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Alcohol, conflict, and aggression in intimate relationships: A dyadic approach

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Abstract

Intimate partner aggression (IPA) is a critical public health problem that requires clear and testable etiological models that may translate into effective interventions. While alcohol intoxication and a pattern of heavy alcohol consumption are robust correlates of IPA perpetration, there has been limited research that examines this association from a dyadic perspective. In the present review, we discuss compelling reasons for understanding dyadic factors that assist our understanding of alcohol-facilitated IPA, review the relatively small number of studies that have investigated such factors, and provide a theoretical and methodological framework for researchers to conceptualize how to model alcohol-facilitated IPA from a dyadic framework.

Keywords

Actor–partner interdependence modeling; alcohol intoxication; dyadic approach; interdependence theory; intimate partner aggression; I³ model

If you have always done it that way, it is probably wrong.

—Charles Kettering (American Inventor, 1876–1958)

Surveys of adults conducted in the U.S. and abroad indicate that intimate partner aggression (IPA) occurs at alarmingly high rates across a multitude of age groups, across both sexes, and among individuals of all ethnic, racial, and cultural backgrounds (for a review, see Jose & O’Leary, 2009). For example, among U.S. adults (Black et al., 2011), almost 7 million women and 5.5 million men experience physical violence, stalking, or rape from an intimate partner each year, and approximately one in four individuals has perpetrated physical IPA in their lifetime (Desmarais, Reeves, Nicholls, Telford, & Fiebert, 2012). Rates of psychological aggression are somewhat normative in most community and clinical samples, with 75% of males and 80% of females reporting psychological aggression perpetration (e.g., Jose & O’Leary, 2009). While most aggressive incidents do not lead to serious physical injury (Johnson, 1995; Jose & O’Leary, 2009), victims of IPA are still at higher risk

for a variety of negative health outcomes (Cascardi, Langhinrichsen, & Vivian, 1992; Golding, 1999; Lawrence, Orenco-Aguayo, Langer, & Brock, 2012), with female victims experiencing the majority of deleterious mental and physical effects (Archer, 2000; Caldwell, Swan, & Woodbrown, 2012). These data strongly indicate the need to develop clear and testable models of IPA etiology that may translate into useful approaches to offender rehabilitation.

A long-standing approach to developing such models involves the identification of factors that, when present, increase the risk for IPA. Research efforts have netted hundreds of risk factors that ostensibly contribute in some way toward partner-directed aggression, and the overall research base regarding IPA risk is substantial. While there exist myriad risk factors for IPA perpetration (for a review, see Capaldi, Knoble, Shortt, & Kim, 2012), *alcohol use* is among the most robust. Indeed, cross-sectional (e.g., Chermack, Fuller, & Blow, 2000), longitudinal (e.g., Leonard & Senchak, 1996), and laboratory-based experimental designs (e.g., Eckhardt, 2007; Subramani, Parrott, & Eckhardt, 2017) provide strong cross-method convergence in support of the conclusion that alcohol use is a contributing cause of IPA perpetration (Leonard, 2005).

However, alcohol's effect on aggression varies as a function of individual- and situational-based instigating and inhibiting factors. For example, a recent "meta-meta-analysis" of 32 meta-analytic studies that reviewed experimental, case-control, cross-sectional, and longitudinal studies showed a medium-sized effect ($d = .39$) of alcohol on aggression (Duke, Smith, Oberleitner, Westphal, & McKee, 2018). Consistent with this work, the most recent meta-analysis of alcohol's effect on IPA perpetration found a small-to-medium effect for male-perpetrated IPA and a small effect for female-perpetrated IPA (Cafferky, Mendez, Anderson, & Stith, 2018). These data support the recent conclusion (Leonard & Quigley, 2017) that research must move beyond whether alcohol causes aggression and instead identify "the critical and most potent instigating and inhibiting factors" (p. 8) for alcohol-related aggression, so that interventions can be directed at these fundamental determinants.

Nevertheless, established theories of alcohol-related aggression have largely dictated an individual-centered approach. For instance, indirect causal models posit that alcohol-induced changes in physiological arousal (e.g., Giancola & Zeichner, 1997), affect (e.g., Pihl, Peterson, & Lau, 1993), and/or impairment of cognitive (e.g., Hull, 1981; Steele & Josephs, 1990) or neuropsychological functioning (Giancola, 2000) mediate the alcohol-aggression relation. Similarly, theories of alcohol-related IPA posit that alcohol facilitates IPA perpetration by reducing individual thresholds for aggression (e.g., Fals-Stewart, Leonard, & Birchler, 2005) or by creating a conflictual relationship environment, which is more proximally associated with IPA perpetration than alcohol use per se (Leonard & Quigley, 1999). While these theories have received considerable support, they nevertheless fall short in conceptualizing alcohol-facilitated aggression from an interpersonal perspective.

In this review, we argue that it is time to move beyond the traditional, individual-centered paradigm of study within the alcohol-IPA field. A major paradigm shift is well within the reach of contemporary scientists, as we now possess (and have for some time) the theoretical, methodological, and analytical tools necessary to conduct etiological- and

intervention-based studies that account for the dynamic, interpersonal processes that contribute to IPA. Put simply, we have the tools to facilitate such a dyadic approach, and it is now time for the study of alcohol-related IPV to adapt accordingly. Below, we review the current state of the literature regarding dyadic factors that impact the association between alcohol use and IPA, and then conclude by affirming a path forward that is characterized by the use of (1) theoretically inclusive meta-models that generate hypotheses reflective of the dynamic, interpersonal processes that underlie alcohol-facilitated IPA and (2) analytic methods capable of modeling these interpersonal processes.

Rationale for a dyadic approach

By definition, any given instance of IPA between intimate partners requires a perpetrator and a target/victim. As such, researchers have tended to focus on either the causes (i.e., perpetrators) or the consequences of IPA (i.e., victims). While research on IPA etiology has examined other levels of analysis within a social–ecological framework (e.g., family, neighborhood, social factors), this focus on either a perpetrator or a victim has driven theoretical development and resulted in the study of constructs that “reside within” either a perpetrator or victim. An extensive literature exists that documents individual- and situational-level moderators of alcohol-related relationship conflict behaviors (for a model and review, see Rodriguez & Derrick, 2017); however, *very few studies consider the characteristics of both partners*. This reality flies in the face of the most fundamental of premise in relationship science, which is that most phenomena we study are interpersonal by definition. For instance, as applied to the IPA field, the likelihood that Partner A will be aggressive toward Partner B is determined by the characteristics of Partner A, Partner B, and the interactions between both partners’ characteristics. However, the established paradigm of study within the alcohol-IPA field is to assess relevant constructs of Partner A in an individual-centered approach. Thus, we contend that IPA is most often a dyadic phenomenon that is dependent upon the characteristics of both partners. This disconnect between most of our theories and the inherent, interpersonal nature of IPA prevents research from fully examining the dynamic interplay between both partners in the development of discrete episodes of IPA.

It has long been noted (Thibaut & Kelley, 1959) that close intimate relationships provide a context for each partner’s emotions and behaviors to have an impact upon, and be affected by, the other partner’s emotions and behaviors. Finkel (2008) noted that as each partner’s external and internal lives become intertwined with the other’s, these interdependencies create a situation wherein (1) an individual’s well-being at some point will be negatively affected by a partner’s behavior, (2) the individual becomes vulnerable and sensitive to future negative emotions instigated by the partner, and (3) the individual is motivated to influence the partner’s behavior in order to protect or restore well-being. Therefore, from the perspective of interdependence theory, “some degree of nonviolent conflict (and the anger and insecurity that can arise from it) is virtually certain to emerge in close, interdependent relationships, and this nonviolent conflict can sometimes boil over into violent conflict” (Finkel, 2008, p. 274).

The role of interdependence in understanding negative relationship behaviors framed a large body of research in the 1970s and 1980s concerning the interactional predictors of relationship satisfaction and dissolution. These investigators (for an overview, see Gottman, 1979) conducted sequential analyses on the interaction patterns of romantic dyads and found that specific patterns of *negative reciprocity*, or the likelihood of a negative conflict behavior given the partner's negative conflict behavior (Margolin, John, & O'Brien, 1989), appeared to differentiate distressed from happy couples. These reciprocal interactions that emerged over the course of relationship conflict were especially pronounced in nonverbal, affective dimensions of dyadic interaction and seemed to suggest that individuals in unhappy dyads were especially sensitive to the behaviors and affective displays of their partners.

Extending this paradigm to the study of IPA etiology, researchers compared the conflict resolution styles of couples with a violent individual (most often the male partner) relative to couples categorized as (a) distressed but nonviolent or (b) satisfied and nonviolent. The results of this line of inquiry were quite consistent: Relative to nonviolent couples, IPA couples demonstrated higher levels of negativity and negative reciprocity during conflict discussions (Burman, John, & Margolin, 1992; Margolin, John, & Gleberman, 1988), especially in the domains of anger, contempt, belligerence, and verbal aggression (Gottman, Jacobson, Rushe, & Shortt, 1995; Jacobson et al., 1994). These studies consistently demonstrated few gender differences in these negative reciprocity patterns; female partners demonstrated comparable (and often higher) levels of anger-related affect (Cordova, Jacobson, Gottman, Rushe, & Cox, 1993), although men were more likely to show patterns of controlling/domineering behaviors and, in later stages of the interaction, appeared to further escalate the interaction even when female partners exhibited signs of fear and inhibition (Gottman et al., 1995).

Together, these and many other subsequent studies firmly established the necessity of conceptualizing IPA in light of the interpersonal context in which this behavior is embedded. While the alcohol-IPA area has been slow to embrace this perspective, theoretical models are indeed available to facilitate the integration of these perspectives. For example, Bartholomew and Cobb (2011) outlined a dyadic model of IPV that incorporates situational as well as personality/background factors for each partner in accounting for patterns of IPA perpetration and victimization (see Figure 1). This model suggests that partners may reciprocally influence each other at each stage of the model and that variables relevant to the relationship context can either inhibit or facilitate each partner's individual risk factors for IPA. Thus, while individual members of a given couple may struggle with anger, economic stress, and/or heavy alcohol use, each of which have been previously associated with IPA perpetration (Capaldi et al., 2012), the presence of a positive and mutually satisfying intimate relationship may inhibit the otherwise aggressogenic effects of these individual factors. Similarly, factors that may be distally related to IPA, such as a history of childhood maltreatment, may become more closely linked to proximal IPA-related outcomes in "relationships characterized by mutual distrust in which partners become locked in patterns of reciprocal hostility when dealing with conflicts of interest" (Bartholomew & Cobb, 2011, p. 244).

This approach blends well with Finkel and colleagues' instigating–impelling–inhibiting (I³) model (Finkel, 2007, 2014), which is discussed in more detail in a later section. Briefly, this approach aids in the prediction of IPV perpetration by weighing the relative strength of three factors: instigation, impellance, and inhibition. Instigating triggers are factors that produce an urge to behave aggressively and provide the initial momentum toward an aggressive action that create the context for an aggressive response. Once an instigating trigger (e.g., a verbal provocation) is present, an impeller (e.g., trait anger) increases the likelihood of an aggressive urge. In contrast, an inhibitor (e.g., relationship satisfaction) increases the likelihood that an individual will have the capacity to resist the aggressive urge (i.e., instigation + impellance). Relatedly, some factors may serve a disinhibiting function and facilitate the instigation–impellance interaction. Prior research using alcohol administration methods indicates that acute alcohol intoxication interacts with factors associated with aggression perpetration, such as an individual's aggression history (Eckhardt & Crane, 2008) and level of dispositional anger (Eckhardt, 2007). While the model has traditionally been applied to evaluate the extent to which individual factors lend to the prediction of IPA (see Finkel & Eckhardt, 2013), the model also allows for dyadic factors that instigate, impel, and inhibit relationship conflict behaviors to be included in IPA prediction (such factors are discussed in toward the end of this review). In the next section, we review the current state of the literature that has examined the association between alcohol use and IPA from a dyadic perspective.

Literature review

Given the interdependent nature of dyadic behavior, one might reasonably wonder how relationship conflicts are impacted when one or both members of a couple becomes intoxicated? Overall, relatively few studies have utilized a dyadic approach to understanding alcohol-facilitated IPA. Leonard (1984) provided the first experimental investigation of dyadic aggression among intoxicated participants using a modified version of the Taylor Aggression Paradigm (TAP; Taylor, 1967), wherein nonintimate, same-gender dyads played a competitive reaction time game and administered an electric shock to their partner when they won a trial and received a shock when they lost a trial. The authors indicated that intoxicated dyads exhibited more initial and sustained TAP aggression relative to sober dyads. Leonard (1984) noted that the high level of aggression among intoxicated dyads appeared to be determined by the high level of aggression established early in the interaction, which was then subject to further escalation over time.

But the data that we are most interested in examining in this review come from studies of romantic dyads. As will be reviewed below, existing literature reveals mixed multi-method support for partner and interactive effects of alcohol use on relationship IPA across survey, event-based, longitudinal, experimental, and treatment-evaluation studies.

Survey data

Cross-sectional surveys assess distal associations and are the most prevalent methodology for investigating the relationship between dyadic alcohol use and IPA. Surveys are a practical option to gain initial insight into novel associations. This method of investigation,

however, provides insufficient support for inferences into directionality, temporal ordering, or causality in observed associations between alcohol use and IPA. In an early effort to evaluate couple-level data for the purposes of examining dyadic effects of alcohol use on IPA, Leadley, Clark, and Caetano (2000) surveyed 1,615 couples who participated in the Ninth National Alcohol Survey about their drinking patterns and IPA perpetration, which was operationalized as the aggregate of IPA perpetrated by both members of the couple. The authors indicated that discordant drinking within the couple, in which one partner consumed alcohol heavily while the other did not, was associated with greater risk of IPA relative to couples with a concordant or abstinent drinking pattern.

In a separate investigation, analysis of data provided by 280 married or cohabitating couples revealed significant and positive effects of both participant and male partner alcohol use on female-perpetrated aggression (Testa et al., 2012). An interaction between participant and female partner alcohol use emerged in the prediction of male-perpetrated IPA, such that greater participant alcohol use was associated with an increased likelihood of male-perpetrated IPA, but only when female partners reported low rates of alcohol use. Greater male participant alcohol use was not associated with male-perpetrated IPA when female partners reported heavy alcohol use.

Cunradi, Ames, and Duke (2011) conducted dyadic analyses on data provided by a sample of 848 community couples, concluding that male alcohol problems were associated with greater male-perpetrated IPA and greater female-perpetrated IPA only within the context of bidirectional violence. Female alcohol problems were not associated with IPA in this sample. Cunradi, Todd, Mair, and Remer (2013) reported relatively consistent findings in a subsequent study of 1,753 community couples in which male partner alcohol problems emerged as a significant risk factor for female-perpetrated IPA. Again, female alcohol use patterns were not associated with female- or male-perpetrated IPA. This group of researchers further evaluated concordant and discordant drinking patterns as a potential risk for IPA among the same community sample ($N = 1,759$ couples; Cunradi, Todd, & Mair, 2015). The authors indicated that discordant drinking, with females reporting more heavy alcohol use than males, increased the risk of male IPA perpetration.

In a recent study, Parrott, Swartout, Eckhardt, and Subramani (2017) surveyed 582 couples with a recent history of problematic alcohol use and IPA. They conducted analyses within the dyadic actor-partner interdependence model (APIM) framework (see final section of this review for additional discussion) to evaluate the effects of both the participant's self-reported alcohol use and his or her partner's self-reported alcohol use on the participant's use of physical IPA. The authors concluded that participant problematic drinking was significantly associated with perpetration of physical IPA. Partner problematic drinking was marginally associated with physical IPA perpetrated by the participant. Leone, Crane, Parrott, and Eckhardt (2016) analyzed an earlier subset of this sample ($N = 289$ couples), finding significant effects for both participant and partner problematic alcohol use on physical aggression perpetrated by the participant. Neither analysis revealed an interaction between participant and partner alcohol use on IPA.

A separate investigation examining couple-level data provided by 323 high-risk young adult couples (Low, Tiberio, Wu Shortt, Capaldi, & Eddy, 2016). Analyses identified a significant association in the expected direction between male partner alcohol use and female-perpetrated psychological as well as sexual IPA. Male participant alcohol use was also associated with male-perpetrated psychological IPA. No other participant or partner effects were detected in models predicting male and female psychological, physical, and sexual IPA perpetration.

Longitudinal research

Longitudinal data indicate sequential ordering, allowing for the identification of antecedents to, or risk factors for, later behavior. Leonard and Senchak (1996) recruited 541 newlywed couples, collecting alcohol use data at baseline and male IPA data at 1-year follow-up. Analyses of this sample revealed that male participant alcohol use significantly predicted subsequent male IPA. A significant female partner alcohol effect on male IPA the following year emerged but was reduced to non-significance when accounting for demographic data and premarital IPA. Quigley and Leonard (2000) collected 3-year follow-up data from a subset of this sample ($N = 462$ couples). Analyses revealed that male and female alcohol use reported at 1-year follow-up interacted to predict male-perpetrated violence in years 2 and 3 of the study. Specifically, male participant drinking was associated with greater subsequent violence only when discordant from female partner drinking. Couples in which male and female partners engaged in concordant heavy drinking were at no greater risk of male-perpetrated IPA in years 2 and 3 of marriage.

Another investigation evaluated interview data provided by a representative U.S. sample of 1,136 married or cohabitating couples at baseline in 1995 and at a 5-year follow-up (Field & Caetano, 2005). Both female participant and male partner weekly alcohol consumption at baseline were associated with significantly greater odds of female-perpetrated IPA at follow-up. No female partner alcohol effects at baseline emerged as significant predictors of male IPA perpetration at follow-up.

A sample of 113 married or cohabitating couples responded to questionnaires assessing alcohol use and IPA at baseline and 2-year follow-up (Keller, El-Sheikh, Keiley, & Liao, 2009). Keller and colleagues selected a unique approach by pooling male and female scores to produce couple-level indices for verbal and physical IPA. Female alcohol problems at baseline were unexpectedly associated with reductions in couple verbal aggression and not associated with couple physical aggression at follow-up. Male alcohol problems were positively associated with greater subsequent couple physical aggression but not verbal aggression.

Event-based methods

Event-based research offers more precise temporal sequencing than longitudinal methods, though this method is also prone to memory biases and lacks control over potential variables that may spuriously indicate a relationship between alcohol use and IPA. Event-based dyadic data typically emerge from couple conflict interviews referencing “the most violent event” or “the episode of greatest conflict” within a relationship over the past year. Testa, Quigley,

and Leonard (2003) analyzed conflict interviews from 61 couples who were involved in a larger, longitudinal study and who reported both relationship conflict episodes with and without alcohol involvement. Analyses revealed that more frequent and severe aggression victimization was reported by women and that women were more likely to engage in retaliatory aggression when the male partner had been drinking compared to episodes in which he had not been drinking. Female partner drinking was not associated with male aggression in this investigation. In a later qualitative analysis of themes within narratives provided by 51 couples, Testa, Petrocelli, Crane, Kubiak, and Leonard (In Press) reported that female conflict narratives rarely involved alcohol use by either partner. Male narratives, however, depicted greater aggression among female partners and included comparable reports of male and female alcohol use during approximately half of incidents involving IPA.

Daily data collection

With a daily diary methodology, participants are instructed to report target behaviors each calendar day. Narrowing the reference period to the last 24-hr and increasing the frequency of responding reduce the risk of retrospective memory bias in reporting alcohol use and IPA. This method further allows for more precise sequencing of target behaviors that would not be possible using longitudinal methods (Cranford, Tennen, & Zucker, 2010). Two daily diary studies have recruited couples to assess the effects of participant and partner alcohol use on relationship functioning and IPV.

Levitt and Cooper (2010) recruited a community sample of 69 primarily dating couples, collecting daily logs about alcohol use and relationship functioning from both members of the couple for 21 days. They found a significant three-way interaction between participant alcohol use, partner alcohol use, and gender in predicting partner negativity the following day. Specifically, greater female alcohol use increased perceived male partner negativity the following day only when the male partner failed to drink heavily. No increased negativity was detected on days in which females reported concordant heavy alcohol use. Alcohol use failed to predict male perception of partner negativity the following day.

In a separate investigation, 119 community cohabitating or married couples completed 56 daily logs of alcohol use and IPA (Testa & Derrick, 2014). Consistent with prior literature, participants were found to be more likely to perpetrate psychological and physical IPA on days during which they themselves had consumed alcohol. A marginal partner effect emerged indicating that partner alcohol use increased the risk of participant psychological aggression on the same day. No partner effects were detected in predicting participant physical aggression.

Experimental research

Experimental methods represent the gold standard in assessing causal relationships and further reveal evidence of partner and interaction effects in IPA behavior. The most common experimental method for assessing the effects of alcohol on couple conflict involves use of the conflict resolution paradigm in which dyads identify, agree upon, and discuss topics that have been the focus of past relationship conflict. These discussions are recorded and coded for verbal and nonverbal behaviors. In a study of 131 married couples, Haber and Jacob

(1997) observed couple interactions during a nondrinking and a drinking session, during which both partners were free to choose their own type and quantity of alcohol. Analyses revealed that heavy drinking participants consumed the greatest amount of alcohol during drinking sessions and that negativity, that is, the negative evaluation of a partner as evidenced by criticism and disagreement, only increased from nondrinking to drinking sessions among couples in which both partners identified as heavy drinkers. This pattern of results revealed a potential interactive effect among couples such that concordant heavy drinking represented a greater risk for negative interactions than discordant couples with only one heavy drinking partner. Similarly, Jacob and Leonard (1988) collected data on drinking and nondrinking sessions from a sample of 49 married couples with heavy drinking husbands. Couples in which the male engaged in episodic, rather than steady, heavy drinking evidenced an interesting pattern in which female negativity decreased from nondrinking to drinking sessions and male negativity increased from nondrinking to drinking sessions, and interactive effect that the authors interpreted as male coercive control or female accommodation during male alcohol intoxication.

Leonard and Roberts (1998) recruited a sample of 135 married couples and observed a baseline interaction before exposing the husbands to a randomly assigned no-alcohol, placebo, or alcoholic beverage condition and observing a second, experimental interaction. The authors indicated that negativity expectedly increased from baseline to experimental interactions among husbands assigned to the alcohol condition only. This investigation further revealed a partner effect in that negativity significantly increased only among wives of husbands who had been assigned to the alcohol condition. Couples' prior history of IPA perpetration did not emerge as a significant main effect and did not moderate any other effects.

Other investigations have found that participant and partner alcohol use increase *positive interactions* among couples. In a sample of eight couples with one heavy drinking partner, the nonheavy drinking partner displayed significantly more positive behavior toward the heavy drinking partner during drinking compared to nondrinking sessions (Frankenstein, Hay, & Nathan, 1985). More recently, Testa, Crane, Quigley, Levitt, and Leonard (2014) recruited 152 married or cohabitating couples and randomly assigned both partners to a no-alcohol or an alcohol condition. Couple interactions were observed, recorded, and coded during baseline and experimental interactions. Results of APIM analyses revealed partner effects only among participants who had consumed alcohol. Specifically, negativity decreased and positivity increased from baseline to experimental interaction only among intoxicated male and female participants only when their partner had been randomly assigned to the no-alcohol condition. Consistent with Haber and Jacob's (1997) earlier work, Testa and colleagues' (2014) results strongly suggest that any positive interpersonal benefits of discordant alcohol use among couples may be absent during episodes of concordant alcohol use.

Treatment research

Recognizing both the high comorbidity between problematic alcohol use and IPA as well as the disproportionate number of concordantly rather than discordantly violent couples (e.g.,

Archer, 2000), researchers have evaluated the efficacy of treatment programs designed to address these associated needs. Behavioral couples therapy (BCT) was initially advanced as an intervention that included sober female supports in treatment for alcohol-dependent male partners (O'Farrell & Fals-Stewart, 2000). These investigations utilize dyadic data in developing a conservative composite estimate of IPA using reports from the partner who estimated greater physical aggression with estimates of both participant and partner IPA reducing from pretreatment to posttreatment follow-up (e.g., Schumm, O'Farrell, Kahler, Murphy, & Muchowski, 2014). BCT has been successfully adapted to couples in which the female partner and both partners were alcohol dependent (Schumm, O'Farrell, & Andreas, 2012; Schumm et al., 2014). Since its inception, BCT has been subjected to multiple evaluations with a medium magnitude cumulative effect size across 12 randomized controlled studies included in a meta-analytic review ($d = .54$; Powers, Vedel, & Emmelkamp, 2008). Thus, couples who participated in substance use treatment together generally displayed greater increases in abstinence rates and reductions in IPA at follow-up compared to those randomly assigned to treatment as usual. Further dyadic treatment research is needed to evaluate the degree to which weekly changes in participant and partner alcohol use over treatment may be associated with fluctuations in proxies for physical IPA, such as psychological IPA and relationship satisfaction.

Conclusions and future directions

In the present review, we have argued that our understanding of the association between alcohol use and IPA has been overwhelmingly dominated by theoretical models and individual research studies that focus on the behavior of one member of the intimate partnership (i.e., the perpetrator or the victim). This approach stands in contrast to decades-old advancements in understanding the interdependencies that exist in any relationship that explain the topography of affects and behaviors observed in close relationships, as well as predict the likelihood of specific behaviors in the context of ongoing reciprocal patterns shaped over the course of the relationship (Bartholomew & Cobb, 2011). The shift in paradigms better exemplified by the model outlined in Figure 1 can be a slow process, as indicated by the relatively small number of studies included in our literature review that have adopted a dyadic approach. However, as noted at the outset of this review, there are two relatively recent innovations that could be more systematically applied to this research area to foster increased innovations concerning the specific individual and interpersonal processes underlying alcohol-facilitated IPA. In the remaining sections of this review, we consider (1) new theoretical developments as outlined in the I^3 model (Finkel, 2007) and (2) a set of useful methodological and data analytic tools embedded in APIM (Kenny & Cook, 1999).

The I^3 model

In contrast to the monotheoretical, individual-focused theories that dominate in the alcohol-IPA field, the I^3 model is a multifactorial meta-theory that allows for the generation of research questions that reflect the dynamic, interpersonal nature of intimate relationships (Finkel, 2014; Finkel & Eckhardt, 2013) and has received considerable empirical support in the prediction of alcohol-related IPA (Parrott & Eckhardt, 2018). As noted in a previous

section, the I^3 model suggests that we can predict whether a given social interaction will result in IPA if we can discern the strength of instigation, degree of impellance, and presence of inhibitory factors present within any given interpersonal interaction. Importantly, extant literature does not exclusively establish IPA perpetrator variables as instigators, impellers, or inhibitors/disinhibitors. Rather, theory and/or empirical evidence are used to guide I^3 categorizations (Finkel & Hall, 2018). Once organized, these factors present the opportunity to examine their main effects and, more importantly, their interactions with other relevant risk factors present for individuals of interest at specific points in time. It is within this theory-driven flexibility that the I^3 model offers an innovative interpersonal framework to predict, with greater accuracy, whether a given interchange between intimate partners will be violent versus nonviolent if they can discern the strength and patterning of instigation, impellance, and inhibition factors.

The main theory drawn from the I^3 model is known as “perfect storm theory” (Finkel, 2014; Finkel & Eckhardt, 2013), which posits that the greatest likelihood for IPA would occur when instigation and impellance processes are strong and inhibitory processes are weak (see Figure 2). This approach allows for a more formal integration of the dyadic model of IPA into the perfect storm theory framework. For example, the theory predicts that Partner A’s likelihood of IPA perpetration is increased when both partners possess relevant instigatory (Partner A: history of IPA victimization; Partner B: verbally aggressive during relationship conflicts), impelling (Partner A: high trait anger; Partner B: low agreeableness), and disinhibitory factors (Partner A: alcohol intoxication; Partner B: low relationship commitment). While there is undoubtedly an increase in model complexity with this approach, there are useful methodological and data analytic tools to facilitate parsimonious interpretation of these effects. These methods are reviewed in the next section.

Quantitative methods

The study of alcohol-facilitated IPA has been dominated by the use of traditional analytic methods such as analysis of variance and multiple regression. As noted by Kenny and colleagues (2006), these analytic methods make the *independence assumption*, which “requires that, after controlling for variation due to in the independent variable, the data from each individual in a study be unrelated to the data from every other individual in the study” (p. 3). Clearly, this fundamental assumption contradicts the interpersonal nature of IPA, wherein the data from Partner A are, by definition, related to data from Partner B.

This issue is addressed by modeling alcohol-facilitated IPA via APIM (Kenny et al., 2006). This approach more accurately models IPA perpetration risk by considering the interpersonal nature of relationship; specifically, it provides the unique ability to examine the effects of both partners’ alcohol use and other risk factors on both partners’ IPA perpetration, while accounting for the other partner’s alcohol use, risk factors, and IPA perpetration. One notable contribution of this approach is the potential to detect Actor $\times$ Partner interactions, which directly reflect the joint effects two partners’ myriad characteristics on IPA perpetration. Such findings highlight the interpersonal nature of IPA and, more specifically, how both partners’ alcohol use contributes to IPA. To date, four published studies have used the APIM framework (Leone, Crane, Parrott, & Eckhardt, 2016;

Low et al., 2016; Parrott, Swartout, Eckhardt, & Subramani, 2017; Testa, Crane, Quigley, Levitt, & Leonard, 2014), which should facilitate the development of new actor–partner-focused hypotheses to frame future investigations of alcohol-related IPA.

Summary

It is clear that the field has moved past the rather outdated question of whether alcohol use is associated with IPA and is instead focused on uncovering the underlying processes through which alcohol intoxication facilitates patterns of conflict and aggression in close relationships (Leonard & Quigley, 2017). In the present review, we have suggested that this approach can be enhanced by a more deliberate effort to conceptualize IPA in a dyadic, relationship-focused framework that attempts to model the discrete and cumulative effects of individual and partner behaviors, especially as it relates to the mutuality of aggression in close relationships (Straus, 2015). The small number of studies that have adopted this approach is somewhat inconsistent in their conclusions about the role of problematic alcohol use in understanding IPA within a dyadic framework, perhaps because of the lack of an organizing theory to guide hypothesis development. We suggest that the I³ model (Finkel, 2014) can serve as useful model for conceptualizing the range of dyadic-process instigators, impellers, and inhibitors that impact IPA risk, especially as it relates to dyadic factors implicated in IPA perpetration (Bartholomew & Cobb, 2011). In concert with data analytic tools specified in the APIM framework (Kenny et al., 2006), researchers have powerful tools with which to better understand how couples' alcohol use patterns can initiate a pathway toward IPA perpetration and how to usefully integrate these findings into intervention programs for couples at high risk for IPA.

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Open research statement

The data used in the research are available. The data can be obtained by emailing eckhardt@purdue.edu The materials used in the research are available. The materials can be obtained by emailing eckhardt@purdue.edu.

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Figure 1.

A dyadic model of partner violence (adapted from Bartholomew & Cobb, 2011).

Figure 2.
Perfect storm theory in the I³ model (Finkel, 2014).