Published in final edited form as:
Addiction. 2013 December ; 108(12): . doi:10.1111/add.12322.

Drinking context-specific associations between intimate partner violence and frequency and volume of alcohol consumption

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Abstract

Aims—To quantify two specific aspects of drinking in various venues (past-year frequency of drinking in each venue and volume consumed per venue) and assess their relationships with intimate partner violence.

Design, Setting, and Participants—A geographic sample of married or cohabiting couples residing in 50 medium-to-large cities in California, USA (n=1,585 couples) was obtained. Cross-sectional survey data were collected via confidential telephone interviews.

Measurements—Each partner in the couple provided information about past-year male-to-female and female-to-male intimate partner violence (IPV), drinking contexts, and psychosocial and demographic factors. Frequency of drinking in six contexts and volume consumed in those contexts were used in censored Tobit models to evaluate associations between IPV and male and female drinking contexts.

Findings—Risks for IPV differed among drinking contexts and were sometimes related to heavier volumes consumed. In fully adjusted models, male partners' frequency of drinking at parties at another's home (b(s.e.) 0.130(0.060); p=0.030) was associated with risk for male-to-female IPV and frequency of drinking during quiet evenings at home was associated with risk for female-to-male IPV (b(s.e.) 0.017(0.008); p=0.033). Female partners' frequency of drinking with friends at home (b(s.e.) −0.080(0.037); p=0.030) was associated with decreased male-to-female IPV, but volume consumed was associated with increased risk (b(s.e.) 0.049(0.024); p=0.044).

Conclusions—Social context in which drinking occurs appears to play a role in violence against partners, with male violence being linked to drinking away from home and female violence being linked to drinking at home.

Introduction

Previous research has indicated that use of alcohol in specific drinking contexts by male and female partners is associated with intimate partner violence (IPV) (1). As it is also observed that heavier drinking is related to IPV, these context-specific relationships may arise from risks related to contexts (e.g., social influences) or heavier drinking in those contexts. The

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Declarations of interest: The material contained in this article has not been published nor is currently being considered for publication in whole or in part elsewhere. All authors have been personally and actively involved in substantive work leading to the report, and will hold themselves jointly and individually responsible for its content.

aim of this study is differentiate these two aspects of context effects as they are related to IPV. Using a context-specific dose-response model, the separate effects of frequency (i.e., how often someone drinks in each context) and continued volumes (i.e., how much alcohol they consume in each context) can be estimated (2).

The positive association between alcohol consumption and IPV has been documented across ages, countries, racial/ethnic groups, and type of IPV (e.g., male-to-female vs. female-to-male partner violence) (3–7). Typical explanations for this association include shared risk factors such as adverse childhood experiences (8), psychosocial characteristics such as impulsivity (9) and hostility (10), and the perception of short-term disinhibition caused by alcohol consumption (11). These individual-level characteristics are important predictors of the alcohol-IPV association, but do not fully explain or describe the social ecological circumstances surrounding the relationship.

A small number of studies suggest that, in addition to individual-level risk factors, the ecological circumstances of drinking may also affect risks for aggressive behavior generally and IPV specifically (1, 12, 13). For example, in a nationally representative sample of drinkers from the United States, individuals who drank primarily in bars were significantly more likely to report arguments, fighting, and problems with spouses compared to those who were light drinkers (13). In a first attempt at understanding the role of drinking contexts for IPV, we examined the associations between IPV and total volume of alcohol consumed in the past year in six specific contexts (1). Results showed that, for men, past-year volume of alcohol consumed in bars, public places (i.e., park, street, parking lot), and during quiet evenings at home were associated with increased IPV. The female partners' past-year alcohol volume during quiet evenings at home was associated with frequency of IPV. This analysis demonstrates that among couples in the general population, each partner's drinking in certain contexts is an independent risk factor for the occurrence and frequency of both male-to-female and female-to-male partner violence.

To better understand the association between volume of alcohol consumed in particular contexts and IPV, it helps to distinguish between two types of context-specific risk. First, drinking contexts may enable or support IPV due to the tendency of drinkers to drink with like-minded others in specific venues (14). A social environment with more permissive norms towards partner aggression specifically, or violent behaviors generally, may influence an individual to act aggressively towards their partner. Second, context-specific dose-response relationships between IPV frequency and the frequencies and quantities of alcohol consumed may exist, such that the amount of alcohol consumed in a particular context is more important than other (e.g., social) characteristics of that context. Distinguishing between effects of frequency of drinking in the context vs. amount of alcohol consumed within the context is complex. In this analysis, we use quantitative dose-response models developed for this task (2, 15, 16) to assess how frequencies of drinking in different venues (e.g., bars or parties) may be related to male-to-female and female-to-male partner violence. Using a sample of adult couples, we first test the association between overall frequency and amount of alcohol consumed in the past year, and then extend analyses to six specific drinking contexts.

Methods

Data source

The data source for these analyses is the California Community Health Study of Couples, a geographic sample of married/cohabiting couples residing in 50 medium-to-large California cities with populations 50,000 to 500,000. The goal of the study was to recruit approximately 40 couples from each of the 50 cities for a final sample of 2,000 couples

(4,000 individuals). Couples were recruited by telephone from a purchased sample of household addresses and telephone numbers. Eligible households included those with couples who were married or cohabiting, had lived together for at least 12 months at the time of the survey interview, were between 18 and 50 years old, and were fluent in English or Spanish. If the potential respondent expressed interest in the study, informed consent was obtained. The consent procedure emphasized the confidential nature of the interview and the voluntary nature of participation. In all cases, trained, professional survey interviewers first spoke with the female partner in the couple using computer-assisted telephone interviewing (CATI) procedures. If the female partner reported that she had experienced severe IPV (e.g., had been beaten up by her partner), the interviewer asked her permission before contacting her male partner for his interview (in which no questions about IPV were asked). Otherwise, the male partner was contacted for the full interview following completion of the female's interview. Sixteen women reported that they experienced severe IPV; all gave permission for their male partner to be interviewed. To our knowledge, no adverse events occurred during or following survey data collection as a result of participation in the study. All procedures were approved by the Institutional Review Board (IRB) of the Pacific Institute for Research and Evaluation, and a Certificate of Confidentiality was obtained from the National Institute on Alcohol Abuse and Alcoholism. Additional details about the geographic sampling frame and survey procedures can be found elsewhere (1, 17).

The full CASRO (Council of American Survey Research Organizations) or ISER (Institute for Social and Economic Research) response rate for the study was 59.5%, while the Cooperation Rate was 78.3% (18). The calculation of the CASRO response rate takes into account the large number of potential respondents whose eligibility is unknown. A total of 2,135 females completed survey interviews, along with 1,972 of their male partners. After excluding participants with incomplete information on demographic and psychosocial characteristics (n=155), drinking contexts (n=213), and IPV (n=19), the final sample included 1,585 couples.

Measures

Intimate partner violence—The primary outcome variables for these analyses were the frequencies of male-to-female partner violence (MFPV) and female-to-male partner violence (FMPV). Each respondent was asked about physically aggressive acts their spouse or partner may have committed against them, or they may have committed against their spouse or partner, during the past 12 months. These acts were measured with the physical assault subscale of the revised Conflict Tactics Scales (CTS2), with a reported reliability (alpha) of . 86 (19). The subscale asks about the occurrence of 12 behaviors, including moderate aggression (e.g., pushing or shoving; grabbing) and severe aggression (e.g., choking; beating up). Frequency measures of MFPV and FMPV were created based on each partner's report of the 12 aggressive behaviors that they may have perpetrated against their partner and that their partner may have perpetrated against them. The frequency of each act was valued using the midpoint of each category: *never* (0), *once* (1), *twice* (2), *3—5 times* (4), *6—10 times* (8), and *more than 10 times* (15), then summed. If the male and female partner reported discordant scores, the higher of the two was used. This method allows for the correction of under-reporting of violence common in one partner data (20).

Frequency of drinking and continued volumes: overall and context-specific—Using a model developed by Gruenewald (15) and applied by Freisthler and colleagues (2), risks related to drinking are assumed to be composed of non-drinking risks specific to contexts, drinking risks related to drinking in contexts, and risks related to heavier drinking in contexts. Here, based on this model, we derived reduced form equations for analyses of context-specific drinking risks. In Equation 1 below, overall drinking risks, R, are related to

frequencies, F, and continued volumes of use, V-F, providing estimates of risks related to drinking, b, and risks related to heavier drinking, c.

$$R = a + bF + c(V - F) \quad \text{(Equation 1)}$$

As shown in Equation 2 below, this approach can be extended to model context-specific risks (21) under the assumption that F (overall frequency of drinking) is composed of context-specific drinking frequencies (F_i), such that F=f1 + f2… + f_n.

$$R_i = a_i + b_i F_i + c_i F_i (V_i - F_i) \quad \text{(Equation 2)}$$

A frequency (F_i) and continued volume ($V_i - F_i$) were calculated for each of six drinking contexts: at a restaurant (not including fast food places); at bars, taverns, or cocktail lounges; at parties at someone else's home; spending a quiet evening at home; having friends drop over and visit at home; and hanging around with friends in a public place, such as a park, street, or parking lot. Total risk related to drinking (R) is a sum of these six venue-specific risks (R_i). The risks associated with frequency of attending each venue and having one drink (b_i) and context-specific continued volumes (total number of drinks beyond one per drinking occasion) (c_i) can be estimated using Equation 2. Estimates of c_i represent different risks related to heavier drinking between venues, while estimates of b_i represent different risks related to frequency of attending each drinking context.

To calculate overall F and V−F (Equation 1) we used responses to questions about past year alcohol consumption. Respondents were asked about the number of days they drank alcohol in the past year (F), with a range of responses from 0 to 365 days, and how many drinks they had on a typical day. V−F was calculated as [(F*typical number of drinks) minus F]. To calculate F_i and $V_i - F_i$ (Equation 2) we used responses to questions asking (a) how often in the past year the respondent was in one of the six drinking contexts; (b) how often he or she had at least one drink in each context (response options 'never', 'less than half the time,' 'about half the time,' 'more than half the time,' and 'almost all the time' coded as 0, 0.25, 0.5, 0.7, and 0.9 respectively); and (c) for respondents who drank in each context, how many drinks per occasion they typically had within the context. Respondents who reported an average number of drinks over 30 (n=5) were recoded to 30. F_i for each context was calculated as [frequency of being in that context*proportion of drinking occasions], and $V_i - F_i$ was calculated as [(frequency of being in that context*proportion of drinking occasions*typical number of drinks per drinking occasion) minus F_i].

Demographic factors—Demographic characteristics included participant's age, highest level of education achieved, race/ethnicity, and financial strain. Because ages of partners were strongly correlated (r = .79), a couple-level average of partners' ages was used. Educational attainment consisted of 4 categories: did not graduate from high school; graduated from high school or obtained a GED; enrolled in or completed some post-high school education/training; and graduated with bachelor's degree or completed some post-graduate education (reference category). Self-reported race/ethnicity was categorized as Hispanic; non-Hispanic Black; Asian; multi-racial/other; and non-Hispanic White (reference category). Financial strain was measured using seven items drawn from the Financial Strain Index used in the main adult survey of the Welfare, Children and Families study (21). As response scales varied widely across the seven items, z-score transformations of raw item scores (i.e., mean 0, standard deviation 1) were calculated. Because of high colinearity between partners' scores (r = .61), a mean financial strain composite score for the couple was used in analyses.

Psychosocial characteristics—Analyses included two psychosocial characteristics associated with both alcohol use and IPV, impulsivity and adverse childhood experiences. Impulsivity was measured with a 3-item scale used in previous IPV studies (20). Respondents were asked to describe how well each of the following statements described them: "I often act on the spur-of-the-moment without stopping to think"; "You might say I act impulsively"; and "Many of my actions seem to be hasty." Response options ranged from 1 ("quite a lot") to 4 ("not at all"). Items were reverse-coded prior to computing separate composite scores for each partner (Cronbach's αs = .76 and .78 for females and males, respectively). Childhood exposure to violence, alcoholism, and other adverse events was measured with a modified version of the Adverse Childhood Experiences (ACE) scale (22). The modified ACE (23) covers six categories of events respondents may have experienced while they were growing up (physical, psychological, or sexual abuse; parent/caregiver alcoholism, depression or mental illness; and mother/caregiver victim of domestic violence). A scale of exposure to adverse childhood experiences was created by summing the number of affirmative responses.

Analytic Strategy

Data were analyzed using censored Tobit models with heteroscedasticity corrections, with frequency of partner violence measured as counts of the number of IPV events in the past year. Separate models were run for MFPV and FMPV. The first set of models control for concordant frequencies of drinking (female F for FMPV, male F for MFPV), while the second set add concordant continued volumes. The next models controlled for discordant drinking frequencies (male F for FMPV, female F for MFPV), and then added discordant continued volumes. The final models included both male and female F and V−F. This set of five models was run for overall drinking and context-specific drinking, with a total of 20 models presented in Tables 3, 4, and 5 (10 MFPV models, 10 FMPV models). All models included controls for demographic (age, education, race/ethnicity, financial strain) and psychosocial (impulsivity, ACE) characteristics. In all models, we used White's test to check for heteroscedasticity, which was positive and significant for all variables in these models, such that the variance in IPV frequency increased with greater drinking frequency. Results presented here are based on standard errors corrected for heteroscedasticity relative to overall drinking frequencies (background drinking risks) of whichever partner(s) F and V −F are in each model. Specification tests using only couples reporting past-year drinking did not change the results of the models. Furthermore, accounting for potential city-level clustering did not alter results, so we do not present models with city-level dummy variables.

Results

Table 1 presents descriptive statistics for demographic and psychosocial statistics. The study population was largely white (71.2%, males and females) and held a Bachelor's degree or higher (51.9%, females; 53.0%, males). They reported low levels of impulsivity and adverse childhood experiences (0.9 and 0.7 ACEs, female and male partners) in comparison to other studies that used the same measurement of these constructs (24, 25). Past-12 month MFPV was reported by 6.4% of couples, and 9.5% reported past-12 month FMPV. Table 2 presents the descriptive statistics for the frequency and continued volumes of male and female partners, both overall and by specific drinking contexts. Male partners reported drinking 70.08 times in the past year, with a continued volume of 103.34 drinks. Females reported less frequent drinking days (45.59 days) and lower continued volumes (36.81 drinks). Male and female partners reported drinking most frequently during a quiet evening at home (51.28 and 45.52 days, respectively), and also reported the greatest continued volumes during quiet evenings at home.

Both male and female partners' frequencies of drinking in the past year were positively associated with MFPV and FMPV in models adjusted for demographic and psychosocial characteristics (Table 3). In models adjusting simultaneously for male and female F and V −F, only male frequency remained significantly associated with partner violence. Neither male nor female continued volumes were associated with MFPV or FMPV. All heteroscedasticity parameter estimates (γ) were positive and significant.

Table 4 presents context-specific results for associations between frequencies, continued volumes, and MFPV. In the fully adjusted model (Model 5), male frequency of drinking at parties at another's home was associated with increased risk for MFPV (p=0.030), while frequency of drinking in bars was marginally associated with MFPV (p=0.053). Female frequency of drinking at home with friends was associated with less MFPV, but volume of consumption was associated with greater MFPV. Female frequency of drinking in parks or public places was marginally significantly associated with increased risk of MFPV (p=0.078). Table 5 presents the same set of models with FMPV as the outcome. Female's frequency of drinking during a quiet evening at home and in parks and public places were associated with greater risk of FMPV, although these associations became non-significant after adjusting for continued volumes. In the fully adjusted model (Model 5), female continued volumes in parks and public places were associated with FMPV (p=0.042). Male partner's frequency of drinking during quiet evenings at home was associated with increased risk for FMPV (p=0.033). Similar to the association with female partners and MFPV, male frequency of drinking at home with friends was associated with lowered FMPV risk, whereas continued volumes in this context was associated with greater FMPV risk.

Discussion

The results of the current analyses show that frequencies of drinking among male and female partners were associated with IPV. Application of the dose-response model (equations 1 and 2) also showed that frequencies of drinking in specific contexts explained associated IPV risks. In particular, male drinking in bars and at parties and female drinking in parks and public places were associated with increased male-to-female violence, and male drinking during quiet evenings at home was associated with increased female-to-male violence. A smaller number of contexts had significant associations between heavier drinking (represented by continued volumes) and IPV. Drinking with friends at one's own home exhibited a slightly more complicated picture: for both discordant pairs (females and MFPV; males and FMPV), frequency was associated with less partner violence while greater volumes were associated with greater partner violence. Frequently inviting friends over might be a marker for stronger social ties, which may help partners avoid or get out of potentially dangerous couplings.

This study helps us to better interpret results from our previous analysis of the same data, which found the male partner's overall volume of alcohol consumed in bars and parks and public places, and both partners' total volume consumed during quiet evenings at home, were associated with partner violence (1). At first glance, the interpretation of these previous results would seem to imply that greater alcohol consumption is associated with increased partner violence. The analyses presented in this paper indicate that both frequency of drinking and excessive drinking in certain contexts are important predictors of context-specific patterns. This more nuanced interpretation of the total volume results indicates a need to consider what occurs within drinking contexts (besides alcohol consumption) that might trigger partner aggression. From a prevention perspective, encouraging and enabling people to alter their choices regarding alcohol use contexts (i.e., limiting opportunities to drink in particular contexts) is likely easier than changing the amounts they use in those contexts (i.e., behavior restraint when drinking).

Clearly, the theoretical picture that emerges from these findings is not one of simple disinhibition due to alcohol effects, but rather one in which the social ecological facets of drinking in different places appears to put both male and female partners' at increased risk for engaging in physically aggressive behavior. Hypotheses about potential mechanisms underlying these patterns have yet to be carefully specified and tested. Avenues for future research include determining if people tend to self-sort into drinking contexts with like-minded individuals and if one feature of some of these contexts is permissive norms regarding partner aggression. These processes might play out over the short-term (i.e., drinking in a context may cause same-day partner aggression), the long term (i.e., norms about partner violence gradually are influenced by the context(s) in which people drink), or work in concert over both short- and long-term time frames.

A number of study limitations should be noted. Our data are drawn from mid-sized California cities, so the study results are not necessarily representative of rural or urban areas. These analyses consider drinking in only six contexts, representing a small sample of contexts that could be associated with partner violence. The measures of MFPV, FMPV, and alcohol consumption are all past-year measures, which do not include information about temporal ordering of these behaviors across shorter intervals. Furthermore, IPV victimization might cause increased alcohol consumption in some contexts (e.g., at home), rather than the alcohol consumption leading to subsequent IPV victimization. Our data do not allow us to definitively determine the direction of causality. While our analyses indicate that elements of certain drinking contexts, aside from the amount of alcohol consumed, are related to partner violence, our data do not allow us to discern which characteristics of the riskier contexts might contribute to these associations. For example, the social ecological mechanisms that might lead to a man going to a bar, having one drink, and then later acting aggressively towards his partner still need to be explicated. Future studies should test these models in samples at high risk for both IPV and drinking (e.g., younger couples).

The current dataset, despite its limitations, is distinctive in that it consists of couple data, which provide information from each partner about his or her drinking activities and experience of partner aggression. These data afford opportunities for developing models that can present a fuller picture of dyadic behavioral phenomena. While the alcohol-IPV link is well-established (4), this study adds to the literature by using the dose-response model to distinguish between the influence of each partner's frequency of drinking in certain venues and that of the amount consumed in each context in relation to IPV. A better understanding of the social interactions that occur in certain environments, and subsequent behaviors, will contribute to understanding what aspects of environments might be amenable to change and subsequent decreases in problem behaviors such as partner violence. The findings, therefore, have critical implications for the prevention of alcohol-related IPV.

Acknowledgments

This project was supported by Grants Number 1 R01AA017705-3 (Carol Cunradi, Principal Investigator) and P60AA006282 (Paul Gruenewald, Principal Investigator) from the National Institute on Alcohol Abuse and Alcoholism. The content is solely the responsibility of the authors and does not necessarily represent the National Institute on Alcohol Abuse and Alcoholism or the National Institutes of Health.

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Table 1

Descriptive statistics for demographic and psychosocial characteristics (n=1,585 couples)

Continuous variables	M (SD)	
Mean financial strain, Couple	−0.03	(0.6)
Mean Age, Couple	41.9	(5.5)
Impulsivity, Female	1.5	(0.6)
Impulsivity, Male	1.6	(0.6)
Adverse Childhood Experiences, Female	0.9	(1.3)
Adverse Childhood Experiences, Male	0.7	(1.1)
Categorical variables	**n (%)**	
Any past-12 month MFPV	102	(6.4%)
Any past 12-month FMPV	151	(9.5%)
Education, Female		
Did not graduate from high school	83	(5.2%)
High school grad/GED	200	(12.6%)
Some post-high school	479	(30.2%)
BA/BS degree or higher	823	(51.9%)
Education, Male		
Did not graduate from high school	88	(5.6%)
High school grad/GED	222	(14.0%)
Some post-high school	435	(27.4%)
BA/BS degree or higher	840	(53.0%)
Race/Ethnicity, Female		
Hispanic/Latino	281	(17.7%)
Black	35	(2.2%)
Asian	70	(4.4%)
Other	70	(4.4%)
White	1129	(71.2%)
Race/Ethnicity, Male		
Hispanic/Latino	260	(16.4%)
Black	49	(3.1%)
Asian	61	(3.9%)
Other	86	(5.4%)
White	1129	(71.2%)

Table 2

Descriptive statistics for context-specific alcohol frequencies and continued volumes (n=1585 couples)

	Mean (SD)	Range
Male frequency	70.08 (96.83)	0–365
Male continued volumes	103.34 (355.49)	0–9490
Female frequency	45.59 (78.66)	0–365
Female continued volumes	36.81 (123.55)	0–2880
Male partner drinking contexts: Frequency		
Restaurants	10.85 (19.58)	0–270
Bars	3.79 (9.41)	0–135
Parties at another's home	3.50 (6.42)	0–91
Quiet evenings at home	51.28 (71.98)	0–328.5
Friends at your home	9.51 (21.52)	0–270
Parks and public places	1.89 (11.63)	0–328.5
Male partner drinking contexts: Continued volumes		
Restaurants	5.79 (23.86)	0–585
Bars	6.28 (20.35)	0–270
Parties at another's home	6.78 (31.20)	0–985.5
Quiet evenings at home	57.87 (261.44)	0–4957.2
Friends at your home	12.94 (64.33)	0–1260
Parks and public places	3.50 (75.12)	0–2956.5
Female partner drinking contexts: Frequency		
Restaurants	8.64 (16.21)	0–225
Bars	2.58 (8.74)	0–180
Parties at another's home	3.05 (5.96)	0–90
Quiet evenings at home	45.52 (65.36)	0–328.5
Friends at your home	8.12 (19.70)	0–328.5
Parks and public places	1.73 (9.25)	0–180
Female partner drinking contexts: Continued volumes		
Restaurants	2.63 (11.72)	0–225
Bars	2.59 (9.98)	0–180
Parties at another's home	2.65 (7.95)	0–135
Quiet evenings at home	22.25 (95.15)	0–1650
Friends at your home	4.45 (21.51)	0–540
Parks and public places	0.74 (8.65)	0–243

Table 3

Associations between frequency of alcohol consumption, continued volumes of alcohol consumption, and MFPV and FMPV (beta (s.e.)) (n=1585 couples)

	Male-to-female partner violence									
	Model 1		Model 2		Model 3		Model 4		Model 5	
	b (s.e.)	*P*	b (s.e.)	*P*	b (s.e.)	*P*	b (s.e.)	*P*	b (s.e.)	*P*
Male frequency	0.017 (0.005)*	<0.001	0.022 (0.005)*	<0.001					0.020 (0.005)*	<0.001
Male V−F (continued volumes)			−0.001 (0.001)						−0.001 (0.001)	
Female frequency					0.016 (0.007)*	0.015	0.021 (0.007)*	0.003	0.007 (0.008)	
Female V−F (continued volumes)							−0.002 (0.002)		−0.001 (0.003)	
γ, male frequency**	−0.003 (0.001)*	0.013	−0.004 (0.001)*	0.002					−0.004 (0.001)*	0.009
γ, female frequency**					−0.002 (0.002)		−0.003 (0.002)	0.059	−0.005 (0.002)	
	Female-to-male partner violence									
	Model 6		Model 7		Model 8		Model 9		Model 10	
	b (s.e.)	*P*	b (s.e.)	*P*	b (s.e.)	*P*	b (s.e.)	*P*	b (s.e.)	*P*
Female frequency	0.024 (0.008)*	0.002	0.027 (0.008)*	0.001					0.011 (0.011)	
Female V−F (continued volumes)			−0.004 (0.003)						−0.005 (0.003)	
Male frequency					0.022 (0.006)*	<0.001	0.024 (0.006)*	<0.001	0.022 (0.007)*	0.002
Male V−F (continued volumes)							0.000 (0.001)		0.000 (0.001)	
γ, female frequency**	−0.004 (0.002)*	0.012	−0.004 (0.002)*	0.007					−0.001 (0.001)	
γ, male frequency**					−0.004 (0.001)*	<0.001	−0.004 (0.001)*	<0.001	−0.004 (0.001)*	0.002

*p<0.05

** γ = parameter estimate for heteroscedasticity, overall frequency of drinking

Models adjusted for both partners' impulsivity, adverse childhood experiences, education, and race/ethnicity; mean age and mean financial strain

Table 4

Associations between context-specific frequency of alcohol consumption, context-specific continued volumes of alcohol consumption, and MFPV (beta (standard error)) (n=1585 couples)

	Model 1		Model 2		Model 3		Model 4		Model 5	
	b (s.e.)	*P*	b (s.e.)	*P*	b (s.e.)	*P*	b (s.e.)	*P*	b (s.e.)	*P*
Male partner drinking contexts: Frequency										
Restaurants	0.015 (0.016)		0.001 (0.020)						−0.001 (0.020)	
Bars	0.041 (0.036)		0.118 (0.061)	0.053					0.116 (0.061)	0.054
Parties at another house	0.085 (0.051)	0.092	0.116 (0.059)*	0.049					0.130 (0.060)*	0.030
Quiet evenings at home	0.004 (0.006)		0.002 (0.007)						−0.002 (0.007)	
Friends at your home	−0.006 (0.018)		−0.044 (0.034)						−0.049 (0.035)	
Parks and public places	−0.003 (0.031)		0.039 (0.051)						0.049 (0.051)	
Male partner drinking contexts: Volume-Frequency (continued volumes)										
Restaurants			0.015 (0.011)						0.014 (0.010)	
Bars			−0.049 (0.033)						−0.049 (0.034)	
Parties at another house			−0.007 (0.013)						−0.006 (0.012)	
Quiet evenings at home			0.000 (0.001)						0.001 (0.001)	
Friends at your home			0.012 (0.008)						0.014 (0.008)	0.076
Parks and public places			−0.007 (0.010)						−0.008 (0.010)	
Female partner drinking contexts: Frequency										
Restaurants					−0.007 (0.028)		−0.017 (0.035)		−0.020 (0.036)	
Bars					0.017 (0.039)		0.126 (0.069)	0.070	0.128 (0.071)	0.073
Parties at another house					0.044 (0.066)		0.124 (0.092)		0.109 (0.097)	
Quiet evenings at home					0.008 (0.006)		0.009 (0.007)		0.011 (0.007)	
Friends at your home					−0.031 (0.025)		−0.063 (0.033)	0.057	−0.080 (0.037)*	0.030
Parks and public places					0.074 (0.027)*	0.006	0.065 (0.036)	0.067	0.065 (0.037)	0.078
Female partner drinking contexts: Volume-Frequency (continued volumes)										
Restaurants							0.028 (0.042)		0.025 (0.043)	
Bars							−0.140 (0.078)	0.072	−0.156 (0.083)	0.063
Parties at another house							−0.117 (0.075)		−0.131 (0.077)	0.087
Quiet evenings at home							0.000 (0.004)		−0.001 (0.004)	

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	Model 1		Model 2		Model 3		Model 4		Model 5	
	b (s.e.)	***P***	**b (s.e.)**	***P***	**b (s.e.)**	***P***	**b (s.e.)**	***P***	**b (s.e.)**	***P***
Friends at your home							0.043 (0.023)	0.056	0.049 (0.024) *	0.044
Parks and public places							0.047 (0.041)		0.055 (0.042)	
γ, male frequency **	−0.001 (0.001)		0.000 (0.001)						0.001 (0.001)	
γ, female frequency **					0.000 (0.001)		0.000 (0.001)		−0.001 (0.001)	

* p<0.05;

** γ = parameter estimate for heteroscedasticity, overall frequency of drinking; Models adjusted for both partners' impulsivity, adverse childhood experiences, education, and race/ethnicity; mean age and mean financial strain

Table 5

Associations between context-specific frequency of alcohol consumption, context-specific continued volumes of alcohol consumption, and FMPV (beta (standard error)) (n=1585 couples)

	Model 1		Model 2		Model 3		Model 4		Model 5	
	b (s.e.)	*P*	b (s.e.)	*P*	b (s.e.)	*P*	b (s.e.)	*P*	b (s.e.)	*P*
Female partner drinking contexts: Frequency										
Restaurants	0.042 (0.030)		0.044 (0.038)						0.046 (0.037)	
Bars	−0.058 (0.067)		0.016 (0.098)						0.002 (0.096)	
Parties at another house	−0.029 (0.094)		0.113 (0.127)						0.111 (0.121)	
Quiet evenings at home	0.017 (0.008) *	0.037	0.015 (0.009)						0.016 (0.009)	0.069
Friends at your home	−0.032 (0.029)		−0.050 (0.037)						−0.047 (0.037)	
Parks and public places	0.107 (0.039) *	0.006	0.050 (0.056)						0.048 (0.052)	
Female partner drinking contexts: Volume-Frequency (continued volumes)										
Restaurants			0.017 (0.047)						0.011 (0.044)	
Bars			−0.099 (0.104)						−0.079 (0.100)	
Parties at another house			−0.203 (0.107)	0.058					−0.166 (0.102)	
Quiet evenings at home			0.002 (0.004)						0.004 (0.004)	
Friends at your home			0.031 (0.034)						0.015 (0.038)	
Parks and public places			0.123 (0.060) *	0.042					0.109 (0.058)	0.057
Male partner drinking contexts: Frequency										
Restaurants					−0.016 (0.029)		−0.035 (0.033)		−0.044 (0.034)	
Bars					0.052 (0.046)		0.118 (0.079)		0.109 (0.082)	
Parties at another house					0.050 (0.074)		0.058 (0.081)		0.060 (0.084)	
Quiet evenings at home					0.017 (0.007) *	0.016	0.022 (0.008) *	0.008	0.017 (0.008) *	0.033
Friends at your home					−0.003 (0.021)		−0.098 (0.046) *	0.033	−0.095 (0.045) *	0.036
Parks and public places					0.016 (0.028)		0.076 (0.066)		0.115 (0.065)	0.077
Male partner drinking contexts: Volume-Frequency (continued volumes)										
Restaurants							0.026 (0.016)	0.096	0.024 (0.012) *	0.049
Bars							−0.039 (0.038)		−0.036 (0.041)	
Parties at another house							0.006 (0.012)		0.001 (0.012)	

	Model 1		Model 2		Model 3		Model 4		Model 5	
	b (s.e.)	***P***	**b (s.e.)**	***P***	**b (s.e.)**	***P***	**b (s.e.)**	***P***	**b (s.e.)**	***P***
Quiet evenings at home							−0.003 (0.003)		−0.003 (0.003)	
Friends at your home							0.025 (0.009) *	0.007	0.027 (0.009) *	0.003
Parks and public places							−0.009 (0.012)		−0.013 (0.012)	
γ, female frequency **	−0.002 (0.001)		−0.002 (0.001)						−0.002 (0.001)	
γ, male frequency **					−0.002 (0.001) *	0.012	−0.002 (0.001) *	0.013	−0.001 (0.001)	

* p<0.05;

** γ = parameter estimate for heteroscedasticity, overall frequency of drinking; Models adjusted for both partners' impulsivity, adverse childhood experiences, education, and race/ethnicity; mean age and mean financial strain