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Lifetime victimization and past year alcohol use in a U.S. population sample of men and women drinkers

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Abstract

Background—Research on alcohol use among victims of physical and sexual violence has focused mostly on women and alcohol use disorders. It is also limited by the relative lack of consideration of victimization over the lifetime and of population data on both men and women. We critically examined associations between lifetime victimization and diverse past year alcohol use patterns and problems and whether these associations differ for men and women.

Methods—Population data from the 2005 U.S. National Alcohol Survey (NAS11, n=6919) are reported for 4256 adult men and women drinkers. Logistic regressions assessed associations between physical only or any sexual victimization experienced over the lifetime and past year heavy episodic drinking, drinking to intoxication, alcohol-related consequences and any alcohol use disorder. Models controlled for demographics and parental history of alcohol abuse and examined interactions of gender with victimization.

Results—Associations between victimization experienced over the lifetime and all past year alcohol measures were significant for both men and women. These associations did not differ by type of lifetime victimization (physical only versus any sexual). The association of physical only victimization with drinking to intoxication was stronger for victimized versus non victimized women compared to victimized versus non victimized men. This gender difference ceased to be significant when specific victimization characteristics were controlled for.

Conclusions—Lifetime victimization is associated with increased risk for diverse alcohol use problems for both men and women. All prevention and treatment programs should screen men and women for lifetime victimization and diverse alcohol use problems.

Keywords

victimization; lifetime; alcohol use patterns; problems; gender

INTRODUCTION

Over one in two (52% and 66%) women and men in the U.S. report physical assault; 16% of women and 3% men respectively report an attempted or completed rape victimization in their lifetime (Tjaden and Thoennes, 2000). Alcohol provides short-term relief from stress-related physical and psychological symptoms (Rheingold et al., 2003). Some people use alcohol to self-medicate (Cappell and Greeley, 1987; Khantzian, 1985). Thus victims may drink to manage violence-related stress. Links between heavy drinking and alcohol use disorders (AUDs) and violent victimization have been documented (Vogeltanz et al., 1999;

Wilsnack et al., 1997, (Kilpatrick et al., 1997). However, many several gaps remain in the scientific knowledge on victimization and alcohol misuse.

Men predominate in alcohol treatment but research on victimization and alcohol use problems has focused mostly on women. Studies on men's drinking have primarily focused on perpetration of partner violence (Caetano et al., 2000; Cunradi et al., 1999; Schafer et al., 2004). The few studies on victimized men are limited by use of clinical samples (Liebschutz et al., 2002) and a selective focus on AUDs or specific types of victimization (Bensley et al., 2000; Nelson et al., 2002; Widom et al., 1995). Two population studies concluding that victimization did not impact men either focused on sexual victimization alone (Choudhary et al., 2008) and any alcohol use (Soares et al., 2007). Men are at higher risk than women for alcohol problems (Dawson et al., 1995; Wilsnack et al., 2000) and for physical victimization (Tjaden and Thoennes, 2000). Recent reports on physical and sexual victimization of boys and men (Cheng et al., 2011; Runyan et al., 2010, (Choudhary et al., 2008) document the salience of victimization in men's lives and the need for population data on victimized men's alcohol misuse.

Alcohol misuse spans a spectrum from sub-clinical use patterns to the more serious AUDs (Hittner et al., 1998; Sengupta and Hoyle, 2005). The relative neglect of patterns and problems of public health significance, specifically heavy episodic drinking, drunkenness, and alcohol related consequences (Gmel et al., 2000), impedes effective prevention of alcohol use problems. Associations between alcohol use and victimization may differ by the alcohol measure employed (Moncrieff and Farmer, 1998; Timko et al., 2008). Information on diverse measures will help target relevant alcohol use patterns and problems. Links between childhood physical and sexual victimization and varied alcohol measures among women have recently been studied (Lown et al., 2011). However, associations between victimization occurring over the lifetime and diverse alcohol use measures among both men and women have not.

Lifetime victimization is important to study because examining specific types of victimization alone overlooks cumulative exposure to violence. Over a third of victims experience multiple victimizations in their lifetime (Acierno et al., 1997; Kilpatrick et al., 1997; Sorenson et al., 1991). Adult victimization may exacerbate the effects of childhood experiences (Widom et al., 1995) and confound associations between alcohol misuse and childhood victimization (Langeland and Hartgers, 1998).

Ecological models (Cicchetti and Lynch, 1993) underscore the importance of individual level factors (e.g., gender) in explaining differential outcomes of victimization. Women are at higher risk for victimization-related depression and anxiety (Kessler et al., 2001), due to blame and guilt experienced (Banyard and Williams, 2007). Victimized women may be more likely than men to drink to cope with anxiety and depression. Empirical data on gender differences in mental health and substance abuse among victims, however, is equivocal. Both sexually victimized adolescent males and females are reported to be at risk for Posttraumatic Stress Disorder (PTSD) (Hanson et al., 2008). In contrast, greater risk for alcohol dependence is reported for young adult (18 to 26 years) victimized women than men (Danielson et al., 2009). Data on gender differences in alcohol use patterns and problems in victims in the larger adult population are not available. Such data would identify gender-specific factors to target in public health programs for alcohol and violence-related problems.

A confound in studies documenting gender differences in the impact of victimization is differences in the characteristics of victimization experienced by men and women (Hanson et al., 2008). Characteristics such as injury among sexually abused women are linked to

psychological functioning(Higgins and McCabe, 2001), substance use problems(Linares, 2004), alcohol abuse and use disorders (Hedtke et al., 2008); (Kendler et al., 2000; Liebschutz et al., 2002; Lown et al., 2011). Studies on men's alcohol use have not examined victimization characteristics. Thus it is unclear whether gender differences exist.

The present study rigorously examined associations of lifetime victimization with diverse past year alcohol measures among men and women drinkers in a U.S. national sample, controlling for demographic risk factors and parental history of alcohol abuse. We also evaluated whether these associations differed by gender (men versus women) and victimization type (physical versus sexual). Finally, we explored if differences in victimization characteristics experienced by men and women accounted for gender differences in victimization-related alcohol use.

METHOD

Sample

We report data on drinkers who participated in the 2005 U.S. National Alcohol Survey (NAS11, see Table 1 for demographics). The NAS is a national household computer-assisted telephone interview survey of persons ages 18 or older in the 50 U.S. states and Washington D.C (Midanik and Greenfield, 2010). The NAS11 included 6,919 men and women; 4256 reported consuming at least one full alcohol beverage in the past year. All study protocols and procedures were approved by relevant Institutional review boards. Data were gathered via random digit dialing with a sampling frame of all 50 states and the District of Columbia and additional over-samples from low-population states and of black and Hispanic Americans. Interviews, conducted in English or Spanish, averaged one hour. The response rate for NAS11 of 56% is comparable to current response rates for telephone surveys in the U.S.(Curtin et al., 2005). Increased non response in telephone surveys is reported to not bias population estimates(Groves, 2006; Keeter et al., 2006), including for alcohol-related variables, when compared to prior in-person surveys with higher response rates(Midanik and Greenfield, 2003).

Measures

Demographics included gender, age, education, marital status, race/ethnicity, income and employment status (Table 1).

Parental history of alcohol abuse was assessed by asking respondents if they had: 1) a blood relative who had ever been a problem drinker or alcoholic; 2) lived with someone who was a problem drinker or alcoholic when growing up (first 18 years). Those responding "yes" to either question were asked if the problem drinker or alcoholic was a biological parent. If they responded "yes" to this latter question, they were coded as positive for a parental history of alcohol abuse.

Victimization by Interpersonal violence was assessed for childhood (prior to age 18) and adulthood (at age 18 or older) experiences. Childhood victimization included that by parents, other family and non-family perpetrators. We used two items on physical and sexual victimization, similar to those used in prior U.S. national surveys on violence (Sorenson et al., 1987; Straus et al., 1996; Tjaden and Thoennes, 2000). Childhood physical victimization included being "hit with something, beaten up, intentionally burned or scalded, use a knife or gun on you or threaten to." Adult victimization included that by partner/spouse/date, family, or non-family members. Items separated *moderate* physical violence, such as "throw something at you, push, grab, or shove or slap you", from *severe* physical violence, "kick or bite you, hit with a fist, try to hit you with something, beat you up, threaten you with or use a knife or gun".

Sexual victimization items assessed forced sex and sexual molestation (Koss, 1993), using a single question each for childhood and adult victimization: “Did anyone ever force you to have sex against your will? By sex, I mean their touching your sexual parts, your touching their sexual parts, or sexual intercourse”. Information from all items was combined to provide a 3-category “lifetime victimization” variable based on the type experienced (physical victimization only (PV), any sexual victimization (SV), and no PV or SV (none).

Specific victimization characteristics were assessed for lifetime physical and sexual victimization when respondents reported any victimization. These included relationship with the perpetrator, timing (childhood, adult, past year), and victimization related physical injury. Past year victimization was assessed as especially relevant to past year alcohol misuse.

Past year alcohol misuse measures, administered to past year drinkers, defined as those who consumed at least one whole drink in the past 12 months, included:

1. Heavy episodic drinking, defined as consumption of 5 or more standard drinks and 4 or more drinks of any alcoholic beverage in a day in the past 12 months for men and women respectively. The lower threshold for women is consistent with physiological differences for alcohol metabolism between men and women (Wechsler and Austin, 1998; Wilsnack et al., 1986). Frequency of heavy drinking was assessed using the graduated frequencies (GF) approach (Greenfield, 2000). The GF has been validated against drinking diaries (Hilton, 1989) and captures harmful and hazardous drinking better than quantity-frequency measures (Rehm et al., 1999). Consistent with prior research (Lown et al., 2011; Mulia et al., 2009), we defined frequent heavy episodic drinking as occurring monthly or more often.
2. Drinking to intoxication or drunkenness was assessed by asking: “How often in the past year did you drink enough to feel drunk?” This question has been validated against qualitative data on physiological, emotional, and cognitive aspects of alcohol intoxication (Midanik, 1999). It predicts alcohol-related harm and use disorders (Midanik, 2003) better than heavy drinking, morning drinking or total volume of intake (Dawson, 2000). Drinking to intoxication at least monthly was categorized as frequent drinking to intoxication.
3. Alcohol-related consequences provide an important indicator of problematic alcohol use even in the absence of AUDs (Midanik and Greenfield, 2000). Consequences were assessed with a 15-item scale with 5 important areas: work problems (3 items), fights, arguments and family reactions (4 items), vehicular accidents and trouble with the law (5 items), and health problems (3 items) (Greenfield et al., 2006; Midanik and Greenfield, 2000). The measure has good internal consistency (0.71; subscales: .67 to .87) (Midanik and Greenfield, 2000). To reduce respondent burden, only past year drinkers who reported consuming 5 or more drinks on one occasion at least once in their lifetime were asked about alcohol-related consequences. Such screening does not affect prevalence rates for alcohol-related consequences for U.S, county and national data (Tam and Midanik, 2000).

To reduce collinearity with lifetime victimization due to possible reverse causality (adult victimization related to alcohol-related fights), we excluded the item on fights. Those reporting one or more alcohol-related consequence, excluding fights, were categorized as positive on consequences. All others were coded as negative.
4. Alcohol use disorders (AUDs) were assessed using a measure that combined alcohol-related consequences with dependence symptoms (Cherpitel, 2002; Midanik

and Greenfield, 2000). This composite measure of any AUD was used due to low expected prevalence of alcohol-abuse and dependence in the general population, particularly among women(Wilsnack, 1999).

Alcohol dependence was measured by 17 items assessing 7 symptom domains in the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition DSM-IV(American Psychiatric Association, 2000). As in the DSM-IV, health consequences were not included among symptoms. Those reporting two or more alcohol-related consequences other than health or three or more dependence symptoms were considered positive for any AUDs. Frequency of dependence symptoms specified in the DSM-IV 2-week co-occurrence criterion is not assessed. Therefore our measures, while standardized for surveys(Caetano and Greenfield, 1997; Caetano and Tam, 1995), are not diagnostic but indicate increased risk for AUDs(Greenfield et al., 2006).

Analysis

Weights were applied to the data to ensure U.S. census derived population representativeness for gender, age, region, and race/ethnicity. These weights adjusted for the probability of selection of respondents (number of households, within-household number of phone lines and adult residents, and non response) and included post-stratification weighting. Preliminary analyses evaluated gender differences in lifetime victimization history. These analyses also examined (i) differences in victimization characteristics within lifetime victimization type (PV only versus any SV) separately for men and women and (ii) gender differences in characteristics within each lifetime victimization type.

The association of each alcohol measure with lifetime victimization and correlations of victimization with risk factors to be controlled in multivariate analyses (age, marital status, employment, ethnicity, education, income; and parental alcoholism) were examined. Non parametric correlations between control variables and victimization were low (0.06 to 0.17, $p < .00$), ruling out problematic collinearity. The large majority (99.5% or greater) provided demographic information, with the exception of income for which 11.9% ($n=522$) had missing data. Prior work with and without imputed income for the NAS11(Mulia et al., 2008) indicated that results do not differ significantly for income-related findings for at-risk and problem drinking. Therefore, all regression models included respondents with “missing income”. To reduce bias due to victimization resulting from respondents’ alcohol-related aggression, we excluded respondents reporting alcohol-related related fights in the past year (21 women, 46 men) from analyses.

Gender specific multivariate models first assessed the association of each alcohol measure with lifetime victimization, separately for men and women. Four separate models combining men and women drinkers were then run to assess gender differences in lifetime victimization-alcohol use associations. These models examined gender interactions with lifetime victimization type (no PV or SV (none) vs. physical only (PV) vs. any sexual (SV)) on past year alcohol misuse, entering control variables, i.e., demographics, including gender, and parental history of alcoholism (step one) and a gender by lifetime victimization interaction term (step two).

Finally, sensitivity analyses assessed possible biases related to the selection of respondents for regression models. The first set included all respondents, regardless of reporting of alcohol-related fights. The second set excluded respondents meeting criteria for any AUDs to rule out the possibility that associations found were due to those with severe alcohol use problems. Finally, because specific victimization characteristics are linked to poor mental health (Kilpatrick et al., 2003), we explored whether differences between men and women in

victimization characteristics accounted for gender differences in victimization-associated alcohol use. Analyses were conducted using SPSS version 12.0 by SPSS Inc.

RESULTS

Victimization

Any lifetime (childhood or adult) victimization was reported by over 60% and nearly 50% of men and women drinkers respectively (Table 2). Men were more likely to report PV only compared to women who were more likely to report SV only or both PV and SV ($p<.001$). Given the typical low numbers of respondents reporting SV only (men=16; women=87), we grouped respondents into three categories: no lifetime PV or SV, PV only, and any SV (with or without physical) victimization, comparable to prior violence research that reflects real life co-occurrence of physical and sexual violence (Lown et al., 2011). Table 3 presents victimization characteristics by type of lifetime victimization and gender and details differences in these characteristics between: (i) victimization type within gender (i.e., within men and women respondents separately); and (iii) gender within victimization type.

Compared to those reporting PV only, men and women reporting any SV were more likely to report both childhood and adult victimization and injury related to lifetime victimization. Gender differences were also found within lifetime victimization type. Among respondents reporting PV, women were more likely than men to report childhood victimization by a parent, adult victimization by a partner, and physical injury related to adult victimization. Among respondents reporting any SV, men were more likely than women to report past year victimization but did not differ on other victimization characteristics.

Past year alcohol misuse and lifetime victimization

Bivariate analyses indicated that both lifetime PV only and any SV increased risk for each alcohol measure (Table 4, columns 2 through 4) for both men and women drinkers. Odds ratios for each alcohol measure associated with lifetime victimization remained significant after controlling for socio-demographics and parental history of alcoholism. (Table 4, Column 5). PV only and any SV increased two and three-fold, respectively, the risk for each alcohol measure for both men and women, compared to those reporting no PV or SV. The risk for heavy episodic drinking associated with any SV failed to reach significance for men ($n=103$), likely due to lack of power. Within gender, no differences were found between PV only and any SV victimization in risk for each alcohol measure. Associations with alcohol measures did not differ by victimization type, even in preliminary analyses (restricted due to lack of power for men) that compared PV only to SV with and without PV.

Gender differences in victimization-alcohol use associations

Interactions between gender and lifetime victimization for alcohol misuse were significant for frequent drinking to intoxication (Table 4, last column) but not for any other alcohol measure. This interaction was significant for PV only but not for any SV or for PV only versus any SV. Among those reporting PV, women had a nearly 2-fold higher risk (victims: 10.7%; non victims: 2.8%) for frequent drinking to intoxication ($OR_{adj}=1.84$, 95% CI – 1.08–3.16, $p<.05$) compared to men (victims: 17.5%; non victims: 9.6%). Gender differences remained significant in analyses using 4 victimization groups that separated respondents reporting SV only from those reporting both PV and SV

Sensitivity analyses (not shown in tables) found that associations between lifetime victimization and alcohol misuse persisted for all respondents, regardless of whether they reported severe alcohol use problems (i.e., any AUDs, or alcohol-related aggression) in the

past year or not. Similarly, gender and PV only interactions for drinking to intoxication remained significant.

The role of victimization characteristics in gender differences in victimization-alcohol use associations

There were more differences in victimization characteristics experienced between men and women reporting PV only compared to any SV (see Table 3). To explore whether these differences in characteristics could explain the stronger association of PV only and drinking to intoxication for women versus men, we conducted additional regression analyses. Post hoc logistic regression models controlled for victimization characteristics that men and women reporting PV only differed on, including parental childhood victimization, partner adult victimization, and victimization-related physical injury. Models included all respondents, regardless of victimization type reported, entered all covariates, including a victimization characteristic in step one, and the gender-victimization interaction term in step two.

Results of these exploratory analyses are reported in text only. Parental childhood victimization and victimization-related injury were not significant additional predictors (above and beyond lifetime victimization) of drinking to intoxication in step 1. In contrast, partner adult victimization was associated with intoxication (trend) (OR=1.28, .98–1.67, 95% CI, $p=.06$). The gender-PV only interaction term was reduced to a trend ($p=.08$) in models separately controlling parental childhood victimization and injury and rendered non significant ($p=.12$) when partner adult victimization was controlled for.

DISCUSSION

This study provides the first description of a spectrum of past year alcohol use in relation to lifetime victimization in a US population sample. Lifetime physical only and any sexual victimization were associated with diverse past year alcohol use measures in men and women drinkers. Associations were robust, persisting in the absence of alcohol use disorders, even when risk factors, including demographics and parental history for alcohol abuse were controlled for.

Population data help identify subgroups at particular risk for alcohol misuse. One in two adult drinkers in our study reported lifetime victimization, at higher rates than in the larger population (Tjaden and Thoennes, 2000). Our data substantiate the need for comprehensive screening of lifetime physical and sexual victimization in alcohol users to prevent and intervene with alcohol use problems. Prior U.S. population data were limited to women and to limited types of alcohol use, either heavy episodic drinking (Timko et al., 2008) or past year alcohol abuse (Hedtke et al., 2008). Our study is the first to demonstrate links between lifetime victimization by violence and alcohol use patterns and problems for both men and women in the U.S and adds to the literature on men, previously restricted to clinical populations and childhood victimization.

Our findings converge with prior findings of no gender differences in the association of lifetime victimization with recent (past 2 weeks) heavy drinking (Pimlott-Kubiak and Cortina, 2003). They provide additional detail to prior work by controlling for parental alcohol abuse. Gender differences found in victimization-associated risks for drinking to intoxication alone demonstrate that diverse alcohol measures should be included when studying victimization (Timko et al., 2008). Reporting of drinking to intoxication requires greater subjective appraisal of impairment related to consumption than heavy drinking, alcohol-related consequences and AUD symptoms, which are each defined against specific drinking amounts, events and physical experiences.

Our exploration of victimization characteristics is novel. Lown et al (2011) found that severe childhood abuse, e.g., that including sexual victimization, injury, and multiple perpetrators, presented greater risk for alcohol-related consequences and dependence among women. Our findings were limited by the exploratory nature of analyses but suggest that these characteristics are important to consider in victims' alcohol use. Future studies should include more rigorous examination of lifetime victimization characteristics.

In contrast to prior findings of stronger health risks for childhood sexual victimization (Briere et al., 1997; Schilling et al., 2007; Wilsnack et al., 1997), we found no differences in associations with alcohol use patterns and problems by lifetime victimization type. Adult physical victimization may carry as much risk for poor outcomes as childhood sexual victimization. Indeed, that victimization by a partner, partially accounted for gender differences in the association of physical victimization and drinking to intoxication suggests that this indicator of severe violence should be considered. Partner violence could be particularly important to assess, given reports that spousal violence mediates the association between childhood abuse and alcohol dependence in women (Jester et al., 2009).

Interpretation of our findings must be tempered by study limitations. Victimization characteristics, such as proximity (childhood vs adult vs past year), and penetration vs sexual touching in sexual victimization, documented to differentially impact mental health (Kilpatrick et al., 2003), were not included in our analyses. This was due to the low numbers of respondents reporting past year victimization or only sexual victimization and the use of a single item that combined sexual penetration with touching. Victimization is a complex experience that cannot be captured via single dimensions alone. Information on detailed characteristics is clearly needed to move beyond prior and present research findings (Higgins and McCabe, 2001; Linares, 2004).

Our study did not include other forms of victimization, such as verbal and emotional violence and witnessing violence (Kilpatrick et al., 2003). PTSD, documented to potentiate associations between stressful events and alcohol use problems (McFarlane et al., 2009) was also not assessed. This limits our understanding of victims' alcohol use. Our focus on independent associations for victimization and on gender differences also did not permit simultaneous examination of demographics (e.g., age) that are reported to impact victimization-related substance use (Danielson et al., 2009). Future research should critically examine if other risk factors for alcohol use, like age and parental history of alcoholism, differentially impact victims' alcohol use.

Our findings should be treated with caution due to possible reverse causality inherent in cross-sectional data. Those reporting alcohol use problems could experience adult victimization due to alcohol-related aggression, such as fights and violence perpetration. Alcohol misuse also increases women's risk for sexual victimization (Abbey et al., 2002). We attempted to reduce the former confound by excluding fights in our measure of alcohol-related consequences and respondents who reported alcohol-related fights. Subsequent studies should assess anti-social behaviors (Grella et al., 2005), use longitudinal designs, and examine alcohol misuse, including that prior to victimization, over the lifetime. Finally, biases inherent in telephone surveys, such as exclusion of those without landlines, relatively low response rate and possible recall bias for victimization experiences and alcohol use may limit generalizability of our findings.

Despite these limitations, the present study has several strengths, including the use of population data on diverse alcohol use patterns and problems, parental history of alcohol problems, and lifetime victimization. It also makes an important contribution to the literature in its critical evaluation of gender differences in associations between lifetime victimization.

Screening for lifetime victimization on both adult men and women, is a necessary step for effective public health efforts to reduce alcohol-related harm.

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Table 1

Sample demographics (N=4256 past year drinkers).

Variables	Men N=2206 N	(%)	Women N=2050 N	(%)
Age				p=0.095
18–29	419	21.2	306	19.8
30–49	951	42.7	812	41.3
50+	806	34.8	889	36.9
Missing	30	1.3	43	1.9
Marital status				p=0.000
Married/living as married	1530	74.2	1078	62.8
Widowed, separated, divorced	274	7.6	610	20.2
Never married	397	17.8	354	16.8
Missing	5	0.3	8	0.2
Ethnicity				p=.000
White	1386	72.7	1424	78.7
Black	219	8.6	285	8.3
Hispanic	493	12.8	273	7.7
Other	108	6.0	68	5.4
Income				p=0.000
10,000 or less	149	4.9	182	7.3
10 to 30,000	441	15.1	444	17.8
More than 30,000	1390	69.1	1128	61.6
Missing	226	11.0	296	13.3
Employment				p=0.000
Employed	2335	77.2	1960	63.5
Unemployed	423	11.2	559	12.9
Retired	465	11.3	660	13.0
Homemaker	8	0.2	484	10.4
Missing	3	0.1	3	0.3
Education				p=0.000
Less than HS graduate	271	8.7	144	5.1
HS graduate	576	25.6	531	25.2
Some college	502	23.8	587	30.6
College graduate	841	41.3	781	38.8
Missing	16	0.5	7	0.3

Note: a) Ns are reported unweighted; percentages as weighted.

Table 2

Victimization by interpersonal violence reported by 4256 past year drinkers.

	Men (n=2206)	Women (n=2050)	P value
Childhood Victimization			<.0001
None	1477 (66.9%)	1477 (72.9%)	
Childhood physical victimization only	613 (27.8%)	274 (13.7%)	
Childhood sexual victimization only	31 (1.5%)	128 (5.9%)	
Childhood physical and sexual victimization	55 (2.6%)	128 (6.2%)	
Missing information	30 (1.3%)	43 (1.3%)	
Adult victimization			<.0001
None	1045 (45.3%)	1251 (60.2%)	
Adult physical victimization only	1031 (49.1%)	524 (26.5%)	
Adult sexual victimization only	6 (0.2%)	45 (2.1%)	
Adult physical and sexual victimization	26 (1.0%)	114 (4.8%)	
Missing information	98 (4.5%)	116 (6.4%)	
Lifetime (childhood or adult) victimization			<.0001
No victimization	853 (36.6%)	1053 (50.8%)	
Physical only victimization	1128 (53.4%)	525 (27.1%)	
Sexual only victimization	16 (0.7%)	87 (3.7%)	
Both physical and sexual victimization	87 (3.9%)	237 (10.9%)	
Missing information	122 (5.4%)	148 (7.4%)	

Ns are unweighted, %s weighted.

Table 3

Characteristics of victimization experienced (N=2080) among past year drinkers reporting any lifetime victimization

	MEN		WOMEN	
TYPE OF LIFETIME VICTIMIZATION	Physical Only (PV, n=1128)	Any Sexual (SV, n=103)	Physical only (PV, n=525)	Any Sexual (SV, n=324)
VICTIMIZATION CHARACTERISTIC				
Timing of victimization				
Only childhood ^{a,b,c,d}	13.2% (155)	25.7% (26)	19.5% (102)	24.5% (81)
Only adult ^{a,b,c,d}	50.6% (553)	6.4% (8)	57.1% (294)	18.5% (64)
Both childhood and adult ^{a,b,c,d}	36.2% (420)	67.9% (69)	23.4% (129)	57.0% (179)
Recent (past year) ^{b,d}	9.7% (100)	13.0% (16)	10.2% (44)	3.6% (14)
Relationship to perpetrator				
Childhood physical victimization by parent ^{a,b,c}	27.3% (308)	31.2% (34)	32.4% (172)	38.5% (120)
Childhood sexual victimization by parent ^d	–	7.8% (8)	–	14.2% (46)
Adult physical victimization by partner/spouse/date ^{a,c}	25.7% (306)	41.3% (43)	54.4% (293)	51.3% (166)
Adult sexual victimization by Partner/spouse/date ^d	–	12.8% (16)	–	27.8% (99)
Violence-related injury				
Related to childhood victimization ^{a,b}	9.8% (108)	19.3% (16)	8.1% (40)	21.3% (73)
Related to adult victimization ^{a,b,c}	11.4% (136)	17.4% (14)	15.4% (73)	23.4% (74)
Related to any lifetime victimization ^{a,b}	17.5% (200)	28.4% (23)	20.7% (99)	32.7% (108)

^{a, b} – significant difference in characteristic by victimization type for men and women, respectively.

^{c, d} – significant difference in characteristic by gender within each lifetime victimization, respectively.

– characteristics do not apply to physical only victimization.

Table 4

Alcohol misuse by lifetime victimization history among past year drinkers; excludes those reporting alcohol-related fights)

Alcohol Misuse Measure	No PV or SV (None)	PV only	Any SV	Association between lifetime victimization and alcohol use	
	Percent (N)	Percent (N)	Percent (N)	AOR ⁺ in gender-specific (95% CI) models	AOR ⁺⁺ (95% CI) in models assessing gender-victimization interactions
Monthly or more often heavy Episodic Drinking (5/4+ in a day)					
Men	7.5% (50)	15.8% (161)	10.3% (9)	Physical vs none 2.02 ^{***} (1.47–2.76) Sexual vs none 1.36 (0.65–2.86) Sexual vs physical 0.68 (0.33–1.38)	Interaction not significant AORs: For women and men combined Physical vs none 2.74 ^{***} (1.73–4.35) Sexual vs none 2.37 ^{**} (1.33–4.23) Sexual vs physical 0.86 (0.50–1.49)
Women	3.1% (32)	9.3% (39)	6.5% (19)	Physical vs none 3.24 ^{***} (1.99–5.27) Sexual vs none 2.85 ^{**} (1.55–5.27) Sexual vs physical 0.88 (0.49–1.56)	
Monthly or more often Drinking to Intoxication					
Men	9.6% (80)	17.5% (178)	17.5% (17)	Physical vs none 1.74 ^{***} (1.31–2.33) Sexual vs none 2.06 [*] (1.13–3.75) Sexual vs physical 1.18 (0.66–2.09)	Interaction significant AORs: For women compared to men Physical vs none 1.84 [*] (1.08–3.16) Sexual vs physical 1.87 (0.85–4.13) Sexual vs none –0.62 (0.34–1.09)
Women	2.8% (32)	10.7% (43)	6.1% (23)	Physical vs none 3.84 ^{***} (2.37–6.21) Sexual vs none 2.59 ^{**} (1.37–4.90) Sexual vs physical 0.67 (0.38–1.20)	
One or more alcohol-related consequence					
Men	4.8% (45)	14.4% (168)	15.5% (16)	Physical vs none 2.38 ^{***} (1.74–3.25) Sexual vs none 3.01 ^{***} (1.70–5.31) Sexual vs physical 1.26 (0.74–2.15)	Interaction not significant AORs for women and men combined Physical vs none 1.82 ^{**} (1.20–2.75) Sexual vs none 2.54 ^{***} (1.59–4.06) Sexual vs physical 1.39 (0.88–2.22)
Women	2.7% (28)	7.6% (34)	9.8% (31)	Physical vs none 1.91 ^{**} (1.25–2.93) Sexual vs none 2.75 ^{***} (1.68–4.52) Sexual vs physical 0.44 (0.89–2.33)	
Any alcohol use disorder					

Alcohol Misuse Measure	No PV or SV (None)		PV only		Any SV		Association between lifetime victimization and alcohol use	
	Percent (N)		Percent (N)		Percent (N)		AOR ⁺ in gender-specific (95% CI) models	AOR ⁺⁺ (95% CI) in models assessing gender-victimization interactions
Men	4.9% (46)		14.2% (170)		13.6% (13)		Physical vs none3.15 ^{***} (2.18–4.56) Sexual vs none2.91 ^{**} (1.48–5.71) Sexual vs physical 0.92 (0.50–1.71)	Interaction not significant AORs for women and men combined Physical vs none 2.80 ^{***} (1.73–4.55) Sexual vs none 3.67 ^{***} (2.12–6.34) Sexual vs physical 1.31 (0.79–2.14)
Women	2.9% (27)		8.4% (38)		9.8% (31)		Physical vs none3.07 ^{***} (1.86–5.07) Sexual vs none 4.27 ^{**} (2.38–7.66) Sexual vs physical 1.39 (0.83–2.34)	

* $p<0.05$,
** $p<0.01$,
*** $p<0.001$;
⁺ adjusted for age, marital status, employment, ethnicity, education, income, parental history of alcohol and
⁺⁺ gender.