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The Relationship Between Marijuana Use and Intimate Partner Violence in a Nationally Representative, Longitudinal Sample

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Abstract

Intimate partner violence is a significant public health problem, as these behaviors have been associated with a number of negative health outcomes including illicit drug use, physical injury, chronic pain, sexually transmitted diseases, depression, and posttraumatic stress disorder. The current study examined the association between marijuana use and intimate partner violence using a longitudinal survey of adolescents and young adults ages 15 to 26 years. Data were obtained from 9,421 adolescents in the National Longitudinal Study of Adolescent Health (Add Health) Waves 1 through 4 (1995–2008). Marijuana use was measured in the past year at each wave and participants were categorized as “users” or “nonusers.” Partner violence was constructed using six items (three pertaining to victimization and three concerning perpetration) from Wave 4 (2007–2008). Using these six items, participants were categorized as “victims only,” “perpetrators only,” or “victims and perpetrators.” Survey multinomial regression was used to examine the relationship between marijuana use and intimate partner violence. Consistent use of marijuana during adolescence was most predictive of intimate partner violence ($OR = 2.08, p < .001$). Consistent marijuana use ($OR = 1.85, p < .05$) was related to an increased risk of intimate partner violence perpetration. Adolescent marijuana use, particularly consistent use throughout adolescence, is associated with perpetration or both perpetration of and victimization by intimate partner violence in early adulthood. These findings have implications for intimate partner violence prevention efforts, as marijuana use should be considered as a target of early intimate partner violence intervention and treatment programming.

Keywords

intimate partner violence; dating violence; longitudinal; victimization; marijuana

Intimate partner violence is a serious public health problem. Intimate partner violence is associated with negative health consequences, including an elevated risk of unhealthy weight control behaviors, low self-esteem and personal insecurity, pregnancy, suicidality, sexually transmitted diseases, chronic disease, physical injury, and substance use (Ackard, Neumark-Sztainer, & Hannan, 2003; Campbell, 2002; Coker et al., 2000; Kim-Godwin, Clements, McCuiston, & Fox, 2009; Pandey, Dutt, & Banerjee, 2009; Roberts, Auinger, &

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Declaration of Conflicting Interests

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Klein, 2006; Silverman, Raj, Mucci, & Hathaway, 2001; Smith, Elwyn, Ireland, & Thornberry, 2010; Swahn, Bossarte, & Sullivent, 2008). According to the National Violence Against Women Survey, 16.3% of men and 19.7% of women between the ages of 18 and 25 report experiencing intimate partner violence within their lifetime. Between the ages of 26 and 35, these rates are even higher (23% among men and 31.2% among women; Coker et al., 2002). Another study reports even higher rates of intimate partner perpetration and victimization among 22-year-olds (40.2%), 23-year-olds (36.2%), and 24-year-olds (18.3%; Gomez, 2011). Therefore, an understanding of the etiology of intimate partner violence is necessary to prevent onset and continuity into adulthood (Chen & White, 2004; Gomez, 2011; Hines & Straus, 2007; Jain, Buka, Subramanian, & Molnar, 2010; Temple, Stuart, & O'Farrell, 2009).

There is evidence of a relationship between illicit drug use and intimate partner violence (El-Bassel, Gilbert, Wu, Chang, & Fontdevila, 2007; Moore et al., 2008; Roberts, Klein, & Fisher, 2003; Temple & Freeman, 2011). In a meta-analysis of 96 studies, Moore et al. (2008) found that use of marijuana was significantly associated ($d = .22$) with partner violence among all ages. Other studies have demonstrated support for the positive relationship between marijuana use and intimate partner violence among high school students (Chase, Treboux, & O'leary, 2002; Malik, Sorenson, & Aneshensel, 1997; Sorenson & Berk, 2001), college students (Nabors, 2010), and clinical populations (Chermack, Walton, Fuller, & Blow, 2001; Murphy, O'Farrell, Fals-Stewart, & Feehan, 2001). The generalizability of these findings to a general sample of adolescents and young adults is unclear.

Much of the research on intimate partner violence has tended to concentrate only on perpetration and perpetrators *or* only on victimization and victims without assessing the overlap between the two (Gottfredson, 1981; Schreck, Stewart, & Osgood, 2008). Gottfredson (1981) suggests that factors associated with risks for victimization may also be associated with risk for offending, suggesting that similar mechanisms may be operating in both. The extant research that has been conducted on the overlap between perpetration and victimization has paid little attention to the longitudinal patterning of perpetration and victimization (Lauritsen & Laub, 2007). The current study will address this gap in the literature by examining the role of marijuana use by perpetrators only, victims only, and those who are both victims and perpetrators of intimate partner violence in a nationally representative sample followed over a period of 11 years.

To our knowledge, only seven studies have examined the relationship between marijuana use and intimate partner violence using longitudinal data. Of these studies, three used clinical populations (El-Bassel, Gilbert, Wu, Go, & Hill, 2005; Fals-Stewart, Golden, & Schumacher, 2003; Walton, Chermack, & Blow, 2002), two were conducted with specific populations (i.e., only females or African Americans; Railford, Wingood, & Diclemente, 2007; Testa, Livingston, & Leonard, 2003), one considered the effect of marijuana use with other illicit drugs (Roberts et al., 2003), and one focused on young adults between the ages of 18 and 27 who were cohabitating or married (Woffordt, Mihalic, & Menard, 1994). With the exception of Walton et al. (2002), who classified intimate partner violence as "expressed" or "received," all studies categorized intimate partner violence as "victims only," "perpetrators only," or a heterogeneous "victim or perpetrator" (e.g., any intimate partner violence) category. The current study is unique in that it uses a nationally representative sample of adolescent youth (beginning at age 15) and follows them into adulthood (until age 26). This longitudinal design is necessary to understand how the effects of differential patterns of marijuana use over the life-course influence participation in intimate partner violence. For example, adolescents who use marijuana at one point in their life and desist thereafter may be at lower risk for intimate partner violence compared with an adolescent

who uses marijuana consistently throughout adolescence and young adulthood. This is the first study to evaluate the longitudinal effect of marijuana use on intimate partner violence.

The measures of intimate partner violence used in this study (nonviolence, victim only, perpetrator only, and victim and perpetrator) allow us to examine perpetration and victimization of intimate partner violence as distinct measures, including a “victim and perpetrator” overlap category. Use of this overlap category of perpetration and victimization is a contribution to the literature on intimate partner violence, as the combination of both behaviors has been largely underresearched (Gottfredson, 1981; Schreck et al., 2008). The few studies evaluating the overlap between victimization and perpetration have found substantial support for this group (Maldonado-Molina, Jennings, Tobler, Piquero, & Canino, 2010; Jennings, Park, Tomsich, Gover, & Akers, 2011). Besides Jennings et al. (2011), who found substantial support for the perpetration–victimization overlap in dating violence in a sample of South Korean college students, no studies to our knowledge have applied the overlap perspective to intimate partner violence in a nationally representative sample of adolescents and young adults in the United States.

Specifically, the purpose of this study is to test the effect of patterns of marijuana use in adolescence and early adulthood (between ages 15 and 21) on intimate partner violence (by age 26) in young adulthood. We hypothesized that consistent marijuana users are at greater risk of being perpetrators, and both victims and perpetrators of intimate partner violence compared with nonusers.

Method

Research Design

Data were obtained from Waves 1 (1994–1995), 2 (1995–1996), 3 (2001–2002), and 4 (2007–2008) of the restricted-use sample of the National Longitudinal Study of Adolescent Health (Add Health). The Add Health is a nationally representative sample of 80 high schools and 52 middle schools in the United States, using a two-stage cluster design and selecting students from school rosters. Data were collected from an in-home face-to-face interview. Adolescents and their parents were interviewed separately at Wave 1. Subsequent waves focused only on the adolescents who participated in Wave 1 (parents were not reinterviewed). Details of data-collection and survey procedures are described elsewhere (Harris et al., 2003). After excluding cases with missing data weights at Wave 4 (Chantala & Tabor, 1999), 9,421 participants remained in the data set. The exclusion of cases without weights was necessary to include only the participants in the cohort sample of the survey.

Measures

Dependent Variable

Intimate partner violence: The dependent variable was created with six items measuring perpetration and victimization reported as occurring during the 12 months prior to Wave 4 participation. Respondents were not given any formal definition of “intimate partner”; therefore, “partner” was left to the respondents’ individual interpretation. Three items measured victimization: (a) “How often did (your partner) threaten you with violence, push or shove you, or throw something at you that could hurt?” (b) “How often has (your partner) slapped, hit or kicked you?” and (c) “How often did you have an injury, such as a sprain, bruise, or cut because of a fight with (your partner)?” Participants who reported any of these victimization behaviors were categorized as victims.

Three items measured perpetration: (a) “How often did you threaten (your partner) with violence, push or shove (him or her), or throw something at (him or her) that could hurt?”

(b) “How often did you slap, hit, or kick (your partner)?” and (c) “How often did (your partner) have an injury, such as a sprain, bruise, or cut because of a fight with you?” Participants who reported any of these perpetration behaviors were categorized as perpetrators. If the respondent reported both victimization and perpetration behaviors, he or she was categorized as both a victim and a perpetrator.

Independent Variables—Four independent variables were derived from the marijuana use variable at Waves 1, 2, and 3: “[In your life (Wave 1)] *or* [since month of last interview (Waves 2 & 3)], how many times have you used marijuana?” Respondents who reported no marijuana use at all waves were classified as “nonmarijuana users.” Respondents who reported marijuana use at Wave 1 or 2 (during adolescence, ages 15 or 16) but no use at Wave 3 (early adulthood, age 21) were considered “desistors from marijuana use.” Participants who reported marijuana use at Wave 3 but not during adolescence (Waves 1 or 2) were considered “initiators.” Respondents who reported marijuana use at all waves were categorized as “consistent” users. These four groups have been used in previous research as differential categories of substance users (Maldonado-Molina, Reingle, & Jennings, 2011; Sampson & Laub, 2003).

Covariates—We used measures of all covariates at Wave 1 as predictors of intimate partner violence at Wave 4 to account for baseline risky behavior and found that covariates did not vary substantially over time.

Depression: This mental health status variable was measured with one item, “How often in the past week have you felt depressed?” Values for this variable were dichotomized into “no instances of depression” and “one or more instances” of depression in the past week.

Parental involvement: Parental influence and involvement was measured using a scale of 20 items (10 for maternal involvement and 10 measuring paternal involvement; Prado et al., 2009). Each individual item was dichotomized, and the scale was the sum of all 20 items (range: 0–20). For both their mother and their father, respondents answered 10 items about activities occurring in the past 4 weeks: (a) going shopping; (b) playing a sport; (c) attending a religious or church-related event; (d) talking about someone they are dating or a party they attended; (e) attending a movie, play, concert, or sporting event; (f) talked about a personal problem they were having; (g) had a serious argument about their behavior; (h) talked about work or grades; (i) worked on a project for school; and (j) talked about other things they are doing in school. Cronbach’s coefficient alpha for this scale was .74.

Binge drinking: Binge drinking was measured using the item, “In the past 12 months, on how many days did you drink five or more drinks in a row?” Adolescents who reported at least one episode of binge drinking in the past year were considered to have participated in “binge drinking,” whereas those who did not report this behavior were categorized as “nonbinge drinkers.”

Peer marijuana and alcohol use: Peer alcohol use was measured using one item, “Of your three best friends, how many drink alcohol at least once a month?” For analysis, we dichotomized peer alcohol use as “no friends” and “one or more friends.” Similarly, respondents were asked, “Of your three best friends, how many use marijuana at least once a month?” For analysis, we dichotomized peer marijuana use as “no friends” and “one or more friends.”

Parental alcohol use: Parental alcohol use was measured using one item on the parent survey, “How often do you drink alcohol?” For analysis, respondents were dichotomized as “nonusers” and “alcohol users.”

Demographic—Respondents were asked to self-report their race as “White,” “Black or African American,” “American Indian or Native American,” “Asian or Pacific Islander,” and/or “Other” during data collection. Persons who reported multiple races were coded as “Other.” Ethnicity was recorded using the item, “Are you of Hispanic or Latino background?” Those who responded “yes” to this ethnicity item were categorized as “Hispanics,” regardless of how the “race” item was answered. The respondents’ age was calculated by subtracting the month of birth from the Wave 1 survey participation (calculated from the middle of the month for anonymity purposes).

Analytical Strategy

Consistent with the recommendations for Add Health data analysis, all analyses were conducted considering the clustered two-stage sampling design, and observations were weighted due to the unequal probability of selection of each primary sampling unit (Chantala & Tabor, 1999). To account for the clustering of individuals within schools, survey multinomial logistic regression was used to provide weighted effect estimates and confidence intervals. Respondents in the “nonviolent” category served as the dependent variable reference group for all models, and the “nonmarijuana users” served as the reference group for all groups of marijuana users. Three models were created to test the effects of marijuana use patterns on intimate partner violence. The first model tested the bivariate relationship between intimate partner violence and each covariate described previously (demographics and other risk and protective factors). Only predictors that met the inclusion criteria ($p < .10$) were included in the multivariate models. The second model was a bivariate model testing the relationship between marijuana use and intimate partner violence. The final model was a multivariate analysis of the effects of marijuana use on intimate partner violence, accounting for all covariates retained from the initial bivariate model. All analyses were conducted using STATA 10 (StataCorp, 2009).

Results

Participants

Table 1 reports demographic and relevant descriptive characteristics of the sample. Briefly, the cohort was 42.5% male, with a mean age of 15.26 ($SE = 0.02$) at Wave 1. Whites comprised 57.7% of the sample, 20.9% were African American, and 15.4% self-identified as Hispanic. More than 50% of the sample reported any marijuana use between ages 15 and 26, and approximately 30% reported some form of intimate partner violence at Wave 4 (12.0% were victims only, 4.7% were perpetrators only, and 11.9% reported both victimization and perpetration of intimate partner violence).

Bivariate analyses indicated that any pattern of marijuana use during adolescence and early adulthood was a significant risk factor for being a victim and a perpetrator of intimate partner violence (Table 2). In addition, consistent use of marijuana marginally predicted victimization ($OR = 1.28$; 95% CI [0.98, 1.69]).

Similar results were found when adjusting for covariates. Specifically, any pattern of marijuana use significantly predicted victimization and perpetration of intimate partner violence. The strongest effects were found among consistent marijuana users (perpetration: $OR = 1.84$, 95% CI [1.04, 3.28]; victim and perpetrator: $OR = 2.36$, 95% CI [1.89, 2.94]).

However, adolescents with any pattern of marijuana use had an increased risk of victimization and perpetration compared with nonusers.

In addition to marijuana use, males, African American/Black youth, and depression were significantly associated with increased risk for intimate partner violence. Males were significantly more likely than females to be victims of intimate partner violence ($OR = 2.44$; 95% CI [2.00, 2.99]) and less likely to be perpetrators ($OR = 0.47$; 95% CI [0.29, 0.74]). African American/Blacks were significantly more likely than Whites to be victims ($OR = 2.13$; 95% CI [1.55, 2.92]). Depression increased the odds of victimization and perpetration ($OR = 1.30$; 95% CI [1.05, 1.60]). In contrast, adolescents whose parents used alcohol were less likely to be both victims and perpetrators of intimate partner violence ($OR = 0.74$; 95% CI [0.59, 0.92]) compared with those whose parents did not use alcohol. Increased age reduced the odds of victimization and perpetration ($OR = 0.93$; 95% CI [0.86, 0.99]).

Discussion

Among young adults, all analyzed patterns of marijuana use during adolescence and early adulthood were associated with a 1.2 to 2.4 times increased risk of intimate partner violence perpetration and victimization. This study expands on prior research linking marijuana use with intimate partner violence (Moore et al., 2008) by using a longitudinal design and recognizing the overlap between perpetration and victimization in intimate partner violence. Specifically, we found that any use of marijuana during adolescence and young adulthood increases the risk of intimate partner violence. Consistent users were at greatest risk of perpetration and victimization.

The current study found substantial evidence for the “victim–offender” overlap among those who reported intimate partner violence (12% of the sample were both victims and perpetrators). Consistent marijuana use was a strong predictor of intimate partner violence for those who were both victims and perpetrators, independent of alcohol use and other risk factors. These findings are consistent with prior studies, which have found that any marijuana use is predictive of victimization and physical assault by their intimate partners (Moore et al., 2008; Nabors, 2010; Railford et al., 2007). This finding highlights the role of marijuana use, independent of alcohol use, as an important predictor of intimate partner violence and has a distinct effect on victimization and perpetration of intimate partner violence.

Unexpectedly, results indicated that males were more likely to be victims and less likely to be perpetrators of intimate partner violence compared with females. However, a small body of literature supports this finding (Chan et al., 2008; Gover, Park, Tomsich, & Jennings, 2011). This finding may be the result of underreporting of victimization by females or increased prevalence of the “victim–offender” overlap in intimate partner violence. In agreement with the extant literature on intimate partner violence, this study found that Blacks (Nabors, 2010) as well as persons suffering from depression (Roberts, 2003) were at risk for intimate partner violence.

Implications

These findings have a number of implications for intimate partner violence prevention. First, given that any marijuana use appears to increase the risk for intimate partner violence, violence-prevention strategies should include early and continued marijuana prevention efforts in existing intimate partner violence treatment and prevention programming. Second, knowledge regarding the link between marijuana use and intimate partner violence could be used to inform domestic violence treatment providers of issues related to intimate partner violence recidivism. If early and continual marijuana treatment is emphasized as an

important component of domestic violence treatment, then repeat occurrences of intimate partner violence among marijuana users may be reduced. Third, recognizing that there is a shared overlap between intimate partner violence perpetration and victimization and that marijuana use is a strong predictor for experiencing both outcomes, programs and policies that incorporate the complex relationship between marijuana and intimate partner violence could be developed to offer a more comprehensive treatment regimen. These holistic approaches are likely to be more beneficial than the current programs that are often “client specific” (e.g., they only serve drug users, *or* victims, *or* perpetrators; Karmen, 2007). Fourth, the finding that males are at increased risk for intimate partner violence indicates that males should be included in intimate partner violence prevention programming, which has traditionally been reserved for women. Culturally specific programming may also be relevant, as different risk factors may be present for Blacks compared with other groups, which may increase their risk for intimate partner violence. Future research is necessary to delineate these cultural-specific risk factors. Finally, the findings from this study may shed light on the potential harms of legislation legalizing marijuana use, as increased access to marijuana may increase use and, therefore, increase the harm associated with marijuana use (e.g., domestic violence, chronic diseases, and unintentional injuries).

Strengths and Limitations

The results from this study should be interpreted in light of a few limitations. First, because we could not assess marijuana use at the time of the violent behavior, it is unclear how event-specific marijuana use relates to intimate partner violence. Second, this study used secondary data to assess the effect of marijuana use on intimate partner violence, and there are a number of limitations to using secondary data. For example, we were unable to account for baseline intimate partner violence, as such measures were not included in Wave 1 of the Add Health data. Also, we could not differentiate the frequency of marijuana use over time, as frequent, consistent marijuana users may be at the highest risk for intimate partner violence. Third, data were collected using interview methodology, and, because of the sensitive nature of the items (intimate partner violence), behavior may be underreported. Finally, the analysis did not account for relationship characteristics (casual dating, marriage, cohabitation, discordance of race/ethnicity, demographics), and these variables may have an impact on intimate partner violence (Buzawa, Buzawa, & Stark, 2011).

This study has four important strengths. First, this study was able to evaluate the relationship between marijuana use and intimate partner violence across two developmental life-course periods (adolescence and early adulthood), a function of the longitudinal nature of the data. Second, the sample was nationally representative, enhancing the external validity of the findings. Third, this study used patterns of marijuana use over time rather than the typical dichotomized measure of drug use. Finally, we were able to evaluate the “victim–offender overlap” by including intimate partner violence and perpetration as a part of the outcome variable in this study.

In conclusion, any marijuana use during adolescence nearly doubles the risk for intimate partner violence perpetration and both victimization and perpetration. Future studies should examine the relationship between the eventspecific co-occurrence of marijuana use and intimate partner violence, as well as the differential effect of marijuana use on intimate partner violence by characteristics of the relationship (age discordance, number of common friends or acquaintances, etc.). These results have implications for intimate partner violence prevention efforts, as marijuana use should be a target of preventative and early intimate partner violence intervention and treatment programming.

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Biographies

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Table 1

Description of Sample Adolescents

	<i>n</i>	%
Intimate partner violence, Wave 4		
Nonviolent	6,472	71.26
Victim only	1,093	12.03
Perpetrator only	424	4.66
Victim and perpetrator	1,083	11.91
Marijuana use, Waves 1–3		
Nonuser	4,023	47.28
Desisted from marijuana use	756	8.88
Initiated marijuana use	2,594	30.49
Consistent marijuana use	1,138	13.35
Demographics, Wave 1		
Male	4,279	42.53
Age	15.26 (0.02)	
Race/ethnicity		
White	5,423	57.65
African American	1,969	20.93
Hispanic	1,448	15.41
Asian or Pacific Islander	632	6.71
Native American	244	2.59

Note: *N* = 9,421.

Table 2

Marijuana Use (Ages 15–21) Patterns as Predictors of Intimate Partner Violence (Age 26)

	Victim Only ^b		Perpetrator Only ^b		Victim and Perpetrator ^b	
	OR	95% CI	OR	95% CI	OR	95% CI
Unadjusted model^a						
No marijuana use	1.00	—	1.00	—	1.00	—
Desisted from marijuana use	0.99	[0.78, 1.24]	1.27	[0.93, 1.75]	1.27 ⁺	[1.05, 1.54]
Initiated marijuana use	1.14	[0.86, 1.50]	1.28	[0.80, 2.06]	1.54 ^{**}	[1.12, 2.11]
Consistent marijuana use	1.28 ⁺	[0.98, 1.69]	1.84 ^{**}	[1.18, 2.86]	2.36 ^{***}	[1.89, 2.94]
Adjusted model^a						
No marijuana use	1.00	—	1.00	—	1.00	—
Desisted from marijuana use	1.10	[0.80, 1.52]	1.33	[0.83, 2.14]	1.37 ⁺	[0.96, 1.96]
Initiated marijuana use	1.99	[0.78, 1.26]	1.40	[0.95, 2.05]	1.39 ^{**}	[1.12, 1.73]
Consistent marijuana use	1.24	[0.89, 1.73]	1.85 [*]	[1.04, 3.28]	2.08 ^{***}	[1.53, 2.85]
Covariates						
Peer alcohol use	0.97	[0.77, 1.18]	1.13	[0.82, 1.55]	1.24 ⁺	[0.97, 1.59]
Peer marijuana use	0.92	[0.72, 1.18]	1.42 ⁺	[0.97, 2.09]	1.22 ⁺	[0.97, 1.54]
Parental involvement	0.98	[0.95, 1.01]	1.01	[0.96, 1.05]	0.98	[0.95, 1.02]
Parental alcohol use	0.94	[0.79, 1.11]	0.98	[0.70, 1.39]	0.74 ^{**}	[0.59, 0.92]
Depression	1.08	[0.90, 1.31]	1.26	[0.90, 1.76]	1.30 [*]	[1.05, 1.60]
Binge drinking	1.31 [*]	[1.03, 1.67]	0.75	[0.53, 1.09]	1.09	[0.84, 1.40]

Note: Adjusted models were adjusted for race/ethnicity, gender, age, and listed covariates.

^aReference: Never marijuana use.

^bReference: Nonviolent.

⁺ $p < .10$.

^{*} $p < .05$.

^{**} $p < .01$.

 $p < .001$

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