

Dyadic Conflict, Drinking to Cope, and Alcohol-Related Problems:  
A Psychometric Study and Longitudinal Actor-Partner Interdependence Model

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## Abstract

The motivational model of alcohol use posits that individuals may consume alcohol to cope with negative affect. Conflict with others is a strong predictor of coping motives, which in turn predict alcohol-related problems. Two studies examined links between conflict, coping motives, and alcohol-related problems in emerging adult romantic dyads. It was hypothesized that the association between conflict and alcohol-related problems would be mediated by coping-depression and coping-anxiety motives. It was also hypothesized that this would be true for actor (i.e., how individual factors influence individual behaviors) and partner effects (i.e., how partner factors influence individual behaviors), and at the between- (i.e., does not vary over the study period) and within-subjects (i.e., varies over the study period) levels. Both studies examined participants currently in a romantic relationship who consumed 12+ alcoholic drinks in the past year. Study 1 was cross-sectional using university students ( $N = 130$  students; 86.9% female;  $M = 21.02$  years old,  $SD = 3.43$ ). Study 2 used a 4-wave, 4-week longitudinal design with romantic dyads ( $N = 100$  dyads; 89% heterosexual;  $M = 22.13$  years old,  $SD = 5.67$ ). In Study 2, coping-depression motives emerged as the strongest mediator of the conflict-alcohol-related problems association, and findings held for actor effects, but not partner effects. Supplemental analyses revealed that this mediational pathway only held among women. Within any given week, alcohol-related problems changed systematically in the same direction between romantic partners. Interventions may wish to target coping-depression drinking motives within couples in response to conflict to reduce alcohol-related problems.

Keywords: conflict, coping motives, alcohol-related problems, romantic, dyads

### Dyadic Conflict, Drinking to Cope, and Alcohol-Related Problems:

#### A Psychometric Study and Longitudinal Actor-Partner Interdependence Model

Emerging adulthood (approximately 18 to 25 years old) is the period in which romantic relationships become more intimate and serious (Arnett, 2000). In fact, emerging adults rate romantic relationships high on their list of priorities, with only education and achieving personal life goals ranked as more important (Hammersla & Frease-McMahan, 1990). However, conflict (i.e., behaviors such as interruptions, disagreements, antagonism, negative expressiveness, tension) is often an inherent part of these relationships, and conflict is associated with reduced relationship satisfaction, anxiety, depressive symptoms, and psychological distress (Fincham & Beach, 1999). Emerging adulthood also constitutes the developmental period where the prevalence of alcohol use is the highest (Arnett, 2005). Indeed, 32.0% of Canadian college students report hazardous levels of drinking (AUDIT scores  $\geq 8$ ), with 43.9% reporting at least one alcohol-related problem (i.e., negative consequences associated with alcohol use such as memory loss or injuries; Adlaf, Demers, & Glicksman, 2004). Conflict and alcohol-related problems tend to co-occur in marital and dating relationships (Marshal, 2003; Shorey, Stuart, & Cornelius, 2011). We hypothesized one mechanism to explain this link: members of a couple may use alcohol to cope with negative affect (Cooper, 1994) following conflict (Carrigan, Samouluk, & Stewart, 1998), which may in turn lead to alcohol-related problems.

### **Theory Review**

**Drinking motives theory.** The motivational model of alcohol use (Cooper, 1994) postulates two dimensions that explain why people drink: (a) Positive vs. negative reinforcement and (b) internal vs. external motivation. Thus, individuals may drink to obtain a desired outcome (positive reinforcement) or to avoid a negative outcome (negative reinforcement), and also for internal reasons (e.g., manipulating mood) or external reasons (e.g., social approval). Crossing

these dimensions results in four distinct drinking motives: Social (positive, external), enhancement (positive, internal), conformity (negative, external), and coping (negative, internal). Social motives involve drinking to affiliate or celebrate with friends; in contrast, enhancement motives involve drinking to increase positive moods, such as excitement. Conformity motives, common in adolescents, involve drinking to fit in with peers. Lastly, coping motives involve drinking to alleviate negative affect, such as anxiety or depression (Cooper, 1994).

Each motive has distinct alcohol outcomes. Internal motivations (enhancement and coping motives) are significantly associated with drinking quantity and frequency, and alcohol-related problems. Enhancement motives are predictive of alcohol-related problems via increased consumption, whereas coping motives are directly related to alcohol-related problems even after accounting for consumption. In contrast, social motives are related to drinking quantity and frequency, but not to alcohol-related problems. Lastly, conformity motives are negatively associated with drinking quantity and, frequency, but are positively associated with alcohol-related problems (Cooper, Frone, Russell, & Mudar, 1995). Recently, coping motives have been further subdivided into coping with anxiety motives (CAM) and coping with depression motives (CDM), which both uniquely predict alcohol-related problems (Grant, Stewart, O'Connor, Blackwell, & Conrod, 2007). Drinking in response to relationship conflict can be conceptualized as primarily a negatively reinforcing, internal behavior (i.e., occurring in response to an aversive *emotional* stimulus; Cooper et al., 1995). Thus, the present study focused largely on coping motives as an outcome of conflict and as a predictor of alcohol-related problems.

**Drinking partnership theory.** Alcohol use by one partner often influences alcohol use by the other (i.e., social influence) and congruence of drinking patterns between partners is linked with relationship satisfaction (Homish & Leonard, 2007). The similarity of alcohol use

between romantic partners may be related to both selection and socialization (or social influence) processes. Selection occurs through the influence of individual characteristics, which lead an individual to seek out particular people. During emerging adulthood, heavy episodic drinkers (5+ drinks in a two hour period) are more likely to create friendships with other heavy episodic drinkers (McCabe, Schulenberg, Johnston, O'Malley, Bachman, & Kloska, 2005). Conversely, socialization refers to the influence of others on the individual. In terms of alcohol use, compared to non-members, Greek members show increased rates of heavy episodic drinking over time, suggesting a socialization process (McCabe et al., 2005). Social influence effects for alcohol are also found in married (Leonard & Mudar, 2004) and dating (Mushquash, Stewart, Sherry, Mackinnon, Antony, & Sherry 2013) couples. Thus, individuals are likely to initially seek out others with similar patterns of alcohol use (selection), and may then further escalate their drinking over time due to social influence (socialization).

### **Previous Research**

**Conflict and alcohol use.** Interpersonal conflict represents negative behavior occurring between two individuals that may be hostile, critical, rejecting, or inconsiderate. There are many different operationalizations and names for this construct (e.g., social negativity, negative social exchanges; Brooks & Schetter, 2011); we collectively operationalized this construct as *conflict*. Conflict is positively correlated with alcohol-related problems among heavier drinkers (i.e., those with a higher quantity/frequency of drinking; Carey, 1995), and it represents a significant stressor that can lead to consumption (Marlatt, 1996). In a daily diary study of emerging adult romantic dyads, Levitt and Cooper (2010) found that conflict significantly predicted alcohol use the following day (suggesting a directional relationship). Since drinking motives are theorized to be the most proximal predictor of alcohol outcomes, through which more distal risk factors exert

their influence (Cooper et al., 1995), we propose that conflict leads to increased alcohol-related problems indirectly through drinking to cope.

**Conflict and drinking to cope.** People commonly report drinking to cope with negative interpersonal situations. Indeed, Carrigan et al. (1998) found that drinking in situations of conflict significantly predicted over 36% of the variance in coping motives scores among emerging adults. Although there is little empirical research that specifically investigates drinking to cope in response to *romantic relationship* conflict among emerging adults, the cross-sectional association between jealousy and alcohol-related problems is partially mediated by coping motives in this population (DiBello, Neighbors, Rodriguez, & Lindgren, 2014). Jealousy is a related construct as it can promote negative actions within a romantic relationship and is linked with alcohol use (Foran & O’Leary, 2008). In general, these results support the notion that individuals may drink to cope with romantic relationship conflict.

**Drinking to cope and alcohol-related problems.** A direct link between CAM, CDM and alcohol-related problems has been found both cross-sectionally (e.g., Cooper, 1994; Grant et al., 2007) and longitudinally (Mackinnon, Kehayes, Clark, Sherry, & Stewart, in press; Grant et al., 2007). Overall, these studies suggest that coping motives broadly defined, as well as CDM and CAM more specifically, are significant predictors of alcohol-related problems over time.

**Partner effects.** In dyadic research, partner effects refer to the partner’s influence on the individual. In contrast, actor effects refer to how an individual’s characteristics influence his or her own behaviour (Kenny & Cook, 1999). Partner effects are a significant contributor to alcohol use within romantic dyads. Cross-sectionally, alcohol-related problems are significantly related between emerging adult romantic partners (Rodriguez, Knee, & Neighbors, 2014). Also among emerging adult romantic dyads, Mushquash et al. (2013) found that a partner’s heavy episodic

drinking predicted future individual heavy episodic drinking 30 days later, even after accounting for actor effects. Although research has yet to examine partner effects of drinking motives within romantic dyads, adolescent research indicates that peer coping motives significantly predict individual coping motives, which in turn predict individual drinking behaviour (Kuntsche & Stewart, 2009). Overall, this suggests that both an individual's drinking motives and alcohol use may be influenced by the drinking motives and alcohol use of his/her romantic partner.

### **Current Study**

Given the above-reviewed associations, it is likely that drinking to cope mediates the link between conflict and alcohol-related problems in romantic relationships. In particular, little is known about conflict and alcohol use among emerging adult couples, as the majority of research in this area focuses only on older married couples (e.g., Marshal, 2003), and to our knowledge, research examining links between all three constructs in a single model has not been conducted to date. Furthermore, as romantic partners influence each other's alcohol use (Mushquash et al., 2013), partner influence effects must be considered when examining drinking motives and alcohol-related problems within romantic relationships. Thus, the current set of studies investigated the mediational role of coping motives in the conflict to alcohol-related problems relation, while also taking into account partner influence for alcohol use.

Study 1 tested the psychometric properties of the instruments to be used, while Study 2 examined these associations in a 4-wave, 4-week longitudinal design with couples. This design reduced temporal confounding and recall bias, as participants were asked to report on events closer to their actual occurrence. As there is little research regarding romantic relationship conflict and drinking motives, these studies fill a significant gap by integrating drinking motives theory and theories of partner influence and by employing improved methods.

## Study 1

Study 1 first validated the psychometric properties of a variety of modified weekly measures. This was necessary as no research to date has examined weekly drinking motives or alcohol-related problems – a timeframe in which drinking to cope with relationship conflict might reasonably occur. Hypotheses for Study 1 were as follows:

**H1.** Modified weekly measures of conflict, drinking motives, and alcohol-related problems would demonstrate acceptable internal consistency ( $\alpha s > .70$ ).

That is, we predicted that all of our measures would be reliable.

**H2.** Modified weekly measures of conflict, drinking motives, and alcohol-related problems would be positively correlated ( $r$ s around .50) with the original measures, supporting criterion validity. That is, we predicted that all of our modified measures would be very similar to the original measures on which they were based.

## Study 1: Method

### Participants

Participants were 130 undergraduates (86.9% female, 79.9% Caucasian) with an average age of 21.02 years ( $SD = 3.43$ ). Participants were recruited using the university's psychology participant pool, flyers at local universities, and online ads. Participants heard about the study through the psychology subject pool (58.5%), website ads (20.0%), email ads (6.9%), flyers (3.1%), class announcements (2.3%), or multiple sources (7.7%). To meet eligibility requirements, participants were required to be currently in a romantic relationship (of any duration/type), and must have consumed 12+ alcoholic beverages in the past year. All participants met these criteria when screened upon arriving at the lab. The second criterion excluded lifetime abstainers, and former/infrequent drinkers (Dawson, 2003). We focused on

drinkers since participants would not have been able to respond to questions on drinking motives or alcohol-related problems if they did not drink alcohol.

The majority of the sample was dating one person (83.7%), while others were cohabiting (14.7%) or married (1.6%). On average, participants rated their romantic relationships as “serious” ( $M = 3.22$ ,  $SD = .76$ , on a 4-point scale) and had face-to-face contact with their romantic partner an average of 4.33 days/week ( $SD = 2.52$ ). In the past week, participants also reported consuming an average quantity of 6.93 standard drinks/week ( $SD = 7.84$ , range 0-53<sup>1</sup> drinks/week). A standard drink was defined as one bottle of beer (12oz, 5%), one glass of wine (5oz, 10%-12%), or one shot of hard liquor (1.5oz, 43%-50%; Collins, Kashdan, Koutsky, Morsheimer, & Vetter, 2008). Additionally, 33.1% of participants reported clinically significant alcohol-related problems (3-year RAPI summed raw scores > 15; Thombs & Beck, 1994).

## Materials

**Conflict.** Relationship conflict was analyzed as a composite variable consisting of the Social Conflict Scale (Abbey & Andrews, 1985), the Partner-Specific Rejecting Behaviors Scale (Murray, Griffin, Rose, & Bellavia, 2003) and the Interpersonal Qualities Scale (Oishi & Sullivan, 2006). All scales measured relationship conflict in the past week. The Social Conflict Scale consisted of 5 items (e.g., “Argued with your partner about something”) rated on a 1 (*not at all*) to 5 (*a great deal*) scale. The Partner-Specific Rejecting Behaviors Scale consisted of 7 questions (e.g., “I snapped or yelled at my partner”) rated on a 1 (*strongly disagree*) to 9 (*strongly agree*) scale. The Interpersonal Qualities Scale consisted of 5 questions pertaining to the participant’s interpersonal characteristics when they were with their romantic partner (e.g.,

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<sup>1</sup>One outlier value of 53 drinks occurred for one participant who reported on the week of St. Patrick’s Day. The next highest value was 38 drinks. As number of drinks was not analyzed in results below, this outlier was retained.

“Critical/judgmental”) rated on a 1 (*not at all characteristic*) to 9 (*completely characteristic*) scale. Averaged subscale totals were used for descriptive statistics and correlations. For hypothesis tests, factor scores were created for each item, which were then summed to create a single composite conflict index (DiStefano, Zhu, & Mîndrilă, 2009). These subscales have been shown to possess excellent psychometric properties in previous work (Abbey & Andrews, 1985; Mackinnon, Sherry, Antony, Stewart, Sherry, & Hartling, 2012). Because the measures were altered from their original “past week” timeframe, and because no prior research has combined these three measures together into a single composite, Study 1 tested whether this composite measure of conflict had good factorial validity, criterion validity, and internal consistency.

**Modified Drinking Motives Questionnaire-Revised.** The Modified Drinking Motives Questionnaire – Revised (Modified DMQ-R; Grant et al., 2007), a modified version of Cooper’s (1994) four-factor measure was used to measure motives. The Modified DMQ-R is a reliable and valid 28-item measure of five drinking motives (5-item enhancement (“*because it is exciting*”), 5-item social (“*to be sociable*”), 5-item conformity (“*so I won’t feel left out*”), 9-item CDM (“*to numb my pain*”), and 4-item CAM (“*to reduce my anxiety*”). Participants were asked to indicate how often they drank for each reason on a 1 (*almost never/never*) to 5 (*almost always*) scale. Two versions of this questionnaire were fielded: The original version, which asks participants to consider their drinking motives over “the past 3 years”, and a newly developed version which asked participants to consider the “past 7 days.” Items were averaged for each subscale to create a total score for analyses. Prior research has shown that the “past 3 years” version of the Modified DMQ-R has excellent test-retest reliability, internal consistency, and factorial validity (Grant et al., 2007). The psychometric properties of the 7-day version were tested in Study 1.

**Rutgers Alcohol Problem Index.** The Rutgers Alcohol Problem Index (RAPI; White & Labouvie, 1989) was used to measure alcohol-related problems (i.e., negative consequences from alcohol use). The RAPI is a 23-item measure asking about the occurrence of specific alcohol-related problems (e.g., “not able to do your homework or study for a test”) with each question scored from 0 (*never*) to 4 (*4 or more times*). The RAPI can be used over various timeframes (e.g., past year, past month, etc.) while maintaining favorable psychometric properties, with test-retest reliabilities ranging from  $r = .83$  (one month) to  $r = .88$  (one year; Miller et al., 2002), and good alpha reliability ( $\alpha = .92$ ; Grant et al., 2007). Both 3-year and 7-day versions of the RAPI were administered in the present study. They were both scored by dichotomizing each item (i.e., 1 = presence and 0 = absence of the problem measured by that item) and then summing the items into a single value for analysis (Martens, Neighbors, Dams-O’Connor, Lee, & Larimer, 2007).

### **Procedure**

Eligible participants completed the above pen-and-paper questionnaires in the lab as part of a larger questionnaire battery. Participants were compensated with 1.0 bonus credits or \$5.

## **Study 1: Results**

### **Missing Data and Normality**

Overall, 19 of the 130 participants abstained from alcohol over the past 7 days. As these participants could not have drinking motives or alcohol-related problems within the past week timeframe, they were excluded. Item-level missing data was minimal (< 0.01%), and was imputed using an expectation-maximization method in SPSS. When missing data are minimal (< 5%), a single imputation using an expectation-maximization approach is relatively unbiased and improves statistical power (Scheffer, 2002). Data were screened for univariate normality and outliers using kurtosis/skewness values, histograms, normal P-P plots, and box plots. Based on

these diagnostics, the past 7-days and past 3-years version of CDM, CAM, conformity motives, and the 7-day RAPI were  $\log_{10}$ -transformed to reduce the impact of non-normality and outliers.

### **Descriptive Statistics and Bivariate Correlations**

Descriptive statistics appear in Table 1. The “past 3 years” drinking motive scores were comparable to past samples of undergraduate students (i.e., within one standard deviation of the mean; Grant et al., 2007), as were scores for the RAPI using the dichotomous scoring (Martens et al., 2007)<sup>2</sup>, and scores on the Interpersonal Qualities scale and the Partner-Specific Rejecting Behaviours scale (Mackinnon et al., 2012). All measures exceeded acceptable levels of internal consistency (all  $\alpha$ 's were  $\geq .72$ ; see Table 1).

Bivariate correlations revealed that all five modified weekly drinking motives were strongly positively correlated with their original “past 3-years” versions ( $r$ s from .69 to .77), demonstrating criterion validity. Moreover, the 7-day version of the RAPI was strongly correlated with the 3-year version of the RAPI ( $r = .50$ ). As expected, all five 3-year drinking motives were significantly and positively correlated with alcohol-related problems over the past 3 years ( $r$ s from .21 to .43). When looking at 7-day measures, all drinking motives remained significantly and positively correlated with alcohol-related problems except for CAM. In general, the conflict measures were positively correlated with alcohol-related problems, CDM, and CAM; the other drinking motives were unrelated to conflict.

### **Principal components and factor analyses**

Principal components analysis (PCA) of the 17 conflict items, using parallel analysis to determine the number of factors (O'Connor, 2000), was used to assess the unidimensionality of the conflict measures. Comparison of obtained eigenvalues with 95<sup>th</sup> percentile eigenvalues

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<sup>2</sup>Summed scale totals using raw (rather than dichotomized) scores for the 3-year RAPI were also comparable to past samples of young drinkers ( $M = 12.11$ ,  $SD = 10.45$ ; Grant et al., 2007).

indicated that the conflict measures were best represented by a 1-component solution which explained 44.9% of the item variance. Factor loadings ranged from .47 to .81. This suggested it was appropriate to combine these measures into a single factor.

The unidimensionality of each of the 5 subscales of the 7-day version of the DMQ-R was also tested prior to hypothesis tests using a similar procedure. The items for each of the 5 subscales were tested in five separate PCAs. Each of the 5 subscales had a unidimensional structure when assessed with parallel analysis, with percent variance accounted for by the factor as follows: CDM (60.0%), CAM (60.2%), enhancement (56.0%), social (58.8%), and conformity motives (65.4%). Factor loadings ranged from .43 to .92 across subscales.

Because component items for the 7-day version of the RAPI were dichotomously scored (see Martens et al., 2007), an alternative to principal components analysis was needed to assess the unidimensionality of the RAPI. We used confirmatory factor analysis with all items<sup>3</sup> loading on a single factor, categorical indicators, and a weighted least squares (WLSMV) estimator in Mplus 7.11 (Yu, 2002). This analysis suggested that a 1-factor model was a reasonable fit for the data,  $\chi^2(N = 130) = 216.08, p = .09; \chi^2/df = 1.14; CFI = 0.91; TLI = 0.90; RMSEA = .03$  (90% CI: .00, .05), WRMR<sup>4</sup> = 0.87 with standardized factor loadings ranging from .48 to .92.

### **Study 1: Discussion**

Using a cross-sectional design, Study 1 validated the psychometric properties of modified weekly measures of conflict, drinking motives, and alcohol-related problems. As hypothesized, all measures demonstrated acceptable levels of internal consistency, and provided some support

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<sup>3</sup>Two items were omitted from the CFA (#20 “felt you were going crazy” and #22 “felt physically or physiologically dependent on alcohol”) because they were each endorsed by only one person. The lack of variance produced a non-positive definite matrix when they were included in the CFA. These items were retained when calculating the total summed score for the RAPI, however, for consistency with the prior literature using this measure.

<sup>4</sup>WRMR values less than 1.0 are generally considered to fit the data well (Yu, 2002).

for criterion validity by converging with the original measures. We also found general support for the unidimensional structure of each measure. Thus, our modified measures are reliable and valid when administered over a weekly timeframe. Additionally, conflict was uniquely associated with both CDM and CAM, demonstrating that only coping motives are likely to mediate the conflict-alcohol-related problems link. While CDM were positively associated with alcohol-related problems in a weekly context, CAM were not. This was unexpected, as past research looking at CAM over a 3-year period has found that they are associated with alcohol-related problems (Grant et al., 2007). Study 1 is limited by its cross-sectional design.

Furthermore, correlating the modified measures with their original is a limited measure of concurrent criterion validity; future studies may wish to examine the predictive validity of these measures and concurrent associations with a wider range of criterion variables. As data was collected from individuals instead of romantic dyads, Study 1 cannot examine partner effects that may occur for alcohol use in romantic dyads (e.g., Mushquash et al., 2013), nor can it conceptualize conflict as a property of the dyad (e.g., Mackinnon et al., 2012). Study 2 addresses these limitations directly by collecting data from romantic dyads using a longitudinal design.

### **Study 2**

Study 2 examined both CDM and CAM as potential mediators of the association between dyadic conflict and alcohol-related problems using a rigorous 4-wave, 4-week longitudinal methodology. Longitudinal research allows examination of change and stability over time, and permits stronger causal inferences than cross-sectional research. Additionally, past research (e.g., Dibello et al., 2014) gathered data from only one member of the romantic dyad. Study 2 gathered data from couples, allowing investigation of both actor and partner effects (Kenny & Ledermann, 2010). Partner effects may occur directly (i.e., the partner's motive impacts the individual's

alcohol use), or indirectly (e.g., partner motives predict partner alcohol-related problems, which in turn predict individual alcohol-related problems). Moreover, the dyadic nature of the data allowed us to operationalize conflict as a dyadic variable that includes elements of social negativity from both partners (see Mackinnon et al., 2012). Finally, data were analyzed using multilevel structural equation modeling (Preacher, Zyphur, & Zhang, 2010) to take advantage of their longitudinal nature. This approach partitions variance into between-subjects (i.e., the portion of variance that stays constant across 4 weeks) and within-subjects components (i.e., the portion of variance that changes from week-to-week). We proposed the following hypotheses:

**H1:** Conflict will have an indirect effect on problematic alcohol use through coping with depression motives – but not coping with anxiety motives. That is, dyadic conflict will lead to drinking to cope with depression, which in turn will lead to alcohol-related problems.

**H2:** The indirect effect proposed in H1 will be true for both actor and partner effects. That is, coping with depression motives in each partner will uniquely contribute to more alcohol-related problems in both partners.

**H3:** The indirect effect proposed in H1 will be true for both the within-subjects and between-subjects components. That is, results will hold when considering average rates of each variable over the entire 4 weeks (between-subjects) and when considering co-occurring changes within any given week (within-subjects).

## **Study 2: Method**

### **Participants**

Participants were 100 romantic dyads (11 same-sex female dyads; 89 heterosexual dyads) gathered from Dalhousie University and the surrounding community. Participants heard about the study through flyers (31.5%), word of mouth (29.0%), website ads (15.0%), psychology

subject pool (5.5%), class announcements (3.5%), multiple sources (9.5%), or did not specify (0.5%). Eligibility criteria were the same as Study 1. Participants (55.5% female, 83.5% Caucasian) were 22.13 years old ( $SD = 5.67$ ) on average. At wave 1, the majority (89.0%) reported that their relationship was “serious” ( $M = 3.39$ ,  $SD = .69$ , on a 4-point scale), 41.5% reported cohabiting (5% married)<sup>5</sup>, and had face-to-face contact with their partner an average of 6.15 days/week ( $SD = 1.37$ ). At Wave 1, participants reported consuming 8.44 drinks in the past week ( $SD = 10.64$ , range 0-105<sup>6</sup> drinks/week), with 38.8% reporting at least one alcohol-related problem in the past week ( $M = 1.35$ ,  $SD = 2.29$ , range 0-19). As well, 40.5% of participants reported clinically significant alcohol-related problems (3-year RAPI summed raw scores > 15; Thombs & Beck, 1994).

## Materials

Conflict was analyzed as a composite variable created from factor scores in the same manner as Study 1. Consistent with theory and the findings of Study 1, the CAM and CDM subscales from the 7-day version of the Modified DMQ-R (Grant et al., 2007) were used to measure drinking motives. Finally, the 7-day version of the RAPI (White & Labouvie, 1989) was used to measure alcohol-related problems. Questionnaires were identical to those in Study 1.

## Procedure

Participants were recruited using flyers, emails, online ads, and the psychology subject pool. Couples always arrived at the lab together and completed the study at the same times. Upon arriving at the lab, dyads were asked two questions (“Are you currently in a romantic

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<sup>5</sup> A series of one-way ANOVAs revealed that married, cohabiting, and dating couples did not significantly differ in terms of alcohol-related problems ( $F(2, 190) = 1.70$ ,  $p = .19$ ), conflict ( $F(2, 192) = 2.56$ ,  $p = .08$ ), CAM  $F(2, 140) = .12$ ,  $p = .89$ ), or CDM ( $F(2, 141) = .73$ ,  $p = .49$ ). Thus, analyses were not broken down based on these demographic features.

<sup>6</sup> There was one outlier recruited from the community who reported 105 drinks/week at Wave 1, and subsequently dropped out of the study. This participant was retained in presented analyses.

relationship? Have you had at least 12 alcoholic beverages in the past year?") to ensure they met the eligibility requirements. Eligible participants were given time to review the consent form and gave informed consent. Participants then scheduled follow-up sessions and completed the questionnaire battery. They returned to the lab once a week for the following three weeks (four weeks in total). There could only be 7-13 days in between appointments<sup>7</sup>. If participants were unable to attend one of the follow-ups, data was counted as missing for that wave. During follow-ups, participants completed the same questionnaires. Each participant was compensated \$5.00 or one credit point for each wave they completed, and were debriefed at completion.

### **Data Analytic Strategy**

Data from Study 2 was analyzed using an Actor-Partner Interdependence Model (APIM; Kenny & Ledermann, 2010) in a multilevel structural equation modeling framework (Preacher et al., 2010) using Mplus 7.0 software. We examined internal consistency at the between- and within-subjects levels using a multilevel adaptation of Cronbach's alpha (Geldhof, Preacher, & Zyphur, 2014). The APIM used data from both members of each couple, and incorporated all four waves of data. At the within-subjects level, significant effects demonstrate that changes in X co-occur with changes in Y within any given week. The between-subjects level effects indicate that, when averaged across 4 weeks, the trait-like component of X is correlated with the trait-like component of Y. As the sample consisted of several same-sex romantic dyads, an APIM with indistinguishable dyads was chosen (Peugh, DiLillo, & Panuzio, 2013), which allowed us to

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<sup>7</sup> The schedule for assessments was weekly, but participants were able to reschedule within an additional 6-day window (a week +6), in order to maximize retention rates. If this occurred, the following waves would also be rescheduled to occur one week from the rescheduled session. This procedure allowed us to ensure that there would always be a minimum of 7 days in between appointments (necessary as our measures referred specifically to the past week). We chose a 6-day window as this was the maximum time between sessions before participants would be entering the next week of data collection (i.e., a 7-day window would be the next week).

include all participants.<sup>8</sup> Members of each couple were randomly assigned to be either partner 1 or partner 2, and paths between partners were constrained to be equal. As this method precludes a test of sex differences, a supplementary analysis using only the 89 heterosexual couples was conducted to explore potential sex differences in the magnitude of paths. For the APIM, a root-mean-square error of approximation (RMSEA) around 0.05, a standardized root mean square residual (SRMR) around .08, and a comparative fit index (CFI) and Tucker-Lewis Index (TLI) around .95 indicate excellent fit (Kline, 2011). Significance of indirect effects was calculated using a Monte Carlo approach (Selig & Preacher, 2008). To account for non-normality, we used a robust estimator of fit indices and standard errors (MLR estimator in Mplus).

### **Study 2: Results**

On average, couples completed 3.55 ( $SD = 0.90$ ) out of four waves, with 72.5% completing all four waves. More specifically, 81.5% completed wave 2, 86.0% completed wave 3, and 85.0% completed wave 4. During the study, two romantic dyads reported ending the relationship; data these couples provided before breaking up was included in the analysis, and the rest was coded as missing. On average, there were 7.89 days ( $SD = 1.30$ ) between study appointments, demonstrating good compliance with the requested weekly scheduling. Overall, 12.1% of data were missing, with covariance coverage ranging from .74 to 1.00. A significant Little's MCAR test,  $\chi^2(882) = 988.22$   $p = .007$ , revealed the data were not missing completely at random. Closer examination of separate variance t tests using revealed that missing data could be significantly predicted by other variables in the model. Specifically, people with higher levels of coping-depression and coping-anxiety motives at wave 1 were more likely have missing data at

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<sup>8</sup> This approach was chosen both to maximize power, and because ethical guidelines suggest that no individuals should be excluded from research based on sexual orientation (CIHR, NSERC, SSHRC, 2010).

future waves. Thus, data were missing at random (i.e., can be predicted by variables in the model). Full information maximum likelihood estimation was used to account for this missing data in Mplus 7.0, which provides relatively unbiased parameter estimates when data is missing at random, and produces less bias compared to listwise deletion (Enders & Bandalos, 2001).

Means and SDs are shown in Table 2. Drinking motives scores were comparable to (i.e., within one standard deviation of the mean of) those observed in Study 1. Within- and between-subjects correlations, intraclass correlations, and reliabilities appear in Table 3. Intraclass correlations show the percentage of the variance available to be explained at the between-subjects level; the majority of the variance was at the between-subjects level (i.e., trait like variance) for all variables. At both the between- and within-subjects levels, all variables were significantly and positively correlated with one another, with the magnitudes of the correlations being greater at the between-subjects level. All measures demonstrated good reliability at both the between- and within-subjects levels, with the one exception being the RAPI at the within-subjects level. Within-subjects reliabilities may be underestimated when cluster sizes are small, and cut-off scores for reliability are not as well-established in multilevel models (Geldhof et al., 2014). Thus, we proceeded with the planned analyses despite one low reliability value.

**Mediation.** The hypothesized model fit well,  $\chi^2(df = 20) = 27.31$   $p = .13$ ; CFI = .97; TLI = .94; RMSEA = .03; SRMR (within) = .08; SRMR (between) = .07. Unstandardized path coefficients and  $R^2$  values are presented in Figure 1 and indirect effects in Table 4.

At the within-subjects level, conflict significantly predicted both CDM and CAM. A significant actor effect was found for CDM only, as they significantly predicted alcohol-related problems in the same individual. Partner effects were not significant for CDM. Neither actor nor partner effects were observed for CAM. At the within-subjects level, the correlated error terms

between the actor's and partner's alcohol-related problems were significant. While the correlated error terms between the actor's and partner's CDM ( $B = .52, p = .43$ ) and CAM ( $B = .10, p = .53$ ) were not significant, CDM and CAM were strongly related within the same individual ( $B = 1.95, p < .001$ ). Tests of indirect effects revealed that CDM significantly mediated the link between conflict and alcohol-related problems and that the actor's alcohol-related problems significantly mediated the link between the actor's CDM and the partner's alcohol-related problems (an indirect partner effect). No other significant indirect effects were found.

At the between-subjects level, conflict remained a significant predictor of both CDM and CAM. However, no significant actor or partner effects were observed. The correlated error terms between alcohol-related problems were not significant. Although the correlated error terms between CDM ( $B = 1.84, p = .23$ ) and CAM ( $B = -.08, p = .90$ ) remained unrelated, CDM and CAM maintained their strong relationship within the same individual ( $B = 6.92, p < .001$ ). No significant indirect effects were found at the between-subjects level.<sup>9</sup>

**Supplementary Analysis.** A supplementary analysis was conducted on the heterosexual couples only, in order to explore potential sex differences. These analyses revealed some sex differences. Specifically, at both levels of the model, dyadic conflict was a significant predictor of CDM and CAM for *women only*. Thus, significant mediation was only observed for women<sup>10</sup>.

## Study 2: Discussion

Study 2 aimed to overcome the limitations of Study 1 by using a longitudinal design with couples. As hypothesized, only CDM mediated the link between conflict and alcohol-related problems. This relationship was significant at the within-subjects level: within any given week,

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<sup>9</sup> Significant actor effects for CDM and CAM were not observed due to strong collinearity of the coping motives at the between-subjects level (see Table 3). When analyzed in separate models, both CDM ( $B = .19, p < .05$ ) and CAM ( $B = .39, p < .001$ ) predicted alcohol problems.

<sup>10</sup> Detailed results are available in the supplementary materials

increases in conflict predicted increases in CDM, which in turn predicted increases in alcohol-related problems. This also held at the between-subjects level after accounting for collinearity (see footnote 8). While CAM emerged as a significant correlate of alcohol-related problems, it did not add much beyond CDM in the prediction of these problems. Thus, romantic partners are turning to alcohol as a maladaptive coping mechanism for dealing specifically with depressive affect. Contrary to hypotheses, this only occurred at the individual level (i.e., no partner effects were found). Although coping motives did not vary systematically between romantic partners, partners did show similar increases in alcohol-related problems within any given week, creating an indirect partner effect. Thus, even without the direct influence of a partner's CDM on the individual, the presence of these motives led to alcohol-related problems for both partners.

### **General Discussion**

Across both studies, dyadic conflict was a consistent predictor of both types of coping motives. This is consistent with drinking motives theory (Cooper et al., 1995) and suggests that emerging adult romantic dyads may use alcohol to cope with negative affect following conflict with their partner. This is maladaptive, as it leads to alcohol-related problems. In particular, this appears to occur via depressive affect (not anxiety), as couples who experienced relationship conflict tended to drink to cope with feelings of depressed affect, which in turn predicted increases in alcohol-related problems – suggesting this is the main mechanism through which dyadic conflict leads to alcohol-related problems in emerging adult romantic dyads.

**Partner effects.** Significant partner effects were not found, suggesting coping motives may only influence alcohol use patterns at the individual level. Furthermore, within any given week, changes in coping motives in one partner were unrelated to changes in coping motives for the other partner, and over time, coping motives were unrelated between romantic partners. This

was unexpected, given that individual drinking motives (including coping motives) are related to peer drinking motives in adolescents (Kuntsche & Stewart, 2009). It is possible that the lack of partner effect for the coping motives can be attributed to the contextual factors of drinking. For example, those endorsing coping motives are more likely to drink alone (Cooper, 1994). Thus, perhaps partner effects were not found for coping motives because they are solitary processes that are not readily found in social situations where partner effects may occur. It is also possible that other drinking motives (e.g., enhancement) are more visible to others (and thus more influential). In fact, among adolescents, enhancement motives are transmitted among peers earlier than coping motives (Stewart, Castellanos-Ryan, Vitaro, & Conrod, 2014). The null findings for partner effects might also be due to the short 1-week time lag, the focus on emerging adults, or the focus on dating couples rather than peers or married couples (see limitations).

However, a significant *indirect* partner effect was found, such that the actor's alcohol-related problems mediated the link between the actor's CDM and the partner's alcohol-related problems. Thus, within any given week, individuals who drink to cope with depression tended to have more problems associated with their drinking (e.g., black outs, missing work, neglecting responsibilities), which in turn encouraged that individual's partner to consume alcohol in similarly problematic ways. This is consistent with previous work demonstrating that romantic partners exhibit similar longitudinal escalations in problematic drinking (Mushquash et al., 2013). Indeed, it is likely that simply being exposed to a context of alcohol-related problems impacts the problematic drinking of the romantic partner. This may occur through modeling, as experimental research demonstrates that participants tend to model their drinking after that of a confederate; for instance, participants drink more when the confederates also drink more (Borsari & Carey, 2001). Thus, perhaps when the individual is drinking to cope and experiencing alcohol-

related problems, their partner is drinking in a similar fashion but is motivated to drink for a different reason. For example, perhaps a couple might go to a party, drink excessively, and both miss work the next day due to a hangover – even though one partner is motivated to “get drunk” (enhancement), while the other is drinking to cope with a hard day at work (coping). In this way, the drinking behavior might be emulated through social learning, while motives – which, in this example, are internal and unobservable – affect one’s own behavior, but not the partner’s.

**Clinical Implications.** The current results have several clinical implications. In particular, future intervention efforts may wish to develop strategies to enable emerging adult romantic dyads to cope more adaptively with conflict, and/or to use targeted strategies to reduce CDM, as reducing these factors might reduce alcohol-related problems. This may be particularly important for women. Previous work has shown that personality-matched strategies significantly reduce coping motives and alcohol-related problems in samples of adolescents (Conrod, Castellanos-Ryan, & Mackie, 2011), suggesting that similar interventions may be advantageous in other samples. Additionally, interventions should target the couple rather than the individual. While individual level interventions can be effective in reducing levels of alcohol-related problems, these interventions have been shown to be less successful when individuals remain in a social network of heavier drinkers (Carey, Scott-Sheldon, Carey, & DeMartini, 2007). Indeed, results showed that alcohol-related problems tend to change systematically in the same direction between partners, suggesting dyadic level interventions may be advantageous.

**Limitations and future directions.** While the current study makes important contributions, it has several limitations. Although our longitudinal design can make stronger causal inferences than cross-sectional designs, no longitudinal data can unambiguously disentangle cause and effect. Future research might use experimental designs which induce mild

conflict in the lab by asking couples to discuss contentious issues, and examining partners' resultant alcohol use. Moreover, it is unknown if a time lag of one week is appropriate for examining this relationship. Future studies might examine these variables over a different time lag (e.g., daily diary or event-contingent), as drinking to cope may occur relatively quickly following conflict. Future research might also examine negative affect as a potential mediating process between conflict and coping motives. Furthermore, because the same measures were administered during each wave, participants may have been influenced by demand characteristics or reactance, which may have inadvertently influenced their responses over the follow-up period. Our sample consisted mainly of young, dating couples, so findings may not generalize to other samples (e.g., older married couples, peers, or clinical samples with more serious alcohol-related problems). Finally, though theory suggests they are unrelated to dyadic conflict, future research may wish to examine other drinking motives to see if partner effects exist for these.

**Conclusions.** This study strengthened and integrated both drinking motives theory and theories of romantic relationship influence by demonstrating that CDM mediated the association between dyadic conflict and alcohol-related problems. Furthermore, the partner's CDM indirectly influenced the individual's alcohol-related problems by way of the partner's alcohol-related problems, suggesting alcohol-related problems co-occur within emerging adult romantic dyads. Supplementary analyses of heterosexual dyads suggested women are more likely to drink to cope with negative emotions in response to relationship conflict. These sex differences are consistent with prior work (Levitt & Cooper, 2010), and suggest this is a particularly important route to alcohol-related problems for women. Such knowledge is important for understanding the interpersonal factors associated with alcohol-related problems, and may inform future intervention efforts such as couples' treatment for alcohol-related problems.

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Table 1: *Descriptive Statistics, Bivariate Correlations, and Alpha Reliabilities for Study 1*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Social Conflict	-														
2. Rejecting Behaviors	.76**	-													
3. Interpersonal Qualities	.62**	.76**	-												
4. CDM (7-days)	.26**	.24*	.21*	-											
5. CDM (3-years)	.22*	.18*	.22*	.77**	-										
6. CAM (7-days)	.26**	.13	.10	.51**	.54**	-									
7. CAM (3-years)	.29**	.25*	.20*	.57**	.63**	.70**	-								
8. EM (7-days)	.19	.10	.10	.34**	.33**	.41**	.36**	-							
9. EM (3-years)	.14	.12	.05	.34**	.38**	.46**	.51**	.76**	-						
10. SM (7-days)	.06	.13	.17	.18	.28**	.21**	.19*	.56**	.48**	-					
11. SM (3-years)	-.01	.04	.03	.24*	.31**	.34**	.38**	.51**	.62**	.73**	-				
12. CM (7-days)	.17	.03	.10	.37**	.29**	.34**	.28**	.39**	.33**	.41**	.34**	-			
13. CM (3-years)	.13	.07	.08	.35**	.44**	.33**	.34**	.31**	.42**	.41**	.42**	.69**	-		
14. RAPI (7-days)	.12	.15	.18*	.26**	.26**	.07	.04	.35**	.24**	.48**	.34**	.35**	.23**	-	
15. RAPI (3-years)	.18*	.24*	.17	.21*	.39**	.25**	.29**	.29**	.43**	.29**	.39**	.29**	.39**	.51**	-
Mean (SD)	1.90 (0.73)	2.22 (1.25)	2.85 (1.48)	1.26 (0.54)	1.73 (0.79)	2.45 (1.00)	2.98 (1.18)	1.22 (0.56)	1.37 (0.55)	1.82 (0.79)	2.65 (0.83)	3.21 (0.86)	1.33 (0.63)	1.55 (2.54)	7.28 (4.55)
Alpha Reliability	.84	.84	.75	.91	.72	.80	.82	.86	.89	.79	.76	.76	.91	.88	.88

*Note.*  $N = 111$ . CDM, CAM, CM (both versions), and RAPI (7-day) were log transformed to reduce non-normality. Means and standard deviations are shown for averaged subscale totals for motives and conflict variables. Items were dichotomized then summed for the presented RAPI means. CDM = coping-depression motives, CAM = coping-anxiety motives, EM = enhancement motives, SM = social motives, RAPI = alcohol-related problems. \*\*  $p < .01$ , \*  $p < .05$

Table 2

*Means and Standard Deviations for Study 2*

	Wave 1		Wave 2		Wave 3		Wave 4	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Social Conflict	2.19	0.72	2.02	0.83	1.95	0.86	1.90	0.86
Rejecting Behaviors	2.57	1.40	2.28	1.43	2.18	1.35	2.12	1.35
Interpersonal Qualities	2.91	1.44	2.59	1.43	2.60	1.56	2.60	1.45
Coping-Depression Motives	1.33	0.57	1.22	0.52	1.21	0.56	1.22	0.58
Coping-Anxiety Motives	1.87	0.82	1.69	0.69	1.65	0.66	1.72	0.72
Alcohol-Related Problems	1.63	2.51	1.27	1.82	1.32	2.29	1.15	2.42

*Note.*  $N = 200$ . Means and standard deviations are shown for averaged subscale totals for motives and conflict variables. Items were dichotomized then summed for the presented RAPI means.

Table 3

*Correlation Matrix, Intraclass Correlations, and Reliability Analyses at Between- and Within-subjects Levels for Study 2*

	1	2	3	4
1. Conflict	-	.15*	.28**	.30**
2. Coping-Depression Motives	.58***	-	.45***	.21***
3. Coping-Anxiety Motives	.53***	.73***	-	.12*
4. Alcohol-Related Problems	.58***	.51***	.55***	-
Intraclass Correlation	.65	.67	.69	.59
Alpha Reliability (within-subjects)	.88	.98	.94	.64
Alpha Reliability (between-subjects)	.96	.99	.95	.92

*Note.*  $N = 200$ . Between-subjects correlations are below the diagonal; within-subjects correlations are above the diagonal.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .00$

Table 4

*Tests of Indirect Effects for the Multiple Mediation Model with CDM and CAM (Study 2)*

Predictor (X)	Mediator (M)	Outcome (Y)	95% CI	
			Within-Subjects	Between-Subjects
Dyadic Conflict	Actor's CDM	Actor's RAPI	[.0005, .003]*	[-.007, .03] †
Dyadic Conflict	Actor's CDM	Partner's RAPI	[-.0003, .001]	[-.02, .003]
Actor's CDM	Actor's RAPI	Partner's RAPI	[.001, .07]*	[-.06, .20]
Actor's CDM	Partner's RAPI	Actor's RAPI	[-.007, .03]	[-.13, .03]
Dyadic Conflict	Actor's CAM	Actor's RAPI	[-.002, .001]	[-.0003, .02] †
Dyadic Conflict	Actor's CAM	Partner's RAPI	[-.002, .0007]	[-.0001, .02]
Actor's CAM	Actor's RAPI	Partner's RAPI	[-.05, .04]	[-.07, .28]
Actor's CAM	Partner's RAPI	Actor's RAPI	[-.07, .02]	[-.07, .32]

*Note.* Confidence intervals were derived using a Monte Carlo method with 20,000 resamples using unstandardized coefficients. CDM = coping-depression motives, CAM = coping anxiety motives, RAPI = alcohol-related problems.

\*Indirect effect is statistically significant at  $p < .05$ .

† Indirect effect becomes significant when collinearity is accounted for (i.e., model with single mediator).

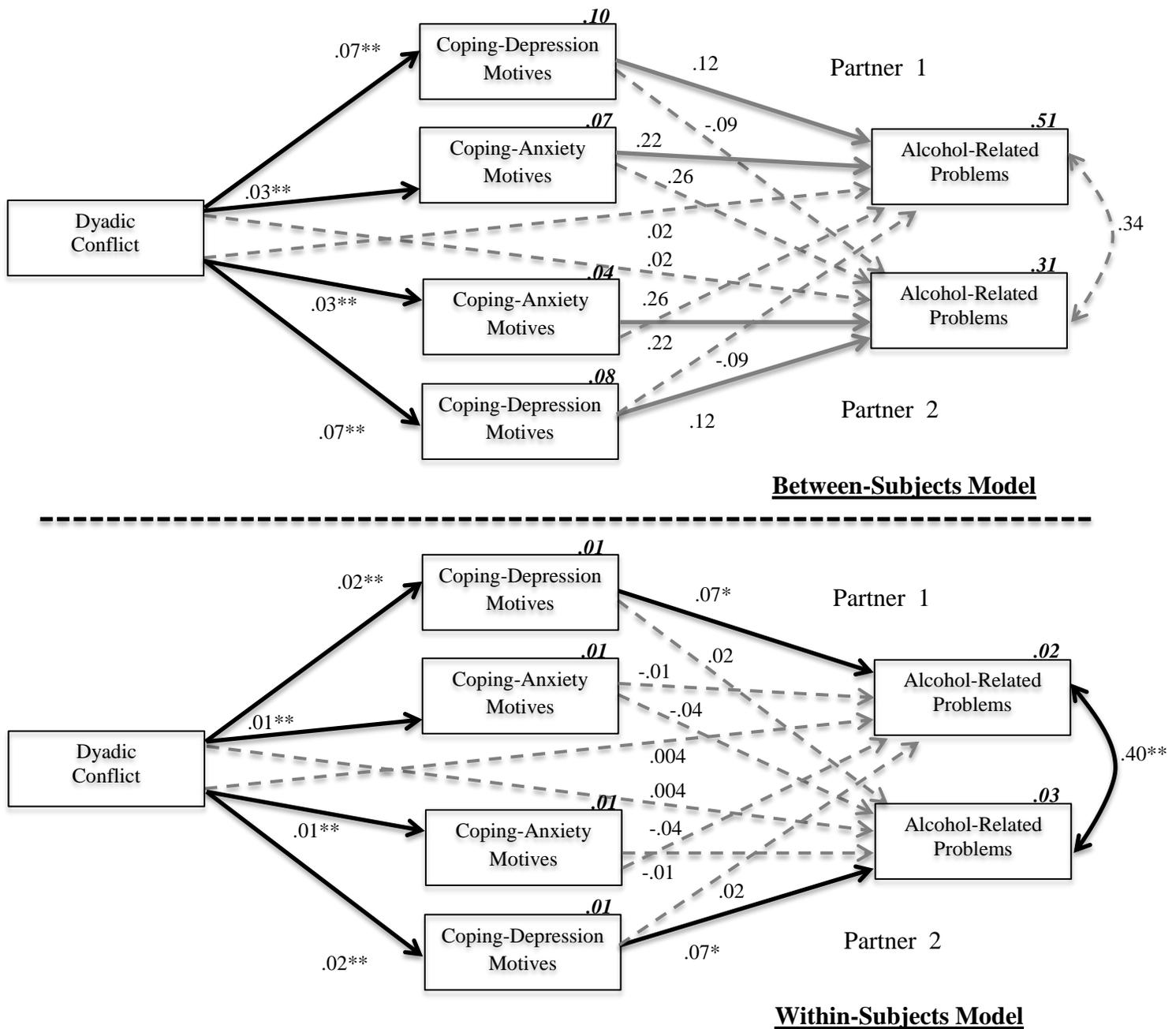


Figure 1. Multilevel APIM (Study 2). Black lines indicate significant paths, gray dashed lines indicate non-significant paths, and gray solid lines indicate paths that become significant when CDM and CAM are entered separately (which accounts for the strong collinearity caused by the strong between-subjects correlation between motives). Rectangles indicate manifest variables. Single-headed arrows indicate paths. Double-headed arrows indicate covariances. Coefficients are unstandardized and paths were constrained to equality across both partners.  $R^2$  values are indicated in bold italics in the upper right hand corner of endogenous variables. Readers should note that  $R^2$  values from multilevel models may not be directly comparable in interpretation to  $R^2$  values from conventional regression. Moreover,  $R^2$  values may vary between partners despite equality constraints because each partner group has slightly different variances (Kline, 2011).



### Supplementary Analyses on Heterosexual Couples

Sex differences in the magnitude of the relationships presented in Figure 1 of the main paper were also explored. Such differences are important to examine, given that Leonard and Mudar (2004) found husbands have a greater influence on their wives' drinking patterns over the first year of marriage than wives do on husbands, and Levitt and Cooper (2010) found that only women drink in response to dyadic conflict.

A potential limitation of the data analytic strategy using indistinguishable dyads in the main paper is that it precluded examining sex differences because a certain subset of participants were in same-sex relationships. Supplementary analyses using distinguishable dyads were conducted on the heterosexual couples only ( $N = 89$  couples), and sex differences were tested by comparing the constrained model (i.e., the paths between males and females are constrained to be equal) to the unconstrained model (i.e., the male and female paths are free to vary so sex differences can be examined). Fit indices revealed that the constrained model fit the data adequately,  $\chi^2(df = 18) = 30.51, p = .03$ ; CFI = .93; TLI = .83; RMSEA = .05; SRMR (within) = .06; SRMR (between) = .08; however, the unconstrained model fit the data better,  $\chi^2(df = 4) = 6.50, p = .16$ ; CFI = .99; TLI = .84; RMSEA = .05; SRMR (within) = .05; SRMR (between) = .05. In particular, the  $\Delta$ CFI was  $\geq .01$  for the unconstrained model, indicating that this model was a significantly better fit to the data (Cheung & Rensvold, 2002).

At the within-subjects level, dyadic conflict was a significant predictor of both CDM and CAM for women only (Figure S1). For men, dyadic conflict was unrelated to both coping motives. Similar to the indistinguishable dyads model, CDM significantly predicted alcohol-related problems in both men and women, while actor effects for CAM were not found.

Tests of indirect effects (Table S1) indicated that CDM significantly mediated the link between dyadic conflict and alcohol-related problems for women only. Once again, partner effects were not found for either coping motive. At the within-subjects level, the correlated error terms for men and women's alcohol-related problems remained significant. Additionally, tests of indirect effects indicated that the male's alcohol-related problems significantly mediated the link between the male's CDM and the female's alcohol-related problems (i.e., an indirect partner effect; Table S1). An indirect partner effect was also found for the female partner, such that the female's alcohol-related problems significantly mediated the link between the female's CDM and the male's alcohol-related problems. The correlated error terms between the men's and women's CDM ( $B = .73, p = .55$ ) and CAM ( $B = .15, p = .18$ ) remained non-significant. For men, CDM and CAM were not significantly related ( $B = .56, p = .08$ ); conversely, these motives were strongly related among women ( $B = 3.521, p < .01$ ) at the within-subjects level.

At the between-subjects level, dyadic conflict remained a significant predictor of both CDM and CAM for women only (Figure S1). A significant actor effect was found for women only, such that CAM predicted alcohol-related problems. Tests of indirect effects demonstrated that CAM significantly mediated the link between dyadic conflict and alcohol-related problems in women only (Table S1). No other significant actor effects were found at the between-subjects level<sup>11</sup>, nor were any significant partner effects found. The correlated error terms between the men's and women's alcohol-related problems were not significant at the between-subjects level. The correlated error terms between the men and women's CDM ( $B = 1.54, p = .51$ ) and CAM ( $B$

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<sup>11</sup>Once again, significant actor effects for CDM and CAM were not observed due to strong collinearity of the coping motives at the between-subjects level. When analyzed in separate models, CDM predicted alcohol-related problems for men ( $B = .41, p < .05$ ) and for women ( $B = .13, p < .05$ ). CAM also significantly predicted alcohol-related problems for men ( $B = .50, p < .01$ ) and for women ( $B = .31, p < .001$ ).

= .05,  $p = .95$ ) also remained unrelated. At the between-subjects level, CDM and CAM were significantly related for both men ( $B = 6.00, p < .05$ ) and women ( $B = 7.94, p < .01$ ).

Table S1

*Tests of Indirect Effects for the Multiple Mediation Model with Coping-Depression and Coping-Anxiety Motives at the Within-Subjects Level (for Heterosexual Couples only)*

Predictor (X)	Mediator (M)	Outcome (Y)	95% CI	
			Within-Subjects	Between-Subjects
Dyadic Conflict	Male CDM	Male RAPI	[-.001, .004]	[-.008, .03]
Dyadic Conflict	Female CDM	Female RAPI	[.00006, .003]*	[-.01, .02]†
Dyadic Conflict	Male CDM	Female RAPI	[-.0009, .002]	[-.008, .03]
Dyadic Conflict	Female CDM	Male RAPI	[-.0008, .001]	[-.02, .0006]
Male CDM	Male RAPI	Female RAPI	[.002, .10]*	[-.27, .56]
Male CDM	Female RAPI	Male RAPI	[-.03, .05]	[-.17, .35]
Female CDM	Female RAPI	Male RAPI	[.0003, .05]*	[-.07, .09]
Female CDM	Male RAPI	Female RAPI	[-.01, .02]	[-.16, .08]
Dyadic Conflict	Male CAM	Male RAPI	[-.002, .001]	[-.01, .01]
Dyadic Conflict	Female CAM	Female RAPI	[-.006, .002]	[.001, .03]*
Dyadic Conflict	Male CAM	Female RAPI	[-.002, .003]	[-.01, .005]
Dyadic Conflict	Female CAM	Male RAPI	[-.002, .003]	[-.002, .03]
Male CAM	Male RAPI	Female RAPI	[-.07, .02]	[-.20, .26]
Male CAM	Female RAPI	Male RAPI	[-.02, .08]	[-.23, .13]
Female CAM	Female RAPI	Male RAPI	[-.08, .03]	[-.17, .32]
Female CAM	Male RAPI	Female RAPI	[-.04, .05]	[-.17, .34]

*Note.* Confidence intervals were derived using a Monte Carlo method with 20,000 resamples. CDM = coping-depression motives, CAM = coping anxiety motives, RAPI = alcohol-related problems.

\*Indirect effect is statistically significant at  $p < .05$ .

†Indirect effect becomes significant when multicollinearity is accounted for (i.e., model with single mediator)

