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Provocation and target gender as moderators of the relationship between acute alcohol use and female perpetrated aggression☆,☆☆

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ABSTRACT

Acute alcohol use appears to exert a small but significant effect on female perpetrated aggression in the laboratory but there has been no effort to evaluate comprehensively the situational moderators of this relationship. This preliminary review was intended to explore the moderating effects of provocation and target gender on alcohol-related aggression among females in this understudied area of research. Moderator analyses were conducted on 14 studies. Despite limitations imposed by the sparsity of laboratory based research on alcohol-related aggression among females, initial results suggest that alcohol may exert stronger effects over female aggression following high ($d = 0.25$, $k = 8$, $p < .01$, 95% CI = 0.10–0.40) rather than low ($d = -0.07$, $k = 6$, $p = .52$, 95% CI = −0.29–0.15) provocation and when targets of aggression are female ($d = 0.19$, $k = 9$, $p = .01$, 95% CI = 0.04–0.34) rather than male ($d = -0.06$, $k = 4$, $p = .61$, 95% CI = −0.30–0.18). Results offer initial insight into situational risk factors pertinent to research and treatment of alcohol-related aggression among females while serving as an impetus for future research in this critical, neglected area of study.

1. Introduction

Females perpetrate acts of peer aggression, stalking, sexual assault, robbery, intimate partner violence, and homicide with rates of female perpetration surpassing males within some domains (Campbell, Glass, Sharps, Laughon, & Bloom, 2007; Desmarais, Reeves, Nicholls, Telford, & Fiebert, 2012; Fisher & Pina, 2013; Harmon, Rosner, & Owens, 1998; Rennison & Melde, 2014). Female perpetrated aggression results in physical and psychological injuries similar to those observed among victims of male-perpetrated aggression (e.g., Archer, 2000). Females who perpetrate aggression are themselves at greater risk for more frequent and severe injury (e.g., Archer, 2000). Results of a recent meta-analytic review revealed a small but significant effect of experimentally manipulated alcohol use on female perpetrated aggression ($d = 0.17$, Crane, Licata, Schlauch, Testa, & Easton, 2017), suggesting that the proximal psychopharmacological properties of alcohol briefly disinhibit aggressive impulses among some female participants. While the composite effect of alcohol on aggression appears smaller among females than males using both self-report (Foran & O'Leary, 2008) and experimental (Crane, Godleski, Przybyla, Schlauch, & Testa, 2016) data, alcohol appears to represent a risk factor for aggressive behavioral responding across genders. Leonard (2005) stated that, “Alcohol is neither a necessary nor sufficient cause of violence.” Exploration of moderating factors can help enhance our understanding of the individual and situational risk factors that contribute to instances of alcohol-related aggression. The effects of acute alcohol intoxication among males are partially contingent upon contextual factors that influence the frequency and severity of aggression (e.g., Ito, Miller, & Pollock, 1996). Due to limited research, however, our understanding of the individual and situational factors that may influence the relationship between acute alcohol use and female aggression is far less complete.

1.1. Provocation

As reviewed by Anderson and Bushman (2002), provocation is

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☆☆ The current review presents follow-up analyses to evaluate the moderators of the overall alcohol-aggression relationship presented in Crane, C., Licata, M., Schlauch, R., Testa, M., & Easton, C. (2017). The proximal effects of acute alcohol use on female aggression: A meta-analytic review of the experimental literature. *Psychology of Addictive Behaviors, 31, 21–26*. Findings of the review from which the current data were drawn have appeared in: Crane, C., Licata, M., & Schlauch, R. (2016, July). *The effects of alcohol on female responding during laboratory aggression paradigms*. The annual meeting of the Research Society on Alcoholism, New Orleans, LA.

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among the most significant proximal predictors of aggression. The effects of alcohol on male perpetrated aggression are strongest following high levels of provocation, particularly when assessed by a competitive reaction time paradigm (Exum, 2006). Only a small subset of the research devoted to studying alcohol-related aggression has focused on female samples. Females appear to perpetrate less general physical aggression than males, though provocation has been shown to diminish gender differences in aggressive responding (Berkowitz, 1993; Bettencourt, Talley, Benjamin, & Valentine, 2006). Complimentary evidence suggests that for females, provocation may be a stronger risk factor for aggression than alcohol (Giancola & Zeichner, 1995). The effect of provocation on alcohol-related aggression may be due, in part, to alcohol myopia, the tendency of alcohol to restrict attention to the most salient environmental stimuli such that intoxicated individuals are more likely to attribute hostile intent to ambiguously threatening stimuli as well as to rely upon a limited repertoire of behavioral responses to situations that involve high provocation (Giancola, 2004; Steele & Josephs, 1990).

Unlike survey methods, experimental research focusing on laboratory aggression typically employs provocation as a component of various aggression paradigms. High provocation may elicit a stronger effect of acute alcohol use, the dose-dependent period of time during which alcohol remains in the bloodstream following consumption and prior to full metabolization into acetate and water (e.g., Giancola, 2004), on aggressive outcomes than low provocation. For both practical and ethical reasons, laboratory analogues of aggression are limited in ecological validity (e.g., Tedeschi & Quigley, 1996). Nevertheless, it has been argued that laboratory analogues of aggression possess strong construct validity in that aggressive participants in the lab tend to be more aggressive individuals in the real world (Giancola & Chermack, 1998).

1.2. Target gender

Prior research suggests that alcohol may have a stronger effect on female perpetrated aggression toward female than male targets. In an early review of the literature, Bushman and Cooper (1990) reported that intoxicated female participants responded with greater aggression toward female targets than male targets across studies, offering two possible explanations for this observation. First, they suggested that alcohol may serve to proximally disinhibit impulses that violate the societal norm by which aggression toward females is discouraged. With no comparable norms discouraging aggression toward male targets, smaller effects of alcohol may be expected. Bushman and Cooper (1990) invoked expectancy theory as a secondary explanation for the observed effects of alcohol on aggression, suggesting that intoxication may offer an excuse for aggression toward female targets whereas no such excuse would be required for aggression toward male targets. In a later review of the literature, Bettencourt and Miller (1996) offered an alternative explanation for the observed effects of alcohol on female aggression, speculating that females may be relatively less likely to aggress against male targets for fear of reciprocal aggression from a more physically imposing opponent.

These seminal reviews focused on the experimental literature and included only a small number of studies that investigated female perpetrated aggression. Further, despite the composite evidence offered by prior reviews, individual studies have reported contradictory findings (e.g., Giancola & Zeichner, 1995), with stronger alcohol effects on female perpetration toward male than female targets attributed to context-specific motivators like mate competition or jealousy among intimate partners (e.g., Graham et al., 2012). Thus, a contemporary review of the role of target gender on female aggression following acute alcohol use is needed.

1.3. The current review

Crane et al. (2017) reported the overall effect of alcohol use on female aggression, opting to focus upon the cumulative effect rather than exploring moderators of the relationship. The principle aim of the current study was to review and analyze the roles of provocation and target gender in the relationship between acute alcohol use and female aggression across the existing experimental literature. Consistent with prior research, we anticipated that the effect of alcohol on female aggression would be stronger among studies that a) provide high provocation prior to measuring aggressive responding (Bettencourt, Talley, Benjamin, & Valentine, 2006; Giancola & Zeichner, 1995) and b) assess aggression toward female, rather than male, targets (Bettencourt & Miller, 1996; Bushman & Cooper, 1990).

2. Method

The current meta-analytic review is an extension of an earlier review of experimental studies involving alcohol administration within an aggression paradigm (Crane et al., 2017). Studies eligible for inclusion in the current review were published in peer-reviewed journals, involved female samples, and contained references to variations of alcohol, experimental design, aggressive behavior, and female participant domains. Studies were identified in PsycINFO and PubMed (n = 455). Additional studies were identified through a review of resultant articles (n = 9). A review of abstracts and the full study (n = 45), when appropriate, resulted in a final sample of 13 articles and 14 studies. Studies were published between 1984 and 2014, though they could have been published any time before the March 2015 cutoff date. The current review contains all studies included in Crane et al. (2017) as well as two additional articles not identified for inclusion in the earlier review.

2.1. Coding

Studies were single (43%) or double (57%) coded for sample, alcohol, aggression, and moderator data by the first author and a research assistant. High *provocation* was coded for studies that utilized paradigms in which the participant was the direct recipient of physical or verbal stimuli designed to normatively elicit an urge to aggress, such as being administered electric shocks in the Taylor Aggression Paradigm (TAP; Taylor, 1967) or receiving negative evaluations (Rohsenow & Bachorowski, 1984). Paradigms in which the participant was not the direct recipient of provocation, such as those that require viewing video vignettes (Ogle & Miller, 2004) or being presented with ambiguous audio information about a partner's commitment to or fidelity within a relationship (ATSS; Davison, Robins, & Johnson, 1983), were coded as low provocation. Although participants interacted directly with one another, Testa, Crane, Quigley, Levitt, and Leonard (2014) provided evidence supporting their conclusion that participants in their sample were pleased with, rather than provoked by, the opportunity to peacefully discuss relationship issues under the conflict resolution paradigm. Thus, low provocation was also coded in the conflict resolution, art vandalism (Norlander, Nordmarker, & Archer, 1998), and teacher/learner (Gustafson, 1991) paradigms. The gender of the target of the participant's prospective aggression was dichotomously coded as male (n = 4) or female (n = 9). The data provided in one study was insufficient to distinguish between aggression directed toward male and female targets (Giancola & Zeichner, 1995).

2.2. Data analysis

Presented data were used to derive a Cohen's *d* effect size, depicting the increased aggression exhibited by participants who received alcohol relative to those who received a placebo or no alcohol, for each study that was then weighted by the inverse of their variance to account for sample size in subsequent analyses (Hedges & Olkin, 1985). Moderator