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## Intimate Partner Violence in Young Adult Dating, Cohabiting, and Married Drinking Partnerships

**Jacquelyn D. Wiersma, Ph.D.,**

The Prevention and Methodology Centers, The Pennsylvania State University, University Park, PA 16802, jdw22@psu.edu

**H. Harrington Cleveland, Ph.D.,**

Human Development & Family Studies, The Pennsylvania State University, University Park, PA 16802

**Veronica Herrera, Ph.D., and**

Department of Criminal Justice, Indiana University, Bloomington, IN 47405

**Judith L. Fischer, Ph.D.**

Human Development & Family Studies, Texas Tech University, Lubbock, TX 79409

### Abstract

Using data from The National Longitudinal Study of Adolescent Health, this study examined intimate partner violence (IPV) and drinking partnerships in 741 young adults in male-female dating, cohabiting, and married relationships. Cluster analyses revealed four similar kinds of drinking partnerships: (a) congruent light and infrequent, (b) discrepant male heavy and frequent, (c) discrepant female heavy and infrequent, and (d) congruent moderate/heavy-frequent drinkers. Overall, there were no significant main effect differences across relationship type and clusters. The type of relationship and the type of drinking partnership interacted with contexts examined (i.e., type of violence severity, gender, and whether the violence was perpetration or victimization). Given the severity of IPV in couple relationships, additional empirical attention to drinking partnerships is warranted.

### Keywords

alcohol abuse; cluster analysis; intimate partner/marital abuse; National Longitudinal Study of Adolescent Health (Add Health); youth/emergent adulthood

## Intimate Partner Violence in Young Adult Dating, Cohabiting, and Married Drinking Partnerships

Violence in intimate relationships is an important social problem affecting many young adults. Research concludes that a common factor for intimate partner violence (IPV) in romantic relationships is the consumption of alcohol (Caetano, McGrath, Ramisetty-Mikler, & Field, 2005; Fals-Stewart, 2003; Fals-Stewart, Golden, & Schumacher, 2003; Leadley, Clark, & Caetano, 2000; Lipsky, Caetano, Field, & Larkin, 2005; O'Leary & Schumacher, 2003; White & Chen, 2002). Alcohol consumption (Windle, 2003) and violence are highest during young adulthood with violence peaking between 21 and 29 (Perkins, 1997). In addition, young adults may be in different types of intimate relationships that may have

varying levels of IPV. Thus, when examining rates of IPV, it is important to take into consideration the age of the individuals, as well as characteristics of the intimate relationship (e.g., dating, cohabiting, or married).

Researchers have started to understand the risk factors, characteristics, and correlates of alcohol and IPV, but there are still many gaps as well as contradictory findings in the literature. First, understanding the association of IPV and alcohol use in young adults needs further examination. Additional information on risks for IPV would advance understanding of the etiology of IPV. Second, measurement of IPV is especially important due to the pervasiveness of partner violence. Assessing both perpetration and victimization reports of IPV is critical to the documentation of IPV occurrences. For example, men and women exhibit different patterns of being perpetrators and victims of IPV depending on how IPV is measured and whether severity of IPV is taken into account (Weston, Temple, & Marshall, 2005).

Third, generalized findings on IPV are modified once both partners' behaviors and outcomes are examined. The majority of the IPV research relies on only one relationship member's report of their own and their partner's characteristics. Studies that include reports by both partners are better able to distinguish aspects of violence that are present (e.g., minor vs. severe, perpetration vs. victimization) in romantic relationships (Williams & Frieze, 2005). Without a corroborating report, an individual may exaggerate a partner's IPV and minimize one's own (Armstrong, Wernke, Medina, & Schafer, 2002). Similarly, relying on a single relationship member's report of drinking likely reduces the validity of the assessment of patterns of couple drinking (see Bauman & Ennett, 1994). Thus, couple data provide a dual perspective in the examination of the extent to which drinking and violence are related in young adult romantic relationships.

The current study addresses these previous limitations by examining IPV in terms of gender, level of violence (minor vs. severe), and type of violence (perpetration vs. victimization). The current study uses a sample of young adult couples assessed in 2001–2002, with two heterosexual members, between the ages of 18 and 26. We examine how IPV is associated with both couple members' drinking and whether the drinking behaviors within the couples are congruent or discrepant, light or heavy (termed "drinking partnerships"). The type of relationship (dating, cohabiting, married) and the type of drinking partnership (discrepant, congruent; light, heavy) provide important contexts for understanding violence. Thus, the goal of this study is to understand the associations between drinking and IPV occurrences in young adult heterosexual romantic relationships from varying perspectives.

### **Alcohol and Intimate Partner Violence**

Research has identified three conceptual models that may explain the association between alcohol use and IPV. These include the (a) spurious model, (b) indirect model, and (c) proximal model (Fals-Stewart, 2003; Leonard & Quigley, 1999). The "spurious model" posits that the association between alcohol and violence is the result of these behaviors being related to other factors that influence both drinking and aggression. For example, antisocial personality characteristics may contribute to the association between alcohol and violence. The "indirect model" argues that over the course of romantic relationships, conflicts occur because of long-term alcohol misuse or abuse by one or both partners. These conflicts may then escalate to violence. Thus, it is the effects of conflict-creating behaviors associated with alcohol misuse on the relationship itself, rather than the direct effects of alcohol, that are associated with partners' level of IPV.

The "proximal effects model" argues that individuals who consume alcohol are more likely to engage in partner violence because alcohol intoxication facilitates violence, which may be

mediated by the cognitive thought processes or the expectancies that are associated with alcohol (Chermack & Taylor, 1995; Critchlow, 1983; Fals-Stewart, 2003). There are a number of different mechanisms that may explain the association between substance use and IPV, some of which include impaired judgment and decision-making abilities (Chermack & Taylor, 1995; Steele & Josephs, 1990; White, 1997), biological factors (Meyer-Lindenberg et al., 2006), and frontal-lobe impairment (Wood, 1987). For example, an individual with frontal lobe impairment may have less ability to control emotional expression and may also lack appreciation for the impact of violent behavior.

Linked to the proximal effects model is the idea that violence results not from just any level of drinking, but from drinking that exceeds a certain threshold of quantity or frequency (O'Leary & Schumacher, 2003). Excessive and problem drinking are related to an increased risk of perpetration and victimization of violence in intimate relationships (Caetano et al., 2005; O'Leary & Schumacher, 2003; White & Chen, 2002). Caetano et al. (2005) found a positive association between women's frequency of drinking five or more drinks on one occasion and female-to-male partner violence (FMPV). Thus, higher, above threshold, quantities and frequencies of alcohol consumption are associated with IPV rather than alcohol consumption itself.

These models examine varying processes to explain the association between drinking and IPV occurrence. However, the models have one very important limitation: They consider the role of only one partner's drinking in the relationship. The potential influence of both partners' drinking on the occurrence of IPV within relationships is ignored. The "drinking partnership" research has established that there are different kinds of drinking partnerships (e.g., congruent, discrepant; light, heavy) and that these partnerships can have particular relational consequences (Roberts & Leonard, 1998). Following this perspective, the present study evaluates this fourth model, "drinking partnerships", to further explain the association between alcohol use and IPV. This model subsumes the indirect effects and the proximal effects models. Alcohol misuse behaviors that create conflicts (indirect effects) and that reflect heavy drinking (proximal effects) of one or both partners are considered in the drinking partnerships model.

### Drinking Partnerships

Based on empirical research, the drinking partnership literature classifies romantic pairs into drinking partnerships based on the (a) typical quantity and frequency of alcohol intake, (b) context in which drinking occurs, and (c) similarities between partners' drinking levels (Roberts & Leonard, 1998). Roberts and Leonard used cluster analyses to determine mutually exclusive groupings to identify drinking partnerships in married heterosexual couples. Using a similar approach, Leadley et al. (2000) examined the association between drinking partnerships and IPV. Limited to married and cohabitating couples only, their study found female-to-male and male-to-female perpetration and victimization were predicted by different combinations of alcohol use within couples. The couples who were discrepantly drinking (e.g., different quantity and different frequency) in their relationships reported more violence and more conflict (Leadley et al., 2000). The discrepant drinking couples were 3.5 times more likely to experience IPV compared to moderate drinking couples. The explanatory mechanism for drinking partnerships is couples' drinking incongruence – the greater the couple drinking incongruence (regardless of which partner is discrepant), the greater the expected level of relationship conflict and violence. Beyond drinking partnerships of married couples, the present study extends this framework to examine the association between alcohol use and IPV among dating, cohabiting, and married heterosexual couples.

## IPV in Young Adult Relationships

Level of commitment is a factor that may affect violence in some relationships as compared to other relationships. For example, ongoing victims of abuse report high levels of commitment to their relationship and love for their partners (Stith, Jester, & Bird, 1992). It has been suggested that relationships that are defined as more meaningful and serious (e.g., cohabiting and married couples) are at a higher risk for abuse than those that are casual (e.g., dating couples) (Arriaga, 2002; Mason & Blankenship, 1987). Consequently, dating couples may experience less IPV than cohabiting and married couples because dating couples are less involved in the relationship and involved for shorter periods of time (Stets & Straus, 1989). When comparing rates of IPV, length of the relationship is important: The longer an individual has been in a relationship, the more likely are acts of violence. Stets and Pirog-Good (1987) found that by adding one month to the length of romantic relationships, the probability of victimization of violence increases by 8%. Thus, cohabitating and married individuals may be more likely to experience violence as compared to dating couples because: (a) they are older and at an age where violence is more likely to occur (Perkins, 1997), (b) they have been in relationships of longer duration, and (c) they are in more committed and serious relationships that pose more barriers to leaving (Kurdek, 1998).

## Hypotheses

Leadley and colleagues (2000) examined drinking partnerships and IPV among cohabitating and married couples, but excluded dating couples. Stets and Straus (1989) examined the differences in IPV among all three types of relationships, but did not include drinking partnerships. The present study extends the work of these studies by examining the associations between drinking partnerships and the occurrence of IPV across dating, cohabitating, and married heterosexual relationships. By doing so, IPV can be analyzed across different types of young adult relationships and across different types of drinking partnerships. Further, both minor and severe levels of male-to-female partner violence (MFPV) and female-to-male partner violence (FMPV) are examined from the points of view of couple partners, taking into account perpetration and victimization. Analyses are structured by three general hypotheses. (H1) Examining differences in relationship type, the first hypothesis predicts that more highly committed couples (cohabitating and married) will experience higher rates of violence compared to dating couples. (H2) Examining cluster group differences in drinking partnerships, the second hypothesis predicts that discrepant heavy drinking couples will experience higher rates of violence in their relationships than congruent low drinking couples. (H3) Lastly, an important aspect of the study is that its design allows for detection of modifiers of these expected results: gender, levels of violence, and perpetration/victimization. The third hypothesis predicts that reports of IPV in male-female romantic relationships and across clusters will be moderated by (a) men's and women's reports, (b) minor versus severe types of violence, and (c) whether IPV was perpetration or victimization. This study explores these possible moderators and indicates if, and how, they may limit the generalizability of the tests of the first two main hypotheses.

## Method

### Data

The National Longitudinal Study of Adolescent Health (Add Health) is a nationally representative and longitudinal study of health-related behaviors of adolescents and their outcomes in young adulthood that began in 1995 (Udry & Bearman, 1997; see Udry, 2003 for design information). The current study uses data from the Romantic Pairs subsample of the 3<sup>rd</sup> Wave (collected in 2001–2002) of the Add Health. Wave III originally contained 15,197 respondents. During Wave III, an interviewer traveled to homes of all original Wave I respondents who could be contacted and were currently living in the continental United

States, Hawaii, or Alaska. A random selection of the main Add Health participants' romantic partners were asked to participate in the study, which yielded 1507 paired romantic partners. Relationships were eligible for inclusion in the romantic pairs subsample if they met three criteria: opposite sex relationships, a current relationship, and partner was 18 or older. This subsample was designed to collect information on attitudes, behaviors, and outcomes in late adolescence and young adulthood, particularly focusing on heterosexual romantic relationships. The romantic pairs subsample was approximately one-third married, one-third cohabitating, and one-third dating partners.

Of the 1507 romantic pairs, the present study retained only those of the primary participants and partners who both reported drinking at least one alcoholic beverage in the past 12 months. This method parallels Roberts and Leonard's (1998) study on married drinking partnerships. In recognition of the higher rates of IPV in young adulthood, only couples with a difference of 6 years or less between primary participants' and partners' ages were included. By using a cutoff of 6 years or less, we were able to create a subsample of young adults all of whom were between the ages of 18 and 30 (a cutoff of more than 6 years would have created a subsample with a couple member who was older than 30 years old and who was not generalizable to young adulthood). After applying these restrictions along with a restriction of no missing data, the analysis dataset consisted of 741 romantic pairs. Using *t*-tests on the original Romantic Partner Add Health sample of romantic partners ( $n = 1507$ ) compared to the study's sample ( $n = 741$ ) there were no significant differences on age, ethnicity, and gender, indicating this subsample was demographically similar to the original Add Health sample. However, because we dropped couples if either partner was a non-drinker, there was a substantial difference between the original 1507 pairs and the subsample of 741 pairs in alcohol use. For example, males and females drank approximately 3 drinks on average in the original sample, whereas in the subsample, males and females reported 4–5 drinks on average. Thus, the subsample does differ from the overall Add Health Romantic Pairs sample in terms of drinking behavior.

Couples' current relationship status was coded as dating ( $n = 234$ , 32%), cohabitating ( $n = 280$ , 38%), or married ( $n = 227$ , 31%). Couples were White/Caucasian (68%), African American (9%), Hispanic (11%), Native American (4%), and Asian/Pacific Islander (8%). Average level of education was approximately one year beyond high school ( $M = 13.36$ ,  $SD = 2.02$ ), and 41% were currently attending college. Because couple members differed on their reports of the exact length of relationship ( $r = .85$ ,  $p < .001$ ), we took the average of both reports, with relationship length ranging from 1 to 130.50 months ( $M = 37.23$ ,  $SD = 25.98$ ). Table 1 presents demographic information on the study sample. Specifically, couple members were older in more committed relationships, with dating couples averaging 21.53 years ( $SD=1.84$ ), 22.26 for cohabitating couples ( $SD=2.11$ ), and 23.19 for married couples ( $SD=2.00$ ).

## Measures

*Commitment*, used as a demographic variable, was assessed by asking two questions of both partners answered on a 5-point scale: "How committed are you to your relationship with partner?" (1=*not at all* to 5=*completely*) and "How likely is it that your relationship with partner will be permanent?" (1=*almost no chance* to 5=*almost certain*). The two items were averaged with higher values indicating greater commitment ( $M = 4.50$ ,  $SD = .84$  for females;  $M = 4.36$ ,  $SD = .94$  for males).

**Intimate partner violence**—Both minor and severe male-to-female partner violence (MFPV) and female-to-male partner violence (FMPV) were assessed by eight questions. Reports of IPV were for the current romantic relationship, and the time frame was for 'past



year' only if couples were in a relationship longer than 12 months; couples together less than 12 months were given no time frame for any IPV in the current relationship. We assessed both perpetration and victimization and minor vs. severe IPV. "Perpetration" of minor violence included two questions: "How often in the past year have you threatened your partner with violence, pushed, or shoved him/her, or thrown something at him/her that could hurt?" and "How often in the past year have you slapped, hit, or kicked your partner?" Two questions assessed severe violence perpetration: "How often in the past year have you insisted on or made your partner have sexual relations with you when he/she didn't want to?" and "How often in the past year has your partner had an injury, such as a sprain, bruise, or cut because of a fight with you?" The two items for minor violence perpetration were summed, as were the two items for severe violence perpetration. These four questions were also worded to assess perceptions of "victimization" of violent acts from partners. Similar to perpetration items, summing procedures were followed for minor and severe victimization outcomes. Responses ranged from 0 (*never*) to 6 (*more than 20 times*;  $\alpha=.84$ ).

The procedures yielded eight IPV variables, designated within person variables. These within variables distinguished between sex of reporting partner, direction of violence (perpetration or victimization of violence), and level of violence (minor or severe). The eight variables were: (a) female victimization characterized by minor violence ( $M = .36$ ,  $SD = .95$ ), (b) female perpetration of minor violence ( $M = .39$ ,  $SD = .90$ ), (c) female victimization characterized by severe violence ( $M = .14$ ,  $SD = .47$ ), (d) female perpetration of severe violence ( $M = .11$ ,  $SD = .41$ ), (e) male victimization characterized by minor violence ( $M = .41$ ,  $SD = .98$ ), (f) male perpetration of minor violence ( $M = .37$ ,  $SD = .86$ ), (g) male victimization characterized by severe violence ( $M = .15$ ,  $SD = .53$ ), and (h) male perpetration of severe violence ( $M = .08$ ,  $SD = .35$ ). Because IPV variables were highly skewed (positive), log transformation was performed and used in the analyses (Tabachnick & Fidell, 1996).

It should be noted that the Add Health questions do not fit perfectly into minor and severe violence as found in a scale with established validity, such as the Conflict Tactics Scale. However, we tested these items by running frequencies and correlations on all the 8 variables. Based on these analyses, we found two distinct groupings. Items regarding the minor forms of violence (e.g., threaten; slap/hit/kick) were more correlated with each other than with the other two variables of severe violence (e.g., sexual relations; injury). For example, the item of "threatening violence" correlated higher with the "slap/hit/kick" item ( $r = .77$ ,  $p < .001$ ) as opposed to either of the severe items, "sexual relations" ( $r = .36$ ,  $p < .001$ ) and "injury" ( $r = .52$ ,  $p < .001$ ). Combining the participants' responses into two groups of minor and severe captured the nature of associations of these measures.

**Alcohol frequency and quantity**—Comparable to Roberts and Leonard's (1988) study of drinking partnerships that examined couple reports of both frequency and quantity of alcohol consumption, we used self-assessments of both frequency and quantity for each couple member. Frequency was measured with the following item: "During the past 12 months, on how many days did you drink alcohol?" Responses were 1 = *1 or 2 days in the past 12 months*, 2 = *3 or 4 days in the past 12 months*, 3 = *once a month*, 4 = *2 to 3 times a month*, 5 = *1 to 2 days a week*, and 6 = *every day or almost every day*. For women the mean response was 2.58 ( $SD = 1.19$ ). For men the mean response was 3.28 ( $SD = 1.31$ ). Quantity of alcohol consumption was assessed by each member of the couple answering: "Think of all the times you have had a drink during the past 12 months. How many drinks did you usually have each time?" A "drink" was defined as a glass of wine, a can of beer, a wine cooler, a shot glass of hard liquor, or a mixed drink. Responses ranged from 1 – 18 drinks for women ( $M = 3.75$ ,  $SD = 3.03$ ) and for men ( $M = 4.99$ ,  $SD = 3.67$ ). Drinking partnerships

were based on cluster analysis of female and male self-reports of drinking frequency and quantity.

### Drinking partnership clusters

To identify profiles of dating, cohabitating, and married couples' drinking partnerships, this study used cluster analysis of the four drinking variables: (a) female's typical quantity of alcohol consumed, (b) male's typical quantity of alcohol consumed, (c) female's drinking frequency, and (d) male's drinking frequency. The current drinking partnership measure creates comparability with the existing drinking partnership literature (Roberts & Leonard, 1998; Leadley et al., 2000) allowing the results of this study to link IPV with existing literature on drinking partnerships. Thus, associations of IPV with drinking are based on the same conceptualization of drinking (quantity, frequency) within couples as seen in previous literature.

Preliminary analyses used a hierarchical agglomerative clustering procedure to classify individuals' and partners' drinking into types of drinking partnerships. This clustering was performed separately for dating, cohabitating, and married couples. The first step of this procedure combined couples with the most similar drinking profiles. This step provides an initial number of clusters using the average of the four drinking variables (i.e., female frequency, male frequency, female quantity, male quantity). Then these preliminary clusters are combined with the next most similar clusters or cases until all are linked to a cluster. Based on the hierarchical tree, the clustering coefficients, and cluster interpretability, a four-cluster solution was selected as the most representative of the data for each of the three types of relationships: dating, cohabitating, and married.

A *k*-means iterative cluster analysis determined groupings. In this approach, a specified number of clusters must be given (referred to as "*k*"), which was set to four clusters. The *k*-means procedure minimizes within-cluster variance in the profile variables while maximizing differences between clusters. Using this procedure, four similar clusters emerged for dating, cohabitating, and married couples.

These four clusters are as follows: Cluster 1 ( $n = 87$ , 37% of the dating sample;  $n = 146$ , 52% of the cohabitating sample;  $n = 184$ , 81% of the married sample) is called the "*Congruent Light and Infrequent*" cluster and consisted of couples reporting congruent (e.g., similar), light, and infrequent drinking styles. Couples in Cluster 2 (dating:  $n = 28$ , 12%; cohabitating:  $n = 34$ , 12%; married:  $n = 28$ , 12%) are termed the "*Discrepant Male Heavy and Frequent*" cluster because men had more elevated levels of alcohol consumption compared to their women partners. Cluster 3 (dating:  $n = 12$ , 5%; cohabitating:  $n = 19$ , 7%; married:  $n = 6$ , 3%) is designated the "*Discrepant Female Heavy and Infrequent*" cluster and is characterized by marked elevations in quantity for women partners only, but moderate levels of frequency.

Cluster 4 was different across relationship types and is called the "*Congruent Moderate/Heavy and Frequent*" drinking cluster depending on relationship type. The dating and cohabitating couples' reports indicated that drinking was *moderate* and frequent for both partners (dating:  $n = 107$ , 46%; cohabitating:  $n = 81$ , 29%). However for married couples, both males and females ( $n = 9$ , 4%) indicated *heavy* quantity and frequency of drinking. Married women were lower in alcohol quantity than their male partners, but did not differ significantly on this variable (women  $M_{qty} = 7.89$ ; men  $M_{qty} = 11.44$ ). Men and women were also similar in drinking frequency means, indicating that both married men and women were drinking high amounts of alcohol and drinking frequently. The very large discrepancy in drinking consumption between men and women in cluster 2, the Discrepant Male Heavy cluster, differentiated this group from the Congruent Moderate/Heavy and Frequent (cluster

- 4). All relationship type clusters based on drinking quantity and frequency are shown in Table 2.

## Results

### Preliminary Analysis

Across relationship types, there were significant differences in terms of age, race/ethnicity, education, whether participants were currently in school, and relationship length in months (see Table 1). Dating couples were more likely to be White/Caucasian, attending college, and had higher levels of education as compared to cohabitating and married couples. Married couples were significantly more likely to have children (according to female reports), and to be in their relationship longer (months:  $M = 54.49$ ;  $SD = 26.33$ ) as compared to dating ( $M = 26.29$ ;  $SD = 20.97$ ) and cohabitating ( $M = 32.16$ ;  $SD = 24.07$ ) couples. These significant group effects in demographics highlight how young adults within the same age group can have different kinds of experiences. Additional tests examined group differences in IPV according to ethnicity on all 8 types of IPV; however, no significant differences were found.

Rates of IPV were calculated to examine the covariation in reporting male-to-female partner violence (MFPV) and female-to-male partner violence (FMPV) on the severity of violence within relationships. For example, do women who report higher levels of minor victimization of violence have male partners who report perpetrating higher levels of minor violence towards their female partners? To test this question, correlational analyses indicated that women's and men's reports on both minor and severe forms of violence were significantly associated, where correlations ranged from .27 to .39. When deciphering these indexes, 0.1 is considered poor, 0.3 is good, and 0.5 is excellent (Kenny, 1998). According to the correlation results, couples' reporting of interpersonal violence was moderately similar.

### Primary Analyses

**Relationship type differences**—The first hypothesis for this study predicted that cohabitating and married couples would have significantly higher rates of intimate partner violence in their relationships as compared to dating couples. This hypothesis would be supported by a significant relationship type main effect with follow-up multiple mean comparisons in the predicted direction indicating less IPV in dating relationships. Using a factorial between and within ANOVA, results indicated that relationship type was not a main effect on IPV (Wilk's Lambda = .96,  $p < .06$ ). Thus, no support was found for Hypothesis 1 predicting that dating couples would experience lower levels of IPV compared to cohabitating and married couples.

**Cluster differences**—The second hypothesis predicted that heavy discrepant drinking partnerships (Cluster 2 "Congruent Male Heavy and Frequent" and Cluster 3 "Congruent Female Heavy and Infrequent") would experience higher rates of IPV than other partnerships regardless of relationship type. In order to test this hypothesis, a factorial between and within ANOVA examined a main effect of "cluster." Overall support for the hypothesis would be seen in a main effect for cluster with follow-up comparisons in the predicted direction. Analyses revealed that there was a significant cluster main effect (Wilk's Lambda = .95,  $p < .05$ ). Post-hoc analyses, however, did not reveal any significant follow up comparisons. As with predictions about relationship type, predictions about cluster differences received no support.



**Moderators**—The third hypothesis predicted moderating (interaction) effects and was tested with a factorial between and within ANOVA. The between level predictors were relationship type and cluster type. The within levels included gender, minor versus severe violence, and victim versus perpetrator as moderators of IPV. Analyses revealed a significant 5-way interaction between relationship type, cluster, gender, minor versus severe violence, and victim versus perpetrator (Wilk's Lambda = .97,  $p < .01$ ). In order to understand the 5-way interaction, analyses were rerun by splitting the dataset to run analyses within relationship type and then within cluster to examine the mean differences. The following results are reported in Table 3 as superscripts, indicating significant differences between groups (designated by a number) or between clusters (designated by a letter).

The first set of analyses revealed that *within drinking clusters* (i.e., across relationship type): (a) married women in Cluster 4 “Congruent Moderate/Heavy and Frequent” reported perpetrating significantly higher rates of minor IPV towards their male partners ( $M = 1.38$ ,  $SD = 1.90$ ) as compared to dating ( $M = .27$ ,  $SD = .77$ ) or cohabitating women ( $M = .39$ ,  $SD = .97$ ) ( $F(2, 179) = 5.22$ ,  $p < .01$ ;  $\eta^2 = .06$ ); and (b) cohabitating men in Cluster 4 “Congruent Moderate/Heavy and Frequent” ( $F(2, 192) = 5.94$ ,  $p < .01$ ;  $\eta^2 = .06$ ) and in Cluster 2 “Discrepant Male Heavy and Frequent” ( $F(2, 86) = 4.16$ ,  $p < .05$ ;  $\eta^2 = .09$ ) reported perpetration of minor violence significantly more than dating men. The second set of analyses revealed that *within relationship type* (and across clusters): (a) married women reported perpetrating minor IPV significantly more within Cluster 4 (“Congruent Heavy and Frequent”) as compared to Cluster 1 (“Congruent Light and Infrequent”) and Cluster 2 (“Discrepant Male Heavy and Frequent”) ( $F(3, 208) = 3.39$ ,  $p < .05$ ;  $\eta^2 = .05$ ); and (b) married men in Cluster 1 reported victimization ( $F(3, 221) = 3.57$ ,  $p < .01$ ;  $\eta^2 = .05$ ) and perpetrating severe ( $F(3, 221) = 2.65$ ,  $p < .05$ ;  $\eta^2 = .03$ ) IPV significantly less than men in Cluster 2. Although there was a significant effect across clusters for cohabitating women reporting perpetrating minor IPV ( $F(3, 273) = 2.87$ ,  $p < .05$ ;  $\eta^2 = .03$ ), there were no significant mean comparisons.

Due to the small sample sizes in several cells, for example the 9 couples who were married in Cluster 4 (“Congruent Moderate/Heavy and Frequent”), we ran separate analyses to consider the sensitivity of the results to potential outliers. We found two outliers with high scores in female reports of perpetrating minor violence, which were identified by the univariate distribution of the outcome variable, a common method to eliminate outliers (see Van Selst & Jolicoeur, 1994). For example, two members had scores that were approximately 2 and 3 SD above the mean with no other scores close to them. The two scores above the mean were identified as outliers, were replaced with the mean, and reanalyzed. After substituting the group mean for these two outliers, the finding of married women reporting higher levels of perpetration towards their husbands in Cluster 4 were no longer supported. The extent to which the outlier scores would also be outliers in a larger sized cluster is unknown.

In conclusion, results revealed that hypothesis 1 (relationship type differences) was not supported because there was no main effect of relationship type. Hypothesis 2 (cluster differences) was also not supported with nonsignificant group comparisons. Yet, there were interactions that were significant in terms of relationship status and cluster type, providing considerable support for Hypothesis 3. Even when discovering and removing outliers, obtaining a 5-way interaction is all the more impressive because variance has been removed for all main effects, all 2-way interactions, all 3-way interactions, and all 4-way interactions. Highlighting one such finding, unlike cohabiting and dating couples, married couples were different across clusters depending on the gender, minor/severe level of violence, and whether the report was of perpetration or victimization. In the male-to-female violence, married “Discrepant Male Heavy and Frequent” drinkers (Cluster 2) differed from

“Congruent Light and Infrequent” drinkers (Cluster 1) in the case of greater levels of severe violence, both victimization and perpetration. None of the other relationship types differed across clusters. Drinking cluster types were different in terms of married couples being higher than unmarried couples on female-to-male minor perpetration. Cohabiting couples were different from dating where both “Discrepant Male Heavy and Frequent” (Cluster 2) and “Congruent Moderate/Heavy and Frequent” drinkers (Cluster 4) were higher on male-to-female minor perpetration. Thus, based on these moderating variables, predictions about relationship type and cluster differences received some support, but moderators (e.g., gender, minor versus severe, victim versus perpetrator) indicated that IPV differences vary depending on for whom and under what circumstances these assessments are made.

## Discussion

This study examined IPV among drinking partnerships in dating, cohabitating, and married young adult heterosexual couples. By using the cluster approach, four types of drinking partnerships were identified. These drinking partnerships were found to be an important couple-level indicator of drinking patterns to explain differences in IPV in young adults. Within these drinking partnerships, female-to-male and male-to-female perpetration and victimization were predicted by different combinations of alcohol use (Leadley et al., 2000).

It is important to note that the majority of couples in this sample did not report experiencing IPV, in fact only one-fourth of all couples in this sample reported the presence of any form of violence in their relationship. The prevalence rate of IPV in this heterosexual sample is similar to other community samples of young male-female couples that find up to 24% of males and up to 37% of females reporting IPV perpetration (Capaldi, Kim, & Shortt, 2007; Moffitt, Caspi, Rutter, & Silva, 2001). We found approximately 26% of the young men and 26% of the young women reported perpetrating violence against their current partner. Of the violence reported by couples, most reported minor forms of perpetration and victimization of violence more often than severe forms of violence. Johnson (1995) described minor acts of violence which appear more often in relationships and that are equally likely to be perpetrated by both men and women as “common couple violence” in contrast to “intimate terrorism” which occurs less often and is predominately perpetrated by men.

Across and within couple level differences were identified once type of drinking partnership and level of IPV were accounted for. For example, when men drank heavily and frequently, those men in more committed relationships (married) reported higher levels of minor perpetration and victimization of IPV than did men in dating relationships. Married couples reported higher levels of female perpetrated minor IPV than unmarried couples, however, when the outliers were replaced with mean values, there were no differences across relationship status. Past research finds more committed couples, such as cohabitating and married partners, experience more violence as compared to dating partners (Arriaga, 2002; Mason & Blankenship, 1987). It may be that violent dating relationships are shorter and less likely to be sampled than less violent ones. Moreover, once a relationship has reached the point of being committed, it is unlikely to quickly end with violence, thus increasing the likelihood of being sampled. In fact, the literature suggests, that during the courting phase of committed relationships, daters hope that violence and indications of high risk of violence are normal (Billingham, 1987) and will disappear with marriage. Unfortunately, marriage brings with it a number of stresses that greater commitment may or may not ameliorate. Commitment may constitute a barrier to leaving a violent relationship (Kurdek, 1998) that restrains more committed partners from exiting a distressing situation. Future research should continue examining young adults’ experiences of IPV and commitment within dating, cohabitating, and married heterosexual relationships.

In contrast to the expectations of the second hypothesis, there were no differences in overall IPV reports between drinking partnerships. The overall findings of this study are consistent with the model of indirect effects in that conflicts or violence may eventually occur because of long-term alcohol use by one or both of the romantic partners. However, length of drinking history was unavailable for analysis. In spite of overall nonsignificant main effects, the current study found significant moderating effects for drinking partnerships and gender, severity, and perpetrator/victim.

Within couple level differences were noted for married couples only. Among married couples, the frequency and quantity of drinking by husbands was related to severity and direction of reported violence in the relationship. The “Discrepant Male Heavy and Frequent” drinking married couples were more likely to experience male-to-female severe violence compared to “Congruent Light and Infrequent” drinking married couples, consistent with Leadley and colleagues’ findings (2000) that describe greater levels of relationship conflict and violence in couples with greater drinking incongruence. Husbands also reported higher levels of minor acts of violent victimization when they were discrepantly drinking more heavily and frequently in comparison to their wives. The identified gender differences in patterns of drinking and levels of IPV perpetration and victimization indicate potentially different explanations for men and women’s use of violence in relationships. For example, the “proximal effects model” may provide more insight into men’s use of IPV, specifically serious IPV in marriage, than women’s use of relationship violence. Future research should focus on identifying the mechanisms which may explain the association between men’s excessive and problem drinking and serious IPV perpetration in young adult marriages.

Turning to the findings for women, it may be that understanding the context in which violence occurs is important. Capaldi and colleagues (2003) suggest that behavior in couples is inherently interactive and responsive to the characteristics of each partner. They argue that the likelihood that an individual will perpetrate IPV depends on the interaction between an individual’s prior dispositions and their partner’s individual characteristics and behaviors. This explanation is consistent with the “indirect model”, which proposes that over the course of romantic relationships, conflicts occur because of long-term alcohol misuse or abuse by one or both partners. IPV perpetration is more a result of conflict-creating behaviors associated with alcohol misuse on the relationship itself, rather than the direct effects of alcohol. It is plausible that when husbands are drinking discrepantly and heavily, they may be acting aggressively or using other nonphysical forms of abuse (verbal and psychological). In this context, women’s use of IPV can be seen as a defensive response and in essence a reaction to their husbands’ behavior when drinking heavily. The cross-sectional nature of these data limits our analyses and interpretation of the results. It is important for future research to take into account information on the sequence of events and aggressive processes that occur in couples’ interactions that may provide insight into behaviors, contexts, and motivations that may lead to physically violent interactions within relationships. Future research using diary methods could identify possible processes that may influence IPV in romantic relationships on days when alcohol is consumed (Fals-Stewart, 2003).

### Strengths and Weaknesses

Methodologically, this study had several advantages over past research. The current study explored data from both couple members using an ethnically diverse, large, nationally representative survey. An advantage of such a large sample of romantic couples was the ability to detect moderating effects. Such nuances are important to building a comprehensive understanding of IPV.

The design of the current Romantic Pairs Add Health sample prevents inferring a causal, directional association between alcohol consumption and IPV. Longitudinal research is needed to examine how drinking partnerships affect partner violence for couples over time or how violence may influence drinking among couples. Although additional longitudinal survey research would be helpful, event level data would be useful as well because violence may occur in a number of contexts, such as the home and the bar (Pernanen, 1991). The event-level perspective addresses the occurrence of violence by identifying the conditions associated with individual motivations and predispositions toward IPV (for further review, see Wilkinson & Hamerschlag, 2005). Testing where and when IPV occurred could be identified through event-level data collected at multiple time-points.

In addition, there were uneven group sizes among the clusters and between relationship types, and some clusters had small memberships. Although the clustering patterns accurately reflected the data, the number of couples within the clusters limited some data analysis options. The smaller subsamples in some clusters may be responsible for finding fewer differences between clusters or relationship types. As well, in small sized clusters the presence of outliers can have a disproportionate impact on findings than would be the case in larger sized clusters. Such a limitation was detected in the case of married women in the Congruent Heavy and Frequent cluster.

A major weakness of this dataset is the limited scope of analysis because certain questions were not administered. For example, only a few items assessed intimate partner violence. The items were not from an established measure of intimate partner violence, such as the Conflict Tactics Scale that is often used to measure IPV in romantic relationships (Straus, 1979; Straus, Hamby, Boney-McCoy, & Sugarman, 1996). The way the items are worded in the Add Health makes it more difficult to determine the severity of the incidents that led to these IPV reports. A more detailed treatment of IPV is needed and is a major concern and shortcoming of the Add Health data. In addition, the Add Health only assesses minor and severe physical violence, without measuring other forms of violence, such as mental or psychological abuse. Thus, additional questions that measure IPV, rather than only eight items, could have led to better measurement correspondence with the literature.

Lastly, the drinking clusters could be redefined to better match the conceptualization of young adult drinking partnerships that includes age, duration of relationship, and commitment. We redefined the cluster analysis with the 4 drinking variables (male quantity, male frequency, female quantity, female frequency), and added both members' age, relationship length (average of both reports) and both couple members' reports of commitment with romantic partner. The new cluster analysis revealed similar clusters to the initial analyses, finding a large sample of light and infrequent drinking couples, predominantly married couples and highly committed, older aged couples ( $n = 394$  couples); (2) another cluster was made up of 87 married couples with heavier drinking; (3) another cluster was made up of male heavy, younger couples, with the smallest length of relationship in months ( $n = 70$  couples); (4) another was made up of a small number of almost exclusively female heavy participant drinkers, younger couples, and moderate relationship length as compared to the other clusters ( $n = 190$  couples). Thus, these cluster characteristics remain similar to our initial findings. As for differences on IPV, the results were similar to the initial analyses. Our original cluster analyses of drinking allows the analyses to mirror those of Roberts and Leonard (1998) and thus more directly connect the existing literature on drinking partnerships to the field of IPV, however, the small subsample in some clusters require that some findings be considered with reasonable caution.

Future research needs to address other precursors to IPV, such as motives for using violence, situational factors such as decision making, events that might precipitate the violent act,

intended outcomes from the violence, conflict, personality and antisocial behaviors. The addition of such variables would allow testing of the spurious model. With the complexity of the current study's design and the few participants that appeared in some of the cluster groups, testing the spurious model would be something for future research using a larger sample for cluster analysis.

In conclusion, the results suggest complex intimate partner violence within dating, cohabitating, and married heterosexual relationships. Heavy discrepant drinking tends to have detrimental effects on married couples' relationships, such as experiencing and perpetrating more severe forms of intimate partner violence. Given the severity of intimate partner violence for both couple members in various types of male-female relationships, additional empirical attention to drinking partnerships is warranted. With late adolescence and young adulthood involving consequential and enduring decisions for both drinking and partnering, this area of research is particularly important to further the understanding of the wellbeing of young adults in romantic relationship contexts.

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Table 1

## Sociodemographic Information for Relationship Types

Variable	Dating <i>n</i> =234	Cohabitating <i>n</i> =280	Married <i>n</i> =227	<i>F</i>	<i>η</i> <sup>2</sup>
Mean Age					
Females	20.93 <sup>ab</sup>	21.70 <sup>ac</sup>	22.66 <sup>bc</sup>	41.16 <sup>***</sup>	.10
Males	21.99 <sup>ab</sup>	22.81 <sup>ac</sup>	23.74 <sup>bc</sup>	35.96 <sup>***</sup>	.09
Ethnicity (% nonwhite)					
Females	37.61 <sup>a</sup>	32.14	25.55 <sup>a</sup>	3.89 <sup>*</sup>	.01
Males	39.06 <sup>a</sup>	35.48 <sup>b</sup>	25.55 <sup>ab</sup>	5.12 <sup>**</sup>	.01
Mean of Highest Education					
Females	13.82 <sup>ab</sup>	13.13 <sup>a</sup>	13.16 <sup>b</sup>	9.46 <sup>***</sup>	.02
Males	13.58 <sup>ab</sup>	12.85 <sup>a</sup>	12.76 <sup>b</sup>	12.32 <sup>***</sup>	.03
Currently in School (% yes)					
Females	67.52 <sup>ab</sup>	35.00 <sup>ac</sup>	19.82 <sup>bc</sup>	67.49 <sup>***</sup>	.15
Males	49.15 <sup>ab</sup>	23.57 <sup>ac</sup>	14.10 <sup>bc</sup>	41.54 <sup>***</sup>	.10
Commitment					
Females	4.12 <sup>ab</sup>	4.57 <sup>ac</sup>	4.79 <sup>bc</sup>	39.59 <sup>***</sup>	.10
Males	3.87 <sup>ab</sup>	4.41 <sup>ac</sup>	4.74 <sup>bc</sup>	53.96 <sup>***</sup>	.14
Mean Relationship Length <sup>1</sup>	26.65 <sup>ab</sup>	32.10 <sup>ac</sup>	54.31 <sup>bc</sup>	89.04 <sup>***</sup>	.20
Mean Number of Children <sup>2</sup>	.48 <sup>a</sup>	.53 <sup>b</sup>	.73 <sup>ab</sup>	5.81 <sup>**</sup>	.05

Note: *N*=741. Means with matching superscripts differ significantly at *p* < .05 by Neuman-Keuls test.

\*  
*p* < .05

\*\*  
*p* < .01

\*\*\*  
*p* < .001.

<sup>1</sup> Average of male and female reports in months.

<sup>2</sup> According to female reports.

**Table 2**  
Profile of Couples' Drinking Partnerships by Relationship Type and Cluster

Variable	Cluster Means				F	$\eta^2$
	Congruent Light & Infrequent	Discrepant Male Heavy & Frequent	Discrepant Female Heavy & Infrequent	Congruent Moderate/ Heavy & Frequent		
DATING	n=87	n=28	n=12	n=107		
Female Quantity	2.90 <sup>ab1</sup>	5.25 <sup>acd2</sup>	12.73 <sup>bcd3</sup>	3.50 <sup>de4</sup>	91.90 <sup>*</sup>	.55
Male Quantity	4.23 <sup>a1</sup>	11.75 <sup>abc2</sup>	4.33 <sup>b3</sup>	4.11 <sup>c4</sup>	68.97 <sup>*</sup>	.47
Female Frequency	1.82 <sup>ab5</sup>	3.71 <sup>ac6</sup>	2.25 <sup>cd</sup>	3.58 <sup>bd7</sup>	64.39 <sup>*</sup>	.46
Male Frequency	2.37 <sup>ab5</sup>	4.32 <sup>ac6</sup>	2.50 <sup>cd</sup>	4.15 <sup>bd7</sup>	58.62 <sup>*</sup>	.43
COHABITATING	n=146	n=34	n=19	n=81		
Female Quantity	3.01 <sup>ab1</sup>	4.24 <sup>ac2</sup>	15.21 <sup>bcd3</sup>	3.47 <sup>d4</sup>	242.04 <sup>*</sup>	.72
Male Quantity	3.62 <sup>a1</sup>	13.03 <sup>abc2</sup>	4.95 <sup>b3</sup>	4.31 <sup>c4</sup>	179.40 <sup>*</sup>	.66
Female Frequency	2.05 <sup>abc5</sup>	2.62 <sup>ad6</sup>	2.95 <sup>be</sup>	3.81 <sup>cde7</sup>	60.71 <sup>*</sup>	.40
Male Frequency	2.51 <sup>abc5</sup>	3.47 <sup>ad6</sup>	3.21 <sup>be</sup>	4.49 <sup>cde7</sup>	66.23 <sup>*</sup>	.42
MARRIED	n=184	n=28	n=6	n=9		
Female Quantity	2.65 <sup>ab1</sup>	2.61 <sup>cd2</sup>	11.67 <sup>acd3</sup>	7.89 <sup>bde</sup>	90.64 <sup>*</sup>	.55
Male Quantity	3.41 <sup>ab1</sup>	11.75 <sup>ac2</sup>	4.50 <sup>cd3</sup>	11.44 <sup>bd</sup>	144.89 <sup>*</sup>	.66
Female Frequency	2.12 <sup>ab4</sup>	1.79 <sup>cd5</sup>	3.83 <sup>ac</sup>	3.22 <sup>bd6</sup>	11.56 <sup>*</sup>	.13
Male Frequency	2.99 <sup>abc4</sup>	3.71 <sup>ad5</sup>	4.67 <sup>b</sup>	4.67 <sup>c6</sup>	11.45 <sup>*</sup>	.13

Note: N=741. Means with matching superscripts differ significantly at  $p < .05$  by Neuman-Keuls test. Matching numbers in a column within each relationship type indicate participant and partner significant difference paired t-test,  $p < .05$ .

\*  
 $p < .001$ .

**Table 3**  
Cluster and Relationship Differences on Eight Types of Intimate Partner Violence

Variable	Congruent Light & Infrequent	Discrepant Male Heavy & Frequent	Discrepant Female Heavy & Infrequent	Congruent Moderate/ Heavy & Frequent
Female-to-Male (Minor)				
<i>Victimization</i>				
Dating	.35	.57	.33	.20
Cohabiting	.28	.71	.76	.41
Married	.30	.48	.90	.38
<i>Perpetration</i>				
Dating	.27	.52	.94	.27
Cohabiting	.32	.71	.82	.39
Married	.39	.27	.10	.66
Female-to-Male (Severe)				
<i>Victimization</i>				
Dating	.13	.18	.06	.14
Cohabiting	.13	.21	.29	.18
Married	.10	.12	0	.44
<i>Perpetration</i>				
Dating	.08	.09	.28	.15
Cohabiting	.09	.11	.26	.12
Married	.08	.08	.10	.25
Male-to-Female (Minor)				
<i>Victimization</i>				
Dating	.35	.29	.46	.31
Cohabiting	.32	.73	.42	.51
Married	.41	.75	.42	.89
<i>Perpetration</i>				
Dating	.31	.16 <sup>i</sup>	.13	.19 <sup>2</sup>
Cohabiting	.42	.71 <sup>1</sup>	.32	.59 <sup>2</sup>
Married	.40	.20	.67	.17



Variable	Congruent Light & Infrequent	Discrepant Male Heavy & Frequent	Discrepant Female Heavy & Infrequent	Congruent Moderate/ Heavy & Frequent
Male-to-Female (Severe)				
<i>Victimization</i>				
Dating	.14	.14	.17	.19
Cohabitating	.11	.15	.21	.19
Married	.11 <sup>a</sup>	.45 <sup>a</sup>	.08	.22
<i>Perpetration</i>				
Dating	.05	.04	.04	.06
Cohabitating	.08	.09	.03	.13
Married	.06 <sup>a</sup>	.27 <sup>a</sup>	0	0

Note:  $N=741$ . Means with matching superscripts and matching numbers in a column indicate significant differences at  $p < .05$  using Neuman-Keuls test.