The Co-Occurrence of Physical and Sexual Intimate Partner Violence among U.S. College Females

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Abstract
Social science researchers have been studying the social phenomena of violence amongst intimate partners for decades. One area that remains under-researched is the co-occurrence of physical and sexual violence by intimate partners. By overlooking this coexistence, the impact of dual-victimization on the victim is not fully understood, and the unique needs of victims experiencing both types of violence have likely been neglected. To fill this gap in research, the Longitudinal Study of Violence against Women data were used to explore co-occurring physical and sexual violence for female college students. Results indicate a statistically significant relationship between sexual victimization and having an intimate partner throw something at; push, grab, or shove; and hit his victim. Additionally, logistic regression revealed that being hit by an intimate partner is a predictor of sexual victimization. Implications for prevention and victim assistance, as well as directions for future research, are discussed.

Keywords: Intimate Partner Violence, Dating Violence, Co-Occurring Violence, College Females.

Introduction
Intimate partner violence (IPV) is a widespread public health problem (Catlett, Toews, & Walilko, 2010; Stein, Grogan-Kaylor, Galano, Clark, & Graham-Berman, 2019). Statistics on prevalence rates of IPV demonstrate alarming numbers of victims, with more than one in three women (Black et al., 2011; Breiding, Chen, & Black, 2014; Smith et al., 2017) and one in seven men (Breiding, Black, & Ryan, 2008) reporting experiences of attempted, threatened, or completed acts of physical or sexual violence by an intimate partner over the course of their lives.

Current literature is exploring different aspects of theoretical, empirical, and policy relevant areas of IPV (see for example Arroyo, Lundahl, Butters, Banderloo, & Wood, 2017; Fedina, Holmes, & Backes, 2018; Richards, T. N.; Shortt et al., 2012; Straus, 2011;)

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Wasarhaley, Lynch, Golding, & Renzetti, 2015; Winstok & Eisikovits, 2011). One area that remains under-researched is dual victimization, or the co-occurrence of physical and sexual violence by intimate partners in violent relationships. By overlooking this coexistence, the impact of dual-victimization on the victim is not fully understood, and it is probable that the unique needs of victims experiencing both types of violence have been overlooked. Further, if there is an unknown pattern of escalation in such relationships, it is expected that the law enforcement community and others who may have contact with victims are missing opportunities to intervene.

It is important to study the co-occurrence of physical and sexual violence in intimate partner relationships because the seriousness of sexual abuse is often minimized when there is no prior history of physical violence (Langhinrichsen-Rohling & Monson, 1998). Despite the relatively common occurrence of unwanted sexual experiences with intimate partners, victims of sexual IPV have often failed to receive societal and legal support. Specifically, when physical violence is absent, victims are often blamed for the violence, resulting in victims having a difficult time substantiating their experience to others, including the U.S. legal system (Langhinrichsen-Rohling & Monson, 1998). Because the needs of victims differ, it is important to know the prevalence of physical and sexual abuse, as well as to have services in place to address both types of violence. This response must be strengthened and better coordinated for victims to navigate the healthcare, social service, and legal services and resources in both the short and long term. Having advanced knowledge of co-occurring IPV in violent relationships can better inform victim service providers with means to address and treat these needs, as well as develop indicators that may provide for early intervention.

The present study explores the dynamics of co-occurring physical and sexual IPV; the results yield a better understanding of the issue of coexisting forms of violence. The entire criminal justice community will benefit from understanding the evolution of forms of IPV, as well as understanding how co-occurring forms of IPV affect victims’ lives and their ensuing needs. An important part of the criminal justice response is to hold perpetrators accountable. Victims are often reluctant to disclose their victimization due to feelings of shame, embarrassment, fear of retribution from perpetrators, or belief that law enforcement will be unsupportive (Black et al., 2011). Becoming more knowledgeable about IPV can enhance training efforts within law enforcement to better engage and support the victims, which, in return, aids in holding perpetrators accountable for their crimes.

Literature

Physical and Sexual Violence

Violence against intimate partners is not a new issue, but rather one that has been firmly rooted in patriarchal dominance for millennia. Social science researchers have been studying the social phenomena of violence amongst intimate partners for decades (Browne, 1993; Carden, 1994; Gelles & Harrop, 1989; Tjaden & Thoennes, 2000a; Walker, 1999), with the focus of this research traditionally on male perpetrators and female victims using the standard Duluth model of power and control that considers all violence as patriarchal.
It is widely recognized that the majority of all the sexual assaults against adult women are committed by known assailants (Center for Disease Control, 2003; Smith et al., 2017; Stermac, Del Bove, & Addison 2001; Tjaden & Thoennes, 2000b). This person is often an intimate partner, but also can include other acquaintances or other family members, as in cases of the sexual abuse of children. It is difficult, however, to estimate the actual incidence of sexual assault by an intimate partner not only because very few cases are reported, but also because the relationship with the perpetrator is often unclear (Hensing & Alexanderson, 2000; Tjaden & Thoennes, 2000a). For example, most U.S. statistics will record sexual abuse by a spouse, but record sexual abuse by a boyfriend as an “other acquaintance,” thereby making it difficult to differentiate a boyfriend from a classmate or other friend. In one of the few available studies that isolates sexual abuse by an intimate partner of any kind, it was estimated that 30 percent of all adult rape cases were committed by husbands, common law partners, or boyfriends (Mahoney & Williams, 1998).

Little research has been conducted that links sexual violence to victims experiencing physical violence in intimate partner relationships. Data from the National Intimate Partner and Sexual Violence Survey (NISVS), the most recent detailed, victimization survey-based national data, indicate that 18.3 percent of women in the U.S. have been raped in their lives; 51.1 percent of these victims were raped by an intimate partner (Black et al., 2011). The same data reveal that among victims of IPV, 56.8 percent have experienced physical violence only (without rape and stalking), and 4.4 percent experienced only rape; 35.6 percent of victims of IPV, however, report being subjected to multiple forms of rape, stalking, or physical violence. Although most researchers agree that sexual violence is often prevalent in such relationships, it remains unclear if there is a pattern or sequence in which they occur.

**Gender**

Both men and women can be victims of physical IPV. Although physical violence against men can be very serious, women are overwhelmingly the victims of IPV, with estimates that that 85 percent of IPV victims are female (Reninson & Welchans, 2003). Data from the NISVS report that 35.6 percent of women in the United States will experienced rape, physical violence, or stalking by an intimate partner (Black et al., 2011). In addition to women being more likely victims of IPV, women are significantly more likely than men to be injured during an assault (Tjaden & Thoennes, 1998).

Like physical IPV, both men and women may experience intimate partner sexual assault, but women are more likely to experience and report sexual victimization by an intimate partner. It was reported, for example, that 16.4% of women will be raped by an intimate partner during the female lifetime, compared to 7.0% of men (Smith et al., 2017). As with physical abuse, women are significantly more likely than men to be injured during an assault. Because women are significantly more likely to be victims of IPV, as well as be injured during an attack by an intimate partner, the current research focuses only on the female victim.
**College-Age Women**

IPV affects women regardless of their age, but teens and college students are particularly vulnerable. In fact, it is suggested that women aged 16–24 experience the highest per capita rate of IPV (Rennison & Welchans, 2003). A review of the existing literature indicated that 10% and 50% of college students experience some form of intimate partner violence (Kaukinen, 2014). In reference to college women specifically, it has been reported that 21 percent of college students have experienced dating violence by a current partner, and 32 percent report dating violence by a previous partner (Sellers & Bromley, 1996). The most recent nationwide survey-based research revealed that almost 24% of female students reported having experienced sexual assault since entering college (Cantor et al., 2015). Further, a meta-analysis of research examining campus sexual violence estimated that completed rapes of college women ranged from 0.5% to 8.4% (Fedina, Holmes, & Backes, 2018). The same study estimated unwanted sexual contact of college women ranged from 1.8% to 34%.

It is evident that the college population is especially vulnerable to both physical and sexual IPV. Because the age range of traditional college students places them at risk, and alcohol and drugs are common on college campuses, several characteristics combine to increase the risk of victimization for women in this population. As such, present research focus is on college women due to their high risk for both physical and sexual IPV.

**The Co-Occurrence of Physical and Sexual Intimate Partner Violence**

Although most researchers agree that both physical and sexual IPV are often prevalent in violent relationships (Taylor & Gaskin-Laniyan, 2007), it remains unclear if there is a pattern or sequence in which they occur. A small body of literature has devoted attention to the incidence of sexual abuse in intimate partner relationships where physical violence is also present (Black et al., 2011; Campbell & Seiken, 1999; McFarlane & Malecha, 2005; Painter & Farrington, 1998). However, there is discrepancy in reporting this frequency (ranging from 35 percent to 68 percent), and it remains unknown if there is a difference in these types of violence in marital versus dating relationships. A summary of the extant literature can be found in Table 1.

**Table 1. Research on Co-Occurring Physical and Sexual Intimate Partner Violence.**

<table>
<thead>
<tr>
<th>Reference</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bergen (1999); Black et al. (2011); Breiding, Chen, &amp; Black, 2014; Koss et al. (1994); Smith et al., (2017)</td>
<td>Perpetrators who are physically violent towards their intimate partners are often sexually violent as well.</td>
</tr>
<tr>
<td>Bergen (1999)</td>
<td>Women who are battered are at a greater likelihood of being raped by their partner.</td>
</tr>
<tr>
<td>Black et al. (2011) – National Intimate Partner and Sexual Violence Survey (NISVS)</td>
<td>35.6 percent of victims of IPV report being subjected to multiple forms of rape, stalking, or physical violence.</td>
</tr>
<tr>
<td>McFarlane &amp; Malecha (2005)</td>
<td>Sexual assault occurred repeatedly within intimate partner relationships, with almost 80 percent of women reporting more than one incident of forced sex.</td>
</tr>
</tbody>
</table>
Two-thirds of women who had been physically assaulted had also been sexually assaulted by that partner.

Three in four women over age eighteen who reported being raped were physically assaulted by a current or former husband, cohabitating partner, or date.

| National Coalition Against Domestic Violence (2005) | Anywhere between 20 percent and 50 percent of all battered women are raped by their partners at least once during their relationship. |

It is known that women who are victims of both physical and sexual aggression in their intimate partner relationship are at higher risk for more severe physical and psychological maladies (McFarlane & Malecha, 2005). For example, women suffering both types of abuse suffer severe physical consequences including broken bones, facial contusions, and knife wounds (Bergen, 1999). These women also have a high reported prevalence of irritable bowel syndrome, gynecological and pregnancy complications, chronic pain, and difficulty sleeping (Black et al., 2011). The National Coalition against Domestic Violence (2005) has reported that women who are both physically and sexually abused are at higher risk of being injured or killed than women who are victim to only one form of abuse. It is important to recognize that the physical or psychological consequences of abuse are often different. This is especially important when addressing the needs of victims, as the consequences of both types of abuse need to be addressed.

The lack of attention to co-occurring IPV leaves many questions unanswered. For example, do abusers use physical force or threats to try to have sex with victims? Or, does sexual assault follow a battering incident or when an abuser wants to reconcile after a fight and thus coerces his partner into having sex? One study reported that two-thirds of women were sexually assaulted at the end of their relationship (Bergen, 1999). Does this mean that physical abuse occurred earlier in the relationship and escalated to sexual violence? Although research is lacking with regard to examining the co-occurrence of physical and sexual abuse in intimate partner relationships, it is hard to ignore the data suggesting that the two frequently occur in tandem (Campbell & Soeken, 1999; McFarlane & Malecha, 2005; Painter & Farrington, 1998). While the present study does not attempt to answer all of these questions, it is a necessary and appropriate first step in beginning to explore dual-victimization.

Because dual-victimization is likely a common occurrence among victims, it is essential for law enforcement, the court system, and the corrections system to understand that physical abuse and sexual abuse are two different crimes, but often occur together. Victims of these crimes deserve to have both types of violence addressed by both the criminal justice and social service systems. In receiving services following their victimization, women will require attention to both physical and sexual violence, rather than only one of the two. Coordinating services to address these different needs will help
to facilitate the healing process. More importantly, however, is creating an opportunity to intervene in such relationships to prevent further trauma and suffering. As effective strategies are identified, research examining how to best implement such programs will become important.

The Current Study
The purpose of this study is to explore the co-occurrence of physical and sexual violence in abusive relationships of college-age, female victims. Using the White, Smith, and Humphrey (2002) data, the study addresses the following research questions:
1. What is the incidence of physical and sexual IPV?
2. Is there a significant relationship between various types of physical IPV and sexual IPV victimization?
3. What specific types of physical IPV are significantly related to sexual IPV when controlling for other types of physical IPV in the model?

To address these questions, univariate, bivariate, and multivariate analyses are employed. Specifically, frequencies and modes are used to address the first research question. Cross tabulations and chi-square analysis assist in answering if there is a significant relationship between the various types of physical IPV and sexual IPV victimization. Finally, binary logistic regression aids in predicting sexual victimization from the set of variables encompassing physical IPV.

Methodology

Sample
The data for this study, Longitudinal Study of Violence against Women (LSVAW; White, Smith, & Humphrey, 2002), were drawn from a U.S. National Institute of Health-funded five-year longitudinal study of victimization and perpetration among male and female college students at a state-supported school in the United States. The original purpose of the LSVAW was to examine the developmental antecedents of physical and sexual abuse against women. While these data were collected nearly two decades ago, their utility remains strong and relevant as evidenced by recent research (see for example Culatta et al., 2017; Tamburello, Sherman, & Gault, 2014; Walters, 2019). Only the fourth wave of the study was used in the current study; participants were primarily seniors and 21 years of age (N = 727).

Measures
As previously noted, research has acknowledged that both physical and sexual IPV are often prevalent in violent relationships. Because the few studies that have indirectly examined this phenomenon tend to report that sexual violence is sometimes also present in physically abusive relationships, it implies that most sexually violent relationships were first physically violent. In this context, physical and sexual violence are deemed to be co-occurring if they both occur in the relationship. As such, the dependent variable in the present study was a measure of total number of sexual victimizations and was dichotomized to isolate those who were and those who were not sexually victimized.
during this year. Sexual victimization was determined by indicating being victim to any of the following behaviors with an intimate partner: (1) sex play because of pressure, (2) sex play because of authority, (3) forced sex play, (4) intercourse because of pressure, (5) intercourse because of authority, (6) unwanted sex as the result of being under the influence of drugs, (7) forced intercourse, or (8) forced other sex. The independent variables in this study were drawn from types of physical violence—excluding sexual violence—probable in relationships in which intimate partner violence is present. Physical abuse was measured by indicating how often the intimate partner (1) threw something at her, (2) pushed, grabbed or shoved her, (3) hit or tried to hit her, but not with anything, or (4) hit or tried to hit her with something hard. Responses to items regarding physical abuse were zero, one, two to five times, six to ten times, and more than ten times (within the past year). All responses for the independent variables were recoded to be dichotomous, with responses indicating whether the respondents had ever or never been victimized, as well as coded for missing data.

Results
Univariate analyses were performed using sexual victimization and each of the four types of physical IPV. As can be seen in Table 2, the mode for each variable is “never.” This is not surprising because of the estimated incidence of victimization that is noted in the literature. Also consistent with the literature is the percentage (25.6 percent) of respondents reporting sexual victimization. Additionally, 14.8 percent of participants reported being pushed, grabbed, or shoved, making it the most common form of physical IPV. This is followed by being hit (7.8 percent), having something thrown at them (4.7 percent), and being hit with something hard (1.5 percent).

Table 2. Univariate and Bivariate Analysis of Victimization.
Response to Survey Questions Regarding Intimate Partner Violence.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mode</th>
<th>Percentage</th>
<th>Chi-Square</th>
<th>Phi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcome (Sexual Victimization)</td>
<td>0 (never)</td>
<td>74.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Never</td>
<td>25.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>He Threw Something</td>
<td>1 (never)</td>
<td>95.3</td>
<td>10.407*</td>
<td>.120</td>
</tr>
<tr>
<td></td>
<td>Never</td>
<td>4.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ever</td>
<td>4.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>He Pushed, Grabbed, or Shoved</td>
<td>1 (never)</td>
<td>85.2</td>
<td>8.950*</td>
<td>.111</td>
</tr>
<tr>
<td></td>
<td>Never</td>
<td>14.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ever</td>
<td>14.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>He Hit or Tried to Hit</td>
<td>1 (never)</td>
<td>92.2</td>
<td>16.738*</td>
<td>.152</td>
</tr>
<tr>
<td></td>
<td>Never</td>
<td>7.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ever</td>
<td>7.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>He Hit Me with Something Hard</td>
<td>1 (never)</td>
<td>98.5</td>
<td>2.132</td>
<td>.054</td>
</tr>
<tr>
<td></td>
<td>Never</td>
<td>1.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ever</td>
<td>1.5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p < .05
Table 2 also displays bivariate analyses. Crosstabulations and chi-square were used to determine if there was a statistically significant relationship between sexual IPV and each respective independent variable. The Pearson chi-square results indicate that there is a statistically significant relationship between “he threw something” ($\chi^2 = 10.407$, df = 5, $p < .05$), “he pushed, grabbed, or shoved” ($\chi^2 = 8.950$, df = 5, $p < .05$), and “he hit or tried to hit” ($\chi^2 = 16.738$, df = 5, $p < .05$). “He hit me with something hard” did not have a statistically significant relationship with sexual victimization.

Binary logistic regression was used to predict sexual victimization from the set of variables encompassing physical IPV victimization, including “he yelled,” “he threw something at,” “he pushed,” “he hit,” and “he hit with something hard.” When all four predictor variables are considered together, they significantly predict whether or not a woman was sexually victimized ($-2LL = 820.434$, df = 4, N = 727, $p < .05$). Other measures were used to determine how well the combination of variables predict sexual victimization. This model aimed to predict, from four other variables, whether or not women would be sexually victimized. Overall, 73.7 percent of the participants were predicted correctly.

Table 3 presents the odds ratios and logits, which suggest the odds of sexual victimization. The Wald test (4.480) indicates “he hit” is statistically significant; “He hit” has a significant effect on being sexually victimized ($B = .879$, $p < .01$), with a one unit increase towards having been hit by an intimate partner indicating a .88 increase in the log odds of being sexually victimized. This corresponds to an Exp(b), or odds ratio, of 2.409, which indicates that for a one unit increase towards being hit there is a 2.41 times greater odds of being sexually victimized than those not hit. No other predictors were statistically significant. The odds ratio and confidence interval for “he hit” was 2.409 (95%CI = 1.067 – 5.437); alternatively, there is a 141% increase in the odds of being sexually victimized.

Table 3. Multivariate Analysis of Victimization.
Binary Logistic Regression Predicting Who Will be Sexually Victimized (N = 727).

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>Exp(b)</th>
<th>Odds Ratio</th>
<th>p</th>
<th>95% CI for Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>He threw</td>
<td>0.553</td>
<td>0.416</td>
<td>1.738</td>
<td>1.184</td>
<td>.184</td>
<td>0.679 – 3.930</td>
</tr>
<tr>
<td>He pushed, grabbed, shoved</td>
<td>0.975</td>
<td>0.312</td>
<td>1.077</td>
<td>1.811</td>
<td>.811</td>
<td>0.589 – 1.986</td>
</tr>
<tr>
<td>He hit</td>
<td>0.879</td>
<td>0.415</td>
<td>2.409</td>
<td>1.034</td>
<td>.034</td>
<td>1.067 – 5.437</td>
</tr>
<tr>
<td>He hit with something hard</td>
<td>-0.232</td>
<td>0.682</td>
<td>0.795</td>
<td>0.734</td>
<td>.734</td>
<td>0.209 – 3.017</td>
</tr>
<tr>
<td>Constant</td>
<td>-1.940</td>
<td>0.531</td>
<td>0.144</td>
<td>0.000</td>
<td>.000</td>
<td></td>
</tr>
</tbody>
</table>

$-2LL = 820.434$

Pseudo R-squared = .03

Predicted probabilities were calculated for "he hit" including the other independent variables. The focus was on "he hit" victim and non-victim probability of being sexually victimized. As illustrated in the first equation below, the mode for all independent variables in the equation was 1 ("never"). To compare victims and non-victims of "he hit," the equation is solved, but for victims (2 = "ever"), as shown in the second equation.
The equations are as follows:
\[-2.427 + .553(1) + .075(1) + .879(1) - .232(1) = -1.152 \quad (e^{b}) = .316/1.316 = .240 = 24\%
\]
(Probability of being sexually victimized for those not hit by an intimate partner)

\[-2.427 + .553(1) + .075(1) + .879(2) - .232(1) = -.287 \quad (e^{b}) = .751/1.751 = .429 = 43\%
\]
(Probability of being sexually victimized for those hit by an intimate partner)

Respondents who were hit by an intimate partner (but not pushed, had something thrown at them, or hit with something hard) are 19% more likely to be sexually victimized than non-victims (43 percent – 24 percent).

Discussion
Over 25% of the females in this study report being sexually victimized, and being pushed, grabbed, or shoved is the most common form of intimate partner violence. There is also a statistically significant relationship between sexual victimization and having an intimate partner throw something at, push, grab, or shove, and hit his victim. This would suggest that individual indicators of IPV are related to sexual victimization, and illustrate the co-occurrence of different forms of IPV in relationships. Additionally, at least one type of physical abuse—hitting—is a predictor of sexual victimization.

Forthcoming studies should further examine the co-occurrence and progression of physical and sexual victimization, as it remains unknown if dual victimization is an underlying pattern or if there is, in fact, a relationship between physical and sexual victimization. It is of importance that future research includes all waves of the longitudinal study. This will provide a better understanding of the overall scope of IPV in college females, as well as highlight specific times at which a female is at increased risk for victimization. Additional measures of IPV are also necessary to better encompass all forms of physical and sexual violence. Measures of other types of IPV, such as verbal and psychological, should be included, as it has been hypothesized that these types of abuse are often the stepping stones to physical and sexual abuse. Specifying the perpetrator of both types of violence is also imperative to understanding the extent and dynamics of relationships with co-occurring physical and sexual IPV.

The sample that was utilized in this study may restrict generalizability because college students could differ from non-college students in regard to IQ, age, and social background (Jung, 1969). It would be valuable for subsequent research to survey non-collegiate subjects to see if there are differences in regard to intimate partner violence. Demographic information, such as race/ethnicity, socioeconomic status, and presence of drugs/alcohol, was excluded from analysis in this study. The purpose of the proposed study is exploratory in nature: to examine the dynamics of co-occurring violence. As such, information that has been known to correlate to victimization was excluded. With that said, there is no literature that suggests that demographic information would influence the dynamics relationships in which both physical and sexual IPV were present. However, it is acknowledged that there is likely a disproportionate number of minority and low income participants, as well as the presence of alcohol and/or drugs in such
relationships (Black et al., 2011). As such, it remains unknown if these characteristics play a role in the escalation or severity of dual victimization.

Nonetheless, these findings are particularly important because they propose that there may be a progression of violence, which would suggest there are indicators for early intervention. Also of note, there is a disturbing number of college females being sexually victimized, which indicates the need for additional awareness and prevention activities on college campuses. The results of this study highlight the extent to which victims of physical IPV are also surviving sexual victimization. It is essential that victim service providers take note of this dual victimization and address the need for new experimental instruments to better help victim service providers address and treat needs.

References


