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Intimate Partner Violence and HIV-risk Behaviors: Evaluating Avoidant Coping as a Moderator

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Abstract

Women who experience intimate partner violence (IPV) report higher rates of HIV-risk behaviors. However, few studies have examined factors that may influence the strength of the link between IPV and HIV-risk behaviors. The goal of the current study was to extend extant research by evaluating the potential moderating role of avoidant coping in this relation. Participants were 212 women currently experiencing IPV (M age = 36.63, 70.8% African American) who were recruited from the community. Significant positive associations were found between physical, psychological, and sexual IPV severity and both avoidant coping and HIV-risk behaviors. Avoidant coping moderated the relations between both physical and psychological IPV severity and HIV-risk behaviors, such that physical and psychological IPV severity were significantly associated with HIV-risk behaviors when avoidant coping was high (but not low). Findings underscore avoidant coping as an important factor in identifying and subsequently treating IPV-victimized women vulnerable to HIV-risk behaviors.

Keywords

physical intimate partner violence; psychological intimate partner violence; sexual intimate partner violence; avoidant coping; HIV-risk behaviors

Introduction

One-third of women report experiences of physical, psychological, or sexual victimization by an intimate partner in their lifetime (1). Intimate partner violence (IPV) is associated with a wide range of deleterious outcomes among women (2, 3), including higher rates of HIV-risk behaviors (4). For instance, IPV-victimized (vs. non-victimized) women report more risky sex partners, including those who are HIV-positive, intravenous drug users, and

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Informed consent: Informed consent was obtained from all individual participants included in the study.

nonmonogamous (5, 6). Further, they report more unprotected sex (7, 8) and trading sex (9) as well as a greater number of sex partners (5, 7) than their non-IPV-exposed counterparts. Women who are in relationships characterized by IPV may have a limited capacity to negotiate safe sex, including condom use. Indeed, IPV-victimized women who try to negotiate safe sex may be at risk for negative outcomes, including revictimization and abandonment by their partners (10-12). Given that HIV-risk behaviors confer risk for HIV infection and transmission (13), it is essential that research identify (and subsequently intervene with) IPV-victimized women who are most vulnerable to HIV-risk behaviors.

The ways in which IPV-victimized women cope with relational conflict may impact the strength of the association between their IPV severity and vulnerability to HIV-risk behaviors. Numerous dimensions of coping have been described in the extant literature (14). The most common way to distinguish among the topological features of coping is by characterizing such behaviors as either approach (i.e., behaviors that are directed toward threat, such as problem solving) or avoidant (i.e., behaviors that are directed away from threat, such as physical and/or psychological withdraw). Extant research provides support for a link between IPV and avoidant coping in particular. Women in relationships characterized by IPV report higher levels of avoidant coping compared to those who do not experience IPV in their current relationships (15), and more severe and frequent IPV predicts greater use of avoidant coping among IPV-victimized women (16, 17). Indeed, utilizing avoidant coping to manage stressors, including relationship conflict, may, at times, be adaptive (18). For example, avoidant coping may result in short-term reductions in stress and anxiety stemming from threatening stimuli, which may facilitate adaptive action by preventing women from becoming overwhelmed. Moreover, it may increase hope or courage or lead to a sense of mastery over aversive emotions stemming from threatening stimuli. Regarding avoidant coping and IPV in particular, Lewis, Griffing (19) suggested that some degree of avoidant coping in the context of physical threat may reduce both conflict and negative outcomes associated with victimization (e.g., psychopathology). Likewise, Fine (20) argued that avoidant coping may be more effective for managing conflict in relationships characterized by IPV, as efforts to solve conflict in such relationships may result in failure and a sense of hopelessness. Finally, there is evidence to suggest that avoidant coping is associated with more adaptive outcomes for individuals in environments perceived as uncontrollable (21, 22), such as relationships characterized by IPV (23). These aforementioned findings indicate that avoidant coping is a strategy commonly utilized by IPV-victimized women that may, at times, be functional (e.g., when used to meet individual goals and/or situational demands).

Whereas some degree of avoidant coping may be adaptive, individuals who overutilize avoidant coping strategies to manage stressors may be prone to negative outcomes. Avoidant coping has been theorized to interfere with several processes key to recovery following traumatic exposure, including the processing of traumatic memories, habituation to aversive emotions associated with trauma memories, and extinction of trauma-related fear responses (24-26). For instance, avoiding trauma-related stimuli may maintain or exacerbate distress over time by preventing IPV-victimized women from being exposed to corrective information (i.e., encountering such stimuli without the feared consequence). Moreover, avoiding trauma-related stimuli that are safe (e.g., internal experiences) may lead women to

incorrectly believe that such stimuli are unsafe. As such, while avoidant coping may have short-term benefits for IPV-victimized women, it likely has paradoxical consequences in the long-term, exacerbating IPV-related distress and negative outcomes. Indeed, avoidant coping has been linked to deleterious outcomes among IPV-victimized women, including psychopathology (e.g., anxiety, depression, posttraumatic stress disorder; 17, 27) and risky behaviors (e.g., substance use; 28, 29).

Emerging literature suggests that avoidant coping also may be a vulnerability factor for HIV-risk behaviors among IPV-victimized women. For these women, sexual behavior may, at times, function to alleviate or distract attention away from negative affective states (30), thereby facilitating stress relief (31) and cognitive escape (32). Trauma-exposed populations may be particularly prone to these emotion-regulating effects (33, 34). Indeed, sexual behavior has been theorized to modulate trauma-related distress (35, 36). Moreover, for IPV-victimized women, such sexual behavior may be more likely to be “risky” (e.g., condomless) because negotiating safe sex may increase their risk for violence and other negative relationship outcomes (10-12). Yet, whereas research provides support for an association between avoidant coping and HIV-risk behaviors in populations at risk for HIV infection and transmission (e.g., men who have sex with men, HIV-positive adults; 37, 38, 39), this relation has not been explored among IPV-victimized women in particular. Given evidence to suggest that the correlates of specific coping strategies differ across IPV and non-IPV samples, findings to inform intervention efforts for reducing HIV-risk behaviors among IPV-victimized women must be conducted with these women. Further, extant research has not examined whether avoidant coping may help identify individuals who are most vulnerable to HIV-risk behaviors. Exploring avoidant coping as a moderator of the relation between IPV and HIV-risk behaviors may help researchers and clinicians identify women who are most vulnerable to HIV-risk behaviors (and thus in greatest need of intervention).

Finally, it is essential that research consider the potentially divergent roles of IPV types (i.e., physical, psychological, and sexual) in the relations among IPV, avoidant coping, and HIV-risk behaviors. Studies examining the correlates of IPV have traditionally focused on the cumulative experiences of physical, psychological, and sexual IPV or the unique effects of physical and/or sexual IPV. While frequently co-occurring (40, 41), physical, psychological, and sexual IPV demonstrate differential relations with some health outcomes (2, 42, 43). Regarding the associations among IPV types and HIV-risk behaviors, a plethora of research provides support for positive relations among physical and sexual IPV and HIV-risk behaviors (3, 44, 45). Conversely, only two studies have explored the link between psychological IPV and HIV-risk behaviors. One study found that women who experienced psychological IPV had a higher likelihood of sexually transmitted infections (STIs; OR = 1.82), although not as high as women who experienced physical IPV (OR = 3.13) (43). A second study found that psychological IPV was uniquely related to HIV-risk behaviors, above and beyond physical and sexual IPV (46). Even less is known about the relations among IPV types and avoidant coping. Specifically, whereas investigations in this area have focused on physical IPV (17, 47), one study found that physical, psychological, and sexual IPV were positively correlated with avoidant coping (28).

Thus, the goal of the current study was to identify the interrelations among IPV types, avoidant coping, and HIV-risk behaviors, as well as the potentially moderating role of avoidant coping in the associations among IPV types and HIV-risk behaviors, in a sample of community women experiencing IPV. We expected IPV types, avoidant coping, and HIV-risk behaviors to be positively associated. Moreover, we expected avoidant coping to moderate the relations between IPV types and HIV-risk behaviors, such that these associations would be stronger among IPV-victimized women who used higher (vs. lower) levels of avoidant coping.

Methods

Participants and Procedures

Data were collected as part of a larger study examining the relationships among IPV, posttraumatic stress, substance use, and sexual risk in a sample of women experiencing physical victimization in their current relationships. All procedures were reviewed and approved by the Institutional Review Board at the authors' university. Participants were recruited from an urban community in the northeast United States. Eligibility criteria were: (1) female; (2) 18 years of age or older; (3) English speaking; (4) physical victimization by a male partner during past 6 months (i.e., endorsement of any physical victimization [e.g., slapping, hitting, shoving] assessed with select items from the Conflict Tactics Scale-2 [38]); (5) continuous partner contact (i.e., saw their partner at least twice weekly with no more than 2 weeks apart during the previous month); and (6) a monthly household income of no greater than \$4,200. Eligibility was determined via a phone screen.

Women who met eligibility criteria were invited to participate in the larger study. After providing written informed consent, women completed an in-person, semi-structured, computer-assisted interview administered by trained master- or doctoral-level female research associates or postdoctoral fellows in private offices to protect participants' safety and confidentiality. Women were subsequently debriefed, remunerated \$45, and provided with a list of community resources.

The final sample was comprised of 212 women ranging in age from 18 to 58 ($M = 36.63$, $SD = 10.45$). In terms of racial/ethnic background, 70.8% of women self-identified as African American, 24.5% as White, 8.5% as Latina, 3.3% as Native American, and 7.5% as another or multiple racial backgrounds. Sixty-five percent were unemployed for at least one month prior to the study, whereas 26.4% and 8.5% reported working part- or full-time, respectively. The mean annual household income was \$13,304.82 ($SD = \$10,389.85$) and the mean education was 12.09 years ($SD = 1.56$). Most of the women (82.6%) were not married, 14.2% were married, and 3.3% were separated or divorced. Over half (56.6%) were living with their partner. Women reported seeing their partner an average of 6.23 days a week ($SD = 1.40$). Mean years in the current relationship was 6.48 years (ranging from 6 months to 33 years; $SD = 6.37$ years).

Measures

Intimate partner violence—Physical, psychological, and sexual IPV severity were measured over a period of six months using the *Revised Conflict Tactics Scale* (CTS-2; 48). Consistent with scoring procedures outlined in Straus, Hamby (48), responses were recoded to the midpoint of the range of scores: 0 = *never*, 1 = *once in the past 6 months*, 2 = *twice in the past 6 months*, 4 = *3-5 times in the past 6 months*, 8 = *6-10 times in the past 6 months*, 15 = *10-20 times in the past 6 months*, and 25 = *more than 20 times in the past 6 months*. Severity scores were calculated by summing the respective responses; Cronbach's $\alpha = .89$ for the twelve physical victimization items (e.g., pushing, slapping, choking, beating up, using a weapon), Cronbach's $\alpha = .83$ for the eight psychological victimization items (e.g., shouted or yelled at a partner, called partner fat or ugly), and Cronbach's $\alpha = .84$ for the seven sexual victimization items (e.g., using force during sex, using threats during sex).

HIV-risk behaviors—HIV-risk behaviors were assessed using a 25-item self-report measure of women's sexual behavior and health (49, 50). HIV-risk items assessed past six-month sex with a risky partner (e.g., intravenous drug use, HIV-positive) both in general and without a condom in particular. For the current study, we included those items that assessed condomless sex with a risky partner (versus sex with a risky partner in general) because unprotected sex confers greater risk for HIV and other STIs. We also included one item that assessed sex trading given that sex trading is a well-documented risk factor for HIV and other STIs (51). Thus, as defined in this study, HIV-risk behaviors refer to unprotected sex with a risky partner and sex trading. The HIV-risk items utilized in this study included: (1) unprotected anal or vaginal sex with their primary partner who was HIV-positive; (2) unprotected anal or vaginal sex with their primary partner who used intravenous drugs (or needles); (3) unprotected anal or vaginal sex with their primary partner who had multiple sexual partners; (4) unprotected anal or vaginal sex with a non-primary partner who was HIV-positive; and (5) trading of sex for money, drugs, or shelter. A RSB score was calculated by summing their respective responses (1 = *yes*, 0 = *no*). Cronbach's α was .90 for the HIV-risk behaviors scale.

Avoidant coping—Avoidant coping was assessed using the 11-item avoidant coping subscale of the *Coping Strategies Indicator* (CSI; 52). The CSI was modified to assess participants' typical levels of coping with conflict in a current intimate relationship. Specifically, to orient participants to coping strategies they used to deal with a conflict in a current intimate relationship, instead of instructing participants to describe any stressful event that occurred in the past six months that was important to them and caused them to worry (per the instructions for the original CSI), participants were asked to describe a conflict with their intimate partner in the past six months that was important to them and caused them to worry. No other modifications were made to this measure. Example items include: "avoided being with people," "daydreamed about better times," and "watched TV more." Participants were then asked to rate each item using a 3-point Likert-type scale (1 = *not at all*, 3 = *a lot*). The CSI demonstrates adequate psychometric properties (52, 53). Cronbach's α was .79 for the avoidant coping subscale.

Demographic variables and relationship characteristics—Participants reported demographic data for age, race/ethnicity, education, employment, and income. They also provided relationship data, including duration, status, cohabitation, and partner contact.

Data Analysis

Study variables were assessed for the assumption of normality. Variables exhibiting non-normal distributions (i.e., physical IPV severity, sexual IPV severity, and HIV-risk behaviors) were square-root transformed. Following this, associations between demographic variables (i.e., age, race/ethnicity, education, employment, and income) and relationship characteristics (i.e., duration, status, cohabitation, and partner contact) and the dependent variable (i.e., HIV-risk behaviors) were examined using correlation analyses and analyses of variance. Any demographic variable or relationship characteristic found to demonstrate a significant association with HIV-risk behaviors was included as a covariate in subsequent analyses.

Descriptive statistics and intercorrelations among the primary study variables were calculated. The PROCESS SPSS macro (54) was then utilized to explore whether physical, psychological, and sexual IPV severity, avoidant coping, and their interaction predict HIV-risk behaviors. The PROCESS procedures use ordinary least squares regression and bootstrapping methodology, which confer more statistical power than standard approaches to statistical inference and do not rely on distributional assumptions. Bootstrapping was done with 1,000 random samples generated from the observed covariance matrix to estimate bias-corrected 95% confidence intervals (CIs) and significance values. Following the methods described by Aiken and West (55), regression slopes were plotted at one standard deviation above and below mean levels of avoidant coping, and follow-up analyses were conducted to examine whether the slopes of the regression lines differed significantly from zero. Bauer and Curran's (56) J-N technique was then used to delineate the point in the range of the continuous moderator (i.e., avoidant coping) at which the effects of the IVs (i.e., physical, psychological, and sexual IPV) on the DV (i.e., HIV-risk behaviors) were statistically significant.

Results

Preliminary Analyses

Relationship status was the only demographic variable or clinical characteristic significantly associated with HIV-risk behaviors, $F[4, 211] = 7.06, p < .001$. Participants who were no longer dating their partner but still saw him reported greater vulnerability to HIV-risk behaviors than women who were married ($p < .001$), unmarried but living with their partner ($p < .001$), separated or divorced ($p = .01$), or dating but not living together ($p < .001$). To explicate the effect of IPV types and their interactions with avoidant coping on HIV-risk behaviors above and beyond relationship status, subsequent analyses controlled for this variable.

Primary Analyses

Means, standard deviations, and ranges of all study variables, as well as their intercorrelations controlling for relationship status, are presented in Table I. Significant positive correlations were found among physical, psychological, and sexual IPV severity and both avoidant coping and HIV-risk behaviors.

The first moderation analysis was conducted to examine the main and interactive effects of physical IPV severity and avoidant coping on HIV-risk behaviors controlling for relationship status. The final model accounted for 8% of the variance in HIV-risk behaviors, $F(4, 206) = 4.74, p = .001$. The main effects for physical IPV severity, $B = -.09, SE = .05, t = -1.80, p = .07, 95\% \text{ CI: } -0.20, 0.01$, and avoidant coping, $B = -.02, SE = .01, t = -1.43, p = .15, 95\% \text{ CI: } -0.04, 0.01$, were non-significant. However, the interaction between physical IPV severity and avoidant coping significantly predicted HIV-risk behaviors, $B = .005, SE = .002, t = 2.34, p = .02, 95\% \text{ CI: } 0.001, 0.01$ (Figure I). Analysis of simple slopes revealed that physical IPV severity was significantly positively associated with HIV-risk behaviors when avoidant coping was high (+1 *SD*), $B = 0.04, SE = .01, t = 3.86, p < .001, 95\% \text{ CI: } 0.02, 0.06$, but not when it was low (-1 *SD*), $B = 0.0004, SE = .01, t = 0.03, p = .98, 95\% \text{ CI: } -0.03, 0.03$. Using Bauer and Curran's (56) J-N technique, physical IPV severity was found to predict HIV-risk behaviors significantly at avoidant coping values of 23.41 and greater.

The second moderation analysis examined the main and interactive effects of psychological IPV severity and avoidant coping on HIV-risk behaviors controlling for relationship status. The final model accounted for 8% of the variance in HIV-risk behaviors, $F(4, 207) = 4.54, p = .002$. A significant main effect was found for psychological IPV severity, $B = -.01, SE = .004, t = -2.13, p = .03, 95\% \text{ CI: } -0.02, -0.001$, but not avoidant coping, $B = -.02, SE = .01, t = -1.61, p = .11, 95\% \text{ CI: } -0.04, 0.004$. Further, the interaction between psychological IPV severity and avoidant coping significantly predicted HIV-risk behaviors, $B = .0004, SE = .0002, t = 2.60, p = .01, 95\% \text{ CI: } 0.0001, 0.001$ (Figure II). Analysis of simple slopes revealed that psychological IPV severity was significantly positively associated with HIV-risk behaviors when avoidant coping was high (+1 *SD*), $B = 0.003, SE = .001, t = 3.76, p = .002, 95\% \text{ CI: } 0.002, 0.005$, but not when it was low (-1 *SD*), $B = -0.0003, SE = .001, t = -0.30, p = .76, 95\% \text{ CI: } -0.002, 0.002$. Using Bauer and Curran's (56) J-N technique, psychological IPV severity was found to predict HIV-risk behaviors significantly at avoidant coping values of 23.55 and greater.

A final moderation analysis was conducted to examine the main and interactive effects of sexual IPV severity and avoidant coping on HIV-risk behaviors controlling for relationship status. The final model accounted for 5% of the variance in HIV-risk behaviors, $F(4, 205) = 2.83, p = .03$. The main effects for sexual IPV severity, $B = -.12, SE = .09, t = -1.24, p = .22, 95\% \text{ CI: } -0.30, 0.07$, and avoidant coping, $B < .0000, SE = .01, t = 0.001, p > .99, 95\% \text{ CI: } -0.02, 0.02$, were non-significant, as was the interaction between sexual IPV severity and avoidant coping, $B = .01, SE = .004, t = 1.62, p = .11, 95\% \text{ CI: } -0.001, 0.01$. a^a b

^aOf note, while the square-root transformed sexual IPV severity variable showed improved skew and kurtosis, it still exhibited a non-normal distribution (non-transformed sexual IPV variable: skew = 4.04, kurtosis = 17.50; transformed sexual IPV variable: skew = 2.16, kurtosis = 5.03). As such, and consistent with past research (e.g., Gidycz et al., 2007), moderation analyses were also conducted

Discussion

IPV-victimized women are more vulnerable to HIV-risk behaviors (4, 5). Given evidence to suggest that avoidant coping is elevated among IPV-victimized women (16, 17) and related to HIV-risk behaviors (38, 39), the goal of the present study was to examine the moderating role of avoidant coping in the associations among IPV types and HIV-risk behaviors in a sample of IPV-victimized community women. Physical, psychological, and sexual IPV were associated with greater avoidant coping and more HIV-risk behaviors. Moreover, avoidant coping was found to moderate the relations between both physical and psychological IPV and HIV-risk behaviors, such that physical and psychological IPV were significantly related to HIV-risk behaviors when levels of avoidant coping were high (but not low). These findings underscore the role of avoidant coping in the relation between IPV and HIV-risk behaviors among IPV-victimized women.

Results of the present study have important clinical implications. Our findings indicate that avoidant coping may be a key factor in identifying IPV-victimized women who are more vulnerable to HIV-risk behaviors. Moreover, they suggest that prevention and intervention efforts aimed at reducing HIV-risk behaviors in this population may benefit from targeting avoidant coping. Given growing evidence for the role of avoidant coping in risky behaviors (28, 29), it is not surprising that treatments focused on reducing such behaviors have begun to integrate strategies for reducing avoidant coping. For instance, dialectical behavior therapy, which targets avoidant coping as one component of a larger, more comprehensive treatment, has been found to result in reductions in deliberate self-harm (57, 58), substance use (59, 60), and eating disorders (61, 62). Likewise, emotion regulation group therapy, which teaches approach and distraction strategies to replace emotionally-avoidant strategies, as well as other emotion regulation skills, is associated with reductions in deliberate self-harm and other self-destructive behaviors (63), and improvements in emotion regulation skills, such as emotional avoidance, have been found to account for reductions in self-destructive behaviors following this treatment (64, 65). Similarly, treatments targeting emotional acceptance and willingness (to counter emotional avoidance), such as acceptance and commitment therapy and distress tolerance treatment, result in reductions in substance use (66, 67). Notably, however, despite evidence to suggest that avoidant coping underlies HIV-risk behaviors (38, 39, 68), a relative dearth of treatments target avoidant coping as a means of reducing HIV-risk behaviors. Future research is needed to determine whether treatments that target avoidant coping reduce HIV-risk behaviors generally and among IPV-victimized women in particular.

Our findings also have important public health implications. Although the above-mentioned treatments may address the link between IPV and HIV-risk behaviors at the individual level,

using an ordinal sexual IPV variable (0 = *no victimization/perpetration*, 1 = *sexual contact or coercion*, and 2 = *attempted rape or rape*). Results remained the same in strength and direction with one exception: using the ordinal sexual IPV variable, a significant main effect was found for sexual IPV, $B = .15$, $SE = .07$, $t = 2.18$, $p = .03$, 95% CI: 0.01, 0.29.

^bModeration analyses were also conducted with condomless sex as the outcome (i.e., HIV-risk variable excluding the one item assessing sex trading). Results remained the same in strength and direction with one exception: with condomless sex as the outcome, a significant main effect was found for physical IPV, $B = .17$, $SE = .07$, $t = 2.34$, $p = .02$, 95% CI: 0.03, 0.31. We were not able to explore the main and interaction effects of IPV types and avoidant coping on sex trading because only 4.2% of our sample ($n = 9$) reported this behavior in the past six months.

broader public health efforts are needed to address this association on a more global level. The national and international public health community has recognized the intersection between IPV and HIV-risk behaviors as a critical public health concern that is impeding the fight to end the HIV epidemic (69, 70). Thus, it is imperative that incentives that seek to weaken the IPV and HIV-risk behaviors link target IPV-victimized women who are most vulnerable to HIV-risk behaviors, such as those who report greater use of avoidant coping. For instance, media campaigns may consider integrating messaging that promotes non-avoidant coping to resolve relational conflict. By addressing factors that may exacerbate the association between IPV and HIV-risk behaviors, public health efforts may affect more sustainable change.

Of note, whereas each of the IPV types explored here (i.e., physical, psychological, sexual) were significantly related to both avoidant coping and HIV-risk behaviors, avoidant coping only moderated the associations between physical and psychological IPV and HIV-risk behaviors. This suggests the need for additional research to identify factors that may attenuate the link between sexual IPV and HIV-risk behaviors. Future investigations may benefit from exploring the moderating role of emotion dysregulation in this relation, given evidence linking emotion dysregulation to sexual trauma (71, 72) and HIV-risk behaviors (73-75). Alternatively, because women who experience sexual IPV are oftentimes vulnerable to forced or coerced HIV-risk behaviors (44), the link between sexual IPV and HIV-risk behaviors may have unique mechanisms, such as sexual assertiveness.

Finally, it warrants mention that women who reported unstable relationships (i.e., continuous contact with a partner they are no longer dating) were more vulnerable to HIV-risk behaviors than women in other relationship types (e.g., married, unmarried but living together). Because they are no longer in committed relationships, these women and their partners may be having sex with other individuals while still having condomless sex with each other. It also is possible that their relationships are unstable because of factors that increase risk for HIV (e.g., infidelity, intravenous drug use, sex trading). Future research is needed to better understand why these women may be more vulnerable to HIV-risk behaviors. It may be particularly important for intervention efforts aimed at reducing HIV in this population to target these women.

Although results of the present study add to the literature on IPV, avoidant coping, and HIV-risk behaviors, findings must be interpreted in light of its limitations. First, the cross-sectional and correlational nature of the data precludes determination of the precise nature and direction of the relations examined here. Future research should investigate the nature and direction of these relations through prospective, longitudinal investigations. Second, while our findings suggest that avoidant coping may exacerbate the relation between IPV and HIV-risk behaviors, we were not able to directly test this hypothesis. Future investigations utilizing experience sampling methods may provide further evidence of the avoidant function of HIV-risk behaviors among IPV-victimized women. Third, our study relied exclusively on women's self-reports, which may be influenced by their willingness and ability to report accurately (particularly given the stigma associated with IPV and HIV-risk behaviors and the gender-based power imbalances in many relationships characterized by IPV). For instance, initial evidence indicates that men who perpetrate IPV are less likely

to disclosure HIV and other STIs to their female partners than men who do not perpetrate IPV (6, 76). Likewise, whereas research has found that men who perpetrate IPV are more likely to have multiple partners than men who do not perpetrate IPV (5, 6), their female partners may not be able to report on this behavior with high certainty. Future investigations with this population would benefit from collecting data from multiple reporters/sources (e.g., both partners, medical records) to better elucidate HIV risk. Fourth, to limit the number of phone screening items, only physical IPV was used as an inclusion criteria given research to suggest that IPV types co-occur at very high rates (40, 41). As such, women who experienced past six-month sexual and/or psychological IPV were excluded from the study if they did not also report physical IPV during that time frame. Fifth, because HIV-risk behaviors may, at times, function as an avoidance strategy (73), future studies would benefit from examining the overlap between HIV-risk behaviors and avoidant coping in this population. Finally, although our focus on IPV-victimized women in an urban community is a strength of this study, our findings cannot be assumed to generalize to other IPV populations (e.g., men, women in shelter settings).

Conclusions

Despite limitations, results of the present study improve our understanding of the relations among IPV, avoidant coping, and HIV-risk behaviors. Avoidant coping was found to moderate the relations between both physical and psychological IPV and HIV-risk behaviors. Specifically, physical and psychological IPV were significantly correlated with HIV-risk behaviors, but only when levels of avoidant coping were high (vs. low). These results suggest the relevance of IPV to HIV-risk behaviors among IPV-victimized women with heightened levels of avoidant coping in particular, underscoring avoidant coping as an important factor in identifying and subsequently treating IPV-victimized women vulnerable to HIV-risk behaviors.

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Figure I. Physical intimate partner violence severity by avoidant coping interaction for HIV-risk behaviors (controlling for relationship status). IPV Intimate partner violence. Physical IPV and HIV-risk behavior variables are square-root transformed

Figure II. Psychological Intimate Partner Violence Severity by Avoidant Coping Interaction for HIV-risk Behaviors (controlling for relationship status)

Note. IPV = intimate partner violence. HIV-risk behavior variable is square-root transformed.

Table 1
Descriptive Data and Intercorrelations Controlling for Relationship Status

	1	2	3	4	5	<i>M</i>	<i>SD</i>	Range
1. Physical Victimization	--	.69***	.33***	.23***	.23**	35.20	47.05	1, 209
2. Psychological Victimization	--	--	.26***	.20**	.20**	63.89	44.78	2, 183
3. Sexual Victimization	--	--	--	.16*	.18**	6.99	17.56	0, 175
4. Avoidant Coping	--	--	--	--	.10	24.00	4.36	13, 33
5. HIV-risk Behaviors	--	--	--	--	--	0.22	.53	0, 3

Note.

**
 $p < .10$.

 $p < .001$