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Alcohol Expectancies, Alcohol Use, and Hostility as Longitudinal Predictors of Alcohol-Related Aggression

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Abstract

The direct and interactive effects of alcohol expectancies for aggression, dispositional hostility, and heavy alcohol consumption on alcohol-related physical aggression were examined across the first four years of marriage in a sample of 634 newlywed couples. For husbands, alcohol aggression expectancies predicted increases in alcohol-related aggression; across husbands and wives however, aggression expectancies were not found to interact with hostility or alcohol consumption to predict physical aggression. Consistent with previous research, hostility and alcohol consumption interacted with each other to predict alcohol-related aggression. Specifically, for both husbands and wives high in dispositional hostility, heavy alcohol consumption was positively associated with the occurrence of alcohol-related aggression; for those low in hostility however, there was no association between alcohol consumption and alcohol-related aggression. Findings are contrasted with previous longitudinal research on alcohol aggression expectancies and physical aggression in married couples. The extent to which findings may vary depending upon whether expectancies are assessed in relation to alcohol's effect on one's own behavior versus alcohol's effect on others' behavior are discussed.

Keywords

Alcohol Expectancies; Alcohol Use; Violence and Aggression; Couples

The link between excessive alcohol use and the occurrence of violence and aggression has been well documented (Leonard, 2008). For example, survey research has shown that alcohol tends to be involved in such violent crimes as homicide, assault, robbery and sexual offenses (Pernanen, 1991). Furthermore, experimental investigations have consistently shown that alcohol causes aggressive behavior (see Bushman & Cooper, 1990; Chermack & Giancola, 1997). Alcohol use also has been linked to marital violence. For example, Kaufman Kantor and Straus (1990) reported that among violent couples, the male had been drinking in 22% of the last, most serious episode of domestic violence. Quigley and Leonard (1999) found that in their sample of 658 newlywed couples, 18% experienced at least one incident of alcohol-related violence.

A number of explanations have been proposed to account for the alcohol-aggression association. In general, these approaches have focused on the psychopharmacological influence of alcohol and on the expectancies individuals hold regarding alcohol's effects. Psychopharmacological theories have primarily been concerned with the effect that alcohol has on cognitive processes, such as those which control attention to environmental cues and decision making (e.g., Steele & Josephs, 1990; Taylor & Leonard, 1983; see also Giancola, 2000 for a review). According to this approach, alcohol is believed to interfere with information processing and a person's ability to attend to different sources of information in a given situation. This can lead one to focus more on the salient cues in the environment, which in turn can affect the type of behavior in which they engage. Compared to a sober individual, one who is intoxicated may focus less on the potential negative consequences of engaging in an aggressive behavior (which may serve to inhibit such behavior), and instead focus more on the dominant aggressive cues, making the occurrence of aggressive behavior more likely. Research examining the psychopharmacological effects of intoxication has shown that excessive alcohol use does indeed affect decision making in aggressive situations (e.g., Sayette et al., 1993; Zeichner, Pihl, Niaura, & Zacchia, 1982). However, these effects cannot fully explain the alcohol-aggression relationship (Quigley & Leonard, 2006).

In contrast, expectancy theories focus on the beliefs that individuals have about the effects of alcohol. Quigley and Leonard (2006) have delineated two variants of alcohol expectancy theory. One approach, deviance disavowal or "time out" has its roots in anthropology (McAndrew & Edgerton, 1969). This approach argues that alcohol serves as an excuse for deviant behavior, and "implies that anti-normative, deviant, or destructive behaviors performed while intoxicated are less likely to incur punishment and retaliation (p. 485)." The second approach has its roots in social learning theory and posits that individuals hold certain belief about the effects that alcohol has on intoxicated individuals (Jones, Corbin, & Fromme, 2001). These beliefs may be formed in early childhood (Miller, Smith, & Goldman, 1990) and can be learned either vicariously or through one's actual experiences (Goldman, Brown, & Christiansen, 1987). These expectancies involve a variety of different behavioral outcomes such as reduced tension, enhanced social and physical pleasure and sexual performance, and increased social assertiveness (Brown, Christiansen, & Goldman, 1987; Brown, Goldman, & Christiansen, 1985; Brown, Goldman, Inn, & Anderson, 1980). Individuals also hold expectations related to alcohol's effect on the occurrence of aggression and violence; they may believe that consuming alcohol will increase the likelihood that they (and other individuals in general) will engage in aggressive behavior. When alcohol is

consumed, these expectancies are activated and direct behavior through attentional, interpretational, and decisional processes. Proponents of expectancy theories argue that it is the alcohol expectancies about aggression, as opposed to the pharmacological effects of alcohol that account for the alcohol-aggression association.

Correlational studies have provided some support for the role that alcohol-aggression expectancies play in the occurrence of violence and aggression. Most of these studies have focused on the extent to which expectancies moderate the association between alcohol use and aggression and violence. For example, Derman and George (1989) documented a positive association between drinking and aggressive behavior among male college students who endorsed alcohol-aggression expectancies, compared to those who did not. Similar findings were reported by Leonard and Senchak (1993) who, using a sample of newlywed couples, found that frequent heavy drinking was associated with premarital aggression among husbands who believed that alcohol facilitated aggression, but not among husbands who did not hold such beliefs. These findings are important as they show that alcohol expectancies interact with alcohol use to predict aggression, not only towards others in general but marital partners as well. However, these studies examined violence and aggression in general, and not whether the aggression that occurred actually involved alcohol. Thus, it is unclear whether their findings would apply specifically to alcohol-related violence and aggression. Quigley and Leonard (1999) did examine the relationship of alcohol expectancies to alcohol-related aggression using a longitudinal design. Although results showed that drinking predicted aggression a year later, husbands' expectancy that alcohol causes aggression did not. Furthermore, the two-way interaction between expectancies and drinking in predicting alcohol-related aggression was not significant.

Experimental studies also have examined alcohol expectancies and their associations with alcohol-related aggression. However, findings from these studies have been equivocal. For example, Rohsenow and Bachorowski (1984) examined expectancies and the occurrence of verbal aggression in three laboratory studies. Although the expectancy that alcohol increases aggression was positively related to more aggressive responding among those expecting to receive alcohol, regardless of how much alcohol they actually consumed, this association was obtained in only one of the three studies. In addition, although Chermack and Taylor (1995) found that expectancies for aggression were associated with aggression while under the influence of alcohol, these findings were obtained only under highly specific conditions. Thus it is not entirely clear whether and under what conditions alcohol expectancies will result in alcohol-related aggression.

One reason for these findings could be because of the way in which alcohol-aggression expectancies have been proposed to function (Quigley & Leonard, 2006). Research on expectancies has proceeded under the assumption that simply holding the belief that alcohol will cause aggression will result in violence and aggression when drinking. However, this may be too simplistic. Alcohol consumption may not automatically result in violence and aggression among those who possess the expectation that it does; there may be other factors, such as person or situational variables that increase or decrease the likelihood of such behavior occurring. For example, in the Chermack and Taylor (1995) study, results showed that men who believed that alcohol caused aggression and who had received alcohol,

increased their use of the highest possible level of shock, but only under conditions of increasing provocation. In relation to person-level factors, Quigley, Corbett, and Tedeschi (2002) found that believing that alcohol causes one to become aggressive was related to experiencing alcohol-related aggression, but only for those who also desired to be seen as powerful by others.

Another individual difference variable that may be important to consider is dispositional aggressivity. Research has shown that having an aggressive disposition interacts with alcohol consumption to predict aggressive behavior. For example, Bailey and Taylor (1991) examined the effect of alcohol on aggressive behavior in intoxicated and non-intoxicated men with high, moderate, and low aggressive dispositions. Using a competitive reaction time task which involved having the participants administer electric shocks to an increasingly provocative opponent, these researchers found that individuals who were moderate to high in dispositional aggression who were highly intoxicated were more aggressive when increasingly provoked, compared to intoxicated individuals who were low in dispositional aggressivity. Similar findings were also reported by (Giancola 2002a, 2002b), who found that alcohol increases aggression in men and women with high, but not low dispositional aggressiveness as well as trait anger, respectively. Similar findings were also reported by Parrott and Zeichner (2001). Taken together, these findings suggest that an angry/hostile disposition may be an important person-level variable to consider when examining the association between alcohol-aggression expectancies, alcohol use and alcohol related violence and aggression. Those who are characterized as angry or hostile may be more likely to engage in such violence particularly if they believe that they would become aggressive after consuming alcohol.

Recently, Barnwell, Borders, and Earleywine (2006) examined whether alcohol expectancies for aggression and dispositional aggression interacted with alcohol consumption to predict alcohol-related violence. Participants completed measures assessing alcohol use, alcohol expectancies, dispositional aggression, and past aggressive acts, including those that occurred after drinking alcohol. Findings showed a positive association between expectancies for aggression and engaging in the several different behaviors after drinking alcohol, including saying mean things, breaking things, threatening to hurt, and slapping or hitting. Results also showed that high levels of alcohol consumption predicted alcohol-related aggression for individuals who were dispositionally aggressive or who believed that alcohol caused aggression. Unfortunately, the three-way interaction (between expectancies, drinking, and aggression in predicting alcohol related violence) was not examined.

The goal of the current study was to examine the association between alcohol expectancies for power and aggression and alcohol-related violence longitudinally in a sample of married couples. This study examined whether these expectations predicted alcohol related aggression towards other people in general, as well as towards one's spouse. Furthermore, this study attempted to build on previous research by examining whether alcohol expectancies interacted with dispositional hostility and heavy drinking to predict alcohol related violence, and examined these interactions over a period of several years, an improvement over previous studies which have been either cross-sectional in nature or have

conducted assessments over a relatively short period of time (e.g., one year). It was hypothesized that the association between heavy alcohol consumption and the occurrence of alcohol-related violence and aggression would be strongest among those who endorsed alcohol-aggression expectancies and who were high in dispositional hostility. By considering possible interactions between expectancies, heavy drinking, and hostility, the current investigation explored a more comprehensive model of alcohol expectancies and alcohol related violence and aggression than has been examined in previous investigations.

Method

Participants

Participants in this study consisted of 634 couples who were involved in a longitudinal study of marriage and alcohol involvement. All participants were at least 18 years old, spoke English, and were literate. Couples were ineligible for the study if they had been previously married. At the initial assessment, the average age of the men [mean (SD)] was 28.7 (6.3) years and the average of the women was 26.8 (5.8) years. The majority of the men and women in the sample were European American (husbands: 59%; wives: 62%). About one-third of the sample was African American (husbands: 33%; wives: 31%). The sample also included small percentages (less than 5%) of Hispanic, Asian, and Native American participants. A large proportion of husbands and wives had at least some college education (husbands: 64%; wives: 69%) and most were employed at least part-time (husbands: 89%; wives 75%). Consistent with other studies of newly married couples (e.g., Chadiha, Veroff, & Leber, 1998; Crohan & Veroff, 1989; Orbuch & Veroff, 2002; Tallman, Burke, & Gecas, 1998), many of the couples were parents at the time of marriage (38% of the husbands and 43% of the wives) and were living together prior to marriage (70%). The Institutional Review Board of the State University of New York at Buffalo approved the research protocol.

Procedures

After applying for a marriage license, couples were recruited for a 5-10 minute paid (\$10) interview. The interview covered demographic factors (e.g., race, education, age), family and relationship factors (e.g., number of children, length of engagement), and substance use questions (e.g., tobacco use, average alcohol consumption, times intoxicated in the past year). Recruitment occurred over a 3-year period from 1996-1999. For interested individuals who did not have time to complete this interview, a telephone interview was conducted later that day or the next day ($N = 62$). Less than 8% of individuals approached declined to participate. We interviewed 970 eligible couples.

Complete details of the recruitment process can be found elsewhere (Homish & Leonard, 2007; Leonard & Mudar, 2004), but briefly, couples who agreed to participate were given identical questionnaires to complete at home and asked to return them in separate postage paid envelopes (Wave 1 Assessment). Participants were asked not to discuss their responses with their partners. Each spouse received \$40 for his or her participation. Only 7% of eligible couples refused to participate. Those who agreed to participate, compared to those who did not, were more likely to have lower incomes ($p < .01$) and the women were more

likely to have children ($p < .01$). No other differences were identified. Of the 887 eligible couples who agreed to participate (13 of the original 900 did not marry), data were collected from both spouses for 634 couples (71.4%). Couples who returned the questionnaires were more likely to be living together compared to couples who did not return the questionnaires (70% vs. 62%; $p < .05$) and more likely to be European American. No other sociodemographic differences existed between the couples who responded compared to those who did not. Average past year alcohol consumption did not differ between couples that returned the questionnaires and those who did not. Husbands in non-respondent couples consumed 6 or more drinks or were intoxicated in the past year more often than husbands who completed the questionnaire; however, these differences were small.

At the couples' first, second and fourth wedding anniversaries (Waves 2, 3 and 4), they were mailed questionnaires similar to those they received at the first assessment. As with the first assessment, they were asked to complete the questionnaires and return them in the postage paid envelopes. Each spouse received \$40 for his or her participation at each wave. We maintained 91%, 85%, and 81% of wives and 86%, 79%, and 71% of husbands at Waves 2, 3, and 4, respectively. Husbands who did not participate in the fourth assessment did not differ from other husbands on the basis of demographic or alcohol related variables (problems, proportion of drinking friends, alcohol expectancies, heavy drinking, or family history of alcoholism). Wives who did not participate in the fourth assessment reported a greater frequency of heavy drinking at Wave 1 compared to other wives ($p < .05$); however, this difference was quite small. Wives who did not complete the fourth assessment did not differ on any other variables compared to wives who did complete the fourth assessment. This study focuses on husbands and wives who provided data at any point after the first assessment, 594 women, or 94% of the initial sample and 566 men, or 89% of the initial sample.

Measures

Outcome Variable

Alcohol-Related Aggression: At each wave, husbands and wives reported on the past year frequency of hitting a spouse or starting a physical fight with a spouse while drinking. Husbands and wives also reported the past year frequency of hitting or starting a physical fight with another individual while drinking. These items had response options of “never”, “once”, “two times”, “three times” and “four or more times”. A summary variable for husbands and wives was created based on the average of these 2 questions over waves 2 through 4 of the study. This variable reflected the average number of alcohol related aggressive incidents per year and included both aggression toward one's spouse as well as aggression toward other people. Baseline (Wave 1) alcohol-related aggression was used as a predictor of alcohol-related aggression from Waves 2 through 4 to control for previous alcohol-related aggression.

Predictor Variables—In order to ensure that the predictor variables preceded the alcohol-related aggression from Waves 2 through 4, we used the baseline assessment of these measures.

Excessive Alcohol Use: The Alcohol Dependence Scale (ADS; Skinner & Allen, 1982; Skinner & Horn, 1984) was used to assess excessive alcohol use. The ADS is a 25-item measure that encompasses four key aspects of alcohol dependence syndrome: loss of behavioral control (e.g., blackouts, gulping drinks), psychoperceptual withdrawal symptoms (e.g., hallucinations), psychophysical withdrawal symptoms (e.g., hangovers, delirium tremens), and obsessive drinking style (e.g., sneaks drinks, always has a bottle at hand). According to Skinner and Allen (1982), a score of 1-13 represents a low level of alcohol dependence (first quartile), 14-21 an intermediate level (second quartile), 22-30 a substantial level (third quartile), and 31-47 a severe level (fourth quartile). In the current study, Cronbach's alpha for husbands and wives at Wave 1 were .84 and .82, respectively.

Hostility: Hostility was based on 10 items rated on a 4-point scale ranging from 0 to 3 with a possible total score ranging from 0 to 30. Example items included "I was argumentative with people," "I had a hard time controlling my temper," and "I did not feel angry or mad" (reverse coded). Coefficient alphas for Wave 1 were .82 for husbands and .81 for wives.

Alcohol Expectancies: The items comprising the power and aggression factor of the Alcohol Effects Questionnaire (Rohsenow, 1983) were employed in this study. The true/false response format of the original measure was modified to a five-point agree/disagree scale and participants are asked to respond to each item according to their beliefs about alcohol's effects on themselves (as opposed to alcohol's effects on others in general). The scales had high internal consistencies, .79 for husband and .82 for wives at Wave 1.

Demographic Factors: At the initial in-person interview, each spouse reported their age, race/ethnicity, income, highest level of education obtained. These variables were modeled as baseline covariates in the regression model.

Analysis

Descriptive statistics were used to characterize the outcome variables for husbands and wives at each wave. Additionally, correlations were used to examine the interrelationship between husband predictors, wife predictors, and the outcome variables. To identify baseline predictors of alcohol-related aggression across Waves 2-4, we used Tobit regression models. Unlike Ordinary Least Squares (OLS) regression models which assume normally distributed continuous outcome variables (and error terms), Tobit models more appropriately deal with outcome variables that have a large proportion of responses at one end of the scale (Long, 1997). For instance, in the current report there are a large proportion of zero responses indicating no alcohol-related aggression. Thus, our outcome variable is not a continuous variable but rather a censored outcome). Using an OLS regression model produces unreliable parameter estimates (Tarling, 2008). The Tobit regression approach uses a maximum likelihood estimation approach for examining the associations between predictor variables and a censored outcome (Frone, 2003).

For the current report, two sets of models were analyzed. The first set considered wives' alcohol related aggression and the second considered husbands' alcohol related aggression. In both analyses, we controlled for the Hostility and Drinking of the partner before

examining main effects of these variables for the actor. In addition to the main effects models, interaction models assessed the interrelationship between alcohol use and hostility, alcohol use and expectancies, and expectancies and hostility. Interaction models also assessed the interrelationship between alcohol use, hostility, and expectancies.

Results

At the first assessment, approximately 9% of husbands ($n = 58$) and 6% ($n = 35$) of wives reported past year alcohol-related aggression. Rates of husband and wife aggression remained stable across the first four years of marriage. Husbands' rates were 7%, 7%, and 8% at waves 2, 3, and 4, respectively. Across the three follow ups, a total of 14% of husbands reported one or more instances of alcohol-related aggression. Wives' rates of alcohol-related aggression were 5% in all three of the follow up assessments, with a total of 9% reporting at least one instance in the three follow ups. There was also a significant correlation between husband and wife alcohol-related aggression (see Table 1). In the bivariate correlations assessing the association between the baseline predictors and wife alcohol-related aggression, there were significant within spouse (e.g., wife alcohol use and wife alcohol-related aggression) as well as across spouse (e.g., husband hostility and wife alcohol-related aggression) associations (see Table 1). Similarly, there were both within and cross spouse associations between the predictors and husbands alcohol-related aggression.

Longitudinal Predictors of Wife Alcohol-related Aggression

In the main effects regression model, wife baseline alcohol-related aggression ($b = 0.81$, 95% confidence interval [95% CI] = 0.31, 1.31, $p < .01$) and husband hostility ($b = 0.66$, 95% CI = 0.02, 1.31, $p < .05$) were longitudinally associated with wife alcohol-related aggression (see Table 2). There was also evidence (at trend level) that wife alcohol use and wife alcohol expectancies were associated with an increased likelihood of wife alcohol-related aggression. These results persisted after controlling for sociodemographic covariates. In the model examining interactions, wife baseline alcohol-related aggression remained significant ($b = 0.85$, 95% CI = 0.34, 1.35, $p < .01$). Husband hostility was also associated with wife alcohol-related aggression ($b = 0.59$, 95% CI = -.03, 1.21, $p < .10$). There was a significant interaction between wife alcohol use and wife hostility ($b = -0.16$, [95% CI] = -0.29, -0.03, $p < .05$, $d = .20$); increasing alcohol use among wives was more strongly associated with alcohol-related aggression among high hostile wives than among low hostile wives (see Figure 1). The interactions between hostility and expectancies, and alcohol use and expectancies were not significant. Furthermore, the three-way interaction between hostility, expectancies, and alcohol use was not significant.

Longitudinal Predictors of Husband Alcohol-related Aggression

Unlike the models predicting wife alcohol-related aggression, there were no cross spouse (i.e., wife factors were not related to husband aggression) predictors of husband alcohol-related aggression. Higher levels of baseline alcohol-related aggression were also longitudinally predictive of alcohol-related aggression at later assessments ($b = 0.69$, 95% CI = 0.40, 0.97, $p < .001$). After controlling for sociodemographic factors, higher levels of husband hostility ($b = 0.50$, 95% CI = 0.01, 0.99, $p < .05$) and alcohol use ($b = 0.08$, 95% CI

= 0.02, 0.14, $p < .01$) were longitudinally predictive of husband alcohol-related aggression (see Table 3). Husband alcohol expectancies related to power and aggression were also positively associated with husband alcohol-related aggression ($b = 0.46$, 95% CI = 0.15, 0.76., $p < .01$). Consistent with the interaction models predicting wife alcohol-related aggression, there was a significant interaction of husband alcohol use and husband hostility ($b = -0.09$, 95% CI = -0.16, -0.01, $p < .05$, $d=.19$). The nature of the interaction suggested that increasing alcohol use among husbands was more strongly associated with alcohol-related aggression among high hostile husbands than among low hostile husbands (see Figure 1). This interaction persisted after considering the impact of sociodemographic factors and baseline alcohol-related aggression. The interactions between hostility and expectancies, alcohol use and expectancies, and the three way interaction of hostility, alcohol use, and expectancies were not significant.

Discussion

Given that alcohol consumption has been shown to accompany episodes of violence in marriage (e.g., Quigley & Leonard, 1999), the current investigation examined alcohol expectancies for aggression and the extent to which such expectancies interact with dispositional hostility and heavy alcohol consumption to predict alcohol-related violence and aggression over time. Findings showed that, at least for men, the belief that alcohol would make one more aggressive predicted alcohol-related aggression over time, independently of one's problematic alcohol use and dispositional hostility. While this finding is consistent with the alcohol expectancy approach to the alcohol-violence relationship, it differs from our earlier longitudinal study (Quigley & Leonard, 1999) that examined alcohol-aggression expectancies in married couples. In this earlier study, alcohol expectancies were not longitudinally predictive of alcohol-related aggression among newlywed couples. Given the similarity in samples and the assessments, there are several possible reasons why the current findings differ from those obtained by Quigley and Leonard (1999). One reason could be that the current study included both marital and nonmarital aggression while the Quigley and Leonard (1999) study included only marital aggression. This seems unlikely inasmuch as most of alcohol-related aggression acknowledged by participants in the current study was marital in nature. Another potential explanation is the different length of time over which the two studies were conducted. In the Quigley and Leonard (1999) study, the effect of expectancies on aggression was assessed over a period of one year. In the current study, the effects were assessed several times over a period spanning five years. Given the developmental changes in relationships, it seems possible that the current results may have occurred because of processes that occurred beyond the 1 year follow-up employed by Quigley and Leonard (1999). In order to examine this, we examined the cross-sectional correlations between alcohol aggression expectancies and marital aggression at the time of marriage in Quigley and Leonard (1999). For both men and women, these cross-sectional correlations were small and non-significant ($r = .00$ for husbands and $r = .08$ for wives). However, in the current study, these correlations were moderate and significant for men ($r = .25$, $p < .001$) and for women ($r = .21$, $p < .001$). In addition, these correlations were then examined at the first anniversary for couples in both studies, and the same findings were obtained.

A more compelling explanation of the discrepant findings is the difference in the manner in which alcohol expectancies were assessed in the two studies. In our earlier prospective study (Quigley & Leonard, 1999), we assessed the extent to which husbands and wives believed that alcohol causes aggressive behavior in people in general; in the current study, both husbands and wives were asked about their beliefs related to the effect that alcohol has on themselves. As a result, our results suggest that one's expectancies about the general effect of alcohol on aggression may not be predictive of alcohol-related aggression, but that one's expectancies about alcohol's effects on one's own behavior may be predictive.

There has been only limited research examining differences regarding alcohol expectancies for oneself vs. for others. Rohsenow (1983) assessed undergraduate men and women's alcohol expectancies and found that participants believed that alcohol had a stronger effect on others than it did on themselves for every expectancy scale, and that this was the most pronounced for the "Power and Aggression" subscale. Rohsenow speculated that "general expectancies about alcohol's effects are learned predominantly from transmission of cultural beliefs and stereotypes about alcohol" (page 755), but that "Personal expectancies start from general expectancies but are *modified by personal experience (emphasis added)* and subcultural or familial differences in modeling" (page 755). Leigh (1987) replicated these findings with a larger sample of students as well as with a general population sample. Paglia and Room (1999) examined the correlation between self and other expectancies for aggression and found only a small correlation ($r = .21$). Moreover, they found that alcohol/aggression expectancies with respect to other people were associated with support for tighter alcohol controls, while these expectancies with respect to oneself were not. This limited research suggests that people believe that alcohol is much more likely to result in aggression among others than among themselves, that their expectancies regarding aggression for self and others are only slightly correlated, and that they may show different patterns of correlation with other alcohol-related variables.

The divergence between alcohol expectancies for others versus self has implications for the precise role of alcohol expectancies in predicting partner violence. As noted earlier, there are two variants of alcohol expectancy theory. The deviance disavowal approach argues that alcohol leads to aggressive behavior because alcohol can serve as an excuse for the behavior. Implicitly, this would suggest that the general belief that alcohol causes behavior would be needed in order for it to serve as a credible excuse. The failure of alcohol/aggression expectancies about people in general to predict one's intoxicated aggression in Quigley and Leonard (1999) is inconsistent with the deviance disavowal variant. That is, it seems difficult to argue that alcohol can be used to excuse aggression if one does not believe that alcohol causes aggression, both for oneself as well as for others. The second variant with its Social Learning and information processing perspective (Goldman, Del Boca, & Darkes, 1999), suggests that expectancies that alcohol increases one's aggressive behavior would shape the interpretation of alcohol-related situations in a manner that would increase aggression. From this perspective, the critical issue would be one's beliefs about alcohol on oneself. This approach finds support in several recent experimental studies (Bartholow & Heinz, 2006; Friedman, McCarthy, Bartholow, & Hicks, 2005; Giancola, 2006; Giancola, Godlaski, & Parrott, 2005) and could explain the current results. Finally, it is important to

note that the expectancy that alcohol increases one's own aggressive behavior may reflect the subject's experience with becoming aggressive while drinking prior to the beginning of the study. While we controlled for baseline alcohol-related aggression, this baseline was only for the preceding year, and did not address alcohol-related aggression earlier in the participant's life. From this perspective, the alcohol-aggression expectancy may be an epiphenomenon, at least to some degree, and derive its predictive value from the continuity of alcohol-related aggression.

Although we sought to test a more comprehensive model of alcohol expectancies for power and aggression, the relationship between these expectancies and alcohol-related violence was not moderated by either hostility or excessive alcohol use. However, as in other research, we found an interaction between hostility and excessive alcohol use. Specifically, for both husbands and wives who were high in dispositional hostility, heavy drinking predicted increases in violence and aggression; for those who were low in hostility, there was no relationship between alcohol use and alcohol-related aggression. Such findings are consistent with previous research examining the moderating effect of dispositional aggression (e.g., Barnwell, Borders, & Earleywine, 2005; Giancola, 2002a) and trait anger (Giancola, 2002b) on increased alcohol use and alcohol-related violence, and builds on this research by demonstrating that these variables predict alcohol-related violence over the course of several years in newly married individuals.

Despite the important information provided by the current findings, several limitations are worth noting. Firstly, the current study utilized a newlywed sample. Although this is not a limitation in its own right, it does limit the generalizability of the current findings as it is unclear whether the relationships observed in our study would extend to samples which include older individuals married for a longer period of time. It is also unclear whether the same results would be obtained in clinical samples of alcoholics or those who engage in more frequent or more extreme forms of violent and aggressive behavior. Second, participants may have been underreporting their physical aggression perpetration. Unfortunately participants' reports of aggression in the current study were not able to be corroborated as we did not collect spouses' reports of their partner's aggression when intoxicated nor were we able to obtain reports from other people in general who were on the receiving end of the alcohol-related physical aggression. Given the low prevalence of alcohol-related aggression, the nature of the sample, and the longitudinal stability of alcohol-related aggression, the power to identify moderating variables with modest effect sizes was likely low. Further, these factors also limited our ability to examine partner violence and violence toward others separately.

Although our proposed comprehensive model focusing on dispositional hostility and heavy alcohol use was not supported, future research might also examine other person-level factors that may interact with alcohol-aggression expectancies to predict alcohol-related aggression. For example, research has shown that alcohol-expectancies for violence and aggression are related to aggression when under the influence of alcohol during situations of increasing provocation (e.g., Chermack & Taylor, 1995). This raises the possibility that individuals who are easily provoked who also believe that consuming alcohol will result in aggressive behavior, may be more likely engage in such behavior when intoxicated. Alternatively,

specific aspects of the situation in which the alcohol-related aggression occurs could also be examined, and the extent to which such aspects make such aggression more or less likely, for those who endorse alcohol expectancies for violence and aggression. By continuing to explore and test more extensive models, we will come closer to a better understanding of the extent to which alcohol expectancies for violence and aggression actually result in intoxicated aggression. In so doing, we will be better able to explain why consuming alcohol poses an increased risk for the occurrence of violence and aggression, particularly in marriage.

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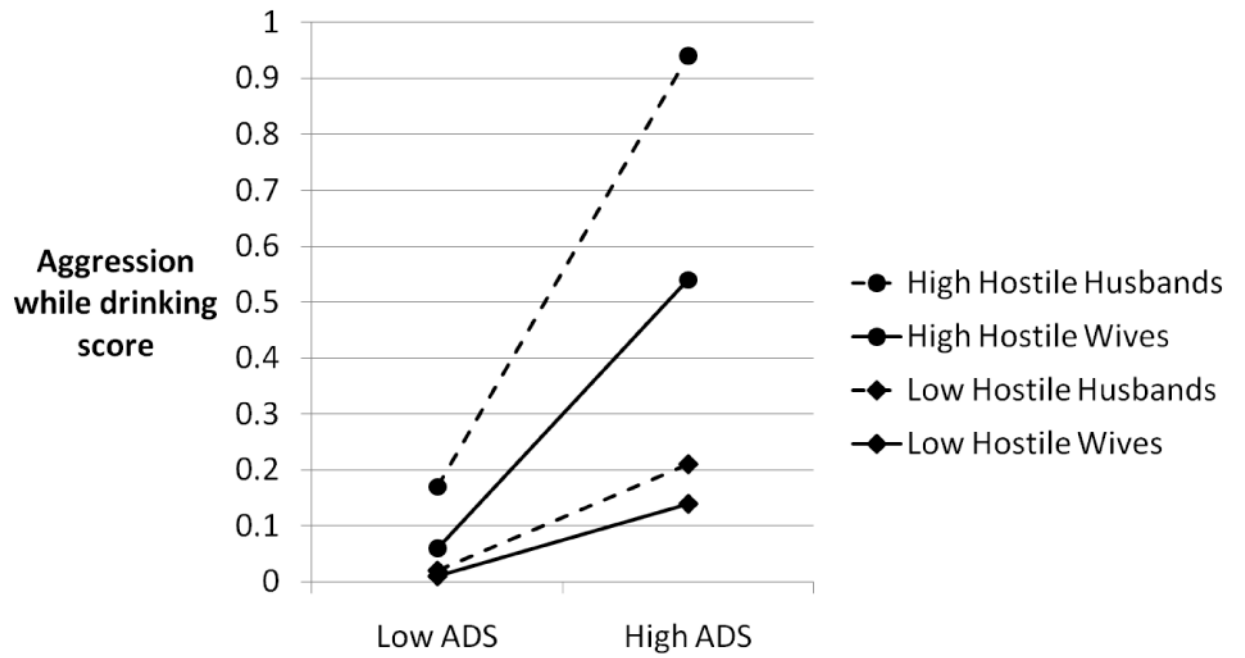


Figure 1. Aggression while drinking as a function of hostility and Alcohol Dependence Scale scores

Table 1
Correlations Between Predictor Variables and Husband/Wife Alcohol-Related Aggression

	Wife Alcohol-related Aggression	Husband Alcohol-related Aggression
Husband Alcohol-related aggression	0.34***	1
Husband ADS	0.05	0.36***
Wife ADS	0.17***	0.03
Husband Hostility	0.16***	0.29***
Wife Hostility	0.16***	0.06
Husband Alcohol Expectancies	0.02	0.21***
Wife Alcohol Expectancies	0.15***	0.09*

 $p < .001$;

**
 $p < .01$;

*
 $p < .05$

Table 2

Main Effects and Full Models Predicting Wife Aggression

	Main Effects Model			Full Model		
	<i>b</i>	Standard Error	95% CI	<i>b</i>	Standard Error	95% CI
W Covariates						
Age	0.02	0.03	-0.04, 0.07	0.03	0.03	-0.03, 0.09
Education	-0.89*	0.39	-1.65, -0.13	-0.86*	0.38	-1.60, -0.11
Race/ethnicity	-0.63	0.39	-1.38, 0.13	-0.59	0.38	-1.34, 0.14
Partner Effects						
H Hostility	0.66*	0.33	0.02, 1.31	0.59 [^]	0.31	-0.03, 1.21
H ADS	0.01	0.04	-0.06, 0.08	0.01	0.04	-0.06, 0.08
Individual Factors						
W Hostility	0.47	0.34	-0.21, 1.15	1.83*	0.86	0.14, 3.52
W ADS	0.08 [^]	0.05	-0.01, 0.18	0.47**	0.16	0.02, 0.79
Baseline W alcohol aggression	0.81**	0.25	0.31, 1.31	0.85**	0.26	0.34, 1.35
W alcohol expectancies	0.40 [^]	0.20	-0.01, 0.80	0.75	0.63	-0.49, 2.00
Interaction Effects						
W Hostility X expectancies				-0.20	0.29	-0.77, 0.38
W ADS X hostility				-0.16*	0.07	-0.29, -0.03
W ADS X expectancies				-0.01	0.04	-0.10, 0.07

[^]*p* < .10;* *p* < .05;** *p* < .01;*** *p* < .001

Table 3

Main Effects and Full Models Predicting Husband Aggression

	Main Effects Model			Full Model		
	<i>b</i>	Standard Error	95% CI	<i>b</i>	Standard Error	95% CI
H Covariates						
Age	0.01	0.02	-0.03, 0.04	0.02	0.02	-0.02, 0.06
Education	-0.75*	0.29	-1.32, -0.18	-0.82**	0.30	-1.40, -0.24
Race/ethnicity	-0.21	0.29	-0.78, 0.36	-0.18	0.29	-0.76, 0.39
Partner Effects						
W Hostility	0.12	0.27	-0.40, 0.64	0.05	0.27	-0.48, 0.58
W ADS	-0.04	0.04	-0.12, 0.04	-0.05,	0.04	-0.14, 0.02
Individual Factors						
H Hostility	0.50*	0.25	0.01, 0.99	1.39 [^]	0.76	-0.11, 2.89
H ADS	0.08**	0.03	0.02, 0.14	0.31**	0.12	0.09, 0.54
Baseline H alcohol aggression	0.63***	0.14	0.35, 0.91	0.69***	0.14	0.40, 0.97
H alcohol expectancies	0.46**	0.15	0.15, 0.76	0.68	0.50	-0.30, 1.66
Interaction Effects						
H Hostility X expectancies				-0.13	0.26	-0.65, 0.39
H ADS X hostility				-0.09*	0.04	-0.16, -0.01
H ADS X expectancies				0.01	0.02	-0.05, -0.04

* $p < .05$;** $p < .01$;*** $p < .001$