currently living with an intimate partner at the time of the survey for an average of 7.34 ($SD = 8.84$) years. Post hoc analyses were completed using basic demographics (e.g., race/ethnicity, employment, marital status) to assess differences between study participants and nonstudy participants in the program. Results indicated that study participants were less likely to be employed ($p < .05$) compared with men who refused to participate but did not differ significantly on any other demographic.

Data Collection

Men were recruited between November 2017 and December 2018 from their probation office at the time of BIP referral. The survey (average 60 minutes) was conducted in a private room in the probation office after their program referral appointment, or at a

TABLE 1
Study Sample Demographics (N = 67)

Characteristic	n (%)	<i>M (SD) [range]</i>
Age (N = 67)		35.42 (11.61) [18–67]
Race (N = 67)		
White	4 (6.0)	
African American or Black	51 (76.1)	
Hispanic or Latino	7 (10.4)	
Native American or Alaska Native	1 (1.5)	
Other	4 (6.0)	
Marital status (N = 67)		
Married	7 (10.4)	
Widowed	1 (1.5)	
Separated	4 (6.0)	
Divorced	11 (16.4)	
Never married	44 (65.7)	
Currently living with an intimate partner	22 (32.8)	
Years living with the current intimate partner (N = 22)		7.34 (8.84) [0.2–35]
Education level completed (N = 66)		
Less than high school	3 (4.5)	
Some high school	18 (26.9)	
High school diploma or GED	33 (49.2)	
Some college or college	12 (17.9)	
Annual income (N = 66)		
Less than \$10,000	21 (31.3)	
\$10,001–\$20,000	27 (40.3)	
\$20,001–\$30,000	10 (14.9)	
\$30,001–\$40,000	3 (4.5)	
\$40,001–\$50,000	3 (4.5)	
\$50,001–\$60,000	1 (1.5)	
\$60,001 or higher	1 (1.5)	

prescribed time prior to the start of the program. Participants used an iPad or paper and pencil to complete the survey. Given the potential for high rates of trauma and adversity exposure among this sample, the research team implemented a trauma-informed, socially just research protocol to minimize any harm to participants, including promoting choice (e.g., building in “refuse to answer” for each question) and transparency (e.g., engaging in discussion of social locations between researchers and potential participants), and making efforts to establish psychological safety and build trust with participants while collecting data (e.g., identifying potentially triggering questions upfront with participants) (see Voith, Hamler, Francis, Lee, & Korsch-Williams, accepted for more details). Though refusals resulted in some missing data, these data are considered missing completely at random based on diagnostic tests (e.g., Little’s MCAR Test).

Measures

Intimate partner violence

The 78-item Revised Conflict Tactics Scale (CTS2) assesses IPV history of victimization and perpetration for psychological aggression, physical assault, injury, negotiation, and sexual coercion (Straus, Hamby, Boney-McCoy, & Sugarman, 1996). Participants were asked to report the frequency of they and their partners exhibiting each behavior in the past year using a 7-point Likert scale with answers ranging from 0 = *this has never happened* to 6 = *more than 20 times*, and 7 = *not in the past year, but it did happen before*. Scores were summed to create total frequency scores for each subscale in the past year. Severity categories (i.e., none, mild, and severe) were also created for each eligible subscale (Straus et al., 1996); these were dichotomized, 1 = *severe* and 0 = *not severe* (mild or none). We do not report Cronbach’s α for this measure because internal consistency is not a good measure of reliability for behavioral experiences (Hulme, 2007), though previous studies report good reliability (Straus et al., 1996) and validity (Jones, Ji, Beck, & Beck, 2002).

Adverse childhood experiences

The 10-item ACE questionnaire measured men’s exposure to adversity between the ages of 0 and 18 (Felitti et al., 1998), such as abuse (physical, verbal, and sexual), witnessing IPV, and household dysfunctions (e.g., household mental illness; Felitti et al., 1998) with response options *yes* or *no*. Scores were summed to create a total score (0 to 10). Cronbach’s alpha was not calculated for this measure because internal consistency is not an effective measure of reliability for behavioral experiences such as ACEs; rather, it is better suited for latent constructs (Hulme, 2007). However, previous studies have reported good validity when comparing to other childhood trauma questionnaires (Wingenfeld et al., 2011).

Posttraumatic stress disorder

The 20-item PTSD Checklist for *DSM-5* (PCL-5) measured PTSD symptoms within four domains of the disorder (i.e., avoidance, arousal or reactivity, reexperiencing, and negative thoughts; Blanchard, Jones-Alexander, Buckley, & Forneris, 1996). Participants keep the most stressful event they can recall in mind while responding to the presence and severity of symptomology (i.e., extent bothered by each symptom on a 5-point Likert scale, 0 = *not at all* to 4 = *extremely*) in the last month. Scores were summed to create a total severity score (0–80) with higher scores indicating greater severity of symptoms (Weathers, Litz, Keane, Palmieri, Marx & Schnurr, 2013). Total scores of 33 or above are considered a probable diagnosis of PTSD (National Center for PTSD, 2016). Cronbach’s α for this study was .94, indicating high internal consistency and reliability, similar to other study’s reports of good validity and reliability (Bovin et al., 2016).

Trauma symptomology

The 45-item Self- Report Inventory for Disorders of Extreme Stress (SIDES-SR) was used to measure trauma symptomology more broadly, using six domains of psychopathology. *Alteration in regulation of affect and impulses* assesses for one's ability to regulate their affect, anger modulation, self-destructive behavior, suicidal ideation, modulation of sexual involvement, and excessive risk taking. *Alterations in self-perception* assesses for one's sense of permanent damage, ineffectiveness, guilt and responsibility, shame, minimizing, and that nobody could understand. *Alterations in attention of consciousness* assesses for amnesia and dissociative episodes. *Somatization* assesses for physical health symptoms, such as chronic pain and cardiopulmonary symptoms. *Alterations in systems of meaning* assesses for a sense of despair and hopelessness, and a loss of previously established belief systems. Finally, *alterations in relations with others* assesses for one's inability to trust others, victimization, and victimizing others (Pelcovitz et al., 1997). Each item has two parts: If the respondent has ever experienced the symptom or event (*yes* or *no*), and if yes, how bothered they were in the past month (4-point Likert scale, 0 = *none, not at all*; 3 = *severe*). For this study, two questions were removed from the questionnaire (i.e., thoughts or image of hurting others and suicidal ideation) to satisfy IRB requirements. Scores for the symptoms reported in the past month were summed to create an index of current Disorders of Extreme Stress Not Otherwise Specified (DESNOS) symptom severity within each DESNOS domain, which were then summed to create a total score representing a total DESNOS symptom severity score (Luxenberg, Spinazzola, & van der Kolk, 2001). The SIDES-SR has good reliability, internal consistency, and construct validity (Pelcovitz et al., 1997; Zlotnick & Pearlstein, 1997). Cronbach's α for the measure in this study was .91, indicating high internal consistency and reliability.

Mindfulness self-efficacy

The 22-item Revised Mindfulness Self-Efficacy Scale (MSES-R) measured mindfulness self-efficacy, particularly emotion regulation, equanimity, social skills, distress tolerance, taking responsibility, and interpersonal effectiveness (Cayoun, Francis, Kasselis, & Skilbeck, 2012). Participants rated their level of agreement with each statement using a 5-point Likert scale (0 = *not at all*; to 4 = *completely*). No time frame was attached to the questions. Scores were summed to create a total score (0 to 80) with higher scores indicating greater mindfulness self-efficacy. The MSES-R has good internal consistency, reliability, and construct validity (Cayoun et al., 2012). Cronbach's α for the measure in this study was .77, indicating adequate internal consistency and reliability.

Data Analytic Plan

Univariate analyses were conducted for sample demographics and each variable. Bivariate associations (see Table 2) and collinearity diagnostics indicated that multicollinearity was unlikely among the independent variables (VIF < 2.50, Tolerance > .40, Pearson's r < .80; Allison, 1999, p. 141). Social desirability (Crowne & Marlowe, 1960) was collected, and bivariate associations were examined with no significant relationship (r = -.09 to -.26) found for any IPV variables; thus, it was not included in the final models. Ordinary least squares (OLS) regression was used to test the associations between variables of interest and self-report IPV frequency in the past year. Logistic regression was used to test the associations between variables of interest and self-report IPV severity in the past year. Due to the small sample size and subsequent limited power, three models were examined for both IPV perpetration and victimization across frequency and severity.

RESULTS

Descriptive Results

The mean ACE score for the men in this sample was 3.50 ($SD = 2.66$), with 51.5% of men reporting scores of 4 or more. Psychological aggression was the most frequently reported type of IPV (perpetration $M = 31.91$, $SD = 30.47$; victimization $M = 38.36$, $SD = 42.85$). Consistent with the literature (Hamby, 2014), men reported much higher rates of physical victimization ($M = 21.25$, $SD = 39.73$) than perpetration ($M = 6.25$, $SD = 12.96$), though their self-report rates of injury perpetration ($M = 3.80$, $SD = 7.63$) and victimization ($M = 3.83$, $SD = 16.01$) were similar. That is, men were injured one in every seven times they were the victims of physical IPV, while men injured victims one in every two times they perpetrated physical IPV based on self-report. The mean score on the PCL-5 checklist was 26.77 ($SD = 19.24$), with 31.1% of the sample meeting the clinical threshold for PTSD. Men reported an overall mean score of 13.15 ($SD = 13.77$) for DES-NOS symptom severity (i.e., complex reactions to trauma) in the past month. Men's mean mindfulness self-efficacy score was 58.26 ($SD = 13.96$). See Table 3.

Model 1 (RQ1): ACEs x IPV Frequency & Severity

We hypothesized that higher ACE scores would be significantly associated with IPV frequency and severity across all types of IPV. In partial support of this hypothesis (see Tables 4 and 5), men with higher ACE scores were more likely to report higher frequency of all types of IPV perpetration (psychological IPV, $B = 5.54$, $SE_B = 1.34$, $p < .001$; physical IPV, $B = 1.36$, $SE_B = .63$, $p < .05$; injury, $B = 1.13$, $SE_B = .34$, $p < .01$) and victimization (psychological IPV, $B = 8.26$, $SE_B = 1.83$, $p < .001$; physical IPV, $B = 5.94$, $SE_B = 1.86$, $p < .01$), except for injury victimization. ACEs explained between 6% and 22% of the variance in IPV perpetration and between 14% and 25% of the variance in IPV victimization. Men with higher ACE scores were also significantly more likely to self-report severe psychological aggression perpetration ($Exp(B) = 1.31$, $B = .27$, $SE_B = .11$, $p < .05$) and severe victimization by way of psychological aggression ($Exp(B) = 1.41$, $B = .34$, $SE_B = .12$, $p < .01$), physical assault ($Exp(B) = 1.37$, $B = .32$, $SE_B = .11$, $p < .01$), and injury ($Exp(B) = 1.30$, $B = .26$, $SE_B = .12$, $p < .05$). The associations between ACEs and self-reported perpetration of physical assault and injury were not significant.

Model 2 (RQ2): PTSD and Complex Trauma Symptoms x IPV Frequency & Severity

We hypothesized that increased PTSD symptoms and complex trauma severity symptoms (as measured by SIDES-SR) in the past month would predict higher rates of IPV frequency and increased odds of severity across all types. Our results (see Tables 4 and 5) partially support this hypothesis. PTSD and complex trauma severity symptoms in the

TABLE 2
Bivariate Associations of Independent Variables

Variable	ACEs	PTSD symptoms	SIDES symptoms	Mindfulness self-efficacy
ACEs	1.0	.572	.497	-.406
PTSD Symptoms		1.0	.767	-.708
SIDES Symptoms			1.0	-.705
Mindfulness Self-Efficacy				1.0

Note. ACEs = Adverse childhood experiences, PTSD = Posttraumatic stress disorder, SIDES = Self-Inventory for Disorders of Extreme Stress.

TABLE 3
Descriptive Statistics of the Variables (N = 67)

	<i>N</i>	Risk or Clinical Threshold (%)	<i>M (SD)</i>	Min	Max
Adverse childhood experiences	66	51.5	3.50 (2.66)	0	10
Intimate Partner Violence					
Psychological aggression					
Perpetration	58		31.91 (30.47)	0	116
Victimization	59		38.36 (42.85)	0	159
Physical assault					
Perpetration	57		6.25 (12.96)	0	84
Victimization	56		21.25 (39.73)	0	176
Sexual coercion					
Perpetration	59		5.48 (14.81)	0	85
Victimization	60		5.87 (17.12)	0	110
Injury					
Perpetration	61		3.80 (7.63)	0	31
Victimization	60		3.83 (16.01)	0	119
Posttraumatic stress disorder symptoms	61	31.1	26.77 (19.24)	0	68
DESNOS symptom severity in past month					
Alteration in regulation of affect and impulses	51		3.39 (3.82)	0	15
Alterations in attention or consciousness	63		1.78 (2.43)	0	9
Alteration in self-perception	62		1.90 (2.81)	0	10
Alteration in relations with others	61		2.79 (3.22)	0	14
Somatization	67		1.67 (2.14)	0	8
Alteration in systems of meaning	63		1.51 (2.34)	0	9
Total score (all subscales combined)	46		13.15 (13.77)	0	51
Mindfulness Self-Efficacy	54		58.26 (13.96)	33	84

Note. DESNOS = Disorders of Extreme Stress Not Otherwise Specified.

past month together significantly predicted increased rates of self-report IPV frequency for all types of IPV perpetration and victimization, except for injury victimization. PTSD and complex trauma severity symptoms accounted for between 16% and 40% of the variation in men's report of IPV perpetration and 13% and 37% of the variation in men's report of victimization. Complex trauma severity symptoms in the past month made a significant unique contribution to the prediction of men's self-reported psychological aggression perpetration ($B = .95$, $SE_B = .41$, $p < .05$), while PTSD symptoms in the past month made a significant unique contribution to men's self-reported injury perpetration ($B = .19$, $SE_B = .08$, $p < .05$) and injury victimization ($B = .42$, $SE_B = .19$, $p < .05$). Finally, complex trauma severity symptoms in the past month significantly predicted increased odds of men's self-reported severe psychological victimization ($Exp(B) = 1.20$, $B = .18$, $SE_B = .09$, $p < .05$), but did not significantly predict severity among any other types of violence.

Model 3 (RQ3): Mindfulness Self-Efficacy x IPV Frequency & Severity

We hypothesized that high levels of mindfulness self-efficacy would significantly predict lower self-reported frequency and lower odds of self-reported severity across all IPV types. The results (see Tables 4 and 5) indicated that higher mindfulness scores predicted decreased rates of self-reported psychological aggression perpetration ($B = -1.26$, $SE_B = .26$, $p < .001$) and victimization ($B = -1.52$, $SE_B = .38$, $p < .001$), accounting for 32% and 23% of the variation, respectively. These results were mirrored for IPV severity: Higher mindfulness scores decreased the odds of self-reported severe psychological

TABLE 4

Linear and Logistic Regression Analysis for Model 1, Model 2, and Model 3 Predicting IPV Perpetration Frequency and Severity in Past Year (Psychological Aggression, Physical Assault, and Injury)

Predictor(s)	IPV perpetration frequency					IPV perpetration severity					
	B	SE _B	β	t	s _r ²	R ² adj	B	SE _B	X ²	Exp(B)	95% CI
Psychological aggression											
Model 1 (Intercept)	12.51*	5.87	.213			.22***	-.09	.43	.05	.83	
ACEs	5.54***	1.34	.48	4.14	.23	.40***	.27	.11	5.59*	1.31	[1.05, 1.64]
Model 2 (Intercept)	8.27	6.26	1.32				-.15	.51	.09	.86	
PTSD Symptoms	.42	.30	.26	1.41	.03		<.01	.03	.02	1.00	[.95, 1.06]
Trauma symptoms	.95*	.41	.43	2.31	.08		.10	.08	1.74	1.11	[.95, 1.28]
Model 3 (Intercept)	105.59***	15.54	6.79			.32***	4.04	1.53	7.00**	57.06	
Mindfulness	-1.26***	.26	-.58	-4.87	.34		-.06	.02	5.28*	.95	[.90, .99]
Physical assault											
Model 1 (Intercept)	1.50	2.76	.54			.06*	-2.82	.80	12.48***	.06	
ACEs	1.36*	.63	.28	2.15	.08		.17	.16	1.24	1.19	[.88, 1.61]
Model 2 (Intercept)	-1.58	33.19	-.50			.16**	-2.62	.86	9.28**	.07	
PTSD	.26	.15	.38	1.71	.06		.02	.04	.18	1.02	[.95, 1.09]
Trauma Symptoms	.07	.21	.08	.34	<.01		.03	.08	<.01	1.00	[.85, 1.19]
Model 3 (Intercept)	18.80*	7.89	2.38			.14**	-1.49	1.83	.66	.23	
Mindfulness	-.22	.13	-.23	-1.64	.05		-.01	.03	.11	.99	[.93, 1.05]
Injury perpetration											
Model 1 (Intercept)	-.15	1.50	-.10			.14**	-2.63	.73	13.04***	.07	
ACEs	1.13**	.34	.39	3.29	.16		.20**	.20	1.94	1.22	[.92, 1.60]
Model 2 (Intercept)	-1.32	1.81	-.73			.20**	-2.16	.75	8.36**	.12	
PTSD	.19*	.08	.47	2.17	.09		-.01	.04	.16	.99	[.92, 1.06]
Trauma symptoms	.01	.12	.02	.10	<.01		.06	.08	.57	1.06	[.91, 1.24]

TABLE 4
Continued

Predictor(s)	IPV perpetration frequency					IPV perpetration severity					
	B	SE _B	β	t	sr ²	R ² adj	B	SE _B	X ²	Exp(B)	95% CI
Model 3						.04					
(Intercept)	11.38*	4.54					-3.76	1.98	3.59	.02	
Mindfulness	-.13	.08	-.24		2.51		.03	.03	.98	1.03	[.97, 1.10]

Note. SE_b = Standard error of coefficient. sr² = Squared semipartial correlation. R² adj = Adjusted R². X² = Wald chi-square.

*p < .05, **p < .01, ***p < .001.

TABLE 5
Linear and Logistic Regression Analysis for Model 1, Model 2, and Model 3 Predicting IPV Victimization Frequency and Severity in Past Year (Psychological Aggression, Physical Assault, and Injury)

Predictor(s)	IPV victimization frequency					IPV victimization severity				
	B	SE _B	β	t	sr ²	R ² adj	B	SE _B	X ²	Exp(B)
Psychological aggression										
Model 1						.25***				
(Intercept)	9.43	8.02				-.60	.43	1.89		.55
ACEs	8.26***	1.83	.51	4.52	.26	.34	.12	8.75**		1.41
Model 2						.37***				[1,12, 1.76]
(Intercept)	3.96	8.99				-.76	.53	2.02		.47
PTSD	.81	.42	.36	1.91	.05	-.01	.03	.19		.99
Trauma symptoms	.97	.59	.31	1.63	.04	.18	.09	4.45*		[.94,.104] [1.01, 1.42]
Model 3						.23***				
(Intercept)	-126.92***	23.05				4.25	1.51	7.90**		69.80
Mindfulness	-1.52***	.38	-.50	-3.95	.24	-.06	.02	6.85**		.94
Physical assault										
Model 1						.14**				
(Intercept)	.46	8.17				-1.83	.53	11.76**		.16
ACEs	5.94**	1.86	.40	3.19	.16	.32	.11	8.01**		1.37
Model 2						.13*				[1.10, 1.71]
(Intercept)	-1.92	10.05				1.57	.58	7.39**		.21
PTSD	.92	.47	.44	1.93	.08	<.01	.02	<.01		1.00
Trauma symptoms	-.10	.66	-.04	-.16	<.01	.07	.06	1.25		[.95,.105] [.95, 1.20]
Model 3						.02				
(Intercept)	55.56*	24.59				.18	1.23	.02		1.19
Mindfulness	-.59	.41	-.21	-1.43	.04	-.01	.02	.43		.99
Injury victimization										
Model 1						<.01				
(Intercept)	.70	3.42				-2.28	.62	13.57***		.10
ACEs	.89	.78	.15	1.14	.02	.26	.12	4.79*		1.30
Model 2						.09				[1.03, 1.65]
(Intercept)	-4.15	4.04				-3.06	.90	11.70**		.05
PTSD	.42*	.19	.51	-1.03	2.22	.11	.01	.14		1.01

TABLE 5
Continued

Predictor(s)	IPV victimization frequency					IPV victimization severity						
	B	SE _B	β	t	sr ²	R ² adj	B	SE _B	X ²	Exp(B)	95% CI	
Model 3	Trauma symptoms	-.26	.27	-.22	-.96	.02	-.01	.08	.07	1.30	1.08	[.94, 1.25]
	(Intercept)	11.67	9.84	.18	.12	1.18	.86	.02	.59	1.43	.17	1.81
	Mindfulness	.15	.18	.12	.86	.02		-.04	.02	1.86	.97	[.92, 1.02]

Note. SE_b = Standard error of coefficient. sr² = Squared semipartial correlation. R² adj = Adjusted R². X² = Wald chi-square.
*p < .05, **p < .01, ***p < .001.

aggression perpetration ($Exp(B) = .95$, $B = -.06$, $SE_B = .02$, $p < .05$) and victimization ($Exp(B) = .94$, $B = -.06$, $SE_B = .02$, $p < .05$). The associations between mindfulness and IPV perpetration and victimization were not significant for the frequency or severity of physical assault and injury outcomes.

DISCUSSION

This study contributes to and extends the field of trauma and IPV by expanding the scope of factors under study with a sample of predominantly socioeconomically disadvantaged men of color. In the current study, more than half of the sample (51.5%) reported exposure to four or more ACEs. These rates are profoundly higher than men in the general population (9.2%; Felitti et al., 1998), though they do mirror studies with clinical samples (e.g., sex offenders) of low-SES, majority White men (45.7%; Levenson, Willis, & Prescott, 2016). Exposure to four or more ACEs can have profound effects on long-term health and behavioral health such as IPV (Felitti et al., 1998), though most research has focused on men's perpetration and has primarily examined physical IPV (Godbout et al., 2019). Extending this previous research, our results indicate that ACEs were significantly associated with increased rates of all types of self-reported IPV perpetration and victimization in the past year, except for injury victimization. ACEs were also significantly associated with past year self-reported severe psychological perpetration, and severe psychological, physical, and injury victimization. These findings suggest that this relationship may vary with respect to the self-reported severity of different IPV types, relative to men's perpetration and victimization.

Examining more proximal factors potentially stemming from ACEs, namely trauma symptoms, is an important evolution for IPV intervention. The current study sample reported profoundly higher prevalence rates of clinical levels of PTSD symptomatology (31.1%) compared with studies with more White, socioeconomically advantaged men in the general population (3.2%; Hahn et al., 2015), military population (2–17%; Creamer, Wade, Fletcher, & Forbes, 2011), and clinical samples of BIPs (10–13.6%; Rosenbaum & Leisring, 2003; Semiatin, Torres, LaMotte, Portnoy, & Murphy, 2017), adding to the limited body of trauma research with marginalized populations (e.g., Hoyt, Wray, Wig-gins, Gerstle, & Maclean, 2012). Men in the study also reported severe complex trauma symptoms in the past month. On average, men reported more severe symptoms for alterations in regulation of affect and impulses (e.g., modulation of anger, self-destructive behavior) and alterations in relation to others (e.g., the inability to trust), suggesting that these underlying mechanisms may be relevant for risk of both victimization and perpetration in populations exposed to adversity and trauma (Godbout et al., 2019).

Increased PTSD and complex trauma symptoms in the past month were significantly associated with increased rates of all types of self-reported IPV perpetration and victimization (except for injury victimization) and increased odds of severe psychological victimization and perpetration in the past year among predominantly low-SES men of color in BIPs, corroborating another recent study (Semiatin et al., 2017). It is notable that symptoms underlying PTSD and those measured by SIDES-SR (i.e., DESNOS or "complex reactions to trauma"; Courtois, 2008) may interact to intensify men's experience and use of violence. For example, Crocker, Haller, Norman, and Angkow (2016) found a mediating effect of specific symptomatic aspects of the SIDES-SR (i.e., shame and guilt) on the relation between PTSD and men's IPV perpetration. Additionally, researchers have reported that chronic pain (measured in the somatization subscale of the SIDES-SR) exacerbates PTSD symptoms and vice versa, creating a negative, synergistic effect between the two symptoms (Bourn, Sexton, Porter & Rauch, 2016).

Expanding the scope of trauma, this study showed that PTSD symptoms and complex trauma symptom severity in the past month both uniquely contributed to certain self-reported IPV outcomes among men. PTSD symptoms uniquely contributed to increased reported frequency of past year injury perpetration and victimization, adding to the literature showing a strong link between PTSD symptoms and physical and psychological IPV perpetration among men (Semiatin et al., 2017). Complex reactions to trauma in the past month uniquely contributed to men's increased self-report of psychological aggression perpetration frequency and increased the odds of self-reported severe psychological aggression victimization in the past year. These results align with and extend previous research that has examined underlying dimensions of complex trauma symptoms, though not the full range of DESNOS domains. For example, in a racially diverse community sample of 83 heterosexual couples, researchers found that mistrust among men who have experienced trauma may disrupt key underlying schemas necessary for healthy romantic relationships, resulting in psychological and physical IPV perpetration (LaMotte, Taft, & Wetherill, 2016).

Clinicians working with populations of low-SES men of color who are victims and/or perpetrators of IPV should focus on providing support to alleviate PTSD and complex trauma symptoms. This may call for social service agencies to adopt screenings and referrals, and clinicians to adapt therapeutic settings to modify shame-based appraisals with men who perpetrate IPV (Lawrence & Taft, 2013), similar to elements of cognitive processing therapy used with trauma survivors (Chard, 2005; Resick & Schnicke, 1992). Providers such as probation officers working with unique populations who are vulnerable to bidirectional IPV such as Black men reentering society from prison (McKay, Lindquist, Landwehr, Ramirez, & Bir, 2018) may develop referrals and adapt programming to provide structured support to reestablish family ties and cope with intimate relationship strain stemming from incarceration (Williams, Oliver, & Hairston, 2004).

The high rates of ACEs and trauma symptoms associated with the self-reported frequency and severity of men's IPV perpetration and victimization in the past year warrant exploring therapeutic approaches that can be delivered by clinicians and mental health providers to address unresolved trauma (e.g., Voith, et al., 2018). Results from this study indicate that mindfulness self-efficacy was significantly associated with decreased self-reports of psychological IPV perpetration and victimization frequency and severity among men and may be a skill worth developing with men who are victimized or perpetrate IPV. Preliminary evidence suggests an adaptation of dialectical behavior therapy (DBT), trauma-focused CBT, and mindfulness-based therapies (acceptance and commitment therapy, ACT) were effective in reducing IPV perpetration rates among men and women (Crane & Easton, 2017; Rathus, Cavuoto, & Passarelli, 2006; Zarling et al., 2015).

Together, this study's findings suggest that ACEs and proximal trauma symptoms are related to self-reported IPV perpetration and victimization among socioeconomically disadvantaged men of color. Furthermore, trauma symptoms can manifest broadly in this sample, potentially resulting from complex trauma exposure in childhood. Mindfulness self-efficacy may be one protective factor that contributes to diminished IPV among marginalized men.

Strengths and Limitations

This study adds to the limited literature examining ACEs, trauma symptoms, and mindfulness among men in BIPs and an in-depth examination of the treatment needs of low-SES men of color, who have often been pathologized yet underresearched. This homogenous sample strengthens the internal validity of the study, though limits the external validity and subsequent generalization to other populations. The study reports

on a small sample size ($N = 67$), limiting our ability to investigate these relationships when controlling for key variables. Similar to many other studies in this field, we employed a cross-sectional design, which prevents identifying a temporal order that can clarify causal relationships. Study measurement is limited in two ways. First, the use of self-report most likely inserts bias into participant reporting. The study could also have been strengthened by collecting partner report to triangulate men's reporting of IPV; however, this was not feasible. Instead, we collected social desirability as a control variable to serve as a proxy to assess for bias in men's self-report; results showed no significant relation to IPV variables providing some confidence in the self-report accuracy. Second, men reported on IPV in the last year, while reporting on PTSD and depressive symptoms in the past month. The temporal difference begs the use of caution in interpretation of the findings. Additionally, this study did not include sexual violence or coercion as an outcome because preliminary statistical tests did not warrant further investigation, suggesting sexual violence may have different predictors or sequelae than other types of IPV. Finally, we did not inquire about men's sexual orientations and thus cannot make distinctions based on sexual identity.

IMPLICATIONS

Low-income men of color in BIP programs have high unmet clinical needs, which may interfere with the efficacy of violence intervention programs. While absolute causation is impossible to ascertain, it is likely that these men bear these burdens as a result of experiencing an unusually high level of childhood adversity. This is consistent with prior research demonstrating the intergenerational transmission of trauma (e.g., DeGruy Leary, 2005) and suggests the need for trauma-informed, stepped care treatment resources to facilitate long-term growth and change.

When resources are limited or stepped care is unavailable, we recommend providing trauma-focused treatment, as prior research suggests that as PTSD and related symptoms are treated, comorbid diagnoses often resolve without additional intervention (Resick, Monson, Gutner & Maslej, 2014). Specifically, brief treatments that can be delivered by nondoctoral staff, such as narrative or written exposure, are recommended. Narrative exposure therapy (NET) has been tested extensively with highly traumatized populations such as refugees, even in areas of ongoing conflict, and has shown efficacy (Robjant & Fazel, 2010). Similarly, written exposure therapy requires minimal sessions and is likely easily adaptable for nontraditional therapy settings and has shown efficacy with veterans with PTSD (Sloan, Marx, Lee, & Resick, 2018) and trauma-focused treatment results in reductions in physical health symptoms and depression (Robjant & Fazel, 2010), suggesting transdiagnostic properties.

We recommend that BIP and related programs screen for ACEs, including culturally relevant adversities such as systemic racism, and trauma-related symptoms that prompt stepped care treatment options addressing trauma symptoms at the beginning and, likely, ongoing levels of care. Ongoing care should consider the cultural experiences of marginalized men by recognizing and addressing the impacts of oppression as a form of trauma. As shown in this study and a large body of work with women, childhood adversity increases the risk for many different types of psychopathology beyond PTSD. Thus, if trauma-focused treatment is unavailable, transdiagnostic approaches to treatment that can target processes shared across diagnoses, particularly interventions that can be delivered by nondoctoral-level clinicians, are especially recommended. For example, mindfulness-based coping can reduce PTSD symptoms, chronic pain, and overall psychological distress and has been previously used with highly traumatized, IPV populations (e.g., Dutton, Bermudez, Matas, Majid, & Myers, 2013).

When available, we highly recommend stepped care treatment models, which is especially helpful for marginalized populations with limited access to resources. Stepped care models typically begin with interventions organized around meeting the immediate needs of patients in whatever setting possible, such as home-based care and telehealth delivered by nondoctoral professionals. Finally, we recommend that BIP facilitators develop referral networks that include a variety of levels and modalities of specialty care, such as PTSD clinics for higher (i.e., stepped) levels of care. Referral sources that provide treatment during nonconventional hours and sliding scale fee structures are essential, as this population has extremely limited economic resources and may have restricted availability during typical business hours. Of course, the lack of these resources reflects the ongoing, structural inequalities in the U.S. healthcare system and will inevitably take time to develop and maintain.

FUTURE RESEARCH

Our limited understanding of how ACEs and trauma symptoms manifest in the context of IPV perpetration and victimization among low-SES men of color calls for more research in this area, employing quantitative and qualitative methods. Quantitative studies should examine these relationships using more robust analyses with larger samples to determine if, for example, PTSD or complex trauma symptoms mediate the relation between ACEs and IPV. Furthermore, studies will benefit from including other key control variables, such as substance use and other types of mental health issues such as depression, to determine the unique contribution of trauma symptoms on IPV. Future studies should also advance the field by adopting more precise measurement related to temporal order, particularly aligning the time frames of violence perpetration/victimization in men's current relationships with trauma symptomology (e.g., past month). Qualitative studies should explore how these factors may present in men's lived experiences, illuminating potentially important nuances. Finally, research on the acceptability of mindfulness-based curriculum and other trauma-focused treatments in BIPs and its effects on mitigating IPV victimization and perpetration among men are warranted.

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