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Alcohol May Not Cause Partner Violence But It Seems to Make It Worse: A Cross National Comparison of the Relationship Between Alcohol and Severity of Partner Violence

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Abstract

This study assesses whether severity of physical partner aggression is associated with alcohol consumption at the time of the incident, and whether the relationship between drinking and aggression severity is the same for men and women and across different countries. National or large regional general population surveys were conducted in 13 countries as part of the GENACIS collaboration. Respondents described the most physically aggressive act done to them by a partner in the past 2 years, rated the severity of aggression on a scale of 1 to 10, and reported whether either partner had been drinking when the incident occurred. Severity ratings were significantly higher for incidents in which one or both partners had been drinking compared to incidents in which neither partner had been drinking. The relationship did not differ significantly for men and women or by country. We conclude that alcohol consumption may serve to potentiate violence when it occurs, and this pattern holds across a diverse set of cultures. Further research is needed that focuses explicitly on the nature of alcohol's contribution to intimate partner aggression. Prevention needs to address the possibility of enhanced dangers of intimate partner violence when the partners have been drinking and eliminate any systemic factors that permit alcohol to be used as an excuse. Clinical services for perpetrators and victims of partner violence need to address the role of drinking practices, including the dynamics and process of aggressive incidents that occur when one or both partners have been drinking.

Keywords

domestic violence; domestic violence and cultural contexts

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A 1994 review noted that “Violence against women is a significant health and social problem affecting virtually all societies” (Heise, Raikes, Watts, & Zwi, 1994, p. 1176). Although some progress has been made in addressing and reducing this problem (Johnson, 2006; Mitra, 1999), intimate partner violence remains a significant public health challenge. One of the key factors in aggression between intimate partners is alcohol consumption. Research has consistently found higher rates of violence by intimate partners who are heavy drinkers (Desjardins & Hotton, 2004; Foran & O’Leary, 2008; Jeyaseelan et al., 2004; Kyriacou et al., 1999; White & Chen, 2002; Wolff, Busza, Bufumbo, & Whitworth, 2006). Evidence also suggests that a substantial proportion of intimate partner violence occurs after people have been drinking (Thompson & Kingree, 2006). Qualitative and quantitative research has linked violence against women to drinking occasions of the male partner (Fals-Stewart, 2003; Jejeebhoy, 1998; Natera, Tiburcio, & Villatoro, 1997; Rao, 1997), and experimental research suggests that alcohol plays a causal contributing role in aggressive behavior (Bushman, 1997).

Of particular concern is that perpetrators may engage in more severe aggression if they or the targets of their aggression have been drinking. Findings from studies in the United States indicate that aggression by a man toward a female partner is more severe and injury more likely when the man has been drinking (Brecklin, 2002; Leonard & Quigley, 1999; Martin & Bachman, 1997; Testa, Quigley, & Leonard, 2003; Thompson & Kingree, 2006). There is also some evidence from Canada linking alcohol consumption to more severe aggression by the female partner (Desjardins & Hotton, 2004), and one U.K. study (Shepherd, Irish, Scully, & Leslie, 1988) found that injury is more likely if the victim has been drinking. No research, however, has examined the relation between alcohol and partner aggression severity systematically across gender and cultures.

To understand how alcohol use might be linked to greater aggression severity, one must consider the pharmacological effects of alcohol on thinking and emotions. For example, there is evidence that alcohol reduces cognitive abilities and impairs problem solving (Hoaken, Assaad, & Pihl, 1998; Peterson, Rothfleisch, Zelazo, & Pihl, 1990; Sayette, Wilson, & Elias, 1993) thereby making people less able to solve conflicts peacefully and possibly less aware of the level of physical force they are using. Alcohol also increases risk taking and reduces awareness or concerns regarding risks and consequences (Fromme, Katz, & D’Amico, 1997; Graham & Wells, 2003). These effects may make some persons less concerned about harm due to the level of violence they use against another person. Other effects of alcohol such as increased emotionality (Pliner & Cappell, 1974) and a desire to show power over others (McClelland, Davis, Kalin, & Wanner, 1972) may also reduce both awareness and concern about the level of aggression being used.

The link between alcohol and greater severity of intimate partner aggression may also be influenced by cultural factors. If an association between alcohol and partner aggression severity was found in some countries but not in others, this would suggest that cultural factors may be more important than the pharmacological effects of alcohol in the relationship between alcohol and partner aggression. For example, alcohol may be perceived as an excuse for violence in some cultures (MacAndrew & Edgerton, 1969). In these cultures, people may drink alcohol before becoming aggressive because they believe their violent behavior will be excused if they have been drinking. In addition, the link between alcohol and violence may be influenced by the drinking pattern of a specific culture. For example, the risk of intentional injuries is greater in countries where the drinking pattern involves consuming large amounts of alcohol on drinking occasions (Rehm et al., 2004). Therefore, the link between alcohol consumption and partner aggression may be especially important in countries where heavy episodic drinking is the normative drinking pattern and

where there are strong links between alcohol consumption and becoming aggressive when drinking (Rao, 1997; Flake & Forste, 2006; Miller, 1992).

The link between alcohol consumption and aggression severity may also relate to the pattern of intimate partner violence in the society. Violence against women varies considerably among cultures (Garcia-Moreno et al., 2006; Johnson, Ollus, & Nevala, 2008), at least partly related to societal factors such as poverty and social inequalities (Krug, Dahlberg, Mercy, Zwi, & Lozano, 2002; Leye, Githaiga, & Temmerman, 1999; Martin, Tsui, Maitra, & Marinshaw, 1999). Gender differences in partner aggression also vary by cultures. Although in many developed countries women are as likely or even more likely than men to be physically aggressive toward a partner (Archer, 2004), in many countries, especially where women have much less power than do men (Archer, 2006), perpetration of aggression by men is much more common than perpetration by women. It is currently unknown whether the relationship between alcohol consumption and partner aggression varies with cultural differences in intimate partner aggression. One possibility is that in countries where male violence against women is common and generally accepted, violence when drinking may be more severe because men may be less likely than men in less permissive cultures to try to limit their violence when they are drinking, an effect that would not apply to partner aggression by women in these cultures.

Cultural and gender differences in partner aggression and alcohol consumption highlight the importance of examining the relationship between alcohol consumption and aggression severity by both gender and culture. The existing literature examining gender differences in the relationship between alcohol consumption and severity of aggression is meager. For example, some (Thompson & Kingree, 2006) but not all (Desjardins & Hot-ton, 2004) research has found a greater effect of alcohol on severity of aggression by male than by female partners. Similarly, most (Giancola et al., 2002; Giancola & Zeichner, 1995; Hoaken & Pihl, 2000) but not all (Dougherty, Bjork, Bennett, & Moeller, 1999) experimental research on the effects of alcohol consumption on aggression has found that alcohol increases aggression more in men than in women. If alcohol is more strongly related to aggression severity for men than it is for women, this suggests that it is especially important to examine the role of alcohol in male violence against women. The importance of examining gender differences in the relationship between alcohol and partner aggression is further underscored by findings from cross-cultural studies that men drink more often and consume larger quantities than do women across all countries (Wilsnack, Wilsnack, Kristjanson, Vogeltanz-Holm, & Gmel, 2009).

The present study uses a large multinational database that is unique in its focus on both alcohol consumption and intimate partner aggression in a diverse set of countries from around the world. Specifically, we assess whether

1. the most severe incident of physical aggression by an intimate partner experienced during the previous 2 years was rated as more severe by victims in incidents in which one or both partners had been drinking compared with ratings by victims in incidents in which neither partner had been drinking;
2. the relationship of alcohol with aggression severity differs by country or by gender.

We focus on the most severe incident for several reasons. First, to assess the direct link between severity of aggression and alcohol consumption prior to intimate partner aggression, it is necessary to examine specific incidents of aggression. Second, an unbiased procedure is needed to sample aggressive incidents. One approach, for example, is to ask about the most recent incident (Testa et al., 2003). However, previous research suggests that most partner violence involves less severe forms of aggression (Johnson et al., 2008); therefore, to obtain a sample of incidents that would include a viable distribution of

aggression severity, we asked respondents about their most severe incident within the previous 2 years, an approach used by Leonard and Quigley (1999), and similar to approaches that sample more severe forms of intimate partner violence such as victims of criminal assault (Martin & Bachman, 1997) and victims of assault treated at hospital emergency departments (Shepherd et al., 1988). Thus a third reason for focusing on the most severe incident is that information related to the most severe aggression is of significant public health importance because of the risk of injury and other harms.

Method

This research was conducted as part of the multinational GENACIS project (Gender, Alcohol, and Culture: An International Study), a collaboration involving over 40 countries, including less affluent countries that had never previously conducted comprehensive surveys on alcohol use. Not all countries included relevant questions on intimate partner aggression. For some countries that included the questions on partner aggression, insufficient numbers of cases were available for the present analyses, because only a small number of respondents reported either aggression with alcohol or aggression without alcohol. The present analyses use data from 13 countries that included comparable questions on severity of partner violence and contained sufficient cases for analyses (with a minimum cell size for analyses set at 20—see below under Analyses). Some results reported in this article were included in analyses of U.K. data (Graham, Plant, & Plant, 2004) or as part of some individual country chapters in a report published by the Pan American Health Organization (Graham, Bernards, Munné, & Wilsnack, 2008).

Design and Sampling

Cross-sectional surveys were conducted with national or regional general population samples from Australia (state of Victoria, conducted in 2007), Belize (national, 2005), Brazil (Metro Sao Paulo, 2007), Canada (national, 2004–2005), Costa Rica (Greater Metropolitan area, 2003), the Czech Republic (national, 2002), India (5 districts in Karnataka state, 2003), Nicaragua (5 midsized cities, 2005), Nigeria (states of Benue, Nasarawa, Plateau, Akwa Ibom and Rivers plus the Federal Capital Territory, 2003), Peru (cities of Lima and Ayacucho, 2005), Uganda (districts of Kabale, Tororo, Lira and Wakiso, 2003), United Kingdom (England and Wales, 2000) and the United States (national, 2001). Surveys included both men and women (except the U.S. survey in which the questions on intimate partner aggression were included in the wave of a longitudinal study of American women that was conducted in 2001). The survey was administered in person except in the U.S. (28% of interviews done by telephone) and Australia and Canada (100% by telephone). More details about the methods used in individual countries can be found at <http://www.med.und.nodak.edu/depts/irgga> as well as in Wilsnack et al. (2009), Obot and Room (2005), and Graham et al. (2008).

Measures

Demographic variables—Respondent's gender was recorded by the interviewer and respondents were asked for their year of birth. The age range of respondents varied among countries; therefore, analyses are limited to persons aged 18 to 65 to maximize comparability of samples in terms of the age of respondents (18–64 for the Czech Republic and Peru samples where the oldest age was 64; 21 to 65 for the U.S. sample where the youngest age was 21).

Partner aggression and alcohol use at the time of aggression—Respondents were asked to describe the most severe act of physical aggression by a partner toward the respondent in the past 2 years as follows (with slight variations to make the question

culturally appropriate for each country): “People can be physically aggressive in many ways, for example, pushing, punching, or slapping, or physically aggressive in some other way. What is the most physically aggressive thing done to you during the last two years by someone who is or was in a close romantic relationship with you such as a spouse/partner, lover, or someone you are or were dating or going out with?” In addition to describing the specific type of aggression, respondents were asked to rate the severity of aggression by the partner, from 1 (*very minor aggression*) to 10 (*life threatening*) as well as whether the respondent, the partner, both or neither had been drinking when the aggressive incident occurred. Because behavioral descriptions do not necessarily reflect aggression severity (e.g., pushing might have involved light pushing, being pushed hard into a wall, or even being pushed down the stairs), we used the severity ratings in the analyses rather than the behavioral descriptions of aggression.

Ethics

This study was approved by the Research Ethics Board of the Centre for Addiction and Mental Health. Individual country surveys were reviewed according to procedures created to protect research participants in each country.

Analyses

The analyses were limited to aggression between male–female couples because the research questions focus partly on gender differences. Thus we excluded respondents who reported aggression by a same-sex partner or who reported being homosexual or having had sex mostly or only with same-sex partners when this information was available (less than 2% were excluded in most countries except Nigeria where 4% were excluded). Those whose responses were missing on any of the relevant variables (0.4% of female respondents and 4.0% of male respondents) were also excluded from the analyses.

Our analyses did not include weights for sampling design because the purpose of the present study is analytical, that is, examining the association between severity of aggression and alcohol consumption, rather than describing prevalence (Groves, 1989). For comparisons within countries, *t* tests and ordinary least squares (OLS) regression were used. Meta-analytic techniques in Stata (version 9.2) were used to identify significant relationships across countries. A minimum cell size of 20 was set for inclusion in the analyses to have a large enough sample to avoid unreliable estimates while at the same time retaining as many countries as possible.

Results

Descriptive data relating to partner aggression are presented in Table 1. As shown in this table, the percentage of respondents who reported being the victim of physical aggression by an intimate partner in the past 2 years varied among the country samples from 4.7% (Belize) to 23.0% (Uganda) for women and from 3.4% (Belize) to 19.7% (United Kingdom) for men. Similarly, the relative proportion of male versus female victims varied across countries. However, as shown in Table 2, female victims consistently gave higher ratings of aggression severity than did male victims. Across all countries, the average severity rating was 4.7 for female respondents and 3.1 for males. The gender difference in severity was significant ($p < .05$ based on within country *t* tests) in all countries except Nigeria.

Alcohol Consumption Prior to Partner Aggression

The percentage of women and men (respectively) in each country who reported that they had consumed any alcohol in the past 12 months as follows: Australia (85.4, 92.0), Belize (20.2, 53.1), Brazil (33.4, 62.2), Canada (77.0, 83.1), Costa Rica (45.7, 70.3), the Czech

Republic (80.5, 90.4), India (2.9, 37.8), Nicaragua (10.8, 44.2), Nigeria (22.1, 42.9), Peru (61.0, 82.2), Uganda (40.0, 55.0), United Kingdom (84.6, 91.8), United States (79.2). Although alcohol involvement in partner aggression would be expected to be more likely in countries with higher rates of current drinkers (based on chance alone), this relationship was not found. As shown in Figure 1, respondents from India and Uganda were more likely than respondents from most other countries to report that at least one partner had been drinking prior to the aggressive incident, despite relatively high rates of abstaining in these countries. Figure 1 also shows that incidents involving drinking by only the female partner were very rare (light gray bar); that is, when alcohol was consumed prior to aggression, it was usually by either only the male (dark gray bar) or by both the male and female partners (black bar). Due to very small cell sizes for female-only drinking in almost all countries and for both partners drinking in some countries, subsequent analyses exploring the relationship between drinking and severity are limited to comparison of neither partner drinking versus either or both partners drinking. Even with this combined category reflecting any alcohol consumption by either partner, country comparisons for male victims were limited to 6 countries (using the minimum cell size criterion of 20 responses per cell).

The Relationship of Alcohol Consumption with Severity of Aggression

As shown in Table 2, severity ratings were higher for incidents involving drinking by one or both partners compared with incidents in which no one was drinking for both female and male victims in all countries, although the difference was small for Nigerian female respondents. Within-country differences in severity of incidents with and without alcohol were significant ($p < .05$ based on t tests) for female respondents from Belize, Canada, Costa Rica, the Czech Republic, India, Nicaragua, the United Kingdom, and the United States and for male respondents from Canada, the Czech Republic, and Uganda. The results of the meta-analysis shown in Figure 2 (females) and Figure 3 (males) indicated that, across countries, the difference between ratings of severity for incidents when one or both partners had been drinking versus incidents in which no one was drinking was significantly greater than zero overall for both women (coefficient = .95, $SE = .14$, $z = 7.00$, $p < .001$) and men (coefficient = .90, $SE = .15$, $z = 5.86$, $p < .001$). Although the difference in severity between incidents involving alcohol versus not involving alcohol was larger in some countries than in others, the test for heterogeneity indicated no significant variation in this difference across countries ($Q = 13.37$, $df = 12$, $p = .342$ for women; $Q = 5.37$, $df = 5$, $p = .372$ for men), suggesting a similar relationship between alcohol and severity across countries.

The preceding analyses were done separately for men and women. To assess whether alcohol had a stronger relationship with severity for female versus male victims, we first calculated ordinary least squares (OLS) regressions of severity scores on (a) gender, (b) whether alcohol was involved, and (c) the interaction term of gender by alcohol for each country. These analyses revealed no significant interaction effects within any country. The coefficient b (and its standard error) of the interaction term from each country regression was then entered into a meta-analysis to assess whether there was a significant gender by alcohol interaction overall. This analysis resulted in a p value = .750 for the interaction term (graphical results not shown), indicating that the relationship between alcohol involvement and severity of aggression was not significantly different for men and women across countries.

Discussion

This study of 13 diverse countries from around the world found that greater severity of aggression was associated with alcohol use at the time of aggression. Despite large cultural differences in the acceptability of both alcohol consumption (World Health Organization, 2004) and aggression when drinking (MacAndrew & Edgerton, 1969), the same pattern

emerged across all countries—respondents who reported that the most physically aggressive act by a partner involved alcohol perceived the aggression to be more severe than did respondents who reported that neither partner had been drinking at the time of the most physically aggressive act. This finding supports the hypothesis that alcohol use is linked to greater aggression severity through the effects of alcohol on the perpetrator, victim, or both. Moreover, because the link between alcohol and aggression severity was robust across cultures, cultural explanations for this association are unlikely.

For male aggression toward female partners, the association of aggression severity and alcohol consumption is likely to be due to drinking by the male perpetrator because when alcohol was consumed by either partner prior to aggression, it was almost always the male partner who had been drinking (i.e., either drinking only by the male partner or drinking by both partners). Therefore, for male aggression toward a female partner, these results support the hypothesis that the cognitive and emotional effects of alcohol on the perpetrators may increase the severity of their aggression (e.g., by making the perpetrator less able to judge the forcefulness of his actions, less worried about the consequences of his aggression, etc.).

For female aggression toward a male partner, however, the role of alcohol is less clear because only the male target of aggression had been drinking in many of the incidents involving alcohol. Therefore, additional research is needed to explore how drinking on the part of both victims and perpetrators may influence aggression severity. Of particular interest is the impact of alcohol when both partners have been drinking because of the potential for synergistic effects when alcohol is affecting the thinking and emotions of both parties involved in the conflict (Leonard, 1984).

The finding of a consistent relationship between alcohol use and partner aggression severity across very diverse cultures has important implications for prevention and health care. First, general practitioners and emergency department personnel need to be especially sensitive to screening for family violence when one or both partners is known to be a heavy drinker or engages in heavy episodic drinking (O’Leary & Schumacher, 2003). Such screening is important both because intimate partner aggression is positively associated with a pattern of heavy drinking (as noted in the introduction) and because the present findings suggest that when aggression occurs, it is likely to be more severe when one or both partners have been drinking. Second, those providing health and social services to victims of partner aggression need to be particularly aware of the potential impact of the acute effects of alcohol on severity of violence and to include programming that focuses on the enhanced risks when alcohol is involved. At a community/societal level, greater efforts are needed to increase awareness of alcohol’s role in partner aggression while at the same time ensuring through laws and enforcement practices that alcohol is not used as a legal or moral excuse for partner aggression or its escalation.

The present results suggest that alcohol involvement in intimate partner violence is a public health issue that should not be ignored. The consistent link between alcohol and partner violence has led to the recognition of alcohol consumption as a “risk factor” for intimate partner violence (World Health Organization, 2009); however, there has been relatively little research examining how alcohol affects violence, at least in part because of concerns that such research would be used to justify the use of alcohol as an excuse for violence against women (Heise, 2008). Ignoring the presence of alcohol will neither eliminate its role in intimate partner violence nor prevent its being used as an excuse for violence. On the contrary, the more we know about how alcohol affects violence, including intimate partner violence, the better able we will be to develop effective prevention strategies and treatment responses.

Limitations

This study has several limitations that constrain the interpretation of the findings. First, we did not collect data on multiple incidents from each person; therefore, the analyses pertain to only the most severe incident and only for comparisons across individuals rather than examining the relationship between alcohol and aggression severity across incidents within the same couple. Nevertheless, the samples contained all levels of aggression severity (with mean levels varying from a low of 2.1 for men from Costa Rica to a high of 6.9 for women from India out of a possible severity rating of 10). Thus although sampling multiple incidents as done by Brecklin (2002) and Testa et al (2003) would provide clearer evidence concerning the general relationship between alcohol and partner violence, the current approach provides a method that is unbiased and includes a range of aggression severity. Second, we based the analysis on severity ratings by the victim not on behavioral descriptions of aggression. Third, there were insufficient numbers of cases to evaluate the relationship between severity of aggression and whether it was the perpetrator, victim, or both partners who had been drinking or whether drinking was by the male versus the female partner. Fourth, these analyses do not take into account the amount of alcohol consumed and the level of impairment from alcohol.

Conclusions

The results from this research indicate that alcohol consumption is not simply a risk factor for violence; it may also serve to potentiate violence when it occurs, and this pattern holds across a diverse set of cultures. The link between alcohol consumption and *severity* of partner aggression suggests the need for more research that focuses explicitly on the nature of alcohol's contribution to intimate partner aggression; that is, further research is needed to identify the mechanisms by which alcohol contributes to aggression severity. In terms of practice, prevention needs to address enhanced dangers of intimate partner violence when couples have been drinking. In terms of policy, the present findings of greater severity of aggression when alcohol has been consumed underscore the importance of eliminating any systemic factors, such as lower criminal penalties for violence when alcohol is involved, that permit alcohol to be used as an excuse. Finally, counseling services for perpetrators and victims of partner violence need to address the role of drinking practices. For example, discussion of the dynamics and escalation process of aggressive incidents that occur when one or both partners have been drinking may help those in aggressive relationships to avoid or minimize harm during conflicts on drinking occasions.

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References

- Archer J. Sex differences in aggression in real-world settings: A meta-analytic review. *Review of General Psychology*. 2004; 8(4):1–32.
- Archer J. Cross-cultural differences in physical aggression between partners: A social-role analysis. *Personality and Social Psychology Review*. 2006; 10:133–153. [PubMed: 16768651]
- Brecklin LR. The role of perpetrator alcohol use in the injury outcomes of intimate assaults. *Journal of Family Violence*. 2002; 17:185–197.
- Bushman, BJ. Effects of alcohol on human aggression: Validity of proposed explanations. In: Galanter, M., editor. *Recent developments in alcoholism*: Vol. 13: Alcohol and violence. New York: Plenum Press; 1997. p. 227–243.
- Desjardins, N.; Hotton, T. Trends in drug offences and the role of alcohol and drugs in crime (No. 85-002-XPE). Ottawa, Ontario, Canada: Juristat Canadian Centre for Justice Statistics, Statistics Canada; 2004.
- Dougherty DM, Bjork JM, Bennett RH, Moeller FG. The effects of a cumulative alcohol dosing procedure on laboratory aggression in women and men. *Journal of Studies on Alcohol*. 1999; 60:322–329. [PubMed: 10371259]
- Fals-Stewart W. The occurrence of partner physical aggression on days of alcohol consumption: A longitudinal diary study. *Journal of Consulting and Clinical Psychology*. 2003; 71(1):41–52. [PubMed: 12602424]
- Flake DF, Forste R. Fighting families: Family characteristics associated with domestic violence in five Latin American countries. *Journal of Family Violence*. 2006; 21(1):19–29.
- Foran HM, O’Leary KD. Alcohol and intimate partner violence: A meta-analytic review. *Clinical Psychology Review*. 2008; 38:1222–1234. [PubMed: 18550239]
- Fromme K, Katz E, D’Amico E. Effects of alcohol intoxication on the perceived consequences of risk taking. *Experimental and Clinical Psychopharmacology*. 1997; 5(1):14–23. [PubMed: 9234035]
- Garcia-Moreno C, Jansen HAFM, Ellsberg M, Heise L, Watts CH. WHO Multi-country Study on Women’s Health, et al. (2006). Prevalence of intimate partner violence: Findings from the WHO multi-country study on women’s health and domestic violence. *Lancet*. 368:1260–1269. [PubMed: 17027732]
- Giancola PR, Helton EL, Osborne AB, Terry MK, Fuss AM, Westerfield JA. The effects of alcohol and provocation on aggressive behavior in men and women. *Journal of Studies on Alcohol*. 2002; 63(1):64–73. [PubMed: 11925061]
- Giancola PR, Zeichner A. An investigation of gender differences in alcohol-related aggression. *Journal of Studies on Alcohol*. 1995; 56:573–579. [PubMed: 7475039]
- Graham, K.; Bernards, S.; Munné, M.; Wilsnack, S. *Unhappy hours: Alcohol and physical partner aggression in the Americas*. Washington, DC: Pan American Health Organization; 2008.
- Graham K, Plant M, Plant M. Alcohol, gender and partner aggression: A general population study of British adults. *Addiction Research Theory*. 2004; 12:373–384.

- Graham K, Wells S. Somebody's gonna get their head kicked in tonight! *British Journal of Criminology*. 2003; 43:546–566.
- Groves, RM. *Survey errors and survey costs*. New York: John Wiley & Sons; 1989.
- Heise, L. Foreword. In: Graham, K.; Bernards, S.; Munné, M.; Wilsnack, S., editors. *Unhappy hours: Alcohol and physical partner aggression in the Americas*. Washington, DC: Pan American Health Organization; 2008. p. vii-viii.
- Heise LL, Raikes A, Watts CH, Zwi AB. Violence against women: A neglected public health issue in less developed countries. *Social Science & Medicine*. 1994; 29:1165–1179. [PubMed: 7801154]
- Hoaken PNS, Assaad JM, Pihl RO. Cognitive functioning and the inhibition of alcohol-induced aggression. *Journal of Studies on Alcohol*. 1998; 59:599–607. [PubMed: 9718113]
- Hoaken PNS, Pihl RO. The effects of alcohol intoxication on aggressive responses in men and women. *Alcohol & Alcoholism*. 2000; 35:471–477. [PubMed: 11022022]
- Jejeebhoy SJ. Wife-beating in rural India: A husband's right? Evidence from survey data. *Economic and Political Weekly*. 1998; 33:855–862.
- Jeyaseelan L, Sadowski LS, Kumar S, Hassan F, Ramiro L, Vizcarra B. World studies of abuse in the family environment—Risk factors for physical intimate partner violence. *Injury Control and Safety Promotion*. 2004; 11(2):117–124. [PubMed: 15370348]
- Johnson, H. *Measuring violence against women: Statistical trends 2006 (No. 85–570-XIE)*. Ottawa, Ontario: Statistics Canada; 2006.
- Johnson, H.; Ollus, N.; Nevala, S. *Violence against women. An international perspective*. New York: Springer; 2008.
- Krug, EG.; Dahlberg, LL.; Mercy, JA.; Zwi, AB.; Lozano, R. Chapter 4. Violence by intimate partners. In: Krug, EG.; Dahlberg, LL.; Mercy, JA.; Zwi, AB.; Lozano, R., editors. *World report on violence and health*. Geneva, Switzerland: World Health Organization; 2002.
- Kyriacou DN, Anglin D, Taliaferro E, Stone S, Tubb T, Linden JA, et al. Risk factors for injury to women from domestic violence. *New England Journal of Medicine*. 1999; 341:1892–1898. [PubMed: 10601509]
- Leonard KE. Alcohol consumption and escalatory aggression in intoxicated and sober dyads. *Journal of Studies on Alcohol*. 1984; 45:75–80. [PubMed: 6700223]
- Leonard KE, Quigley BM. 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]
- Leye, E.; Githaiga, A.; Temmerman, M. *Health care strategies for combating violence against women in developing countries (No. 4)*. Ghent, Belgium: ICRH; 1999.
- MacAndrew, C.; Edgerton, RB. *Drunken comportment. A social explanation*. Chicago: Aldine; 1969.
- Martin SE, Bachman R. The relationship of alcohol to injury in assault cases. *Recent Developments in Alcoholism*. 1997; 13:41–56. [PubMed: 9122504]
- Martin SL, Tsui AO, Maitra K, Marinshaw R. Domestic violence in Northern India. *American Journal of Epidemiology*. 1999; 150:417–426. [PubMed: 10453818]
- McClelland, DC.; Davis, WN.; Kalin, R.; Wanner, E. *The drinking man. Alcohol and human motivation*. Toronto, Ontario, Canada: Collier-Macmillan Canada; 1972.
- Miller, BD. Wife-beating in India: Variations on a theme. In: Counts, DA.; Brown, JK.; Campbell, JC., editors. *Sanctions and sanctuary. Cultural perspectives on the beating of wives*. Boulder, CO: Westview Press; 1992. p. 173-184.
- Mitra, N. *Best practices among responses to domestic violence in Maharashtra and Madhya Pradesh*. Washington, DC: International Center for Research on Women; 1999.
- Natera GR, Tiburcio MS, Villatoro JV. Marital violence and its relationship to excessive drinking in Mexico. *Contemporary Drug Problems*. 1997; 24:787–804.
- O'Leary KD, Schumacher JA. The association between alcohol use and intimate partner violence: Linear effect, threshold, effect, or both? *Addictive Behaviors*. 2003; 28:1575–1585. [PubMed: 14656546]
- Obot, IS.; Room, R., editors. *Alcohol, gender and drinking problems. Perspectives from low and middle income countries*. Geneva, Switzerland: World Health Organization; 2005.

- Peterson JB, Rothfleisch J, Zelazo PD, Pihl RO. Acute alcohol intoxication and cognitive functioning. *Journal of Studies on Alcohol*. 1990; 51:114–122. [PubMed: 2308348]
- Pliner P, Cappell H. Modification of affective consequences of alcohol: A comparison of social and solitary drinking. *Journal of Abnormal Psychology*. 1974; 83:418–425. [PubMed: 4414699]
- Rao V. Wife-beating in rural South India: A qualitative and econometric analysis. *Social Science & Medicine*. 1997; 44:1169–1180. [PubMed: 9131741]
- Rehm, J.; Room, R.; Monteiro, M.; Gmel, G.; Graham, K.; Rehn, N., et al. Alcohol use. In: Ezzati, M.; Lopez, AD.; Rodgers, A.; Murray, CJL., editors. *Comparative quantification of health risks. Global and regional burden of disease attributable to selected major risk factors*. Vol. 1. Geneva, Switzerland: World Health Organization; 2004. p. 959-1108.
- Sayette MA, Wilson T, Elias MJ. Alcohol and aggression: A social information processing analysis. *Journal of Studies on Alcohol*. 1993; 54:399–407. [PubMed: 8341042]
- Shepherd J, Irish M, Scully C, Leslie I. Alcohol intoxication and severity of injury in victims of assault. *British Medical Journal*. 1988; 296:1299–1299. [PubMed: 3133057]
- Testa M, Quigley BM, Leonard KE. Does alcohol make a difference? Within-participants comparison of incidents of partner violence. *Journal of Interpersonal Violence*. 2003; 18:735–743. [PubMed: 14675506]
- Thompson MP, Kingree JB. The roles of victim and perpetrator alcohol use in intimate partner violence outcomes. *Journal of Interpersonal Violence*. 2006; 21:163–177. [PubMed: 16368759]
- White HR, Chen PH. Problem drinking and intimate partner violence. *Journal of Studies on Alcohol*. 2002; 63:205–214. [PubMed: 12033697]
- Wilsnack RW, Wilsnack SC, Kristjanson AF, Vogeltanz-Holm ND, Gmel G. Gender and alcohol consumption: Patterns from the multinational GENACIS project. *Addiction*. 2009; 104:1487–1500. [PubMed: 19686518]
- Wolff B, Busza J, Bufumbo L, Whitworth J. Women who fall by the roadside: Gender, sexual risk and alcohol in rural Uganda. *Addiction*. 2006; 101:1277–1284. [PubMed: 16911726]
- World Health Organization. *Global status report on alcohol 2004*. Geneva, Switzerland: Author; 2004.
- World Health Organization. *Violence against women. Revised fact sheet Number 239*. Geneva, Switzerland: Author; 2009.

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Sharon C. Wilsnack received her MA and PhD in clinical psychology from Harvard University and studied as a Fulbright Fellow at the University of Freiburg, Federal Republic of Germany. She is presently the Chester Fritz distinguished professor in the department of clinical neuroscience, University of North Dakota School of Medicine and Health Sciences. Her background includes experience as a substance abuse therapist and treatment program director as well as in research and medical education. She has published extensively on issues related to substance abuse in women and has addressed numerous national and international audiences. She and Richard Wilsnack direct a 20-year longitudinal study of drinking behavior in U.S. women and coordinate an international collaborative research project on gender and alcohol that includes more than 40 countries. She is a Fellow of the American Psychological Association. She served as a member of the Institute of Medicine's Committee to Study Fetal Alcohol Syndrome, as a member of the National Advisory Council on Alcohol Abuse and Alcoholism/National Institutes of Health, and on numerous other boards and advisory groups concerned with substance abuse and women's health.

Gerhard Gmel is a leading international researcher in the substance use and particularly alcohol use domain with about 150 peer reviewed publications in the past 10 years. He is currently the centralized analysis and data bank coordinator of one of the major research projects on Gender and Alcohol (GenACIS) including surveys from more than 40 countries all over the world and participates in international youth projects such as ESPAD. He is also temporary advisor of the WHO as regards alcohol epidemiology and policy and collaborated with the WHO on the estimation of the Global Burden of Disease 2000 stemming from alcohol use and is senior editor of the Number 1 journal in the field *Addiction*. In addition to his position at the Swiss Institute for the Prevention of Alcohol and Drug Problems he joined in 2005 the alcohol treatment center where he is mainly responsible for Emergency Department studies including those testing the effectiveness of brief interventions in such a setting. He is currently principal investigator of a study that delivers brief interventions to 19-year-olds during army conscription, participates in the new Global Burden of Disease 2010 study, and will soon start a comprehensive substance use monitoring system in Switzerland and a long-term prospective cohort study on substance use among 19-year-old men.

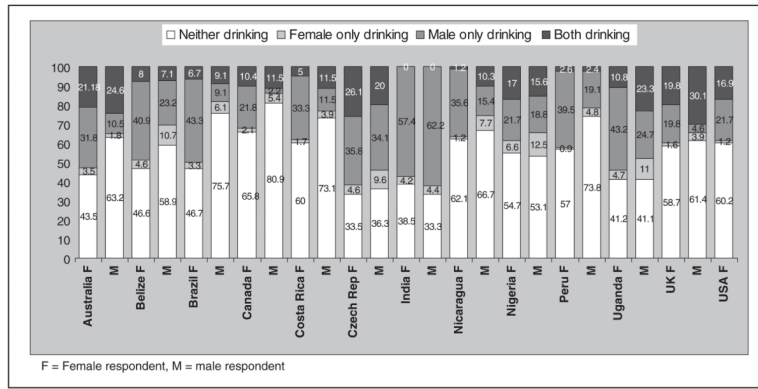


Figure 1. Percentage of incidents of aggression by an intimate partner in which neither partner had been drinking, only the female partner, only the male partner or both partners had been drinking by gender of respondent and country

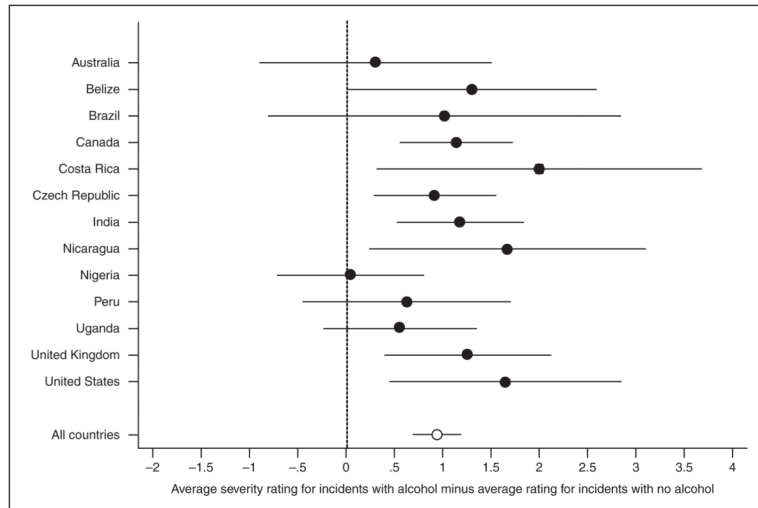


Figure 2. Average difference in severity ratings by female victims for aggression involving alcohol versus no alcohol (lines show 95% confidence intervals)

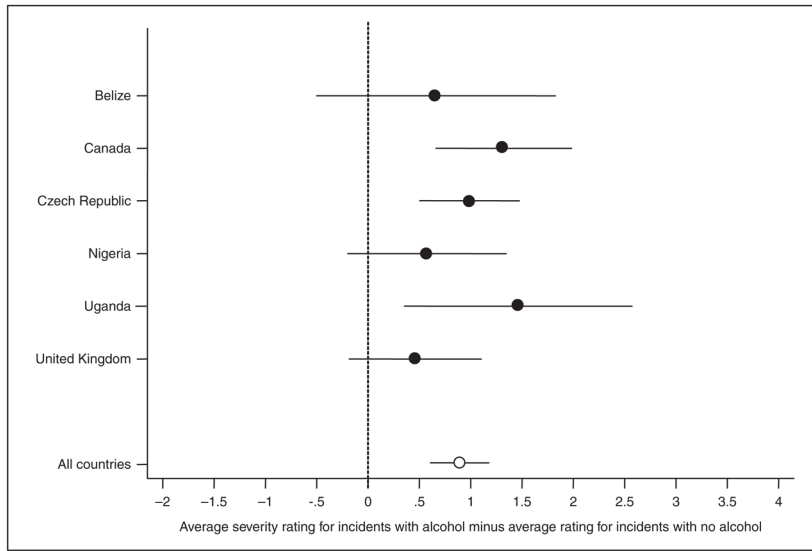


Figure 3. Average difference in severity ratings by male victims for aggression involving alcohol versus no alcohol (lines show 95% confidence intervals)

Table 1

Number of Male and Female Respondents in Each Country and the Percentage Who Reported Aggression by an Intimate Partner During the Previous 2 Years

Country	Number		% Reporting Aggression	
	Females	Males	Females	Males
Australia	983	686	8.6	8.3
Belize	1,911	1,716	4.7	3.4
Brazil	1,052	769	5.8	4.3
Canada	6,788	5,117	5.7	8.1
Costa Rica	768	370	7.8	7.0
Czech Republic	1,280	1,242	13.8	10.9
India	1,232	1,252	21.8	3.7
Nicaragua	1,377	586	6.3	6.7
Nigeria	893	992	12.0	9.9
Peru	1,007	512	11.3	8.2
Uganda	657	612	23.0	11.9
United Kingdom	831	780	15.4	19.7
United States ^a	988	—	8.6	—
Overall	19,767	14,634	9.1	8.0

^aU.S. sample included only women.

Table 2

Mean Rating of Severity of Aggression (and 95% Confidence Interval) for Female Compared to Male Respondents and by Whether Either Partner Had Been Drinking at the Time of the Aggressive Incident

Country	All Incidents		Incidents Reported by Females		Incidents Reported by Males	
	Females	Males	One or Both Partners Drinking	Neither Partner Drinking	One or Both Partners Drinking	Neither Partner Drinking
Australia	4.4 (3.8–5.0)	2.7*** (2.2–3.1)				
Belize	4.4 (3.8–5.1)	2.4*** (1.8–3.0)	5.0 (4.2–5.9)	3.7* (2.7–4.8)	2.8 (1.7–3.9)	2.1 (1.4–2.8)
Brazil	5.7 (4.7–6.6)	4.2* (3.2–5.1)	6.1 (4.8–7.4)	5.1 (3.7–6.5)	— ^a	3.8 (2.9–4.7)
Canada	3.7 (3.4–4.0)	2.7*** (2.5–3.0)	4.4 (3.9–4.9)	3.3*** (3.0–3.6)	3.8 (3.2–4.4)	2.5*** (2.3–2.7)
Costa Rica	5.6 (4.8–6.5)	2.1*** (1.4–2.8)	6.8 (5.5–8.2)	4.8* (3.7–5.9)	— ^a	1.7 (1.3–2.2)
Czech Republic	3.3 (3.0–3.6)	2.2*** (2.0–2.5)	3.6 (3.2–4.0)	2.7*** (2.2–3.2)	2.6 (2.3–2.9)	1.6** (1.2–1.9)
India	6.9 (6.6–7.2)	5.8** (5.1–6.5)	7.3 (7.0–7.7)	6.2*** (5.6–6.7)	5.7 (4.8–6.6)	— ^a
Nicaragua	5.4 (4.7–6.2)	3.5** (2.5–4.4)	6.5 (5.3–7.6)	4.8* (3.9–5.7)	— ^a	3.4 (2.2–4.6)
Nigeria	4.7 (4.4–5.1)	4.4 (4.0–4.8)	4.8 (4.2–5.3)	4.7 (4.2–5.3)	4.7 (4.1–5.3)	4.1 (3.6–4.7)
Peru	5.2 (4.7–5.7)	3.6** (2.9–4.4)	5.6 (4.7–6.4)	4.9 (4.2–5.7)	— ^a	3.6 (2.7–4.5)
Uganda	6.2 (5.8–6.6)	5.6* (5.0–6.1)	6.5 (6.0–7.0)	5.9 (5.2–6.6)	6.2 (5.4–7.0)	4.7* (4.0–5.4)
United Kingdom	3.0 (2.5–3.4)	2.2** (1.9–2.5)	3.7 (3.0–4.4)	2.4** (1.9–3.0)	2.5 (2.0–3.0)	2.0 (1.6–2.5)
United States	3.9 (3.2–4.5)	—	4.8 (3.8–5.9)	3.2** (2.5–3.9)	—	—
Overall	4.7 (4.6–4.9)	3.1 (3.0–3.2)	5.4 (5.2–5.6)	4.1 (3.9–4.3)	3.8 (3.5–4.0)	2.7 (2.6–2.9)

Note: Ratings were made on a 10-point scale (1 = very minor aggression to 10 = life threatening).

^aValue suppressed because $N < 20$.

* $p < .05$.

** $p < .01$.

*** $p < .001$.