The Underlying Role of Posttraumatic Stress Disorder Symptoms in the Association between Intimate Partner Violence and Deliberate Self-harm among African American Women

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Abstract

African American women are at heightened risk for intimate partner violence (IPV) and its negative consequences, including health-compromising behaviors. Deliberate self-harm (DSH) is one clinically-relevant behavior that has been understudied among African American women generally and those with exposure to IPV in particular. To date, no studies have examined factors that may account for the relationship between IPV and DSH. Therefore, the goal of the present study was to examine the intercorrelations among IPV (physical, psychological, and sexual), PTSD, and DSH history and versatility, and the potentially mediating role of PTSD symptoms in the IPV-DSH relation. Participants were 197 African American community women currently experiencing IPV. Sixty participants (31%) reported a history of DSH. Among participants who reported DSH, there was an average endorsement of 2.3 unique forms of deliberate self-harm (i.e., DSH versatility). Significant positive associations were detected among physical IPV severity, psychological IPV severity, PTSD symptom severity, and DSH history and versatility. PTSD symptom severity mediated the relationships between physical and psychological IPV severity and DSH history and versatility. Results highlight the relevance of PTSD symptoms to DSH and suggest that treatments targeting PTSD symptoms may be useful in reducing DSH among IPV-exposed African American women.

Keywords

Intimate partner violence; posttraumatic stress disorder symptoms; deliberate self-harm history; deliberate self-harm versatility; African American; women

Deliberate self-harm (DSH), defined here as the deliberate, direct destruction of body tissue without conscious suicidal intent (1-3), is a serious and preventable public health concern associated with a range of deleterious outcomes (4, 5). Despite evidence to suggest that African American women exposed to intimate partner violence (IPV) constitute a particularly at-risk group with regard to health-compromising behaviors (6, 7), no studies to

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date have examined rates and correlates of DSH within this population. Furthermore, there is scant attention to potential mechanisms underlying the relationship between various forms of IPV and DSH generally. One factor worth considering is posttraumatic stress disorder (PTSD) symptoms, which have been found to underlie the relationship between other forms of traumatic exposure and DSH (8-10) and are heightened among African American women (11, 12).

Although DSH historically has been studied within the context of borderline personality disorder (13), a growing body of evidence suggests that nonclinical adult populations are at heightened risk for DSH, with rates ranging from 17% – 41% (2, 14-17). Notably, however, investigations of the rates and correlates of DSH among nonclinical adults from diverse racial/ethnic groups remain scarce. The relative absence of research on DSH in diverse racial/ethnic groups may be due in part to early findings. Specifically, several studies detected lower rates of DSH among non-White individuals (16, 18). Notably, however, the vast majority of these studies were limited by inclusion of small numbers of participants from any one racial/ethnic group, often aggregating across multiple distinct racial/ethnic groups (i.e., White vs. non-White [African American, Lation/a, Asian, etc.]). Conversely, findings from investigations of DSH within large, racially/ethnically diverse samples indicate that DSH among non-White individuals warrants further consideration (19, 20). For example, Gratz et al. (20) found significantly higher rates of DSH among African American adolescents ($N = 637$; 43%) compared to their White counterparts ($N = 1294$; 37%). Altogether, these findings highlight the need for additional research examining the rates and correlates of DSH in understudied racial/ethnic groups, such as African Americans.

Investigation of DSH among African American women who experience IPV may be particularly important. IPV-exposed women are at significant risk for health-compromising behaviors, such as suicide attempts (6, 21, 22), substance use (23-25), and risky sexual behavior (26-28). Further, preliminary research suggests that exposure to IPV is associated with an increased risk for DSH. For example, IPV-exposed women report heightened rates of DSH (30-65%) (15, 29), and are three times more likely to endorse a history of DSH than women not exposed to IPV (30). Likewise, IPV has been found to be associated with DSH outcomes, including DSH history (the presence vs. absence of DSH), frequency (the frequency with which DSH is used), and versatility (the number of unique types of DSH) (15, 29, 31, 32). Notably, despite evidence to suggest that IPV-exposed African American women exhibit greater health-compromising behaviors (e.g., substance use and suicide attempts) (7), no studies to date have specifically examined the rates or correlates of DSH among IPV-exposed African American women.

PTSD symptoms may be an important factor driving DSH in IPV-exposed African American women. Both theoretical and empirical evidence suggest that DSH often functions as a way to escape or avoid internal experiences perceived as uncomfortable or distressing, including aversive emotions, thoughts, memories, and somatic sensations (1, 33-36). DSH, therefore, can be conceptualized as an experientially avoidant behavior maintained and strengthened primarily through negative reinforcement and escape conditioning. Both IPV-exposed women (37-39) and African American individuals (11, 12) exhibit heightened PTSD symptoms, which they may seek to escape or avoid (consistent with affect regulation

models) (40-42). Thus, DSH may be one strategy IPV-exposed African American women utilize to escape or avoid aversive PTSD symptoms in particular. Indeed, rates of DSH among individuals with PTSD often exceed 50% (43-45), and PTSD symptoms have been shown to be associated with DSH among IPV-exposed (15) and -non-exposed populations (8, 10). Further, existing research suggests that PTSD symptoms are associated with greater self-reported experiential avoidance (i.e., efforts to escape or avoid unwanted internal experiences or those external conditions that elicit them) (46, 47) and heightened involvement in behaviors that serve an experientially avoidant function (e.g., substance use and risky sexual behavior) (48-51). Lastly, and of particular relevance to the present study, PTSD has been found to mediate the relation between non-IPV forms of traumatic exposure (e.g., childhood abuse) and DSH (8-10).

Given the aforementioned evidence, the goal of the present study was to examine rates of DSH and intercorrelations among IPV, PTSD, and DSH within a sample of IPV-exposed African American community women. Further, we sought to extend extant research by investigating the mediating role of PTSD symptoms in the relation between IPV and DSH. Findings will directly address limitations of existing investigations. First, research examining the relation between IPV and DSH has focused on single forms of IPV. While frequently co-occurring (52-54), physical, psychological, and sexual IPV have been shown to demonstrate differential relations with a range of outcomes (52, 53, 55). As such, it is important for research to examine the associations between victimization by type (i.e., physical, psychological, and sexual IPV) and DSH. Second, IPV-exposed women demonstrate heightened rates of DSH (15, 29, 30) and greater PTSD symptoms (37-39); however, a dearth of research has examined the rates and correlates of DSH within this population, and no studies to date have examined mechanisms underlying the relation between IPV and DSH generally or among IPV-exposed women in particular. Lastly, despite evidence to suggest that IPV-exposed African-American women are at particular risk for health-compromising behaviors (7), research on the IPV-DSH association has relied on predominantly White samples.

Consistent with past research, we hypothesized that IPV-exposed women with greater physical, psychological, and sexual IPV severity would report greater PTSD symptom severity and DSH outcomes (i.e., history and versatility). In addition, we predicted that PTSD symptom severity would be significantly positively correlated with DSH outcomes. Finally, given evidence suggesting that PTSD symptoms underlie the association between non-IPV traumatic exposure (e.g. childhood abuse) and DSH outcomes (8-10), we hypothesized that PTSD symptom severity would mediate the relations between physical, psychological, and sexual IPV severity and DSH history and versatility.

Method

Participants

Participants were 197 African American women reporting experiences with at least one act of physical victimization by their current male intimate partner in the past six months, as measured via phone screen using selected items from the CTS-2 (56). Additional inclusion criteria were: (a) 18 years of age or older; (b) English speaking; (c) being in a heterosexual

relationship for at least 6 months and reporting physical victimization by that partner during that time; (d) continuous partner contact (i.e., saw their partner at least twice weekly with no more than 2 weeks apart during the previous month); and (e) a monthly household income of no greater than $4,200, which was determined a priori to control for greater income/higher socioeconomic status being associated with greater access to and utilization of treatment and services, which can have an impact on mental health and substance use symptoms.

Participants ranged in age from 18 to 58 ($M = 36.97$, $SD = 10.43$). Most women were unemployed for over a month prior to the study ($N = 129$, 65%), with a mean level of education of 12.06 years ($SD = 1.55$) and a mean annual household income of $13,352 ($SD = $10,300$). Over half of the participants were living with their partner ($N = 116$, 59%) or saw their partner on a daily basis ($M = 6.28$ days a week, $SD = 1.36$). Mean years in the current relationship was 5.29 (ranging from 1 month to 31 years; $SD = 6.20$) and 79% ($N = 155$) of women had children.

Deliberate Self-harm

The *Deliberate Self-Harm Inventory* (DSHI) (2) is a 17-item self-report questionnaire that assesses various aspects of DSH (defined as the deliberate, direct destruction of body tissue without suicidal intent), including frequency, duration, and type of DSH behavior. Specifically, participants are asked whether and how often they intentionally engaged in a variety of DSH behaviors. The DSHI has demonstrated high internal consistency, adequate test-retest reliability, and adequate construct, discriminant, and convergent validity (2, 35). To reduce participant burden, and consistent with Jaquier et al. (15), we combined questions that were similar and dropped questions with a low frequency of responses in Gratz's (2001) study. Women were asked whether they had engaged in (1) cutting, (2) burning, (3) carving, (4) scratching, (5) sticking sharp objects into their skin, (6) preventing their wounds from healing, or (7) anything else to hurt themselves. Consistent with past research (57), a dichotomous DSH variable was created by assigning a score of "1" to participants who reported having engaged in DSH, and a score of "0" to participants who did not report a having engaged in any of the behaviors on the DSHI (i.e., DSH history). A DSH frequency variable was computed by summing the total number of DSH episodes reported (consistent with Gratz [2]). In addition, a DSH versatility index was computed by summing the number of unique types of DSH behaviors (e.g., cutting, burning, etc.) endorsed on the DSHI (5). Internal consistency for this revised measure was good, $\alpha = 0.71$.

Intimate Partner Violence

Physical, psychological, and sexual IPV severity was measured by the 78-item *Conflict Tactics Scale-2* (CTS-2) (56). Psychological and sexual IPV severity were also were measured by the *Psychological Maltreatment of Women Inventory* (PMWI) (58) and the *Sexual Experiences Survey* (SES) (59) respectively because these measures assess their respective domains more comprehensively than the CTS-2 (e.g., the CTS-2 does not measure tactics of dominance and isolation or sexual coercion using drugs or alcohol). In the present study, the PMWI and SES were used to assess psychological and sexual IPV severity and the CTS-2 was used to assess physical IPV severity. A referent time period of six months was used to assess the partner's commission of IPV behavior toward the woman.

The physical IPV severity score was a sum of the 12 CTS-2 physical items, α = .95. The psychological IPV severity score was a sum of the 48 items from the PMWI, α =.86. The sexual IPV severity score was a sum of the 10 SES items, α = .89.

Posttraumatic Stress Symptom Severity

Posttraumatic stress symptomatology resulting from IPV in the current relationship was assessed using the *Posttraumatic Stress Diagnostic Scale* (PDS) (60). To examine PTSD resulting from IPV, diagnostic criteria for PTSD were assessed using any abuse by the current intimate partner over the course of the relationship as the referent traumatic event(s). In addition to assessing all of the criteria for PTSD according to the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision* (DSM-IV-TR) (61), this instrument provides a continuous measure of posttraumatic stress symptoms and their severity. Re-experiencing, avoidance, numbing, and hyperarousal symptoms (Criteria B, C, and D, respectively) were assessed over the previous 6 months. The PTSD symptom severity score was created by summing the respective symptom severity responses (0 = *not at all, or only one time*, 1 = *once a week or less, or once in a while*, 2 = *2 to 4 times a week, or half the time*, 3 = *5 or more times a week, or almost always*). Reliability for the overall scale was excellent, *α* = .92.

Procedure

All procedures were reviewed and approved by the first author's Institutional Review Board. Data were collected as part of a larger study examining the relationships among IPV, posttraumatic stress, drug problems, and alcohol problems among a community sample of IPV-exposed women. Women were recruited from community establishments such as businesses, public agencies, and health care centers in and around New Haven, Connecticut. One hundred and ninety seven African American women met eligibility criteria, provided written informed consent, and participated in a 2-hour, in-person structured, computer-assisted interview administered by female masters and doctoral level research associates. At the end of the interview, participants were debriefed and provided them with a list of community resources including those for employment, food, and benefits assistance, mental health and substance use treatment, and IPV-specific services. All participants were remunerated $50.

Data Analysis

As recommended by Tabachnick and Fidell (62), all study variables were assessed for assumptions of normality. The sexual IPV severity score exhibited a non-normal distribution (skew = 4.00, kurtosis = 17.00). Thus, in line with research (63, 64), this score was recoded into a dichotomous variable (0 = *no victimization*, 1 = *any sexual victimization*). Demographic variables including age, education, income, and employment were not significantly correlated with outcome variables and thus, were not controlled for in these analyses. Rates and frequencies of IPV, PTSD, and DSH were calculated. Next, Pearson product-moment and point-biserial correlations were conducted to examine the intercorrelations between the primary study variables. Finally, following procedures outlined by Preacher and Hayes (65), analyses were then performed to examine whether PTSD

symptom severity mediates the relationship between each form of IPV and DSH. The bootstrap method was used for estimating the standard errors of parameter estimates and the bias-corrected confidence intervals of the indirect effects (65, 66). The bias-corrected confidence interval is based on a non-parametric re-sampling procedure that has been recommended when estimating confidence intervals of the mediated effect due to the adjustment it applies over a large number of bootstrapped samples (67). The mediated effect is significant if the 99% confidence interval does not contain zero (65). In this study, 5,000 bootstrap samples were used to derive estimates of the indirect effect. All coefficients are reported as unstandardized estimates. Semi-partial correlations were calculated to examine the magnitude of mediation (68).

Results

Preliminary Analyses

In the present study, all women were victimized by physical IPV ($M = 34.70$, $SD = 46.19$, CTS-2 scores ranging from 1 to 209) and psychological IPV ($M = 128.07$, $SD = 34.89$, PMWI scores ranging from 53 to 223). The majority of women (57.4%) reported being victimized by sexual IPV ($M = 10.70$, $SD = 27.68$, SES scores ranging from 0 to 173). Fifty-four (27.7%) women met DSM-IV diagnostic criteria for PTSD (i.e., the presence of a Criterion A traumatic event; at least one re-experiencing symptom, three avoidance/numbing symptoms, and two hyperarousal symptoms; duration of at least 1 month; and impairment in at least two areas of functioning) (69), with PTSD symptom severity scores ranging from 0 to 45 ($M = 16.61$, $SD = 10.62$).

Women in this study reported using DSH an average of 12.63 times ($SD = 50.33$, DSHI frequency scores ranging from 0 to 390). Versatility scores ranged from 0 to 5, with 70% ($n = 137$) of women endorsing no forms of DSH, 11% ($n = 22$) one form of DSH, 9% ($n = 17$) two forms of DSH, 4% ($n = 7$) three forms of DSH, 5% ($n = 9$) four forms of DSH, and 2% ($n = 5$) five forms of DSH. Among the 60 women (31%) who reported a history of DSH, there was an average endorsement of 2.3 unique forms of self-harm ($SD = 1.33$). Participants were most likely to endorse a history of cutting themselves ($n = 38$, 19%), followed by carving things into their skin ($n = 23$, 12%), severely scratching themselves ($n = 23$, 12%), doing anything else to hurt themselves ($n = 14$, 7%), sticking sharp objects into their skin ($n = 11$, 6%), preventing wounds from healing ($n = 8$, 4%), and burning themselves with a cigarette, lighter, and/or match ($n = 7$, 4%). Descriptive data and intercorrelations between the primary variables of interest are presented in Table 1.

Significant positive relations were detected among PTSD symptoms and all IPV and DSH outcomes (rs ranging from .18 to .52, ps < .05). DSH history and versatility were significantly positively associated with both physical and psychological IPV severity (rs ranging from .16 to .26, ps < .05), but not sexual IPV (rs .07, ps > .05). Consequently, subsequent analyses focused on the role of PTSD symptoms in the relations between physical and psychological IPV severity and DSH history and DSH versatility.

Primary Analyses

IPV severity, PTSD symptoms, and DSH history—Mediation analyses were first conducted to examine the role of PTSD symptoms in physical and psychological IPV severity and DSH history (present vs. absent). As shown in Table 2, both physical and psychological IPV severity were significantly associated with PTSD symptoms (path *a, t*s (197) = 6.50 and 8.44, respectively, *p*s < .001) and DSH history (path *c, t*s (197) = 2.21 and 2.66, respectively, *p*s < .05). Further, the indirect effects of physical and psychological IPV severity on DSH history through the pathway (*a × b*) of PTSD symptom severity were significant (*t*s (197) = 2.21 and 2.66, respectively, *p*s < .05). Notably, the direct effects (path *c'*) linking physical and psychological IPV severity with DSH history were not significant after controlling for PTSD symptom severity (*t*s (197) = 0.66 and 0.80, respectively, *p*s > . 05), suggesting that PTSD symptom severity mediated the associations between both forms of IPV severity and DSH history. Semi-partial correlations are reported in Table 3.

IPV severity, PTSD symptoms, and DSH versatility—Next, mediation analyses were conducted to examine the role of PTSD symptom severity in physical and psychological IPV severity and DSH versatility. As shown in Table 2, both physical and psychological IPV severity were significantly associated with PTSD symptom severity (path *a, t*s (197) = 15.38 and 8.44, respectively, *p*s < .001) and DSH versatility (*t*s (197) = 4.52 and 3.76, respectively, *p*s < .001). The indirect effects of physical and psychological IPV severity on DSH versatility through the pathway of PTSD symptom severity (*a × b*) were significant (*t*s (197) = 2.79 and 3.76, respectively, *p*s   .001). Lastly, the direct effects (*c'*) linking physical and psychological IPV severity with DSH versatility were non-significant after controlling for PTSD symptom severity (*t*s (197) = 0.98 and 1.61, respectively, *p*s = .05), suggesting that PTSD symptom severity mediated the associations between both forms of IPV severity and DSH versatility. Semi-partial correlations are reported in Table 4.

Discussion

DSH is a prevalent public health concern associated with a range of deleterious outcomes (4, 5). The goal of the present study was to examine the rates and correlates of DSH within one understudied population that may be at particular risk for DSH and its negative consequences: IPV-exposed African American women. In addition, we sought to extend extant literature on the IPV-DSH relation by exploring the mediating role of PTSD symptom severity in this association. Significant positive associations were detected among physical IPV severity, psychological IPV severity, PTSD symptom severity, and DSH history and versatility. Furthermore, and consistent with hypotheses, PTSD symptom severity mediated the relationships between physical and psychological IPV severity and DSH history and versatility. These findings provide further support for the underlying role of PTSD in the relation between traumatic exposure and DSH, extending past investigations which have exclusively focused on childhood abuse (8-10). Further, they suggest that IPV-exposed African American women in particular engage in DSH in an effort to escape or avoid PTSD symptoms, highlighting the experientially avoidant function of DSH within this at-risk population (1, 33, 35).

A growing body of empirical research provides support for an association between PTSD and risky behaviors generally (48-51), and DSH in particular (15, 70). In direct response to this burgeoning research, "reckless or destructive behaviors," such as DSH, were included as one criterion for PTSD in the fifth revision of the DSM (DSM-5) (69). Existing theories (40-42) suggest that DSH may be used in an effort to manage PTSD-related symptoms (e.g., intrusive memories) following traumatic exposure. Although DSH may result in short-term reductions in PTSD symptoms, such avoidant strategies may prevent women from emotionally processing the traumatic event (71), thus maintaining and/or exacerbating PTSD symptoms in the long-term. For example, reliance on avoidance strategies for managing distress may impede women from being exposed to corrective information (i.e., encountering trauma-relevant stimuli without the feared consequence). As such, IPV-exposed African American women may come to rely on DSH to down-regulate (i.e., reduce) their PTSD symptoms. Further, extending extant research, findings of the present study suggest that IPV-exposed African American women with greater IPV severity and PTSD symptoms are also more likely to utilize on multiple unique types of DSH (i.e., DSH versatility). This finding is of particular clinical relevance given recent suggestions that DSH versatility is a stronger predictor of negative outcomes than other DSH indices (e.g., DSH frequency), such as suicide risk (5). As such, future research would benefit from further examination of the consequences and correlates of DSH versatility among IPV-exposed women. Overall, findings of the present study highlight the importance of assessing for (and subsequently treating) PTSD symptoms in treatments targeting a reduction in DSH within this population.

Notably, relatively few PTSD treatments exist for IPV-exposed women generally and IPV-exposed African American women specifically, highlighting an important avenue for future research. Given that most (90%) IPV-exposed women experience repeated victimization by their intimate partner (72), PTSD treatments that incorporate prolonged exposure may be contraindicated (73) or deleterious for this population (74). Further, IPV-exposed African American women report a myriad of additional constraints (e.g., financial, childcare, health care) (74) that may negatively impact their ability to access and/or benefit from traditional PTSD treatments. For example, African American individuals with PTSD have been found to exhibit less participation in therapy, poorer attendance, and reduced commitment to therapy when compared with their White counterparts (75), differences which have been attributed to some of these environmental constraints (76). Thus, in addition to making IPV-specific modifications to empirically-supported treatments for PTSD, it will also be important for future studies to investigate variables that may inform the development of culturally sensitive interventions that are tailored to the unique needs of IPV-exposed African American women. Finally, it will be important for future investigations to examine the effects of PTSD treatments for IPV-exposed women on their use of DSH, including whether PTSD treatments reduce DSH through an improvement in PTSD symptoms in particular.

Further exploration of mechanisms driving the PTSD-DSH relation among African American IPV-exposed women may facilitate development of targeted treatments for reducing PTSD symptoms and DSH in this population. Shame may be an important factor to consider given a growing body of research that provides support for the role of shame in

IPV, PTSD, and DSH in samples of IPV-exposed women (77-79). For example, Street and Arias (79) found that shame mediated the relationship between psychological IPV and PTSD symptoms among women with a history of IPV. Likewise, research findings by Beck and colleagues (77) highlight the potential moderating role of shame in the IPV-PTSD relation (i.e., that greater psychological IPV was most strongly associated with PTSD symptoms in the presence of high levels of shame). Indeed, shame-related appraisals of trauma have been hypothesized to (a) directly produce PTSD symptoms, (b) prevent change in shame-related appraisals of the trauma and its sequalae, and (c) prevent change in the nature of the trauma memory (80). Importantly, shame has also been identified as an important factor driving DSH (33, 81, 82). Initial research provides support for the shame regulating function of DSH, such that motivations for DSH are often shame-related (33) and pain-inducing tasks in the laboratory result in a reduction in state shame DSH (81). Notably, however, no studies to date have examined the DSH-shame relation among IPV-exposed women generally or African American women in particular. Future research in this area may highlight the utility of treatments targeting shame generally (83) and in PTSD in particular (84) within this at-risk population.

Although results of the present study add to the literature on IPV, PTSD, and DSH, findings must be interpreted in light of limitations present. First, the cross-sectional and correlational nature of the data precludes determination of the precise nature and direction of the relationships examined here. Thus, it remains unknown if DSH precedes PTSD or emerges as a consequence of PTSD. Indeed, existing research suggests that avoidance of internal experiences before or during traumatic exposure may precipitate PTSD symptoms (85); consequently, avoidant approaches may both precipitate and exacerbate PTSD symptomatology. Future research should investigate the nature and direction of these relationships through prospective, longitudinal investigations. A second limitation is the exclusive reliance on self-report measure of DSH, which may be influenced by women's willingness and/or ability to report accurately (particularly given the potential stigma associated with DSH). Further, and consistent with past research (29, 70, 86), this study utilized a lifetime assessment of DSH history and versatility. As such, future research would benefit from examination of whether IPV-exposed African American women with and without recent DSH vary on factors contributing to the development, maintenance, and/or exacerbation of DSH, such as PTSD symptoms.

Additionally, while our findings suggest that DSH may have functioned to escape or avoid PTSD symptoms (consistent with affect regulation models) (40-42), we were not able to directly test this hypothesis. Future investigations utilizing experience sampling methods may provide further evidence of the experientially avoidant function of DSH within this population. Further, given evidence that PTSD is associated with DSH only in the presence of avoidant personality disorder (70), future research would benefit from examination of potential moderators (including co-occurring psychopathology) of the PTSD-DSH association among IPV-exposed African American women in particular. Moreover, and inconsistent with extant literature (15, 87, 88), our results do not provide support for a relation between sexual IPV and DSH. Of note, in line with extant research (63, 64), a dichotomous sexual IPV score (present vs. absent) was utilized in our analyses. Given limited variability on the dichotomous sexual IPV score, results should be interpreted with

caution and future studies examining the sexual IPV and DSH association within larger samples are needed. In addition, given the small number of participants reporting a history of DSH, analyses examining DSH versatility necessarily utilized the total sample. Thus, there is overlap between our two DSH outcomes. Larger studies are needed to further explore correlates of DSH versatility among IPV-exposed women. Lastly, our results do not speak to the extent to which findings are unique to IPV-victimized African American women. Future studies are needed to examine the extent to which the interrelations of IPV, PTSD, and DSH differ as a function of victimization and race/ethnicity. Likewise, although our focus on IPV-victimized African American women may be considered a strength of this study, our findings cannot be assumed to generalize to other IPV (e.g., men, women in clinical settings, Latina women) or non-IPV populations.

Despite limitations, results of the present study extend extant research on the factors associated with DSH. Notably, this is the first study to examine (a) rates and correlates of DSH within a sample of IPV-exposed African American women and (b) mechanisms underlying the relation between IPV and DSH outcomes among IPV-exposed women generally. Our findings suggest that DSH is prevalent among IPV-exposed African American women; thus, assessment for DSH history, frequency, and versatility in this population is clinically-indicated. Further, our results suggest that PTSD symptoms explain the relation between physical and psychological IPV and DSH history and versatility, highlighting an important target for the treatment of DSH among IPV-exposed African American. Future research is needed to examine the efficacy of IPV-specific PTSD treatments in reducing DSH.

Acknowledgments

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Table 1

Descriptive data and intercorrelations for primary variables of interest ($N = 197$)

	1	2	3	4	5	6	M	SD	Range
1. DSH History[a]	--	.82***	.16*	.19**	.12	.28***	0.31	0.46	0 – 1
2. DSH Versatility		--	.20**	.26***	.10	.32***	0.70	1.29	0 – 5
3. Physical IPV Severity			--	.51***	.24**	.42***	34.75	46.08	1 – 209
4. Psychological IPV Severity				--	.27**	.52***	128.03	34.81	53 – 223
5. Sexual IPV[a]					--	.20**	10.70	27.68	0 – 173
6. PTSD Symptom Severity						--	16.61	10.62	0 – 45

Note.

[a]Variable coded where 1 = present and 0 = absent. DSH = Deliberate Self-harm. IPV = Intimate Partner Violence. PTSD = Posttraumatic Stress Disorder. Mean, standard deviation, and range for sexual IPV was calculated using the non-transformed value.

*
$p < .05$.

**
$p < .01$.

***
$p < .001$.

Table 2

Summary of mediation analyses (5,000 bootstrap samples; *N*= 197)

Independent variable	Mediating variable	Dependent variable	Effect of IV on M	Effect of M on DV	Direct Effect	Indirect Effect		Total Effect
(IV)	(M)	(DV)	(a)	(b)	(c')	(a × b)	99% CI	(c)
Physical IPV Severity	PTSD Symptoms	DSH History[a]	0.097***(0.01)	0.053**(0.02)	0.002(0.004)	0.005*(0.002)	0.002–0.010	0.007*(0.003)
Psychological IPV Severity	PTSD Symptoms	DSH History[a]	0.158***(0.02)	0.050**(0.02)	0.004(0.005)	0.008*(0.003)	0.003–0.014	0.012**(0.005)
Physical IPV Severity	PTSD Symptoms	DSH Versatility	0.097***(0.01)	0.035***(0.01)	0.002(0.002)	0.003*(0.001)	0.002–0.007	0.006**(0.002)
Psychological IPV Severity	PTSD Symptoms	DSH Versatility	0.158***(0.02)	0.031**(0.01)	0.005(0.003)	0.005*(0.002)	0.002–0.009	0.010***(0.003)

Note.

[a]Variable coded where 1 = present and 0 = absent. IPV = Intimate Partner Violence. PTSD = Posttraumatic Stress Disorder. DSH = Deliberate Self-harm. All coefficients are reported as unstandardized estimates.

**
p < .01.

***
p < .001.

Table 3

Standardized regression coefficients and semi-partial correlations for physical IPV and PTSD symptom severity on the criterion variables (DSH history and DSH versatility)

| | Criterion Variables | | | |
| | DSH History | | DSH Versatility | |
	β	*Semi-partial r*	*β*	*Semi-partial r*
Physical IPV Severity	.06	.05	.07	.07
PTSD Symptom Severity	.25[**]	.23	.29[***]	.26

Note.

B = Standardized regression coefficient. DSH = Deliberate self-harm. IPV = Intimate partner violence. PTSD = Posttraumatic stress disorder.

[**]
p < .01.

[***]
p < .001.

Table 4

Standardized regression coefficients and semi-partial correlations for psychological IPV and PTSD symptom severity on the criterion variables (DSH history and DSH versatility)

| | Criterion Variables | | | |
| | DSH History | | DSH Versatility | |
	β	Semi-partial r	β	Semi-partial r
Psychological IPV Severity	.07	.06	.13	.11
PTSD Symptom Severity	.24**	.21	.26**	.22

Note.

B = Standardized regression coefficient. DSH = Deliberate self-harm. IPV = Intimate partner violence. PTSD = Posttraumatic stress disorder.

**p < .01.