



HHS Public Access

Author manuscript

Partner Abuse. Author manuscript; available in PMC 2015 September 25.

Published in final edited form as:

Partner Abuse. 2013 July 1; 4(3): 332–355. doi:10.1891/1946-6560.4.3.332.

Negative Affect, Alcohol Consumption, and Female-to-Male Intimate Partner Violence: A Daily Diary Investigation

Cory Crane and Christopher Eckhardt

Department of Psychological Sciences, Purdue University

Abstract

While research suggests that both negative affect and alcohol use are related to the risk of intimate partner violence (IPV) in male samples, less is known about the status of these risk factors in female samples. Forty-three college-age females who reported a recent history of IPV perpetration submitted six weeks of on-line daily reports pertaining to their levels of negative affect, alcohol consumption habits, and the occurrence of both male-to-female (MFPV) and female-to-male IPV (FMPV). Results indicated that negative affect significantly predicted increases in the daily risk of FMPV. MFPV also significantly predicted FMPV risk. Alcohol consumption failed to predict FMPV perpetration on both levels of analysis. Results are discussed in terms of prevailing models of alcohol use, negative affect, and IPV.

Keywords

intimate partner violence; daily diary; negative affect; alcohol consumption

Recent surveys have demonstrated that 30-60% of college-aged young adults report perpetrating intimate partner violence (IPV) (Straus, 2004). A sizeable literature exists concerning the individual factors that empirically differentiate IPV perpetrators from nonviolent comparison samples (for a review, see Stith et al., 2004). While much of the available risk factor research has tended to focus on male-to-female partner violence (MFPV), researchers have reported that ‘minor’ acts of female-to-male partner violence (FMPV) -- pushing, shoving, slapping, etc. -- are at least as common as minor forms of MFPV (Archer, 2000; Ehrensaft et al., 2004; Straus, 2004), with male victims of IPV reporting similar physical and psychological outcomes as female victims (e.g., Coker, Davis, & Arias, 2002). Instead of focusing on such sex differences concerning IPV perpetration, the present research was undertaken with the broad goal of understanding what leads people, in general, to perpetrate acts of physical, verbal, psychological, and sexual IPV. Towards this end, we examined two IPV perpetration risk factors that have received much research

Correspondence concerning this article can be directed to Cory A. Crane, Department of Psychological Sciences, Purdue University, 703 3rd St., West Lafayette, IN 47907; cacrane@purdue.edu.

Portions of these results were included in Cory A. Crane's Master's of Science thesis at Purdue University.

Publisher's Disclaimer: This is a PDF file of an unedited manuscript that has been accepted for publication. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

attention --negative affect and alcohol consumption -- using underutilized research methods (daily diary measures) and infrequently studied participants (female perpetrators).

As noted above, despite comparable rates of IPV, the vast majority of research on the risk factors that differentiate these findings are based on samples of male perpetrators and female victims. As such, it may reasonably be asked whether IPV risk factors are consistent across offender sex, or if there are unique patterns of risk among male vs. female perpetration of IPV. Reviews of this literature (e.g., Carney, Buttell, & Dutton, 2007) indicate that IPV perpetrators tend to share similar distinguishing characteristics regardless of sex and/or gender. Specifically, IPV perpetration risk is elevated among males and females to the extent that individuals use illicit drugs (Stuart et al., 2008), present with high levels of traits related to jealousy, dominance, and antisociality (Ehrensaft et al., 2004; O'Leary, Malone, & Tyree, 1994; O'Leary, Smith-Slep, & O'Leary, 2007), endorse positive attitudes towards violence and a hostile attribution bias (Moffitt et al., 2000), are diagnosed with Axis I (Stuart et al., 2006) and Axis II (Ehrensaft et al., 2006; Henning, Jones, & Holdford, 2003) disorders, and evidence early involvement in delinquency (Magdol, Moffitt, Caspi, & Silva, 1998; Moffitt et al., 2000), especially during adolescence (Lussier, Farrington, & Moffitt, 2009). In the present study, we aimed to move this area of investigation forward by examining two risk factors for IPV that, while relatively well-researched in the MFPV literature, have thus far received minimal attention as predictors of FMPV: alcohol use and negative affect.

Alcohol intoxication is consistently associated with various forms of interpersonal aggression (e.g., Bushman & Cooper, 1990; Ito et al., 1996), including IPV (Leonard, 2005). Survey data reveal a positive association of alcohol consumption (Kaufman-Kantor & Straus, 1987) and alcohol-related problems (Cunradi, Caetano, Clark, & Schafer, 1999; Leonard & Blane, 1992) with IPV perpetration. Cross-sectional research suggests that alcoholic males evidence higher rates of IPV relative to nonalcoholic males (Chermack, Fuller, & Blow, 2000), and IPV perpetrators tend to exhibit elevated rates of alcohol problems (Leonard & Quigley, 1999). Longitudinal findings indicate that heavy alcohol use in the early stages of marriage predicts subsequent IPV (Leonard & Senchak, 1996), and researchers examining violent couples report more frequent and severe episodes of IPV when one partner has been drinking (Murphy, Winters, O'Farrell, Fals-Stewart, & Murphy, 2005; Testa, Quigley, & Leonard, 2003). Studies using laboratory alcohol challenge designs have found that alcohol intoxication increases negative interaction behaviors among violent couples (Leonard & Roberts, 1998) and increases aggressive verbalizations during simulated relationship conflicts, especially among violent men prone to high anger reactivity (Eckhardt, 2007).

Heavy alcohol use among female perpetrators has also been associated with FMPV (e.g., Sommer, Barnes, & Murphy, 1992). Among women in alcohol treatment programs, rates of moderate and severe IPV were estimated to be 87% and 40%, respectively, compared to 28% and 8% in a control sample (Miller, Downs, & Gondoli, 1989). Similarly, Stuart et al. (2006) reported that both perpetrator and victim alcohol consumption was associated with the occurrence of FMPV in a sample of individuals arrested for domestic violence. In a nationally representative sample of couples, the recurrence of FMPV over a 5-year period

was 44%, with the occurrence of heavy/binge drinking the only factor that correlated positively with the incidence and reoccurrence of FMPV (Caetano, McGrath, Ramisetty-Mikler, & Field, 2005). Similarly, McKinney and colleagues (2010) reported that while alcohol involvement by either male or female partners increased the risk for MFPV or FMPV, only female alcohol use appeared to affect the severity of all types of IPV. However, other studies have indicated no relationship between female alcohol use and IPV perpetration (Leonard & Quigley, 1999; Leonard & Senchack, 1996), and a recent meta-analytic review examining the association between perpetrator alcohol use and IPV reported that the effects of female alcohol use on FMPV demonstrated substantial heterogeneity (Foran & O'Leary, 2008). Given these inconsistencies, it is important to continue to investigate the association between female alcohol use and FMPV using methods that extend beyond single self-report measurements.

In addition, despite the robust and consistent association between heavy alcohol use and interpersonal aggression, it is also clear that alcohol consumption is neither a necessary nor sufficient condition for violent offending. Numerous empirical studies and reviews of the literature concerning the effects of alcohol on lab-assessed aggression (Ito et al., 1997) and IPV (Foran & O'Leary, 2008; Stith et al., 2004) indicate a moderate-strength association that is dependent on a wide range of moderating factors that impair inhibitory control (Giancola, Josephs, Parrott, & Duke, 2010; Parrott & Giancola, 2004). This disinhibition effect explains why the most common moderators of the alcohol-aggression relationship are themselves independent risk factors for aggression, including provocation (Bushman & Cooper, 1990; Ito et al., 1996), dispositional aggressivity (Eckhardt & Crane, 2008), and, of relevance to the present investigation, anger-related affect (Parrott & Zeichner, 2002).

Research suggests that dispositional anger is a reliable risk factor for IPV (e.g., Eckhardt, Barbour, & Stuart, 1997), with meta-analytic results suggesting a moderate effect size ($d = .51$; Norlander & Eckhardt, 2005). However, the bulk of these data are based on research using male perpetrator samples; relatively little data have examined patterns of angry affect among female IPV perpetrators either singly or in combination with other factors. In a longitudinal investigation, Moffitt et al. (2000) reported that a constellation of personality traits labeled 'negative emotionality' measured at age 15 was the best predictor of FMPV at age 21, after controlling for male IPV perpetration. Negative emotionality was defined as a propensity to experience varied and intense negative affective states such as anger, anxiety, and suspiciousness. Russell and Muldoon (2007) reported that FMPV often co-occurred with perpetrator anger in police reports. Low anger control, high anger reactivity, and dysregulated angry temperament have all been found to contribute to FMPV (e.g., Cordova et al., 1993; Follingstad, Bradley, Helff, & Laughlin, 2002; Stuart et al., 2006).

Relatively little research has examined the combined effects of alcohol use and anger on IPV, particularly with female IPV perpetrators. Several important theoretical models have outlined the potentially interactive nature of this association. According to the alcohol myopia model of alcohol-motivated aggression, alcohol intoxication may focus attention towards provoking situations and away from nonviolent aspects of a conflict situation (Giancola et al., 2010). As suggested by Berkowitz (1990; 1993), an attentional bias towards aggressive stimuli may increase the availability of anger and aggression-related cognitive

content to the perceiver and thereby produce a state of anger. Alcohol-potentiated angry affect may then promote aggression by activating scripts in the associative network that invoke concepts of revenge and retaliation, further focusing the individual on the actions of the instigator, and producing a state of excited arousal that impels an aggressive response (Huesmann, 1988). Individuals high in dispositional anger may be at especially high risk for alcohol-potentiated anger. Because of their extensive prior experiences with hostile interpersonal conflicts, dispositionally angry individuals are consistently primed to perceive conflicts as hostile. Thus, alcohol use may hasten this attentional bias, potentiate an angry response, and ‘automatically’ lead to decision making style that favors an aggressive response (Berkowitz, 2008).

Empirical support for these interactive models are somewhat limited, with existing research based solely on samples of male IPV perpetrators. It has been demonstrated that those who experience increased negative affect and behave aggressively also present with problems related to substance use in early adulthood (Loeber, Farrington, Stouthamer-Loeber, & Van Kammen, 1998). Several studies have further suggested that greater negative affect may lead to a heightened likelihood to abuse alcohol and commit violent acts (e.g., Lipsky, Caetano, Field & Bazargan, 2005; Simons, Gaher, Oliver, Bush, & Palmer, 2005). Using an alcohol challenge design, Eckhardt (2007) found that male IPV perpetrators randomly assigned to consume alcohol showed more aggressive verbalizations than IPV perpetrators who did not receive alcohol. Importantly, these effects were only observed during concurrent anger arousal and were further moderated by high trait anger. There are simply no data on the interactive effects of alcohol use and trait/state anger among female IPV offenders – the present research was conducted with this research gap in mind.

In order to better approximate “real-world” conditions (e.g., Tedeschi & Quigley, 2000), the daily log is the most useful assessment method for gathering reliable information regarding violent events and their proximal antecedents and consequences (Leigh, 2000). This method of daily data collection, specifically designed to gather detailed and accurate information on infrequent and transient activities or states that are prone to memory degradation, is ideal for studying such factors as mood, substance use, and acts of violence (Leigh, 2000; Wolfer, 1999). The daily diary methodology encourages participants to record events of interest on each day with the goal of better understanding the temporal co-occurrence of violent behaviors with their potential antecedents and consequences (e.g., Dillon, Turner, Robbins, & Szapocznik, 2005). No efforts have been made to apply the daily diary methodology to the study of alcohol use, negative affect, and FMPV in a non-treatment seeking sample of dating violent females.

In the current study, female college students who reported recent IPV victimization or perpetration submitted daily reports regarding their experiences of FMPV, MFPV, affect, and alcohol consumption. We hypothesized that increased rates of perpetration would be predicted by (1) female alcohol use, (2) female negative affect, (3) male negative affect, (4) experiencing IPV (i.e., MFPV), (5) individual differences in dispositional perpetrator and victim negative affect and alcohol use, and (6) the co-occurrence of daily alcohol use and negative affect.

Method

Overview

From a larger pool of female college students ($n = 1213$), we selected individuals who reported prior verbal and/or physical aggression victimization and prior alcohol use ($n = 458$) to participate in a follow-up online daily diary study. Those participants who attended an information session about the follow-up study and provided at least a portion of daily reports were considered to be in the final sample ($n = 43$).

Participants

Screening Session—A total of 1213 college-aged women from an introductory psychology course at a large Midwestern university received credit for completing a series of measures during a mass screening session. During group screening sessions, participants completed several measures to determine eligibility for the next phases of the study.

Alcohol use was assessed via a modified Quantity-Frequency Variability Index (QFI; Cahalan, Cisin, & Crossley, 1969), consisted of eight questions that assessed the number of drinking occasions, the typical number of drinks per occasion, the number of heavy drinking occasions, and the frequency of intoxication for each partner over the previous six weeks (Cronbach's $\alpha = .90$). Participants were instructed to select one of 9 response options, ranging from 1 (highest quantity or frequency) to 9 (lowest quantity or frequency), for each question.

Intimate partner violence was assessed with 28 items from the widely used Revised Conflict Tactics Scale (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996) to determine IPV frequency in the previous six months. The 28-item version used assessed various levels of severity of physical aggression and injury, verbal and psychological aggression, sexual coercion, as well as positive forms of conflict resolution and negotiation. To improve the breadth of items assessing psychological abuse, four items were taken from the Multidimensional Measure of Emotional Abuse (MMEA; Murphy & Hoover, 1999) to assess specific dominance and intimidation tactics ($\alpha = .66$). Selected items for both scales were presented together with four response options, including 0) it never happened, 1) it happened once, 2) it happened 2-5 times, and 3) it happened more than 5 times in the past 6 months.

Mood/Affect—To assess dispositional affect, participants completed the 60-item Positive and Negative Affect Schedule- Expanded Form (PANAS-X; Watson & Clark, 1994) ($\alpha = .85$). Participants rated the degree to which they had experienced various emotional states over the previous 6 weeks from 1 (not at all) to 5 (extremely).

Relationship involvement/satisfaction—Participants indicated whether they were in a current intimate relationship, reported on the length of the relationship, and responded to the five-item Satisfaction subscale from the Investment Model Scale (Rusbult, Martz, & Agnew, 1998), which assesses satisfaction levels in the current dating relationship on an 8-point Likert-type scale, with higher scores on individual items indicating greater agreement and greater total scores representative of higher levels of satisfaction ($\alpha = .90$).

At the end of each group screening session, participants were provided with a sheet that informed them of the opportunity to participate in the daily rating study. A contact form was provided to each individual, requesting the first names and either an e-mail address or a telephone number for those who were interested.

Eligibility

Participants eligible for the daily rating study were in a relationship that presented a recent history of MFPV or FMPV of a physical, sexual, or emotionally abusive nature. The endorsement of a single violent event in the previous six months, regardless of severity, was sufficient to meet the abuse criterion for inclusion in the study. In addition, all participants were required to be involved in a non-married, non-cohabitating heterosexual relationship that lasted at least 10 consecutive weeks, involved at least weekly face-to-face interactions, and that they did not anticipate ending in the next 6 weeks. All participants were required to have access to the internet and both partners had to be at least 18 years of age. Finally, either the participant or her partner had to have consumed at least one alcoholic beverage in the previous six weeks and neither partner could have previously participated in substance abuse or relationship therapy.

Final Participant Pool

Forty-three female participants, between the ages of 18-21 ($M = 18.8$, $SD = 0.8$), were recruited from the screening sample to serve as participants in this study. Of these, 458 (37.7%) were deemed eligible for the study based upon their responses to questionnaires assessing perpetration and victimization of IPV. Those participants who met all eligibility criteria, who consented to be contacted for the follow-up study, and who had remained in their relationship were asked to return to the lab within two weeks of the screening session in order to begin their involvement in the 6-week daily reporting study. Attempts were made to contact 364 (30.0%) of the eligible students. Seventy-one (5.9%) students responded to the contact e-mails or telephone calls and 46 (3.8%) were enrolled in the study after attending an orientation session. Forty-three (3.5%) of the participants completed at least 9 entries. Due to university-scheduled breaks during the response interval, participants were given the option to respond to an additional week of entries. Three students responded to the additional week and neglected prompts to discontinue responding. These participants were compensated for additional responses. Subjects submitted between 9 and 54 daily entries ($M = 32.61$, $SD = 14.17$).

Procedure and Measures

A 1-hour orientation meeting was provided to introduce participants to the online daily diary questions and methods, with the majority of the session devoted to training the participant in the use of the secure web site through which they were to submit their daily diary entries. As detailed below, the daily questionnaire included questions pertaining to both the female participant's as well as her male partner's aggressive behavior, alcohol consumption and negative affect over each previous 24-hour period. Participants were issued an experiment number and instructed to only use that unique number as identification for the remainder of the study. Each daily entry took no more than 15 minutes. In all cases, participants were

informed that the study would last 6 weeks but that they had the option of completing a seventh week if they should be unable to complete a week of entries due to scheduled breaks in the academic calendar.

Participants were paid \$1.00 for each submitted entry, a bonus \$1.00 for a complete week of entries and a bonus \$5.00 gift certificate to a local retailer for two consecutive weeks of completed entries

Daily Diary—Participants were asked to submit 7 daily logs each week. In an effort to maximize response rates while minimizing participant burden, a reminder e-mail with a hyperlink to the secure website was generated and sent to participants on a daily basis. The daily log was entered via a secure website (accessed through www.surveymonkey.com) with a preset series of questions. Participants were instructed to make their daily recordings for the previous calendar day between the hours of 12:01 am and 11:59 pm.

Participants reported on IPV perpetration and victimization across selected CTS2 and MMEA items. Physical violence was assessed with 6 items including: grabbing, pushing shoving, hitting, slapping, punching, choking, throwing something at, or twisting the arm of a boyfriend. Items were arranged in a similar fashion for 2 sexually, 3 verbally and 4 psychologically aggressive or abusive acts. Endorsement of a violence item was followed by the question: “*How long had it been since your (his) last drink on the following scale?*” The interval scale was designed to facilitate recall and included 0-2 hours, 2-4 hours, 4-6 hours, 6-8 hours and more than 8 hours. If the participant responded “no” to a particular item, the branching question was skipped. Participants responded to the follow up questions for 83% of aggressive acts perpetrated on days of alcohol consumption. Participants responded to the follow up questions for 81.5% of aggressive acts experienced on days of partner alcohol consumption.

A second series of questions assessed the prior day's alcohol use in terms of type, quantity, and time-span. The final set of daily questions was a measure of subjective levels of positive and negative affect using an abbreviated 16-item version of the PANAS-X (Marshall et al., 1996). The daily PANAS measure contained 13 items to assess the presence of negative affective states (e.g., “angry”, “mad”) and 3 filler adjectives (e.g., “creative”, “happy”) to partially disguise the intended purpose of these items.

Following data collection, participants were invited to return to the lab for a debriefing session. The formal debriefing protocol was drafted by the authors and reviewed with all study personnel, and typically lasted 20-30 minutes. The session began with an expression of appreciation for each participant's invaluable contribution to the advancement of the research project, and proceeded to review and discuss the participant's experience in the project. Participants were instructed to ask questions or make comments freely throughout the session. Study personnel then sensitively emphasized the social implications and ultimate intent of the study. All participants were provided with a referral list of local resources pertaining to IPV and substance abuse assessment and treatment. Participants who failed to return to the lab for the debriefing session received an electronic copy of the debriefing and referral information via e-mail.¹

Results

Background characteristics

The 43 participants submitted a total of 1441 daily reports over the course of the study, which represents 70% of the 2058 entries possible. Researchers using similar methods to assess interpersonal violence and alcohol use have reported similar response rates (e.g., 66%; Mulvey et al., 2006). Of the response days, participants reported having contact, either in person or via telephone, with their boyfriends on 1199 of the 1441 days (83%).

Table 1 shows background, baseline, and mean responses for IPV, negative affect and alcohol consumption. Participants reported a high degree of relationship satisfaction ($M = 6.8$, $SD = 1.1$ out of a possible 8). Thirty-three (76.7%) of participants reported that they had consumed alcohol during the study period. Seventeen (39.5%) reported heavy drinking (> 6 drinks on at least one entry). Forty-one (95.3%) participants reported IPV perpetration during their participation in the study, with 26 (60.4%) reporting physical, 39 (90.7%) reporting verbal, 3 (7.0%) reporting sexual, and 35 (81.4%) reporting psychological perpetration at least once. Forty (93.0%) participants reported MFPV victimization during the study period with 20 (46.5%) reporting physical, 18 (41.8%) reporting verbal, 2 (4.6%) reporting sexual, and 23 (53.4%) reporting psychological victimization on at least one day. Participants reported more acts of perpetration than victimization for physical IPV, $t(1145) = 2.30$, $p = 0.02$, and sexual IPV, $t(1161) = 6.97$, $p < 0.01$. There were no significant differences between rates of perpetration and victimization for verbal, $t(1182) = 1.13$, $p = 0.26$, or psychological IPV, $t(1165) = 0.89$, $p = 0.37$.

Co-occurrence of IPV, Alcohol, and Negative Affect

Table 2 presents the bivariate correlations between variables of interest in the study. On both the daily and individual levels, female reports of IPV perpetration and victimization levels were highly intercorrelated. Participant reports of her own and her male partner's negative affect were also highly intercorrelated at both levels of analyses, and both scales were significantly correlated with IPV perpetration and victimization on the daily level only. Alcohol use was unrelated to IPV and negative affect at both the daily and individual levels of analysis.

The conditional probabilities of key variables of interest are presented in Table 3. These data indicate that FMPV had a 26.4% probability and MFPV had a 20.3% probability of occurring on any given day during the study period. FMPV occurred on 39.6% of the days in which the participant reported negative affect that exceeded their individual mean level of negative affect, and 18.1% of days when participants reported levels of negative affect less than their individual mean negative affect. As such, FMPV is approximately 2.2 times more likely to occur on days in which the female partner experienced greater than average negative affect compared to days of less than average negative affect. Similarly, FMPV is 9.5 times more likely on days of MFPV than on days of no MFPV, and 2.3 times more likely to occur on days of greater than average male negative affect (as reported by the female

¹The study protocol was approved by the Purdue University IRB under full review and was compliant with all recommended ethical guidelines for conducting research with human subjects.

participants) compared to days of lower than average male negative affect. FMPV occurred on 28.9% of days in which the female consumed alcohol and 26.0% of days with no alcohol use. Thus, FMPV was no more likely to occur on days of alcohol use versus days of no use.

HLM Analyses

The daily relationships among the study variables were analyzed using two-level multivariate hierarchical generalized linear model analyses in HLM Version 6.0 (Raudenbush, Bryke, & Congden, 2008)². The composite of all forms of FMPV were entered into these analyses as a dependent, continuous variable. Daily participant and partner negative affect scores were centered about the individual mean to create an individually meaningful reference points. Daily affect measures, daily female alcohol consumption, and the occurrence of MFPV as well as the interaction between alcohol and female affect were entered as level-1 predictor variables. A single-day lagged IPV variable was entered on level-1 to account for the potential autocorrelation that may have existed between prior and subsequent acts of violence (e.g., Gottman & Ringland, 1981). Average number of drinks consumed by the female partner per sitting over the previous six weeks (dispositional alcohol), mean female and male negative affect across study days were nested within participants as level-2 predictors of the level-1 coefficients representing the relationships between predictor variables and FMPV perpetration.^{3, 4}

A clustered observation model was used to analyze diary data. The unconditional means model estimated an overall mean and individual differences in mean level to ratings of FMPV (Singer & Willett, 2003). Mean daily FMPV in the current sample was 0.59 as estimated by the fixed effect for the intercept. The variance of the intercept, or the estimated variance of participant deviation from the grand intercept, was significantly different from 0, $t(41) = 7.63, p < 0.001$, indicating significant individual differences in FMPV levels. Thus, while some participants were likely to commit 0.59 acts of aggression on any given day, others were at increased or decreased risk.

²HLM was used in place of analytic techniques such as structural equation modeling and ordinary least squares regression both for its capability to accommodate incomplete data as well as its ability to model error terms for multi-level data.

³Relationship satisfaction, representing a frequently occurring covariate in the IPV literature, was accounted for in level-2, allowing for the estimation of the cross-level effect of satisfaction on observed level-1 relationships.

⁴For the sake of brevity, the omnibus level-1 equation is listed below as equation 1 and is accompanied by only a single exemplar of level-2 equations (equation 2) to depict the manner in which the observed relationships were derived.

$$IPV_{ij} = \pi_{0i} + \pi_{1i} (F_{ij} - F_{.j}) + \pi_{2i} (M_{ij} - M_{.j}) + e_{ij} \quad (1)$$

Here, IPV_{ij} represents the reported amount of IPV for individual j on the i th observation day, F_{ij} is the female partner's negative affect score on a specific day, $F_{.j}$ is the female partner's mean negative affect score, M_{ij} is the male partner's negative affect score on a specific day, and $M_{.j}$ is the male partner's mean negative affect score. The intercept, π_{0i} , can be seen as the risk of IPV on days in which both the female subject and her male partner experienced an amount of negative affect equal to their mean.

$$\pi_{2i} = \beta_{20} + \beta_{21}(MM_{.j}) + \beta_{22}(DA_{.j}) + r_{1i} \quad (2)$$

Equation 2 represents the analyses conducted to attempt to explain the variance in the level-1 coefficient predicting the relationship between person j 's rate victimization on day i and their partner's negative affect on that same day. Again, $MM_{.j}$ is the male partner's mean negative affect across the study period. $DA_{.j}$ represents the male partners' dispositional alcohol measure, number of drinks typically consumed per sitting over the 6-week period prior to the female's participation in the original screening session as reported on the QFI.

The variances of the intercept and residuals were 0.06 and 0.05, respectively. Intercept variance represents between-person variability and residual variance represents within-person variance in FMPV. Following an examination of the intraclass correlation ($r = 0.13$), it was determined that only 13% of the variance in initial (intercept) FMPV rates of perpetration may be attributable to individual reporters. The remaining 87% of the variance is due to variation within reports submitted by individual participants. Essentially, when all other level-1 predictor variables measure zero, the number of daily reports of FMPV do not vary much between reporters. There was, however, a significant degree of variation across individual intercepts ($p < .001$), indicating a non-uniform intercept and allowing for the further examination of level-2 predictors. A random coefficient regression (RCR) in which error variances in coefficients were allowed to vary across individuals was conducted to determine not only if level-1 factors that had been added to the model improved its predictive quality but also if the resultant slopes demonstrated enough error variance to allow for modeling level-2 factors.⁵ Daily variables were first examined independently in bivariate RCR analyses to determine their relative predictive value and those that demonstrated significance were entered into the multivariate omnibus test. Thus, results represent the unique variance in predicting the risk of IPV above and beyond that which is accounted for by other factors.

First, a covariate analysis was conducted to determine whether or not violence on the previous day predicted violence on the present day. The lagged female violence variable was not significant, $t(42) = 1.46$, $p = 0.15$, and was excluded from the omnibus model.

Hypothesis 1: Rates of FMPV will increase with perpetrator (female partner) alcohol consumption—Female alcohol consumption did not contribute unique variance in the prediction of IPV, $t(42) = 1.23$, $p = 0.23$. The slopes describing the relationship between FMPV and alcohol were significantly varied across the population, $\chi^2 = 94.07$, 30, $p < 0.01$. Because alcohol use accounted for a non-unique source of variance, it was dropped from the final model.

Hypothesis 2: Rates of FMPV perpetration will increase with perpetrator (female partner) negative affect—The PANAS items administered in this study have previously been shown to represent the broader constructs of anger, anxiety, and sadness (e.g., Watson et al., 1988). While these three constructs were intercorrelated, there are important theory-based reasons to separate the three components. Thus, we entered each negative affect construct into a single level-1 analysis to assess whether specific elements of negative affect predict IPV. Anger, $t(42) = 6.37$, $p < 0.01$, anxiety, $t(42) = 3.10$, $p < 0.01$, and sadness, $t(42) = 3.80$, $p < 0.01$, all demonstrated significance in predicting daily FMPV. The composite measure was used in the omnibus model due to high intercorrelation and to prior conceptualization of the negative affect construct.

⁵Initially, the variance of level-1 predictors was fixed to allow for an examination of event-level main effects. Following this initial analysis, the variance components of the parameters were allowed to randomly vary between individuals to determine if an analysis of individual difference variables would be justified in predicting variance on level-1 parameters. Justification is provided when the random effects of level-1 variables demonstrate significant variance.

Daily increases in female negative affect predicted increases in FMPV. A significant main effect was detected for female negative affect and held when included in the omnibus model, $t(42) = 3.47, p < 0.01$, indicating that female negative affect contributes to the predictive value of the model in the expected direction. Sufficient variance in the slope existed to warrant an examination of individual differences variables that may account for this variance, $\chi^2 = 128.01, 39, p < 0.01$. The cross-level interaction of mean female negative affect on the relationship between daily female negative affect and FMPV was not significant, $t(41) = 0.10, p = 0.92$. This level-2 variable failed to reduce variance in the slope and the female daily affect term remained significant, $t(41) = 2.03, p = 0.05$.

Hypothesis 3: Rates of FMPV perpetration will increase with victim (male partner) negative affect—Daily increases in participant-rated male negative affect failed to predict increases in FMPV, $t(42) = 1.06, p = 0.30$, indicating that victim negative affect does not contribute to the predictive value of the model. Sufficient variance in the slope existed to warrant an examination of individual differences variables that may account for this variance, $\chi^2 = 208.09, 39, p < 0.01$. The slopes describing the relationship between FMPV and daily victim negative affect were significantly varied across the population, $\chi^2 = 54.43, 30, p < 0.01$. Because the variable accounted for a non-unique source of variance, it was dropped from the final model.

Hypothesis 4: Rates of FMPV perpetration will increase with the presence of MFPV—Daily increases in MFPV predicted higher rates of daily FMPV. A significant main effect for MFPV was detected and remained following inclusion in the omnibus model, $t(42) = 12.60, p < 0.01$, suggesting that MFPV contributes to the predictive value of the model in the expected direction. Sufficient variance in the slope existed to warrant an examination of individual differences variables to account for the variance in the relationship shared between MFPV and FMPV in the current sample, $\chi^2 = 328.25, 38, p < 0.01$.

The cross-level interaction of mean male negative affect on the relationship between daily male negative affect and FMPV was not significant, $t(41) = -0.69, p = 0.49$. The slope remained significant ($p < 0.01$) and variance was not significantly reduced. The variance in this relationship cannot be accounted for by the level-2 variables assessed in the current investigation.

Hypothesis 5: Mean levels of participant negative affect and alcohol consumption would predict increased rates of FMPV perpetration—In order to test the fifth hypothesis and explain the variance in intercepts representing the daily occurrence of FMPV, mean male and female negative affect across an individual's reports and the female partner's typical drinks per sitting as obtained through the female partner's QFI report were entered as individual difference variables on level-2 in an intercepts-as-outcomes analysis. No cross-level main effects were detected for the covariate of relationship satisfaction, $t(41) = 0.04, p = 0.97$, drinks consumed per sitting, $t(41) = -0.86, p = 0.39$, or mean male negative affect, $t(41) = 1.76, p = 0.09$.

A cross-level main effect for mean female negative affect was detected, $t(41) = 2.34, p = 0.02$, indicating that females who reported higher mean levels of negative affect were more

likely to be aggressive on any given day when compared to females with lower mean levels of negative affect across the study period. The cross-level main effects of mean female negative affect reduces the intercept term to non-significance, $t(41) = 1.94, p = 0.06$. Additional variables would be required to explain further variability in intercepts as this remains marginally significant. The goodness of fit of the model for female negative affect, $\chi^2(38) = 106.59, p < 0.01$, demonstrated little improvement over the intercepts-only model, $\chi^2(39) = 108.28, p < 0.01$.

Hypothesis 6: Risk for IPV would be heightened on days in which female negative affect and alcohol use co-occurred—The interaction between daily alcohol use and female negative affect was non-significant, $t(42) = 1.17, p = .25$, signifying that the risk of IPV is not increased by the co-occurrence of female negative affect and alcohol consumption. Of these two event-level predictors, only female negative affect exerts a level-1 main effect in predicting FMPV. There is significant variance in the daily interaction across participants, $\chi^2(27) = 42.84, p = 0.03$. The interaction term was dropped from the omnibus model.

Exploratory Analyses—Few participants responded to follow-up questions asking about the duration of time between alcohol consumption and the perpetration of IPV. With the 87 observations of FMPV that occurred on days in which participant consumed alcohol and responded to the follow-up duration item, 59 (67.8%) reports of FMPV occurred within 2 hours, and 81 (93.1%) occurred within 4 hours of female alcohol consumption. Of the 77 observations with an accompanying duration response, female participants estimated that 59 (76.6%) reports of MFPV occurred within two hours and that 65 (84.4%) occurred within 4 hours of their partner's consumption of alcohol.

Discussion

The goal of the present research was to investigate risk factors for IPV perpetration among a sample of college-aged women. Participants reported on their daily alcohol use, negative affect, and IPV perpetration/victimization over a 6-week period. Results indicated that IPV was a relatively common experience, with over 95% of participants reporting some form of IPV perpetration during their participation in the study, with verbal/psychological forms of IPV more common (over 90% of participants) than physical IPV (60.4%). Females reported being a perpetrator more often than being a target of physical IPV (8.1% vs. 6.8% of days). Based on participants' daily reports, on any given day the odds of IPV perpetration were approximately 26.4%, which was twice as high as the odds of alcohol consumption. Analyses conducted to predict factors that increased the probability of participants' daily IPV perpetration revealed that the daily occurrence of MFPV as well as daily and mean female negative affect, predicted FMPV perpetration. Contrary to expectation, neither participant nor partner alcohol use predicted the probability of daily FMPV, and daily male negative affect offered no unique predictive capability.

The present results have a number of implications for theory and research investigating risk factors for IPV perpetration. First, these findings are consistent with both the general literature on the role of negative affective and aggressive behavior, and more specific

findings linking anger arousal and IPV. In moderation, the tendency to experience anger is normative and functional, as anger may effectively signal that one has been the victim of a transgression and can activate approach-oriented motivations to take corrective action or to engage in self-protection (Gottman, 1994; Novaco, 1976). However, high levels of dispositional anger can also yield destructive, dysfunctional behaviors and, as such, this construct plays a prominent role in models of interpersonal violence (Anderson & Bushman, 2002; Beck, 1999; Berkowitz, 1993, 2008). High levels of dispositional anger are also associated with IPV in particular (for reviews, see Eckhardt et al., 1997; Norlander & Eckhardt, 2005; O'Leary et al., 2007). Among IPV perpetrators, IPV severity is linearly associated with anger dysfunction (Chase, O'Leary, & Heyman, 2001; Dutton, 1988; Holtzworth-Munroe et al., 2000; Waltz, Babcock, Jacobson & Gottman, 2000). The present results add to the existing literature by showing further cross-method consistency in our understanding of the anger-IPV association: on any given day, individuals who are experiencing higher levels of anger than usual (i.e., more than their monthly average level of anger) are at greater risk for perpetrating IPV. The fact that the current investigation extends the association between anger and IPV observed consistently within male samples into a female sample is of particular interest given the increasing percentage of females that are diverted to intervention programs following the perpetration of IPV.

However, as the present data would also suggest, it is important to keep in mind that the strength of this association is moderate in nature; anger is neither a necessary nor sufficient cause of IPV. In support of this, prior research suggests that approximately 20–25% of offenders on probation for misdemeanor assault against a female partner judicially mandated to attend IPV intervention programs have clinically significant problems with anger experience and expression (Eckhardt, Samper, & Murphy, 2008). It is also possible that negative affect may be a consequence of, in addition to a contributing factor in, mutually aggressive acts of partner violence. As previously stated, IPV victimization has been associated with adverse emotional responses (Coker, Davis, & Arias, 2002). Nevertheless, such anger problems may be of important clinical significance, as IPV offenders with elevated trait anger are more likely to reassault a partner (Murphy, Taft, & Eckhardt, 2007).

Surprisingly, neither participant nor partner alcohol use predicted IPV. This null effect held regardless of whether we examined daily alcohol consumption, “average” alcohol consumption over the course of the reporting period, or drinks per sitting, suggesting that participants' reports of daily IPV perpetration and victimization remained relatively constant regardless of daily or dispositional amounts of alcohol consumed by that participant. In addition, the interaction between daily affect and alcohol consumption also failed to demonstrate significance. These results appear to be in contrast to the general literature on alcohol and aggression, which suggests a moderate association between the two constructs (e.g., Ito et al., 1997).⁶

⁶Some researchers have suggested that problematic female alcohol use may develop over time as a means to cope with IPV and/or general negative affect. However, it does not appear to be the case that participants in this sample were attempting to “self-medicate” via alcohol consumption to any significantly greater degree on days during which they experienced negative affect compared to days of better than average affect. In the current study, negative affect was operationalized as deviations from one's mean level of negative affect over the course of the study period. Female negative affect in the current sample was low, meaning that females demonstrated an absence of negative affect on many days. Given the generally low levels of negative affect, it would seem unwarranted to presume a drinking-to-cope pattern proposed by an indirect effects model of alcohol consumption and IPV.

However, the current results are not entirely unexpected as findings concerning the role of alcohol in predicting subsequent acts of IPV are inconclusive, particularly with regards to FMPV. In general, the strength of the association between alcohol use and IPV is moderate, somewhat heterogeneous, and dependent on a wealth of moderating factors (Foran & O'Leary, 2008). Data concerning alcohol use and FMPV are even more inconsistent, with some researchers reporting a significant association between these constructs (Caetano et al., 2005), and others reporting no such relationship (e.g., Martino et al., 2008; Stappenbeck & Fromme, 2010).

There are several other possible factors that may account for the absent alcohol-aggression relationship in the current investigation. First, HLM is limited by the sample size in the lowest level of analysis. In the current study, our sample size was limited to 43 participants and thus, our power may have been too low to detect the small-to-moderate effects of alcohol on MFPV or the small effects on FMPV (Foran & O'Leary, 2008). Further, the literature suggests that it is heavy consumption rather than greater frequency that places the individual at risk for perpetrating partner violence. Heavy alcohol consumption occurred infrequently in the current sample. The current sample also consisted of dating, non-cohabitating individuals in which the partners likely engaged in social alcohol consumption when together, as opposed to domestic alcohol consumption. This contributes to a reduced risk of domestic violence as social drinking is more prone to elicit general (e.g., barroom) violence, while partner violence is more likely to follow from drinking in a domestic setting (Pernanen, 1991). Finally, female reports of relationship satisfaction reflect a high degree of satisfaction, whereas previous research has tended to focus on maritally dissatisfied couples. It is possible that the high level of satisfaction in the present sample is due to more prosocial interactive patterns among individuals in this sample, such as appropriate non-violent conflict resolution strategies.

A significant main effect of MFPV on FMPV shared between them indicated that the rates of these two constructs fluctuate together. Given the significant correlation between the two types of aggression, their predictive relationship was considerable. MFPV was the most predictive set of items examined in the present study. The design of the study, however, did not allow for the determination of causation. As such, the amount of female aggression attributed to reciprocity cannot be distinguished from motivations such as psychopathology or control. The negative affect associated with aggression would suggest the presence of internal factors motivating aggressive behavior. Further, the significant association of anger, rather than anxiety or sadness, with FMPV indicates that this affective construct is the most predictive of higher amounts of FMPV. The present design was unable to determine whether anger served as a precipitant or consequence of FMPV. Nevertheless, it is clear that IPV perpetration and victimization are proximally related in the current sample.

Limitations

This study presented with several challenges and limitations. The primary limitations were related to the study sample. Time and resource limitations prohibited the recruitment of a large sample of students, thus reducing the analytical power necessary to detect relatively small effects. Furthermore, difficulties in detecting and recruiting participants necessitated

an expansion of eligibility criteria to a population of females who reported fewer instances of IPV perpetration and less alcohol consumption at screening than initially conceptualized. Additionally, the study utilized single-partner accounts without the benefit of collateral information. It is highly likely that corroborative partner reports would have allowed for the observation of a wider variety and greater frequency of aggressive behavior as well as a more reliable report of male affect. Indeed, a meta-analytic review of the CTS concluded that partners underreport their own behavior when compared to data provided by their significant other (Archer, 1999). Cunradi (2009) and colleagues more recently confirmed the bias present in self-reported physical IPV and recommended that estimates should be based upon dyadic reports when available. The internal consistency of the aggression variable was low, but not unexpected, as the composite measure assessed four different forms of aggression using items from two separate measures. Generalizability of results was limited due to the low-risk, high-satisfaction, unmarried, non-cohabitating nature of the young, predominantly freshman college student participants.

Practical limitations of attrition and incomplete data also existed, in part, due to the short duration of romantic relationships among college students, and that may have been further amplified by the repetitive, demanding nature of daily responding. Physical and sexual IPV are not frequent occurrences, even in couples that have experienced them in the past. The 6-week duration may not have allowed for a proper gauging of the presence of violent events, though the short study period and selection criteria may have reduced the risk of relationship dissolution during the study. In addition, participant concerns about reporting sensitive victimization and minor consumption information may have prevented candid responding. It is also possible that participants became more aware of drinking behavior, affect, and aggressive events as the study progressed.

Summary

The results of the current investigation suggest that daily fluctuations in negative affect are stronger predictors than alcohol use patterns in predicting FMPV. As such, these findings may provide support for targeting affective processing in young adults who are at risk for IPV. The experience of negative affect in the present sample suggests that intervention techniques that help young adults regulate and control their daily affective experience may serve to reduce the risk of IPV perpetration. However, with some exceptions, intervention programs for IPV perpetrators do not routinely focus on the regulation of negative affect as a presumed mediator of treatment success (e.g., Gondolf, 2002), despite a large body of data suggesting that individuals with anger disturbances are at moderate risk of IPV perpetration (Norlander & Eckhardt, 2005). Additional studies using longitudinal designs that span a longer time frame and assess a wider range of substance use may contribute additional findings that can hopefully spur new developments in empirically-based IPV interventions.

References

- Abbey A. Acquaintance rape and alcohol consumption on college campuses: How are they linked? *American Journal of College Health*. 1991; 39:165–170.

- Agnew C, Van Lange P, Rusbult C, Langston C. Cognitive interdependence: Commitment and the mental representation of close relationships. *Journal of Personality and Social Psychology*. 1998; 74:939–954.
- Allison P, Liker J. Analyzing sequential categorical data on dyadic interaction: A comment on Gottman. *Psychological Bulletin*. 1982; 91:393–403.
- American College Health Association. He American College Health Association National College Health Assessment (ACHA-NCHA), Spring 2003 reference group report. *Journal of American College Health*. 2005; 53:199–210. [PubMed: 15813230]
- Anderson C, Bushman B. Human aggression. *Annual Review of Psychology*. 2002; 53:27–51.
- Anderson T, Pratarelli M. Affective information in videos: Effects on cognitive performance and gender. *North American Journal of Psychology*. 1999; 1:17–28.
- Archer J. Assessment of the reliability of the Conflict Tactics Scale: A meta-analytic review. *Journal of Interpersonal Violence*. 1999; 14:1263–1289.
- Archer J. Sex differences in aggression between heterosexual partners: A metaanalytic review. *Psychological Bulletin*. 2000; 126:651–680. [PubMed: 10989615]
- Bachman R, Peralta R. The relationship between drinking and violence in an adolescent population: does gender matter? *Deviant Behavior: An Interdisciplinary Journal*. 2002; 23:1–19.
- Bailey D, Taylor S. Effects of alcohol and aggressive disposition on human physical aggression. *Journal of Research in Personality*. 1991; 25:334–342.
- Barbour K, Eckhardt C, Davison G, Kassinov H. The experience and expression of anger in maritally violent and nonviolent men. *Behavior Therapy*. 1998; 29:173–191.
- Bardone A, Krahn D, Goodman B, Searles J. Using interactive voice response technology and timeline followback methodology in studying binge eating and drinking behavior: Different answers to different forms of the same question. *Addictive Behaviors*. 2000; 35:1–22. [PubMed: 10708315]
- Beck, AT. *Prisoners of hate*. NY: Harper Collins; 1999.
- Berkowitz L. Frustration-aggression hypothesis: Examination and reformulation. *Psychological Bulletin*. 1989; 106:59–73. [PubMed: 2667009]
- Berkowitz L. On the formation and regulation of anger and aggression: A cognitive-neoassociationistic analysis. *American Psychologist*. 1990; 45:494–503. [PubMed: 2186678]
- Berkowitz, L. Towards a general a theory of anger and emotional aggression: Implications of the cognitive-neoassociationistic perspective for the analysis of anger and other emotions. In: Wyer, R.; Srull, T., editors. *Advances in social cognition: Perspectives on anger and emotion*. Vol. VI. Hillsdale, NJ: Erlbaum; 1993. p. 1-46.
- Berkowitz L. On the consideration of automatic as well as controlled psychological processes of aggression. *Aggressive Behavior*. 2008; 34:117–129. [PubMed: 18183563]
- Brown S, McGue M, Maggs J, Schulenberg J, Hingson R, Swartzwelder S, et al. A developmental perspective on alcohol and youths 16 to 20 years of age. *Pediatrics*. 2008; 121:290–310.
- Bushman B, Cooper H. Effects of alcohol on human aggression: An integrative research review. *Psychological Bulletin*. 1990; 107:1–14.
- Buss A, Perry M. The Aggression Questionnaire. *Journal of Personality and Social Psychology*. 1992; 63:452–459. [PubMed: 1403624]
- Caetano R, McGrath C, Ramisetty–Mikler S, Field C. Drinking, alcohol problems and the five-year recurrence and incidence of male to female and female to male partner violence. *Alcohol: Clinical and Experimental Research*. 2005; 29:98–106.
- Cahalan, D.; Cisin, IH.; Crossley, H. *American drinking practices: A national study of drinking behavior and attitudes*. New Brunswick, NJ: Center for Alcohol Studies; 1969.
- Carey M, Spector I, Lantinga L, Krauss D. Reliability of the Dyadic Adjustment Scale. *Psychological Assessment*. 1993; 5:238–240.
- Carney M, Buttell F, Dutton D. Women who perpetrate intimate partner violence: A review of the literature with recommendations for treatment. *Aggression and Violent Behavior*. 2006; 12:108–115.

- Carney M, Tennen H, Affleck G, Del Boca F, Kranzler H. Levels and patterns of alcohol consumption using timeline follow-back, daily diary and real-time "electronic interviews". *Journal of Studies on Alcohol*. 1998; 59:447–454. [PubMed: 9647427]
- Cascardi M, Vivian D. Context for specific episodes of marital violence: Gender and severity of violence differences. *Journal of Family Violence*. 1995; 10:265–293.
- Chase K, O'Leary K, Heyman R. Categorizing partner-violent men within the reactive–proactive typology model. *Journal of Consulting and Clinical Psychology*. 2001; 69:567–572. [PubMed: 11495186]
- Chermack S, Fuller B, Blow F. Correlates of expressed partner and non-partner violence among patients in substance abuse treatment. *Drug Alcohol Depend*. 2000; 58:43–54. [PubMed: 10669054]
- Coker A, Davis K, Arias I. Physical and mental health effects of intimate partner violence for men and women. *American Journal of Preventative Medicine*. 2002; 23:260–268.
- Cordova J, Jacobsen N, Gottman J, Rushe R, Cox G. Negative reciprocity and communication in couples with a violent husband. *Journal of Abnormal Psychology*. 1993; 102:559–564. [PubMed: 8282924]
- Cunradi C, Bersamin M, Ames G. Agreement on intimate partner violence among a sample of blue-collar couples. *Journal of Interpersonal Violence*. 2009; 24:551–568. [PubMed: 18430971]
- Cunradi C, Caetano R, Clark C, Schafer J. Alcohol-related problems and intimate partner violence among White, Black and Hispanic couples in the U.S. *Alcoholism: Clinical and Experimental Research*. 1999; 23:1492–1501.
- Cunradi C, Todd M, Duke M, Ames G. Problem drinking, unemployment, and intimate partner violence among a sample of construction industry workers and their partners. *Journal of Family Violence*. 2009; 24:63–74. [PubMed: 22096270]
- Dillon F, Turner C, Robbins M, Szapocznik J. Concordance among biological, interview, and self-report measures of drug use among African American and Hispanic adolescents referred for drug abuse treatment. *Psychology of Addictive Behaviors*. 2005; 19:404–413. [PubMed: 16366812]
- Dobash R, Dobash R. The nature and antecedents of violent events. *British Journal of Criminology*. 1984; 24:269–288.
- Dobash, R.; Dobash, R.; Cavanagh, K.; Lewis, R. *Changing violent men*. CA: Sage; 2000.
- Dutton, D. *The domestic assault of women: Psychological and criminal justice perspectives*. Boston: Allyn and Bacon; 1988.
- Dutton D. Female intimate partner violence and developmental trajectories of abusive females. *International Journal of Men's Health*. 2007; 6:54–70.
- Eckhardt C. Effects of alcohol intoxication on anger experience and expression among partner assaultive men. *Journal of Consulting and Clinical Psychology*. 2007; 75:61–71. [PubMed: 17295564]
- Eckhardt C, Barbour K, Davison G. Articulated irrational thoughts in maritally violent and nonviolent men during anger arousal. *Journal of Consulting and Clinical Psychology*. 1998; 66:259–269. [PubMed: 9583329]
- Eckhardt C, Barbour K, Stuart G. Anger and hostility in maritally violent men: Conceptual distinctions, measurement issues, and literature review. *Clinical Psychology Review*. 1997; 17:333–358. [PubMed: 9199856]
- Eckhardt C, Crane C. Effects of alcohol intoxication and aggressivity on aggressive verbalizations during anger arousal. *Aggressive Behavior*. 2008; 34:428–436. [PubMed: 18307248]
- Eckhardt C, Dye M. The cognitive characteristics of maritally violent men: Theory and evidence. *Cognitive Therapy and Research*. 2000; 24:139–158.
- Eckhardt C, Jamison T. Articulated thoughts of male perpetrators of dating violence during anger arousal. *Cognitive Therapy and Research*. 2002; 26:289–308.
- Eckhardt C, Jamison T, Watts K. Experience and expression of anger among male perpetrators of dating violence. *Journal of Interpersonal Violence*. 2002; 17:1102–1114.
- Ehrensaft M, Moffitt T, Caspi A. Clinically abusive relationships in an unselected birth cohort: Men's and women's participation and developmental antecedents. *Journal of Abnormal Psychology*. 2004; 113:258–271. [PubMed: 15122946]

- Ehrensaft M, Cohen P, Johnson J. Development of personality disorder symptoms and the risk for partner violence. *Journal of Abnormal Psychology*. 2006; 115:474–483. [PubMed: 16866588]
- Follingstad D, Bradley R, Helff C, Laughlin J. A model for predicting dating violence: Anxious attachment, angry temperament and need for relationship control. *Violence and Victims*. 2002; 17:35–47. [PubMed: 11991155]
- Foltz C, Morse J, Barber J. Self and other reports of interpersonal problems in couples. *Journal of Clinical Psychology*. 1999; 55:27–37. [PubMed: 10100829]
- Foran H, O'Leary K. Alcohol and intimate partner violence: A meta-analytic review. *Clinical Psychology Review*. 2008; 28:1222–1234. [PubMed: 18550239]
- Giancola P. Executive Functioning and alcohol-related aggression. *Journal of Abnormal Psychology*. 2000; 113:541–555. [PubMed: 15535787]
- Giancola P. Difficult temperament, acute alcohol intoxication and aggressive behavior. *Drug and Alcohol Dependence*. 2004; 74:135–145. [PubMed: 15099657]
- Giancola P, Josephs R, Parrott D, Duke A. Alcohol myopia revisited: Clarifying aggression and other acts of disinhibition through a distorted lens. *Perspectives on Psychological Science*. 2010; 3:265–278. [PubMed: 26162159]
- Giancola P, Parrott D. Differential effects of past-year stimulant and sedative drug use on alcohol-related aggression. *Addictive Behaviors*. 2005; 30:1535–1554. [PubMed: 16122615]
- Giancola P, Zeichner A. The biphasic effects of alcohol on human physical aggression. *Journal of Abnormal Psychology*. 1997; 106:598–607. [PubMed: 9358690]
- Gondolf, E. *Batterer Intervention Systems: Issues, Outcomes and Recommendations*. Sage Publications; Thousand Oaks: 2002.
- Gottman, J. *What predicts divorce? The relationship between marital processes and marital outcomes*. Hillsdale, NJ: Erlbaum; 1994.
- Gottman J, Ringland J. The analysis of dominance and bidirectionality in social development. *Child Development*. 1981; 51:393–412.
- Henning K, Jones A, Holdford R. Treatment needs of women arrested for domestic violence: A comparison with male offenders. *Journal of Interpersonal Violence*. 2003; 18:839–856. [PubMed: 19768888]
- Herman, J. *Trauma and Recovery*. New York: Basic Books; 1997.
- Holden R, Starzyk K, McLeod L, Edwards M. Comparisons among the Holden Psychological Screening Inventory (HPSI), the Brief Symptom Inventory (BSI), and the Balanced Inventory of Desirable Responding (BIDR). *Assessment*. 2000; 7:163–175. [PubMed: 10868254]
- Holtzworth-Munroe A, Meehan J, Herron K, Rehman U, Stuart G. Testing the Holtzworth-Munroe and Stuart (1994) batterer typology. *Journal of Consulting and Clinical Psychology*. 2000; 68:1000–1019. [PubMed: 11142534]
- Huesmann L. An information processing model for the development of aggression. *Aggressive Behavior*. 1988; 14:13–24.
- Ito T, Miller N, Pollock V. Alcohol and aggression. A meta-analysis on the moderating effects of inhibitory cues, triggering events, and self-focused attention. *Psychological Bulletin*. 1996; 120:60–82. [PubMed: 8711017]
- Ito, T.; Miller, N.; Pollock, V. Alcohol and aggression: A meta-analysis on the moderating effects of inhibitory cues, triggering events, and self-focused attention. In: Marlatt, G.; VandenBos, G., editors. *Addictive behaviors: Readings on etiology, prevention, and treatment*. Vol. I. Washington, DC: American Psychological Association; 1997. p. 430-481.
- Jouriles E, McDonald R, Garrido E, Rosenfield D, Brown A. Assessing aggression in adolescent romantic relationships: Can we do it better? *Psychological Assessment*. 2005; 17:469–475. [PubMed: 16393013]
- Kaufman-Kantor G, Straus M. The drunken bum theory of wife beating. *Social Problems*. 1987; 34:213–230.
- Kelley T, Cherek D, Steinberg J, Robinson D. Effects of provocation and alcohol on human aggressive behavior. *Drug and Alcohol Dependence*. 1988; 21:105–112. [PubMed: 3416729]

- LaBris J, Pedersen E, Earleywine M. A group-administered timeline followback assessment of alcohol use. *Journal of Studies on Alcohol*. 2005; 66:693–697. [PubMed: 16329460]
- Laurenceau J, Bolger N. Using diary methods to study marital and family processes. *Journal of Family Psychology*. 2005; 19:86–97. [PubMed: 15796655]
- Leigh B. Using daily reports to measure drinking and drinking patterns. *Journal of Substance Abuse*. 2000; 12:51–65. [PubMed: 11288474]
- Leonard, K. Alcohol and substance abuse in marital violence and child maltreatment. In: Wekerle, C.; Wall, AM., editors. *The violence and addiction equation*. New York: Brunner-Routledge; 2002. p. 194-219.
- Leonard K. Editorial: Alcohol and intimate partner violence: When can we say that heavy drinking is a contributing cause of violence? *Addiction*. 2005; 100:422–425. [PubMed: 15784050]
- Leonard K, Blane H. Alcohol and marital aggression in a national sample of young men. *Journal of Interpersonal Violence*. 1992; 7:19–30.
- Leonard K, Quigley B. Drinking and marital aggression in newlyweds: An event-based analysis of drinking and the occurrence of husband marital aggression. *Journal of Studies on Alcohol*. 1999; 60:537–545. [PubMed: 10463811]
- Leonard K, Roberts L. The effects of alcohol on the marital interactions of aggressive and nonaggressive husbands and their wives. *Journal of Abnormal Psychology*. 1998; 107(4):602–615. [PubMed: 9830248]
- Leonard K, Senchak M. Prospective prediction of husband marital aggression within newlywed couples. *Journal of Abnormal Psychology*. 1996; 105:369–380. [PubMed: 8772007]
- Lipsky S, Caetano R, Field C, Bazargan S. The role of alcohol use and depression in intimate partner violence among black and Hispanic patients in an urban emergency department. *The American Journal of Drug and Alcohol Abuse*. 2005; 31:225–242. [PubMed: 15912713]
- Lipsky S, Caetano R, Field C, Larkin G. Is there a relationship between victim and partner alcohol use during an intimate partner violence event? Findings from an urban emergency department study of abused women. *Journal of Studies on Alcohol*. 2005; 66:407–412. [PubMed: 16047531]
- Loeber, R.; Farrington, D.; Stouthamer-Loeber, M.; Van Kammen, W. *Antisocial behavior and mental health problems: Explanatory factors in childhood and adolescence*. Mahwah, NJ: Lawrence Erlbaum; 1998. *Antisocial behavior and mental health problems: Explanatory factors in childhood and adolescence*; p. 330
- Lussier P, Farrington D, Moffitt T. The developmental antecedents of psychological and physical abuse perpetrated by men against an intimate partner: A prospective longitudinal study. *Criminology*. 2009; 47(3):741–780.
- Lynam D. Early identification of chronic offenders: Who is the fledgling psychopath? *Psychological Bulletin*. 1996; 120:209–234. [PubMed: 8831297]
- Magdol L, Moffitt T, Caspi A, Silva P. Developmental antecedents of partner abuse: A prospective-longitudinal study. *Journal of Abnormal Psychology*. 1998; 107:375–389. [PubMed: 9715573]
- Marshall P, Watson D, Steinberg P, Cornblatt B, Peterson P, Callies A, Schenck C. An assessment of cognitive function and mood in chronic fatigue syndrome. *Biological Psychiatry*. 1996; 39:199–206. [PubMed: 8837981]
- Martino S, Elickson P, Klein D, McCaffrey D, Edelen M. Multiple trajectories of physical aggression among adolescent boys and girls. *Aggressive Behavior*. 2008; 34:61–75. [PubMed: 17701991]
- McKinney C, Caetano R, Rodriguez L, Okoro N. Does alcohol involvement increase the severity of intimate partner violence? *Alcoholism: Clinical and Experimental Research*. 2010; 34:655–658.
- Mickey J, Greenland S. A study of the impact of compound selection criteria on effect estimation. *American Journal of Epidemiology*. 1989; 129:125–137. [PubMed: 2910056]
- Miller B, Downs W, Gondoli D. Spousal violence among alcoholic women as compared to a random household sample of women. *Journal of Studies on Alcohol*. 1989; 50:533–540. [PubMed: 2586106]
- Moffitt T. Adolescence-limited and life-course-persistent antisocial behavior: A developmental taxonomy. *Psychological Review*. 1993; 100:674–701. [PubMed: 8255953]
- Moffitt T, Krueger R, Caspi A, Fagan J. Partner abuse and general crime: How are they the same? How are they different? *Criminology*. 2000; 38:199–232.

- Mulvey E, Skeem J, Schubert C, Odgers C, Gardner W, Lidz C. Substance use and community violence: A test of the relation at the daily level. *Journal of Consulting and Clinical Psychology*. 2006; 74:743–754. [PubMed: 16881782]
- Murphy C, Hoover S. Measuring emotional abuse in dating relationships as a multifactorial construct. *Violence and Victims*. 1999; 14:39–53. [PubMed: 10397625]
- Murphy C, Taft C, Eckhardt C. Anger problem profiles among partner violent men: Differences in clinical presentation and treatment outcome. *Journal of Counseling Psychology*. 2007; 54:189–200.
- Murphy C, Winters J, O'Farrell T, Fals-Stewart W, Murphy M. Alcohol consumption and intimate partner violence by alcoholic men: Comparing violent and nonviolent conflicts. *Psychology of Addictive Behaviors*. 2005; 19:35–42. [PubMed: 15783276]
- Norlander B, Eckhardt CI. Anger, hostility, and male perpetrators of intimate partner violence: A meta-analytic review. *Clinical Psychology Review*. 2005; 25:119–152. [PubMed: 15642644]
- Novaco, R. Anger control: The developmental and evaluation of an experimental treatment. Lexington, MA: Lexington; 1976.
- O'Farrell TJ, Fals-Stewart W. Alcohol abuse. *Journal of Marital & Family Therapy*. 2003; 29:121–146. [PubMed: 12616803]
- O'Farrell T, Fals-Stewart W. Behavioral couples therapy for alcoholism and drug abuse. *Behavior Therapist*. 2000; 23:49–54.
- O'Leary KD. Physical aggression in intimate relationships can be treated within a marital context under certain circumstances. *Journal of Interpersonal Violence*. 1996; 11:450–452.
- O'Leary KD, Malone J, Tyree A. Physical aggression in early marriage: Prerelationship and relationship effects. *Journal of Consulting and Clinical Psychology*. 1994; 62:594–602. [PubMed: 8063986]
- O'Leary K, Smith Slep A, O'Leary S. Multivariate models of men's and women's partner aggression. *Journal of Consulting and Clinical Psychology*. 2007; 75:752–764. [PubMed: 17907857]
- Parrott D, Giancola P. A further examination of the relation between trait anger and alcohol-related aggression: The role of anger control. *Alcoholism: Clinical and Experimental Psychology*. 2004; 28:855–864.
- Parrott D, Zeichner A. Effects of alcohol and trait anger on physical aggression in men. *Journal of Studies on Alcohol*. 2002; 63:196–204. [PubMed: 12033696]
- Parrott DJ, Zeichner A, Stephens D. Effects of alcohol, personality, and provocation on the expression of anger in men: A facial coding analysis. *Alcoholism: Clinical and Experimental Research*. 2003; 27:937–945.
- Paulhus, DL. Measurement and control of response bias. In: Robinson, JP.; Shaver, PR.; Wrightsman, LS., editors. *Measures of personality and social psychological attitudes*. San Diego, CA: Academic; 1991. p. 17-59.
- Pernanen, K. *Alcohol in human violence*. New York, NY: Guilford Press; 1991.
- Pittman, A.; Wolfe, W. Bridging the gap: Prevention of adolescent risk behaviors and development of healthy nonviolent dating relationships. In: Wekerle, C.; Wall, AM., editors. *The Violence and Addiction Equation*. NY: Brunner-Routledge; 2002. p. 293-303.
- Raudenbush, S.; Bryk, A.; Congdon, R. HLM 6 (Version 6.06). Scientific Software International; 2008.
- Rohsenow D, Bachorowski J. Effects of alcohol and expectancies on verbal aggression in men and women. *Journal of Abnormal Psychology*. 1984; 93:418–432. [PubMed: 6512088]
- Rusbult C, Martz J, Agnew C. The Investment Model Scale: Measuring commitment level, satisfaction level, quality of alternatives, and investment size. *Personal Relationships*. 1998; 5:357–391.
- Saunders DG. When battered women use violence: Husband-abuse or self-defense? *Violence and Victims*. 1986; 1:47–60. [PubMed: 3154140]
- Saunders J, Aasland O, Babor T, de la Fuente J, et al. Development of the Alcohol Use Disorders Identification Test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption. *Addiction*. 1993; 88:791–804. [PubMed: 8329970]

- Schafer JL, Graham JW. Missing data: Our view of the state of the art. *Psychological Methods*. 2002; 7:147–177. [PubMed: 12090408]
- Scott K, Schafer J, Greenfield T. The role of alcohol in physical assault perpetration and victimization. *Journal of Studies on Alcohol*. 1999; 60:528–536. [PubMed: 10463810]
- Senchak M, Leonard K. Attributions for episodes of marital aggression: The effects of aggression severity and alcohol abuse. *Journal of Family Violence*. 1994; 9:371–381.
- Simons J, Gaher R, Oliver M, Bush J, Palmer M. An experience sampling study of associations between affect and alcohol use and problems among college students. *Journal of Studies on Alcohol*. 2005; 66:459–469. [PubMed: 16240553]
- Singer, J.; Willett, J. *Applied longitudinal data analysis: Modeling change and event occurrence*. Oxford, England: Oxford University Press; 2003.
- Sobell, L.; Sobell, M. *Timeline followback user's guide: A calendar assessing alcohol and drug use*. Ontario, Canada: Addiction Research Foundation; 1996.
- Sommer R, Barnes G, Murray R. Alcohol consumption, alcohol abuse, personality and female perpetrated spouse abuse. *Personality and Individual Differences*. 1992; 13:1315–1323.
- Spanier G. Measuring dyadic adjustment: new scales for assessing the quality of marriage and similar dyads. *Journal of Marriage and Family*. 1976; 38:15–30.
- Spanier G. Assessing the strengths of the Dyadic Adjustment Scale. *Journal of Family Psychology*. 1988; 2:92–94.
- Spanier G, Thompson L. Confirmatory analysis of the dyadic adjustment scale. *Journal of Marriage & the Family*. 1982; 44:731–738.
- Stappenbeck C, Fromme K. A longitudinal investigation of heavy drinking and physical dating violence in men and women. *Addictive Behaviors*. 2010; 35:479–485. [PubMed: 20079971]
- Stith S, Smith D, Penn C, Ward D, Tritt D. Intimate partner physical abuse perpetration and victimization risk factors: A meta-analytic review. *Aggression and Violent Behavior*. 2004; 10:65–98.
- Straus MA. Prevalence of violence against dating partners by male and female university students worldwide. *Violence Against Women*. 2004; 10:790–811.
- Straus M, Hamby S, Boney-McCoy S, Sugarman D. The revised Conflict Tactics Scales (CTS-2): Development and preliminary psychometric data. *Journal of Family Issues*. 1996; 17:283–316.
- Stuart G, Meehan J, Moore T, Morean M, Hellmuth J, Follansbee K. Examining a Conceptual Framework of Intimate Partner Violence in Men and Women Arrested for Domestic Violence. *Journal of Studies on Alcohol*. 2006; 67:102–112. [PubMed: 16536134]
- Stuart G, Temple J, Follansbee K, Bucossi M, Hellmuth J, Moore T. The role of drug use in a conceptual model of intimate partner violence in men and women arrested for domestic violence. *Psychology of Addictive Behaviors*. 2008; 22:12–24. [PubMed: 18298227]
- Sugarman D, Aldarondo E, Boney-McCoy S. Risk marker analysis of husband-to-wife violence: A continuum of aggression. *Journal of Applied Social Psychology*. 1996; 26:313–337.
- Tavris, C. *Anger: The misunderstood emotion*. 2nd. New York: Touchstone; 1989.
- Taylor S, Gammon C. Effects of type and dose of alcohol on human physical aggression. *Journal of Personality and Social Psychology*. 1975; 32:169–175. [PubMed: 1206467]
- Tedeschi J, Quigley B. A further comment on the construct validity of laboratory aggression paradigms: A response to Giancola and Chermack. *Aggression and Violent Behavior*. 2000; 5:127–136.
- Testa M, Leonard K. The impact of marital aggression on women's psychological and marital functioning in a newlywed sample. *Journal of Family Violence*. 2001; 16:115–130.
- Testa M, Quigley B, Leonard K. Does alcohol make a difference? Within-participants comparison of incidents of partner violence. *Journal of Interpersonal Violence*. 2003; 18:735–743. [PubMed: 14675506]
- Thompson M, Kingree J. The roles of victim and perpetrator alcohol use in intimate partner violence outcomes. *Journal of Interpersonal Violence*. 2006; 21:163–177. [PubMed: 16368759]
- U.S. Department of Justice: Bureau of Justice Statistics. *Family Violence Statistics: Including statistics on strangers and acquaintances*. Washington, DC: 2005.

- Durose M, Harlow C, Langan P, Motivans M, Rantala R, Smith E, Ullman SE, Karabatsos G, Koss MP. Alcohol and sexual assault in a national sample of college women. *Journal of Interpersonal Violence*. 1999; 14:603–625.
- Vinson D, Reidinger C, Wilcosky T. Factors affecting the validity of a timeline follow-back interview. *Journal of Studies on Alcohol*. 2003; 64:733–740. [PubMed: 14572197]
- Waltz J, Babcock J, Jacobson N, Gottman J. Testing a typology of batterers. *Journal of Consulting and Clinical Psychology*. 2000; 68:658–669. [PubMed: 10965641]
- Ward R, Muldoon J. Female tactics and strategies of intimate partner violence: A study of incident reports. *Sociological Spectrum*. 2007; 27:337–364.
- Watson, D.; Clark, L. *The PANAS-X: Manual for the Positive and Negative Affect Schedule-Expanded Form*. Ames: The University of Iowa; 1994.
- Watson D, Clark L, Carey G. Positive and negative affectivity and their relation to anxiety and depressive disorders. *Journal of Abnormal Psychology*. 1988; 9:346–353. [PubMed: 3192830]
- Watson D, Clark L, Tellegen A. Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*. 1988; 54:1063–1070. [PubMed: 3397865]
- Wechsler H, Lee J, Kuo M, Seibring M, Nelson T, Lee H. Trends in college binge drinking during a period of increased prevention efforts: Findings from 4 Harvard School of Public Health College Alcohol Surveys: 1993-2001. *Journal of American College Health*. 2002; 50:2003–217.
- Williams T, Boyd J, Cascardi M, Poythress N. Factor structure and convergent validity of the Aggression Questionnaire in an offender population. *Psychological Assessment*. 1996; 4:398–403.
- Wolfe D, Scott K, Reitzel-Jaffe D, Wekerle C, Grasley C, Straatman A. Development and validation of the conflict in adolescent dating relationships inventory. *Psychological Assessment*. 2001; 13:277–293. [PubMed: 11433803]
- Wolfer TA. “It happens all the time”: Overcoming the limits of memory and method for chronic community violence experience. *Journal of Interpersonal Violence*. 1999; 14:1070–1094.

Table 1

Demographic data.

<i>Baseline Data (N = 43)</i>	
Participant age [<i>M (SD)</i>]	18.8 (0.8)
Months dating [<i>M (SD)</i>]	20.7 (15.4)
Relationship satisfaction score [<i>M (SD)</i>]	6.8 (1.1)
Class Standing [<i>n (%)</i>]	
Freshman	25 (58.1)
Sophomore	12 (27.9)
Junior	5 (11.6)
Senior	1 (2.3)
Ethnicity [<i>n (%)</i>]	
White	37 (86.0)
Asian/Pacific Islander	4 (9.3)
African American	1 (2.3)
Other	1 (2.3)
CTS subscale score for female-to-male IPV [<i>n (%)</i>]	
Physical aggression	26 (60.4)
Verbal aggression	39 (90.7)
Psychological aggression	35 (81.4)
Sexual aggression	3 (7.0)
CTS subscale score for male-to-female IPV [<i>n (%)</i>]	
Physical aggression	20 (46.5)
Verbal aggression	18 (41.8)
Psychological aggression	23 (53.4)
Sexual aggression	2 (4.6)
Alcohol Use [<i>n (%)</i>]	
Any alcohol	33 (76.6)
Heavy Drinking	17 (39.5)

Note: CTS = Conflict Tactics Scale. IPV = Intimate Partner Violence.

Table 2
Bivariate Intercorrelations between Alcohol, Negative Affect, and IPV

Variable	1	2	3	4	5	6	7	8	9	10
Individual-Level										
1. FMPV	-----	0.64*	0.08	0.14	-0.05					
2. MFPV		-----	0.16	0.20	0.04					
3. Mean Female Negative Affect			-----	0.91*	-0.22					
4. Mean Male Negative Affect				-----	-0.22					
5. Female Drinks per Sitting					-----					
Daily-Level										
6. FMPV						-----	0.74*	0.32*	0.34*	0.02
7. MFPV							-----	0.28*	0.34*	0.00
8. Female Negative Affect								-----	0.54*	0.01
9. Male Negative Affect									-----	-0.02
10. Female Alcohol Consumption										-----

* $p < .05$

Table 3

Probability Data of Daily Alcohol, Negative Affect and IPV.

Probability (P) of Daily Occurrence	Conditional Probability (%)
P(FMPV)	26.4
P(MFPV)	20.3
P(Alcohol)	13.2
P(Female Negative Affect)	37.1
P(Male Negative Affect)	36.0
P(FMPV MFPV)	78.7
P(FMPV No MFPV)	8.3
P(FMPV Alcohol)	28.9
P(FMPV No Alcohol)	26.0
P(IPV Male Negative Affect)	42.1
P(IPV No Male Negative Affect)	18.4
P(IPV Female Negative Affect)	39.6
P(IPV No Female Negative Affect)	18.1

Note: P = Probability; IPV = Intimate Partner Violence

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

Table 4

Parameter Estimates for Two-Level Hierarchical Generalized Linear Models Examining the Relationships among Negative Affect, Alcohol, and the Dependent Variable of IPV.

Fixed effects	<i>B</i>	<i>SE</i>	<i>p</i>
Intercept	0.11	0.08	<0.01
1-Day Lag on FMPV	0.11	0.08	0.15
Daily Female Negative Affect	0.23	0.07	<0.01
Daily Male Negative Affect	0.08	0.07	0.30
Daily MFPV	0.79	0.06	<0.01
Daily Female Alcohol Consumption	0.04	0.03	0.23
Daily Female Negative Affect X Daily Female Alcohol	0.07	0.06	0.25
Mean Female Negative Affect	0.11	0.05	0.02
Mean Male Negative Affect	0.09	0.05	0.09
Female Dispositional Alcohol	-0.01	0.01	0.39
Relationship Satisfaction	0.01	0.03	0.97
Daily MFPV X Mean Male Negative Affect	-0.06	0.09	0.49
Daily Female Negative Affect X Mean Female Negative Affect	0.01	0.09	0.92

Note: FMPV = Female-to-Male Partner Violence; MFPV = Male-to-Female Partner Violence