Influence of Heavy Episodic Drinking on the Relation Between Men's Locus of Control and Aggression Toward Intimate Partners*

KATHRYN E. GALLAGHER, B.A., AND DOMINIC J. PARROTT, PH.D.[†]

Department of Psychology, Georgia State University, 140 Decatur Street SE, Suite 1151, Atlanta, Georgia 30303

ABSTRACT. Objective: This study examined the interactive effects of locus of control and heavy episodic drinking on men's physical assault and sexual coercion against intimate partners. **Method:** Participants were 151 heterosexual drinking men who completed self-report measures of locus of control, alcohol consumption during the past 12 months, and intimate-partner aggression during the past 12 months. **Results:** An internal locus of control was associated with a lower frequency of physical assault and sexual coercion toward intimate partners among men

who reported lower quantities of alcohol consumption. However, data suggested that the protective qualities of an internal locus of control for both forms of partner aggression diminished among men who reported higher quantities of alcohol consumption. **Conclusions:** These results support alcohol myopia theory and extend this theory by suggesting how alcohol consumption may affect the relation between locus of control and different forms of intimate-partner aggression toward women. (*J. Stud. Alcohol Drugs*, 71, 299-306, 2010)

INTIMATE-PARTNER AGGRESSION is a pervasive and serious health concern in the United States. Conservative estimates from the National Violence Against Women Survey (Tjaden and Thoennes, 2000) indicate that approximately 25% of women have experienced rape and/or physical assault by a male partner at some point in their lifetime. Importantly, these approximations do not represent the estimated 80% of male-perpetrated rapes and 75% of physical assaults that remain unreported. Despite accumulating evidence that men and women perpetrate comparable rates of intimate-partner aggression (e.g., Schumacher and Leonard, 2005; Straus, 2004), men's aggression against women accounts for the greatest number of nonfatal injuries to women and amounts to more than 400,000 hospital visits each year (National Violence Against Women Survey; Straus and Gelles, 1990; Tjaden and Thoennes, 2000). Clearly, it is important to investigate women's aggression against male partners. However, the relative severity of male-perpetrated intimate-partner aggression underscores the continued urgency of research in this area.

A great deal of empirical evidence indicates that men's alcohol consumption is a leading risk factor for aggression within intimate relationships (e.g., Fals-Stewart, 2003; Foran

and O'Leary, 2008; Quigley and Leonard, 1999; Schumacher et al., 2003). This relation was recently affirmed by Leonard (2005), who stated that "we have reached the point where we should conclude that heavy drinking is a contributing cause of violence" (p. 423). Nonetheless, the relation between alcohol consumption and intimate-partner aggression is not ubiquitous, and investigation is warranted to identify for whom, and under what conditions, alcohol consumption is most likely to engender intimate-partner aggression.

To this end, numerous individual differences that influence the alcohol-aggression relation have been identified by laboratory research (Chermack and Giancola, 1997; Giancola and Zeichner, 1995; Parrott and Giancola, 2004, 2006; Taylor and Chermack, 1993). More specifically, research has indicated that alcohol is more likely to facilitate intimate-partner aggression among men who evidence alcohol-aggression expectancies (Barnwell et al., 2006), dispositional aggression (Barnwell et al., 2006), an aggressive personality style (Heyman et al., 1995), a history of problem drinking (Heyman et al., 1995), avoidance coping and hostility (Schumacher et al., 2008), jealousy (Foran and O'Leary, 2008), and antisocial personality disorder (Fals-Stewart et al., 2005). Despite this developing literature, the importance of advancing this line of research has not diminished. Indeed, it is crucial that additional risk factors be identified to better understand individuals who are at increased risk for perpetrating intimate-partner aggression while intoxicated and to inform the development of interventions to reduce this social malady.

Received: April 8, 2009. Revision: July 17, 2009.

*This research was supported by National Institute on Alcohol Abuse and Alcoholism grant R01-AA-015445.

[†]Correspondence may be sent to Dominic J. Parrott at the above address or via email at: parrott@gsu.edu.

Locus of control as a risk factor for intimate-partner aggression

One individual difference variable that has eluded investigation as a potential risk factor for alcohol-related intimate-partner aggression is *locus of control*. Rotter (1966, 1975, 1990) defined locus of control as the extent to which individuals believe that the outcomes of their behavior are a function of internal factors (e.g., own behavior, personal characteristics) versus external factors (e.g., other people's behavior, situational characteristics). Whereas an internal locus of control has been shown to protect against psychological maladjustment and negative behaviors, an external locus of control has been shown to have a number of deleterious effects on psychological well-being and behavior (e.g., conduct disorder, increased aggression) (Hall, 2006; Kliewer and Sandler, 1992; Raine and Jones, 1987; Zainuddin and Taluja, 1990). Indeed, extant research has identified locus of control, and related constructs (e.g., perceived control), as an individual cognitive risk factor for various forms of aggression (Hall, 2006; Ogle and Clements, 2007; Osterman et al., 1999; Zainuddin and Taluja, 1990). Specifically, studies indicate that an external locus of control, relative to an internal locus of control, is associated with increased aggression in men (Hall, 2006; Zainuddin and Taluja, 1990).

Several explanations for the link between locus of control and aggression have been advanced. The most widely accepted explanation asserts that individuals with an external locus of control use aggression to re-establish a sense of control over the outcomes in their lives (Hall, 2006; Halloran et al., 1999; Osterman et al., 1999). Indeed, men with an external locus of control tend to "look outward" to explain their experiences and, as a result, may frequently perceive a lack of control in a variety of situations, including conflicts with intimate partners. Thus, it is also reasonable to contend that these men may feel provoked by others when they experience negative outcomes. Therefore, if a man fundamentally believes that his female partner caused conflict in the relationship, he may cognitively appraise her as the provocateur. Because provocation has been found to be one of the greatest determinants of aggression in men (Bettencourt and Kernahan, 1997; Bushman and Cooper, 1990; Ito et al., 1996), a man who holds an external locus of control may be especially likely to engage in aggression against his partner. Unfortunately, theoretical and empirical work has yet to develop an explanation for how alcohol use might influence this process.

Effect of alcohol on the link between locus of control and intimate-partner aggression

Alcohol myopia theory provides a framework to better understand how alcohol use might influence the link between locus of control and intimate-partner aggression. Specifi-

cally, the attention-allocation and inhibition conflict models of alcohol myopia theory (Steele and Josephs, 1990; Taylor and Leonard, 1983) provide a cognitive explanation for *why* and *when* alcohol will facilitate aggression against intimate partners. According to the attention-allocation model, the pharmacological properties of alcohol narrow attentional focus, restrict perception of internal and external cues, and reduce the drinker's capacity to process and generate meaning from cues. Intimate-partner aggression is hypothesized to occur as a consequence of an attentional shift (a) toward instigatory cues (e.g., perceived provocation from one's partner, desire to have sex) that elicit a "go" response toward aggression and (b) away from inhibitory cues (e.g., social proscriptions against aggression, resistance from one's partner to have sex) that signal a crucial "stop" response to discourage aggression. Because instigatory cues typically demand less cognitive processing than inhibitory cues in "real-world" situations, instigatory cues tend to draw the greatest amount of attention. As a result, the inebriate is posited to be less able to attend to the inhibitory cues in most situations. Much empirical evidence has provided support for this hypothesis (Giancola and Corman, 2007; Josephs and Steele, 1990; Steele and Josephs, 1988; Zeichner et al., 1994).

However, as Steele and Josephs (1990) discussed, alcohol does not "tie us to a roller-coaster ride of immediate impulses arising from whatever cues are salient" on every drunken occasion (p. 354). Rather, the inhibition conflict model argues that alcohol is most likely to increase intimate-partner aggression when an individual experiences conflict between strong instigatory cues *and* strong inhibitory cues. Indeed, experimental research has indicated that instigatory and inhibitory responses function independently from one another (Fillmore and Vogel-Sprott, 1999) and that alcohol intoxication impairs processing of inhibitory cues and facilitates responses derived from instigatory cues (Davis et al., 2004; Fillmore and Vogel-Sprott, 1999; Murphy et al., 1998; Steele and Southwick, 1985).

This theoretical framework suggests several hypotheses of how alcohol use may moderate the effect of locus of control on intimate-partner aggression. Foremost, individuals who possess an internal, relative to an external, locus of control may be better able to cognitively process internal cues that inhibit aggression because of their tendency to look inward to understand the consequences of their own behavior. Thus, among men who consume lower quantities of alcohol, an internal locus of control should be associated with a lower likelihood of aggressive behavior. However, among individuals who consume higher quantities of alcohol, it is more likely that alcohol will have disrupted the protective cognitions that an internal locus of control may otherwise provide. Thus, among high- relative to low-quantity drinkers, an internal locus of control should be associated with an increased likelihood of aggressive behavior. These predictions are also consistent with inhibition conflict, in that men who

endorse an internal locus of control will be more likely to experience simultaneous pressures to aggress (e.g., external provocation) and not to aggress (e.g., stable tendency to attend to internal, inhibitory cues) in a high-conflict situation. However, among high-quantity drinkers, relative to low-quantity drinkers, it is more likely that alcohol will facilitate attention to the most salient cues of the situation (i.e., provocative and instigatory).

On the other hand, regardless of one's quantity of alcohol use, an external locus of control should be associated with higher levels of aggression. Indeed, these individuals are characterized by the tendency to focus attention toward salient external (and typically instigatory) cues that are more likely to promote aggression. Thus, high-quantity alcohol consumption is not necessary to shift attentional focus toward instigatory cues. Moreover, given a reduced likelihood of attention directed toward internal (and presumably inhibitory) cues, these individuals are less likely to experience inhibition conflict when provoked.

Present study

Given this theoretical framework, the next logical step in this line of research is to examine the potential moderating effect of heavy episodic drinking on the link between men's locus of control and aggression against intimate partners. Thus, the present study assessed participants' history of heavy episodic drinking during the past 12 months. Indeed, relative to low-quantity drinkers, heavy episodic drinkers experience more opportunities for alcohol to disrupt cognitive functioning, including during relationship conflict. We used alcohol myopia theory (Steele and Josephs, 1990; Taylor and Leonard, 1983) to guide our evaluation of the following hypotheses. Consistent with previous research, it was expected that an internal locus of control, relative to an external locus of control, would be associated with less frequent perpetration of physical assault and sexual coercion toward intimate partners. Furthermore, we predicted that this effect would be moderated by heavy episodic drinking. Specifically, it was expected that an internal locus of control would be associated with more intimate-partner aggression among individuals who reported a 12-month history of higher, but not lower, quantity alcohol consumption. In contrast, no such alcohol-related differences were expected among men who endorsed an external locus of control.

Method

Participants

Participants were heterosexual drinking men between 21 and 35 years of age. Women were excluded from the present study because, although recent findings suggest that men and women may perpetrate comparable rates of intimate-

partner aggression (e.g., Schumacher and Leonard, 2005; Straus, 2004), national findings continually evidence that (a) women experience more intimate-partner aggression than do men, (b) women incur more chronic and severe injury as a result of intimate-partner aggression than do men, and (c) women who experience intimate-partner aggression are significantly more likely to have physical and psychological health problems relative to women who do not experience intimate-partner aggression (Campbell, 2002; Tjaden and Thoennes, 2000; Woods et al., 2005).

All participants were recruited through advertisements placed in various newspapers in the local metro Atlanta area. Respondents were initially screened by telephone. To qualify for the study, participants had to report alcohol consumption during the past year; nondrinkers were excluded. Of the respondents, 176 eligible men were scheduled for an appointment to participate in the study. Of these men, seven did not self-identify as heterosexual, three did not complete the questionnaire battery in its entirety, and 15 reported that they had not been in an intimate relationship during the past year. This left a final sample of 151 men (age: $M = 26.64$, $SD = 4.50$). The racial composition of this sample consisted of 93 African Americans, 43 Whites, and 15 men who identified with another racial description. Eighty-three percent of participants had never been married, and the mean education level was 14 years. This study was approved by the university's institutional review board.

Measures

Locus of control. The General External Control subscale of the Belief in Personal Control Scale (Berrenberg, 1987) was used to measure the extent to which participants believe their outcomes are a result of internal factors (i.e., self-produced) or external factors (i.e., fate, other people). This subscale is comprised of 19 items and has been found to correlate with internal-external locus of control (Berrenberg, 1987). Sample items include "I am not really in control of the outcomes in my life" and "My behavior is dictated by the demands of society." This subscale is measured as a unidimensional construct, and responses may range from 1 (*always true*) to 5 (*never true*). Higher scores indicate greater belief in personal internal control (i.e., an internal locus of control). Berrenberg (1987) reported excellent construct validity and internal consistency with this measure.

Heavy episodic drinking. Participants' alcohol use during the past year was measured using the National Institute on Alcohol Abuse and Alcoholism's (2003) recommended set of six alcohol consumption questions. Of interest to the present study, average quantity of alcohol consumption during the past year was assessed with the question, "During the last 12 months, how many alcoholic drinks did you have on a typical day when you drank alcohol?" A categorical range of responses from "1 drink" to "25 or more drinks" was provided.

In accordance with the guidelines put forth by the National Institute on Alcohol Abuse and Alcoholism, total scores were obtained by computing the average number of drinks in each range. This strategy reliably assesses an individual's average quantity of alcohol consumption per drinking day over a specific period (for a review, see Sobell and Sobell, 1995).

Intimate-partner aggression. The Physical Assault and Sexual Coercion subscales of the Revised Conflict Tactics Scale (CTS2; Straus et al., 1996) were used to assess perpetration of intimate-partner aggression during the past year. The CTS2 is a widely used and well-validated self-report instrument that measures the frequency of aggression within intimate relationships. Participants are instructed to indicate on a 7-point scale how many times they have engaged in these behaviors over the past year. Responses range from 0 (*never*) to 6 (*>20 times*). Following Straus and colleagues (1996), a chronicity variable for both physical assault and sexual coercion was computed by adding the midpoints of the score range for each item to form total scores for both physical assault and sexual coercion. This method of scoring the CTS2 permits examination of the frequency of physical assault (e.g., "Have you twisted your partner's arm or hair?" "Have you burned or scalded your partner on purpose?") and sexual coercion (e.g., "Have you insisted on sex when your partner did not want to [but did not use physical force]?" "Have you used force [like hitting, holding down, or using a weapon] to make your partner have sex?").

Procedure

On arrival to the laboratory, participants were greeted by an experimenter and led to a private experimental room. After providing informed consent, participants were asked to complete a questionnaire battery that included a demographic form that assessed pertinent background information (e.g., age, self-identified sexual orientation), the Belief in Personal Control Scale, National Institute on Alcohol Abuse and Alcoholism–recommended questions to assess alcohol use during the past year, and the CTS2. Participants completed these measures on a computer using MediaLab 2000 software (Empirisoft Research Software, Philadelphia, PA). Additional questionnaires were also completed but are un-

related to the current study and are thus not reported herein. The experimenter provided instructions on how to operate the computer program that administered the questionnaire battery and was available to answer any questions during the session. After completing the test battery, participants were debriefed, were paid for their time at a rate of \$10 per hour, and were thanked for their participation.

Results

Descriptive statistics

Descriptive statistics and bivariate correlations are displayed in Table 1. These data demonstrated that alcohol use was not significantly associated with locus of control. Computation of the variance inflation factor and tolerance further confirmed that multicollinearity was not an issue in these data (i.e., variance inflation factor < 10; tolerance > .10). In addition, 61.6% of men reported to have engaged in at least one episode of physical assault against their partner within the past year, and 51% reported at least one instance of sexual coercion against their partner during the past year. Finally, preliminary analyses were conducted to assess whether pertinent demographic variables (e.g., age and race) significantly covaried with the predictor, moderator, or dependent variables. Analyses did not detect a significant association between age and alcohol use, locus of control, or perpetration of intimate-partner aggression. Moreover, significant racial differences were not detected. As such, subsequent analyses did not control for these demographic variables.

Regression analyses

Because locus of control and alcohol use were continuous variables, linear regression analyses were indicated to test for moderation (Aiken and West, 1991; Cohen et al., 2003). As such, locus of control and alcohol use were mean centered by subtracting the mean score of the variable from the raw score of the variable. Mean centering first-order continuous variables is advantageous for both statistical and substantive reasons. Most importantly, this procedure reduces multicollinearity between interaction terms and their constituent lower order terms and improves the interpretability of regression equations. Furthermore, computation of interactions with raw scores yields incorrect regression coefficients because they are not scale invariant. Accordingly, an interaction term was calculated by obtaining the cross-product of the mean-centered locus of control and alcohol use variables. When using this procedure, it is important to interpret the unstandardized, and not the standardized, regression solution. As such, all parameter estimates for interaction effects are reported as unstandardized *bs*. Estimates of main effects and simple slopes are reported as standardized betas.

TABLE 1. Descriptive statistics and correlations for predictor and criterion variables

Variable	Descriptives			Correlations			
	<i>M</i>	<i>SD</i>	Range	1.	2.	3.	4.
1. Alcohol use	4.43	3.22	1-25	—			
2. Locus of control	68.23	8.20	46-85	.042	—		
3. Physical assault	5.87	14.01	0-135	-.002	.063	—	
4. Sexual coercion	8.53	14.33	0-75	.188*	.060	.328**	—

Note: *n* = 151.

p* < .05; *p* < .001.

For each hierarchical analysis, main effects of locus of control and alcohol use were entered first (Step 1), and their interaction was entered second (Step 2). This resulted in a full model comprising three variables. To explicate significant interaction terms, regression coefficients for simple effects were examined to determine whether they were significantly different from zero (Aiken and West, 1991; Cohen et al., 2003).

Effects of locus of control and alcohol use on physical assault

In Step 1, the regression model for physical assault was significant, $F(2, 148) = 8.40, p < .001; R^2 = .10$. Locus of control was the only significant effect in the model ($\beta = -.32, p < .001$). This finding indicated that an external locus of control was associated with more frequent perpetration of physical assault toward intimate partners.

In Step 2, the regression model was significant, $F(3, 147) = 8.28, p < .001; R^2 = .14$. The interaction effect between locus of control and alcohol use was significant ($b = .067, SE = .025, p = .008$). Explication of this interaction evidenced a significant negative relation between locus of control and physical assault for individuals who reported lower quantities of alcohol use ($\beta = -.50, p < .001$) but not for individuals who reported higher quantities of alcohol use ($\beta = -.17, p = .075$). As can be seen in Figure 1, these data indicated that the relation between locus of control and frequency of physical assault toward intimate partners became significantly more positive as participants' quantity of alcohol consumption increased. In particular, the apparent "protective" effect of an internal locus of control against perpetration of physical assault for men who consumed lower quantities of alcohol was significantly diminished for men who consumed higher quantities of alcohol.

Effects of locus of control and alcohol use on sexual coercion

In Step 1, the regression model for sexual coercion was significant, $F(2, 148) = 6.99, p < .001; R^2 = .086$. Locus of control ($\beta = -.23, p = .005$) and alcohol use ($\beta = .17, p = .033$) were both significant. These findings indicated that an external locus of control and heavy episodic drinking were associated with more frequent perpetration of sexual coercion toward intimate partners.

In Step 2, the regression model was significant, $F(3, 147) = 7.45, p < .001; R^2 = .13$. The interaction effect between locus of control and alcohol use was significant ($b = .071, p = .006$). Explication of this interaction evidenced a significant negative relation between locus of control and sexual coercion for individuals who reported lower quantities of alcohol use ($\beta = -.42, p < .001$) but not for individuals who reported higher quantities of alcohol use ($\beta = -.07, p = .459$). As can

FIGURE 1. Top panel: effect of alcohol consumption on the relation between locus of control and frequency of physical assault against intimate partners. Bottom panel: effect of alcohol consumption on the relation between locus of control and frequency of sexual coercion against intimate partners.

been seen in Figure 1, these data indicated that the relation between locus of control and frequency of sexual coercion toward intimate partners became significantly more positive as participants' quantity of alcohol consumption increased. Once again, the apparent "protective" effect of an internal locus of control against perpetration of sexual coercion for men who consumed lower quantities of alcohol was signifi-

cantly diminished for men who consumed higher quantities of alcohol.¹

Discussion

Results of the present study were consistent with the stated hypotheses. The primary finding suggests that individuals with an internal locus of control are more susceptible to the effects of alcohol on aggression toward intimate partners. Specifically, our pattern of findings indicates that participants who endorsed an internal locus of control reported a higher frequency of physical assault and sexual coercion if they also reported a history of higher, relative to lower, quantity of alcohol consumption. No such alcohol-related differences were observed among participants who reported an external locus of control.

This result can be interpreted within the framework of alcohol myopia theory (Steele and Josephs, 1990; Taylor and Leonard, 1983). According to this theory, alcohol intoxication facilitates attentional focus toward salient instigatory cues (e.g., perceived provocation from one's partner, desire to have sex) that promote aggressive behavior, which in turn, shifts attentional focus away from less salient inhibitory cues (e.g., social proscriptions against aggression, resistance from one's partner to have sex) that discourage aggressive behavior. It is posited further that this effect is most likely to facilitate aggression when the inebriate is faced with a situation in which strong instigatory cues compete with strong inhibitory cues for attentional resources.

Considered within this theoretical framework, the present findings suggest that a history of heavy episodic drinking diminishes the protective effect of an internal locus of control against intimate-partner aggression by shifting attentional focus from inhibitory to instigatory cues. Indeed, men in this study who reported a history of heavy episodic drinking presumably had more opportunities to be intoxicated during high conflict situations with intimate partners. As such, intoxicated men with an internal locus of control were more likely to experience inhibition conflict and, in turn, an alcohol-facilitated shift in attentional focus toward instigatory cues. Of course, alcohol intoxication may similarly facilitate an attentional shift toward instigatory cues for men who endorsed an external locus of control; however, these men are less likely to experience inhibition conflict, which in turn, decreases the likelihood that alcohol will increase aggressive behavior.

Additionally, our pattern of findings evidences that men who endorsed an external, relative to an internal, locus

of control reported a higher frequency of physical assault and sexual coercion against intimate partners. This result supports past findings that an external locus of control is associated with higher levels of aggression in men (Hall, 2006; Zainuddin and Taluja, 1990) and, importantly, extends this correlation to men's intimate-partner aggression against women. This finding may be explained, at least in part, by the target of these men's attributions. Specifically, whereas individuals with an internal locus of control tend to attribute the outcomes of their behavior to characteristics within themselves, individuals with an external locus of control tend to attribute the outcomes of their behavior to situational factors or characteristics of others (Berrenberg, 1987; Rotter, 1966). As such, at least in the present study, it is possible that men with an external locus of control attributed the causes of relationship conflict to external factors (e.g., their partner's personality) and, as such, perceived their partner to be the provocateur. Thus, these men may have perpetrated more intimate-partner aggression because of their tendency to interpret behaviors of their partner as provoking. Additional research is needed to evaluate this hypothesis. For instance, laboratory-based tasks, such as the Articulated Thoughts in Simulated Situations paradigm (Davison et al., 1983), could be used to examine the extent to which locus of control is associated with men's attributions during situations involving relationship conflict.

Collectively, these interpretations are based on the assumption that participants' self-reported acts of intimate-partner aggression occurred while intoxicated. Of course, we did not experimentally test alcohol myopia theory, nor did we assess whether participants consumed alcohol on days in which they reportedly perpetrated intimate-partner aggression. Thus, conclusions regarding the direct role of alcohol intoxication within our findings should be made with caution. Although tentative, these findings provide the impetus for future research that might shed light on a potential mechanism for alcohol-related aggression toward intimate partners. For instance, future studies could use an event-based assessment approach to identify episodes in which alcohol use and intimate-partner aggression coincided (e.g., Collins et al., 2007; Fals-Stewart et al., 2003; Leonard et al., 2003; Parks and Fals-Stewart, 2004). Alternatively, studies could examine these variables using laboratory paradigms that have been successful in establishing a causal link between alcohol and aggression (e.g., Giancola and Chermack, 1998; Giancola and Parrott, 2008). In doing so, these methodologies will enable researchers to more directly test the extent to which alcohol consumption attenuates the protective effect of an internal locus of control against intimate-partner aggression.

Other limitations of the present study merit discussion. We measured men's self-reported acts of intimate-partner aggression. Indeed, questions that require people to report aggressive behaviors are considered "sensitive" and, as a

¹Alcohol use and intimate-partner-violence variables (e.g., physical assault and sexual coercion) tend to have an inherent positive skew by nature. Analyses conducted with transformed variables did not indicate a significant change in the pattern of results.

result, are more likely to produce high nonresponse rates or larger measurement error (Catania et al., 1990). In addition, the present sample was drawn from the general community in an urban setting. Thus, it is not clear whether these findings generalize to clinical populations (e.g., men in domestic violence treatment). If, however, future research replicates the present findings with clinical samples, targeting locus of control in interventions for alcohol-related intimate-partner aggression could be warranted.

Despite these limitations, results of the present study contribute to the literature in several important ways. Foremost, this study is the first to investigate how heavy episodic drinking may affect the relation between locus of control and intimate-partner aggression. Although past research has examined the independent impacts of locus of control (Hall, 2006; Osterman et al., 1999; Zainuddin and Taluja, 1990) and alcohol consumption (Fals-Stewart, 2003; Foran and O'Leary, 2008; Quigley and Leonard, 1999; Schumacher et al., 2003) on various forms of men's aggression, this literature has yet to examine these factors together within the context of intimate-partner aggression. The importance of continued effort to identify individual differences that contribute to the alcohol-aggression relation has been duly noted in the literature (Giancola, 2003; Leonard, 2001, 2005; Parrott and Giancola, 2004). In response to this need, this study advances current knowledge by examining locus of control in the context of men's alcohol consumption and physical and sexual intimate-partner aggression. Moreover, the current findings were obtained from a diverse community sample and provided further support for alcohol myopia theory.

At present, more research is needed to elucidate the exact role of alcohol consumption in the relation between men's locus of control and intimate-partner aggression. Nonetheless, the current findings provide initial evidence that men's locus of control may have significant clinical and public health implications for violence against women. As future studies continue to investigate these relations, researchers and clinicians will be better equipped to identify when and in whom alcohol may potentiate intimate-partner aggression.

References

- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Thousand Oaks, CA: Sage.
- Barnwell, S., Borders, A., & Earlywine, M. (2006). Alcohol-aggression expectancies and dispositional aggression moderate the relationship between alcohol consumption and alcohol-related violence. *Aggressive Behavior*, 32, 517-527.
- Berrenberg, J. L. (1987). The Belief in Personal Control Scale: A measure of God-mediated and exaggerated control. *Journal of Personality Assessment*, 51, 194-206.
- Bettencourt, B. A., & Kernahan, C. (1997). A meta-analysis of aggression in the presence of violent cues: Effects of gender differences and aversive provocation. *Aggressive Behavior*, 23, 447-456.
- Bushman, B., & Cooper, H. (1990). Effects of alcohol on human aggression: An integrative research review. *Psychological Bulletin*, 107, 341-354.
- Campbell, J. C. (2002). Health consequences of intimate partner violence. *Lancet*, 359, 1331-1336.
- Catania, J. A., Gibson, D. R., Chitwood, D. D., & Coates, T. J. (1990). Methodological problems in AIDS behavioral research: Influences of measurement error and participation bias in studies of sexual behavior. *Psychological Bulletin*, 108, 339-362.
- Chermack, S. T., & Giancola, P. R. (1997). The relationship between alcohol and aggression: An integrated biopsychosocial approach. *Clinical Psychology Review*, 6, 621-649.
- Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd ed.). Mahwah, NJ: Lawrence Erlbaum.
- Collins, R. L., Quigley, B., & Leonard, K. E. (2007). Women's physical aggression in bars: An event-based examination of precipitants and predictors of severity. *Aggressive Behavior*, 33, 304-313.
- Davis, K. C., George, W. H., & Norris, J. (2004). Women's responses to unwanted sexual advances: The role of alcohol and inhibition conflict. *Psychology of Women Quarterly*, 28, 333-343.
- Davison, G. C., Robins, C., & Johnson, M. K. (1983). Articulated thoughts during simulated situations: A paradigm for studying cognition in emotion and behavior. *Cognitive Therapy and Research*, 7, 17-39.
- Fals-Stewart, W. (2003). The occurrence of partner physical aggression on days of alcohol consumption: A longitudinal study. *Journal of Consulting and Clinical Psychology*, 71, 41-52.
- Fals-Stewart, W., Birchler, G. R., & Kelley, M. (2003). The timeline follow-back spousal violence interview to assess physical aggression between intimate partners: Reliability and validity. *Journal of Family Violence*, 18, 131-143.
- Fals-Stewart, W., Leonard, K. E., & Birchler, G. R. (2005). The occurrence of male-to-female intimate partner violence on days of men's drinking: The moderating effects of antisocial personality disorder. *Journal of Consulting and Clinical Psychology*, 73, 239-248.
- Fillmore, M. T., & Vogel-Sprott, M. (1999). An alcohol model of impaired inhibitory control and its treatment in humans. *Experimental and Clinical Psychopharmacology*, 7, 49-55.
- Foran, H. M., & O'Leary, K. D. (2008). Problem drinking, jealousy, and anger control: Variables predicting aggression against a partner. *Journal of Family Violence*, 23, 141-148.
- Giancola, P. R. (2003). The moderating effects of dispositional empathy on alcohol-related aggression in men and women. *Journal of Abnormal Psychology*, 112, 275-281.
- Giancola, P., & Chermack, S. (1998). Construct validity of laboratory aggression paradigms: A response to Tedeschi and Quigley (1996). *Aggression and Violent Behavior*, 3, 237-253.
- Giancola, P. R., & Corman, M. D. (2007). Alcohol and aggression: A test of the attention-allocation model. *Psychological Science*, 18, 649-655.
- Giancola, P. R., & Parrott, D. J. (2008). Further evidence for the validity of the Taylor Aggression Paradigm. *Aggressive Behavior*, 34, 214-229.
- Giancola, P. R., & Zeichner, A. (1995). Alcohol-related aggression in males and females: Effects of blood alcohol concentration, subjective intoxication, personality, and provocation. *Alcoholism: Clinical and Experimental Research*, 19, 130-134.
- Hall, C. W. (2006). Self-reported aggression and the perception of anger in facial expression photos. *Journal of Psychology: Interdisciplinary and Applied*, 140, 255-267.
- Halloran, E. C., Doumas, D. M., John, R. S., & Margolin, G. (1999). The relationship between aggression in children and locus of control beliefs. *Journal of Genetic Psychology*, 160, 5-21.
- Heyman, R. E., O'Leary, K. D., & Jouriles, E. N. (1995). Alcohol and aggressive personality styles: Potentiators of serious physical aggression against wives. *Journal of Family Psychology*, 9, 44-57.

- Ito, T. A., Miller, N., & Pollock, V. E. (1996). Alcohol and aggression: A meta-analysis on the moderating effects of inhibitory cues, triggering events, and self-focused attention. *Psychology Bulletin*, 120, 60-82.
- Josephs, R. A., & Steele, C. M. (1990). The two faces of alcohol myopia: Attentional mediation of psychological stress. *Journal of Abnormal Psychology*, 99, 115-126.
- Kliewer, W., & Sandler, I. N. (1992). Locus of control and self-esteem as moderators of stressor symptom relations in children and adolescents. *Journal of Abnormal Child Psychology*, 20, 393-413.
- Leonard, K. E. (2001). Domestic violence: What is known and what do we need to know to encourage environmental interactions. *Journal of Substance Use*, 6, 235-247.
- Leonard, K. E. (2005). Alcohol and intimate partner violence: When can we say that heavy drinking is a contributing cause of violence? [Editorial]. *Addiction*, 100, 422-425.
- Leonard, K. E., Collins, R. L., & Quigley, B. M. (2003). Alcohol consumption and the occurrence and severity of aggression: An event-based analysis of male-to-male barroom violence. *Aggressive Behavior*, 29, 346-365.
- Murphy, S. T., Monahan, J. L., & Miller, L. C. (1998). Inference under the influence: The impact of alcohol and inhibition conflict on women's sexual decision making. *Personality and Social Psychology Bulletin*, 24, 517-528.
- National Institute on Alcohol Abuse and Alcoholism (2003). *Task Force on Recommended Alcohol Questions: National Council on Alcohol Abuse and Alcoholism recommended sets of alcohol consumption questions*. Bethesda, MD: Author. Retrieved on March 12, 2009 from <http://www.niaaa.nih.gov/Resources/ResearchResources/TaskForce.htm>.
- Ogle, R. L., & Clements, C. M. (2007). A comparison of batterers to non-batterers on behavioral and self-reports measures of control. *Journal of Applied Social Psychology*, 37, 2688-2705.
- Osterman, K., Bjorkqvist, K., Lagerspetz, K. M. J., Charpentier, S., Caprara, G. V., & Pastorelli, C. (1999). Locus of control and three types of aggression. *Aggressive Behavior*, 25, 61-65.
- Parks, K. A., & Fals-Stewart, W. (2004). The temporal relationship between college women's alcohol consumption and victimization experiences. *Alcoholism: Clinical and Experimental Research*, 28, 625-629.
- Parrott, D. J., & Giancola, P. R. (2004). A further examination of the relation between trait anger and alcohol-related aggression: The role of anger control. *Alcoholism: Clinical and Experimental Research*, 28, 855-864.
- Parrott, D. J., & Giancola, P. R. (2006). The effect of past-year heavy drinking on alcohol-related aggression. *Journal of Studies on Alcohol*, 67, 122-130.
- Quigley, B. M., & Leonard, K. E. (1999). Husband alcohol expectancies, drinking, and marital-conflict styles as predictors of severe marital violence among newlywed couples. *Psychology of Addictive Behavior*, 13, 49-59.
- Raine, A., & Jones, F. (1987). Attention, autonomic arousal, and personality in behaviorally disordered children. *Journal of Abnormal Child Psychology*, 15, 583-599.
- Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychology Monographs: General and Applied*, 80, 1-28.
- Rotter, J. B. (1975). Some problems and misconceptions related to the construct of internal versus external control of reinforcement. *Journal of Consulting and Clinical Psychology*, 43, 56-67.
- Rotter, J. B. (1990). Internal versus external control of reinforcement: A case history of a variable. *American Psychologist*, 45, 489-493.
- Schumacher, J. A., Fals-Stewart, W., & Leonard, K. E. (2003). Domestic violence treatment referrals for men seeking alcohol treatment. *Journal of Substance Abuse Treatment*, 24, 279-283.
- Schumacher, J. A., Homish, G. G., Leonard, K. E., Quigley, B. M., & Kearns-Bodkin, J. N. (2008). Longitudinal moderators of the relationship between excessive drinking and intimate partner violence in the early years of marriage. *Journal of Family Psychology*, 22, 894-904.
- Schumacher, J. A., & Leonard, K. E. (2005). Husbands' and wives' marital adjustment, verbal aggression, and physical aggression as longitudinal predictors of physical aggression in early marriage. *Journal of Consulting and Clinical Psychology*, 73, 28-37.
- Sobell, L. C., & Sobell, M. B. (1995). Alcohol consumption measures. In J. P. Allen & M. Columbus (Eds.), *Assessing alcohol problems: A guide for clinicians and researchers* (NIAAA Treatment Handbook Series No. 4, NIH Publication No. 95-3745, pp. 55-73), Bethesda, MD: National Institute on Alcohol Abuse and Alcoholism.
- Steele, C. M., & Josephs, R. A. (1988). Drinking your troubles away: II. An attention-allocation model of alcohol's effect on psychological stress. *Journal of Abnormal Psychology*, 97, 196-205.
- Steele, C. M., & Josephs, R. A. (1990). Alcohol myopia: Its prized and dangerous effects. *American Psychologist*, 45, 921-933.
- Steele, C. M., & Southwick, L. (1985). Alcohol and social behavior: I. The psychology of drunken excess. *Journal of Personality and Social Psychology*, 48, 18-34.
- Straus, M. A. (2004). Prevalence of violence against dating partners by male and female university students worldwide. *Violence Against Women*, 10, 790-811.
- Straus, M. A., & Gelles, R. J. (1990). How violent are American families? Estimates from the National Family Violence Resurvey and other studies. In M. A. Straus & R. J. Gelles (Eds.), *Physical violence in American families: Risk factors and adaptations to violence in 8,145 families* (pp. 95-131). New Brunswick, NJ: Transaction.
- Straus, M. A., Hamby, S. L., Bony-McCoy, S., & Sugarman, D. B. (1996). The revised Conflict Tactics Scales (CTS2): Development and preliminary psychometric data. *Journal of Family Issues*, 17, 283-316.
- Taylor, S. P., & Chermack, S. T. (1993). Alcohol, drugs and human physical aggression. *Journal of Studies on Alcohol, Supplement No. 11*, 78-88.
- Taylor, S. P., & Leonard, K. E. (1983). Alcohol and human aggression. In R. G. Geen & E. I. Donnerstein (Eds.), *Aggression: Theoretical and empirical reviews* (pp. 77-102). San Diego, CA: Academic Press.
- Tjaden, P., & Thoennes, N. (2000). *Findings from the National Violence Against Women Survey*. Washington, DC: U.S. Department of Justice.
- Woods, A. B., Page, G. G., O'Campo, P., Pugh, L. C., Ford, D., & Campbell, J. C. (2005). The mediation effect of posttraumatic stress disorder symptoms on the relationship of intimate partner violence and IFN- γ levels. *American Journal of Community Psychology*, 36, 159-175.
- Zainuddin, R., & Taluja, H. (1990). Aggression and locus of control among undergraduate students. *Journal of Personality and Clinical Studies*, 6, 211-215.
- Zeichner, A., Allen, J. D., Giancola, P. R., & Lating, J. M. (1994). Alcohol and aggression: Effects of personal threat on human aggression and affective arousal. *Alcoholism: Clinical and Experimental Research*, 18, 657-663.