Discrepant Dyadic Alcohol Use in the Development of Relationship Dissatisfaction: The Mediating Role of Alcohol-Specific Conflict

by

Ashton M. Lofgreen

Thesis submitted to the Graduate Faculty of
Auburn University
in partial fulfillment of the
requirements for the Degree of
Master of Science

Auburn, Alabama
May 6, 2012

Approved by

Dr. Richard Mattson, Chair, Assistant Professor of Psychology
Dr. Roger Blashfield, Professor Emeritus of Psychology
Dr. Christopher Correia, Associate Professor of Psychology

Abstract

Extant research demonstrates a link between intimate partners' discrepant alcohol consumption and declines in relationship satisfaction, as well as higher rates of relationship dissolution (e.g., Homish & Leonard, 2007; Homish & Leonard, 2005; Ostermann, Sloan, & Taylor, 2005). However, less is known about the mechanisms by which this association occurs. The following study examines alcohol-specific relationship conflict as a potential mediator between discrepant drinking patterns and relationship dissatisfaction using a sample of men seeking treatment for alcohol use disorders and their female partners. Multilevel Modeling (MLM) is utilized within the framework of the Actor-Partner Interdependence Model (APIM; Kenny, Kashy, & Cook, 2006) to examine the role of alcohol-specific conflict in change in relationship satisfaction across partners over time. Findings revealed that baseline discordant drinking predicted increased baseline conflict about men's, but not women's, use of alcohol. Conflict specific to men's use of alcohol predicted decreased satisfaction for both men and women at baseline – but did not affect satisfaction longitudinally. Alcohol-specific conflict mediated the association between discordant drinking and relationship dissatisfaction for men, but not for women.

Table of Contents

List of Tables

Introduction

It is well established that alcohol use – particularly heavy use – by one or both partners within an intimate relationship associates with a variety of adverse relationship outcomes; such as dysfunctional interactions (Haber & Jacob, 1997; Kelly, Halford, & Young, 2002) relationship dissatisfaction (Dethier, Counerotte, & Blairy, 2011), physical and psychological aggression (Kantor & Straus, 1989) and relationship dissolution (Caces, Harford, Williams, & Hanna, 1999; for a comprehensive review, see Marshall, 2003). Traditionally, researchers have focused on the role of overall consumption of alcohol by one partner in the development of these adverse outcomes. This focus, however, overlooks another potentially important factor in the development of relationship dysfunction and discord. To illustrate:

1. Tom and Jennifer, a married couple, attend a New Year's Eve bash at the home of an acquaintance. During the party, Tom and Jennifer both consume several alcoholic drinks. As they leave the event late that night, Tom remarks that Jennifer talked too much throughout the entire evening. Jennifer counters with a comment about how ridiculous Tom looked flirting with the young female caterer. A hostile argument ensues.

2. Brad goes to Happy Hour at a local bar with several coworkers after a long day at work. He drinks several beers, loses track of time, and doesn't make it home in time to eat dinner with his wife, Nicole. When Brad arrives home later that evening, he notices that Nicole has poured all of the beer that was in the refrigerator down the kitchen sink. She refuses to speak to him, and they go to sleep in separate rooms.

Although consistent across both scenarios is the consumption of alcohol, recent findings suggest that the couple in the second scenario is more likely to experience the associated relationship dysfunction. Specifically, there is evidence to suggest that discrepancies in drinking

may underlie the development of relationship problems, as opposed to consumption at the individual level. For example, Mudar, Leonard, and Soltysinski (2001) found that couples who were discordant in terms of heavy drinking and frequency of intoxication were less satisfied on average than couples who were concordant in these domains - regardless of whether concordant couples were both abstaining or both drinking heavily. Homish and Leonard (2007) found similar associations between discrepant alcohol use and relationship dissatisfaction longitudinally when controlling for overall consumption. In a nationally representative community sample of married couples, discrepant use of alcohol was more predictive of separation and divorce than alcohol consumption in and of itself (Ostermann, Sloan, & Taylor, 2005). In fact, couples in which both individuals abstained or both drank heavily had the lowest rates of relationship dissolution. Correspondingly, drinking with one's spouse at moderate levels predicts slower decline in relationship satisfaction for women over time, potentially because couples' simultaneous moderate consumption of alcohol associates with quality time spent together (Homish & Leonard, 2005). Taken together, these findings suggest that the "mutual patterning of drinking . . . is a key element involved in the relation between alcohol consumption and marital functioning, and may be more important than the level of drinking by either partner" (Homish & Leonard, 2007, p. 44).

Alcohol-specific Conflict as a Potential Mediator

Although research supports a link between discrepant drinking and relationship dysfunction, less is clear about the mechanisms by which this association occurs. Some studies suggest that discrepant drinking may lead to relationship problems via conflict specific to alcohol use, an element of the second of the two previous illustrations. For couples in which one spouse is an alcoholic, a frequent source of contention is the alcoholic's past use and potential future use of

alcohol (O'Farrell & Bayog, 1986). Similarly, conflict about alcohol use is a frequent complaint of couples presenting for marital therapy (Halford & Osgarby, 1993). Leadley, Clark, and Caetano (2000) found that couples drinking at discrepant frequencies (e.g. a frequent heavy drinker paired with an infrequent drinker) were 3.5 times more likely to experience alcohol-specific partnership conflict than couples in which both individuals drank frequently. That is, alcohol-specific partnership conflict (e.g., verbal threats of relationship dissolution because of alcohol use) is more likely to occur *when only one partner is using alcohol heavily*. If both partners are using alcohol at similar frequencies and quantities, it is less likely that one partner will consider the other's alcohol use problematic and, thereby, less likely to be a source of conflict in the relationship. Alcohol-specific conflict instigated by women may function to control the drinking behavior of their male partners (Raitsalo & Holmila, 2005). In at least two studies, report of wives' attempts to control their husbands' drinking was best predicted by how often the drinking occurred conjointly, with frequency of drinking together negatively related to amount of drinking control attempted by the spouse. Conjoint drinking remained the best predictor after controlling a number of variables; such as children in household, education, income, and geographic region (Holmila, 1988; Holmila, Mustonen, & Rannik, 1990; Hradilova-Selin, 2004 as cited by Hradilova-Selin, Holmila, & Knibbe, 2009).

Behaviors that often characterize couple conflict, particularly psychologically and physically aggressive behavior, have been linked to a host of problematic individual and dyadic outcomes (e.g., Taft, O'Farrell, Torres, Panuzio, Monson, Murphy, & Murphy, 2006). These behaviors also tend to associate with dyadic use of alcohol, especially in clinical samples or when alcohol use problems are more severe (Coker, Smith, McKeown, & King, 2000; see Foran & O'Leary, 2008 for a meta-analytic review). Importantly, the role of alcohol use discrepancies in generating

relationship conflict may also, in part, explain the association of dyadic alcohol use with conflict behaviors. Several theories posit that psychoactive effects of alcohol (e.g. disinhibition and emotional lability) account for increased psychological and physical aggression (see Bushman & Cooper, 1990 for review). If the direct effect of alcohol alone is responsible for an increase in aggressive behaviors, however, one would anticipate that drinking by both partners would increase risk for conflict and decreased satisfaction, as opposed to being a protective factor for the occurrence of such adverse relationship outcomes. Contrary to this expectation, Roberts and Leonard (1998) found that couples characterized as frequent intimate drinkers (those who drank frequently together at home at levels above the sample mean) fared better on some measures of individual outcomes (e.g. wives' depression) and marital functioning (e.g. satisfaction and men's verbal aggression) than couples in which only the male drank heavily. In addition, recent findings by Mattson, O'Farrell, Lofgreen, Cunningham, and Murphy (2011) show that female partners of male alcoholics may in fact be initiating conflict by way of psychological aggression, as opposed to the reverse, which in turn leads to more severe conflict behaviors (e.g., physical violence) by both partners. Considered together, these findings indicate that heavy alcohol use by one partner may have an effect on their use of hostile conflict behaviors indirectly, as it is their non-using counterpart that initiates conflict about the alcohol use itself.

The Current Study

The current study uses multilevel modeling (MLM) to examine the longitudinal role of discrepant drinking in the development of alcohol-specific relationship conflict and, consequently, relationship dissatisfaction in married or cohabiting couples. Two related hypotheses were posed based on the preceding theoretical backdrop. First, it was hypothesized that differences in alcohol consumption between members of dyads would predict increases in

alcohol-specific relationship conflict. Second, it was hypothesized that differences in alcohol consumption would indirectly predict decreases in relationship satisfaction, as mediated by alcohol-specific relationship conflict.

Two other design features of this study advance the current understanding of the phenomena in question. First, the preponderance of research on the role of discrepant dyadic drinking in relationship dysfunction has occurred using community samples, whereas the current study uses a clinical sample in which the men were receiving inpatient or outpatient treatment for alcohol abuse or dependence. Using this sample will allow for the examination of the generalizability of previous findings to a population in which alcohol use and its associated consequences are potentially more severe. Second, the longitudinal design of the study allows for the determination of temporal precedence of discrepant drinking in the development of relationship dissatisfaction, potentially providing evidence for a causal role of discrepant drinking in the development of alcohol related relationship dysfunction. Currently, only one study has looked at the role of discrepant drinking in the development of relationship dissatisfaction longitudinally (Homish & Leonard, 2005).

Methods

Participants

The data for this study were archival. Participants in the sample included 181 men who were diagnosed with alcohol abuse (4%) or dependence (96%) and their female partners. The men were enrolled in inpatient treatment ($n = 105$, 58%), intensive outpatient ($n = 34$, 18.8%), or outpatient counseling ($n = 42$, 23.2%); and were recruited from four treatment centers in Massachusetts. Thirty-seven percent and 43% had co-morbid substance abuse and dependence disorders, respectively. Inclusion criteria for couples in the sample included the following: (a)

the male partner met diagnostic criteria for current alcohol or substance abuse or dependence using the Structured Clinical Interview for the DSM- IV (SCID; First, Spitzer, Gibbon, & Williams, 1996); (b) the male partner consumed alcohol or used illicit substances in the 30 days prior to his beginning treatment; (c) couples were married or cohabiting; (d) both partners were older than 18 and younger than 64 years of age at the beginning of the study; (e) couples were living together for at least the last 12 months without more than 4 months separation; (f) couples were living together at the time of the baseline assessment; (g) couples were not separated or planning a divorce; and (h) both partners provided consent to participate. Couples in which at least one partner showed evidence of a psychotic disorder on the SCID psychoticism screen were excluded from the study. Participants were assessed at baseline upon study entry and 6 and 12 months following their baseline assessment. Couples had lived together for an average of 10.7 years ($SD = 9.1$; range = 1 to 37) and were married (65%) or cohabiting (35%). Basic demographic characteristics of the sample are provided in Table1.

Measures

Relationship satisfaction. Relationship satisfaction was assessed at baseline, as well as 6 and 12 months after baseline, using four items of the 32-item Dyadic Adjustment Scale (DAS; Spanier, 1976). Although the full DAS was administered, these four items have been shown using Item Response Theory (IRT) to provide a purer measure of relationship satisfaction (Sabourin, Valois, & Lussier, 2005). The abbreviated measure excludes items more indicative of the level of couple conflict (e.g. disagreement about leisure activities), which potentially overlap with other measures in the current analysis (e.g., alcohol-related conflict). These items demonstrated good reliability within this sample using Cronbach's alpha; reliability coefficients were .83 and .80 for women and men, respectively, at the baseline assessment.

Drinking patterns. Drinking patterns were assessed at each time-point using standard questions regarding the quantity and frequency of alcohol consumption outlined by Cahalan, Cissin, and Crossley (1969). Participants reported their typical frequency of alcohol consumption in the previous six months and chose from the following response options: *(0) Never; (1) Several times; (2) 1 time per month; (3) Several times per month; (4) 1-2 days per week; (5) 3-4 days per week; (6) 5-6 days per week; (7) Everyday*. These scores were transformed to represent an estimate of number of days alcohol was consumed in the prior six months (*never = 0, several times = 3, 1 time per month = 6, several times per month = 21, 1-2 days per week = 38.55, 3-4 days per week = 89.95, 5-6 days per week = 141.35, everyday = 180*). Participants also reported the typical number of standard drinks consumed per occasion of drinking in the prior six months. Frequency estimates were multiplied with the quantity score to produce a Quantity-Frequency Index (QFI). Each woman's QFI was subtracted from her male partner's QFI to produce a drinking discrepancy score for each couple.

Alcohol-specific conflict. Alcohol-specific conflict was assessed at baseline using three six-point Likert items: (a) Does your partner get angry over your drinking? *(0 = not at all, 5= always)* (b) Do you get irritated when your partner comments on your drinking? *(0 = not at all, 5 = a great deal)* (c) Does your partner nag you about your drinking? *(0 = not at all, 5 = frequently)*. A preliminary principal components analysis showed that these items loaded onto one factor accounting for 86.0% and 73.8% of the total item variance for men and women, respectively, with item loadings ranging from .83 to .93. Communality estimates were all above .70.

Level of general conflict. The dyadic level of general, non-alcohol-specific conflict was assessed using one Likert item: "How often do you and your partner have marital/relationship disputes that do not focus on drinking?" Responses ranged from *0 (not at all)* to *5 (frequently)*.

Planned Analyses

The multilevel model for change. Multilevel modeling was used to estimate baseline levels of satisfaction (i.e., intercepts), as well as change in satisfaction (i.e., slopes), for men and women in the same analysis. The model will be discussed briefly here; for a fuller explication, see Singer and Willett (2003). When used with longitudinal data, MLM treats each time point as a separate case with cases nested within individuals; effectively, a separate regression model is run for each individual with time as the predictor variable. Through this procedure, each individual is provided an intercept (i.e., the individual's value at time zero) and a slope (i.e., the individual's expected rate of change over time). Multilevel models produce two kinds of coefficient estimates: fixed effects and random effects. Fixed effects estimate a population average intercept (represented by the model constant) – and slope (represented by the regression weight for time) across individuals. Tests of significance for fixed effects essentially determine if the average intercept and average slope are different than zero.

Although informative, the average values that the fixed effects produce are unlikely to characterize all individual cases in terms of intercept and slope; there is often unexplained variance (i.e., error variance) around the fixed effect estimates. The amount of variance surrounding the intercepts and slopes at the individual level are referred to as the "random effects." Random effects can be tested to determine if the amount of variance around the fixed effect is significantly different than zero. Additionally, covariance amongst the random effects

8

can be examined and tested for significance. For example, it is possible to discern if individuals with relatively higher than average intercepts also have relatively steeper slopes.

Unexplained error variance and covariance at the individual level exhibited by significant tests of random effects justifies the addition of individual-level predictors into the model. In other words, one can test for factors that vary from person-to-person (e.g., age) and may account for individual differences in intercept and slope. By this method, one can test if the addition of a higher level variable (e.g., length of relationship) reduces the variance in the random effects, indicating that it accounts for previously unexplained individual-level variability around the fixed intercepts and slopes (e.g., perhaps newer relationships have steeper declines in satisfaction). The utility of adding a predictor to the model is determined by examining Pseudo R^2, the proportional reduction of unexplained variance around each parameter.[1] Note that although nesting time points within individuals creates non-independent errors across cases – a violation of an assumption of regression analysis that has marked consequences for significance testing (Kenny, 1995) – MLM adjusts for the biasing effects of correlated errors (Hayes, 2006).

The Actor-Partner Interdependence Model. An Actor-Partner Interdependence Model (APIM; Kenny et al., 2006) was modeled within the MLM framework using the two-intercept approach developed by Raudenbush, Brennan, & Barnett (1995). In the two-intercept APIM model, "male" and "female" variables are constructed so that the former equals 1 if the person is male or otherwise 0, and vice versa for women. The regression weights for these variables represent the average intercepts for men and women separately. Each variable added to the model is then multiplied by the male and female variables so that their effects on men's and women's outcome can be estimated separately. For example, multiplying male by time yields the fixed effect estimate for men's relationship satisfaction change over time (i.e., the expected

change in relationship satisfaction for men per a 1 unit change in time). In addition, the data are structured so that the effect of each individual's outcome is predicted by his or her own and his or her partner's behavior. Changes associated with individuals' own behaviors are referred to as "actor effects," and change associated with individuals' partners' behaviors are referred to as "partner effects." Actor and partner effects are each modeled as an interaction with male gender and female gender, and thus produce four estimates; the effect of women's behavior on their (1) own outcome (i.e., women's actor effects) and on (2) men's outcome (i.e., men's partner effects); and the effect of men's behavior on (3) their own outcome (i.e., men's actor effects) and (4) women's outcome (i.e., women's partner effects), all while controlling for the residual interdependence inherent to the dyad.

   Mediation Analyses. Two models were run to test effects of mediation. The first is the extent to which alcohol related conflict predicted relationship dissatisfaction beyond general conflict at baseline and longitudinally. The second is the relative effect of baseline levels of discordant versus concordant drinking on baseline levels of alcohol-specific conflict. Using estimates from these models, the PRODCLIN program was used to test mediation by computing asymmetric confidence limits for the distribution of the product of regression estimates (MacKinnon, Fritz, Williams, & Lockwood, 2007). This test of mediation is more accurate than traditional methods that assume a normal distribution of indirect effects (MacKinnon et al., 2007).

Preliminary Model Analysis

Model specification. We tested a three-level model in which data at each time point (level 1) are nested within individuals (level 2), who are nested within dyads (level 3). Preliminary models use time as a predictor to test for the occurrence of significant shifts in relationship satisfaction over the course of the study. Subsequent models add drinking discrepancy scores to determine their utility in predicting change in relationship satisfaction while controlling for couples' overall alcohol consumption and overall level of general conflict. We used SPSS syntax provided by Kenny et al. (2006) to specify a two-intercept model.

Covariance structure. The covariance structure of the predictors at each level is basically a hypothesized model for the nature of the variance unexplained by the predictors. MLM requires specification of the nature of the hypothesized covariance structure. We initially ran the baseline model specifying Heterogeneous Compound Symmetry (HCS). The HCS model failed to converge, however, suggesting a misspecification of the model in some way. Restricting the level-3 covariance to Compound Symmetry (CS) corrected this problem.

Baseline model. The baseline analysis is an unconditional growth model, which estimates fixed effects for time and the intercepts, as well as the random effects for each. This model provides a baseline by which random variance explained by the addition of hypothesized predictors can be estimated using pseudo R^2. Both men's and women's intercept were significant ($b = 13.44$, $t = 42.83$, $p < .001$ for men and $b = 11.86$, $t = 38.49$, $p < .001$ for women). As previously noted, the estimate for the men's and women's intercept can be interpreted as their DAS value at time 0. Random effects also demonstrated significant individual variability around men's and women's intercepts ($b = 8.77$, Wald $Z = 5.84$, $p < .001$ for men and $b = 12.25$, Wald Z

11

= 6.61, and $p < .05$ for women). The fixed effect of time for both men and women was non-significant, ($b = -.01$, $t = -.60$, $p = .55$ for men and $b = -.01$, $t = -.436$, $p = .63$ for women) demonstrating that, on average, men's and women's satisfaction did not change in a particular direction over the course of the study. However, the respective random effects components for men's and women's slopes were significant ($b = .03$, Wald $Z = 2.45$, $p < .001$ and $b = .07$, Wald $Z = 4.23$, $p < .001$), suggesting considerable unexplained variability in DAS trajectories for each individual over time. Taken together, there were considerable changes in DAS over time, but these changes were not in a consistent direction when averaged across individuals. The estimates of covariance parameters indicated covariability between men's and women's intercepts ($b = 6.50$, Wald $Z = 4.80$, $p < .001$), as well as men's and women's slopes ($b = .04$, Wald $Z = 3.52$, $p < .001$).

Hypothesized Model Analyses

Variables were standardized to aide with interpretation; regression estimates can be interpreted as the expected change in DAS intercept or slopes given a 1 standard deviation change in the predictor variable. (Note that this procedure was taken so that regression weights can be more easily compared across predictors). Treatment length and general conflict were entered into the model as control variables (referred to as Control Model in Table 2). In the interest of succinctness, only the significant findings from this model will be discussed.

Control predictors. Fixed effects demonstrated that length of previous substance use treatment predicted lower DAS scores at baseline for both men ($b = -.38$, $t = -2.55$, $p < .05$) and women ($b = -.38$, $t = -2.44$, $p < .01$). The actor effect for women's report of general conflict was also significantly predictive, indicating that women reporting higher levels of general conflict with their partner had lower satisfaction at baseline ($b = -.82$, $t = -2.63$, $p < .01$). Random effects

12

for men's and women's intercepts and slopes, as well as covariance between men's and women's intercepts and men's and women's slopes, remained significant. The addition of predictor variables into the model accounted for a significant amount of previously unexplained variance in men's slopes (pseudo $R^2 = .02$), women's slopes (pseudo $R = .05$), and the covariance between men and women's slopes (pseudo $R^2 = .32$).

Alcohol-specific conflict. The predictor variables of interest – men's and women's report of alcohol-specific conflict about their own alcohol use – were then entered into the model (referred to as the Hypothesized Model in Table 2). We hypothesized that alcohol-specific conflict would account for lower satisfaction at baseline and declines in satisfaction over time for both men and women (above and beyond the effect of general conflict). Estimates of fixed effects demonstrated that men's report of alcohol-specific conflict regarding their own alcohol use was predictive of lower satisfaction for both men and women at baseline ($b = -1.56, t = -4.27, p < .001$ and $b = -.96, t = -2.31, p < .05$ for men and women, respectively). For men, the impact of general conflict on baseline satisfaction was no longer significant after entering alcohol-specific conflict into the model ($b = -.33, t = -1.20, p = .23$). However, the effect of women's self-report of general conflict on their own baseline satisfaction remained significant ($b = -.89, t = -2.88, p < .01$).

Although alcohol-specific conflict related to men's use of alcohol influenced men's and women's satisfaction at baseline, fixed effects indicated that it did not have a longitudinal impact on relationship satisfaction in a consistent direction for either men or women. Pseudo R^2 analysis demonstrated, however, that entering alcohol-specific conflict into the model accounted for 17% of previously unexplained variance in men's slopes. It also accounted for 14% and 7% of previously unexplained variance in men's and women's baseline satisfaction (respectively) and

13

15% of previously unexplained variance in the covariance between men and women's baseline satisfaction. Women's self-reported conflict related to their own alcohol use did not impact their own or their partners' satisfaction either at baseline, or longitudinally. The results of the Unconditional Growth Model, as well as the Control Model and Hypothesized Model are displayed in Table 2.

Concordant and discordant drinking. The second component of model analyses examined the relative influence of concordant versus discordant drinking patterns at baseline on the development of baseline alcohol-specific conflict while controlling for length of treatment and overall level of general conflict in the relationship. It was hypothesized that couples' discordant drinking would predict alcohol-specific conflict, and would do so above and beyond the effect of the amount of alcohol that couples consumed commensurately. Variables were once again standardized, so that regression estimates are interpreted as the expected change in alcohol-specific conflict scores given a 1 standard deviation change in the predictor variable. Interestingly, a different pattern of results was found for men and women. As predicted, higher levels of discordant drinking predicted higher male-report of conflict specific to their use of alcohol ($b = .62$, $t = 2.12$, $p < .05$). Higher rates of concordant drinking trended toward a reverse effect, with higher amounts of alcohol consumed commensurately predicting lower rates of alcohol-specific conflict related to men's alcohol use ($b = -.55$, $t = -1.84$, $p = .07$). A reverse of this effect was found for women. Higher levels of concordant drinking predicted women's higher report of conflict specific to their own alcohol use ($b = .80$, $t = 2.62$, $p < .01$), while higher levels of discordant use predicted less conflict specific to women's alcohol use ($b = -.72$, $t = -2.44$, $p < .05$). The results are displayed in Table 3.

14

Mediation Analyses

The PRODCLIN program was used to test the significance of the mediation. Mediation was only tested when both hypothesized pathways (i.e. the impact of discordant alcohol use on alcohol-specific conflict and the impact of alcohol-specific conflict on relationship satisfaction) were significant. Thus, only the indirect effect of discordant drinking via conflict specific to men's use of alcohol on men's and women's satisfaction was tested. The mediation was significant for men's satisfaction (95% CI [-2.10, -.70]), but not for women's satisfaction (95% CI [-1.51, .00]). In other words, more frequent use of alcohol by men – relative to their partners – predicted more alcohol-specific conflict initiated by their female counterparts, which in turn predicted lower baseline levels of men's satisfaction.

Discussion

Prior research has revealed that discrepant dyadic drinking increases the risk of relationship dissatisfaction and dissolution in samples of community couples (Mudar et al., 2001; Homish & Leonard, 2007; Ostermann et al., 2005). The current study extends the examination of this phenomenon to a clinical sample and also examines the mediating role of alcohol-specific conflict between these two variables. At baseline, discrepant drinking predicted increased conflict specific to men's use of alcohol, and concordant drinking predicted increased conflict about women's use of alcohol. Conflict specific to men's use, but not women's use, predicted lower relationship satisfaction for both men and women. Changes in relationship satisfaction (slopes) did not vary as a function of theorized predictors – suggesting that the impact of discrepant drinking on alcohol-specific conflict and, in turn, relationship satisfaction remains somewhat stable over time. It is possible that the stability in the findings reflect the stability of the phenomenon in question. The most substantial decline in marital satisfaction occurs over the

first several years of marriage and tends to stabilize (Kurdek, 1998; Karney & Bradbury, 1997).

Note that the decline in marital satisfaction as a result of discordant drinking detected by Homish

and Leonard (2007) was in a sample of newlywed couples. Thus, although results indicate that

discordant drinking adversely impacted relationship satisfaction at baseline, satisfaction may

have been less dynamic because the relationships in the current sample were, on average, longer

established. It is also possible that the treatment this sample received mitigated declines in

satisfaction, serving as a protective factor for decline in relationship satisfaction and contributing

to the lack of longitudinal findings. In past research, treatment variables have demonstrated

differential effects on relationship satisfaction for men and their partners (Bowers & al-Redha,

1990; McCrady, Stout, Noel, Abrams, & Nelson, 1986; O'Farrell, Cutter Choquette, Floyd, &

Bayog, 1992). Although days in treatment prior to study participation were controlled for, it is

possible that other aspects of treatment (e.g., type of treatment, whether or not partner was

receiving psychological treatment) were potentially more influential.

Cross-sectionally, findings supported that differences in alcohol consumption between

dyad members predict increases in alcohol-specific conflict above and beyond the amount of

alcohol consumed commensurately. These results are best understood when contextualized

within the drinking pattern of the sample; specifically, men in the sample reported consuming

more alcohol than their female counterparts in all but 3 cases. Because of this pattern, the

concordance variable can be understood essentially as the extent to which women matched their

male counterparts in alcohol consumption, whereas the discordant variable can be conceptualized

as how much more alcohol men drank than their female counterparts. Results demonstrated that

drinking discrepancy was predictive of increased couple conflict regarding men's alcohol

consumption

However, the reverse was true for women. Discordant drinking predicted decreased conflict about women's use of alcohol. Keep in mind that because of the nature of the sample, as the discordant drinking variable increases, it accounts for both relative increases in alcohol consumed by men, but also a relative decrease in alcohol consumed by women. Thus, it is not entirely surprising that as women drank relatively less, the couple experienced less conflict specific to women's alcohol use. These results were consistent with Leadley et al. (2000), who found that couples who drink discordant amounts of alcohol are much more likely to argue about alcohol use. Finally, although concordant use predicted less conflict about men's alcohol use, it actually predicted more conflict regarding women's alcohol use. This pattern indicates that the greater the extent to which women match their partner's consumption, the more conflict occurs about women's use of alcohol. Notably, some women within the sample were also diagnosed with alcohol abuse (3.4%) or dependence (7.1%), which may partially account for this finding. Even without an alcohol use diagnosis, however, the differing effects of commensurate amounts of alcohol on men's and women's physiology (Mumenthelar, Taylor, O'Hara, & Yesavage, 1999), and subsequent negative drinking consequences (Nolen-Hoeksema, 2004) may also account for the conflict that is occurring regarding women's equivalent level of alcohol consumption. That is, concordant use may be predicting more conflict about women's use of alcohol not because the use is concordant versus discordant, but simply because of the greater impact of commensurate levels of alcohol on women. It is also possible that women's use is viewed as more problematic by the partner because of differing social norms and stigmatization of women's alcohol use – leading to more conflict about women's use of alcohol, despite men's similar use.

17

Interestingly, results demonstrated a differential impact of alcohol related conflict on men's and women's satisfaction. Although conflict specific to men's use of alcohol was predictive of decreased relationship satisfaction for women at baseline, its influence was not unlike the impact of general conflict regarding issues unrelated to alcohol use. That is, both alcohol-specific conflict and general conflict predicted decreased satisfaction for women at baseline. For men in this sample, however, conflict about their own drinking behavior had a unique impact on their relationship satisfaction that cannot be reduced to the general influence of conflict. Further, alcohol-specific conflict mediated the association between discrepant drinking and relationship satisfaction for men, but not for women. No results emerged indicating that conflict about women's use of alcohol impacted relationship satisfaction for either dyad member. Note that although findings highlight differences across gender, the results are confounded by the circumstance that men in the current sample were using alcohol to a greater degree than their female partners and, in all cases, were diagnosed with an alcohol use disorder. Thus, the difference that arose may not be reflective of gender differences per se, but differences between partners in which one has an alcohol use disorder and the other does not. That being said, the pattern of relative consumption in the present sample is a prevalent pattern in the general population – men consume more alcohol than women and are more likely to experience alcohol related problems (Grant, 1997). Likewise, in heterosexual couples, women are more likely to have a heavily drinking husband than vice versa (Hall, 1983). However, there is evidence that the gender difference in alcohol consumption has narrowed in recent years (Keyes, Grant, & Hasin, 2008).

Conflict arising from one partners' heavy use of alcohol may indicate effort by the lesser-using partners to persuade their counterparts to drink less. Our findings are consistent with a

study conducted by Raitsalo and Holmila (2005) who found that, in a large sample of Finnish couples, heavy drinking by one dyad member was strongly related to attempts by the lesser-drinking member to influence the partner to reduce drinking behavior. They also found that women were more likely than men to attempt this form of social control, especially for women drinking much less than their partners. Women were less likely to be the object of spousal persuasion to drink less, even when wives were concerned about their own drinking habits. This particular gender difference may arise because it reflects a more general gender difference that has been noted in relationships – that women tend to initiate discussion about problems within the relationship, and men often withdraw from such discussion (Gottman, 1994). Some studies suggest, however that this communication pattern may be reversed in couples in which the woman, but not the man drinks heavily. For example, Kelly, Halford, and Young (2002) found evidence of a male-demand/female-withdraw communication patterns in a small sample of couples in which the woman reported problem drinking and her male partner did not.

Despite the apparent negative impact of alcohol-specific conflict on men's relationship satisfaction, research has consistently demonstrated that partner responses to problematic drinking are important and can have both a positive and negative influence in recovery from problematic alcohol use. Men cite pressure from family members (Polcin & Weisner, 1999), particularly from partners (Cunningham, Sobell, Sobell, & Gasikin, 1994), most commonly as their reason for seeking treatment for alcohol and substance abuse. Despite the apparent importance of partner pressure in initiation of treatment, partner responses that often characterize relationship conflict have demonstrated a negative impact on treatment effectiveness. Expressed emotion, for example, which has been defined as communication constituted by criticism, hostility, and emotional overinvolvement (Vaughn & Leff, 1976), predicted higher rates of post-

19

treatment relapse to alcohol use in men with alcohol use disorders (O'Farrell, Hooley, Fals-Stewart, & Cutter, 1998). Mattson et al.'s (2010) finding corroborated the importance of partner response in a sample of men recovering from substance abuse. They found that psychological aggression, a conflict behavior intended to cause emotional harm without inflicting physical injury (Murphy & Cascardi, 1999), predicted relapse to substance use 6 months after substance abuse treatment. It is perhaps because of the importance of the partners' responses to the alcohol use-disordered individual that treatments that include an intervention focused on attenuating partner's negative responses have demonstrated incrementally greater effectiveness than treatments that have not utilized such interventions (McCrady, Stout, Noel, Abrams, & Nelson, 1991).

Interpretation of the present findings is limited in several ways. The fact that men drank more heavily than women in almost all cases serves as a primary confound in drawing conclusions from the presented analyses. It is impossible to state conclusively that differential findings for men and women were due to gender differences, rather than disparities in alcohol consumption. Also, although the use of a treatment sample was important for determining the generalizability of the impact of discrepant alcohol use on relationship satisfaction, it may have confounded important variables. For example, if men's alcohol disorder improved over the course of treatment, it is plausible that couple's relationship satisfaction also improved, attenuating the impact that initial discrepant alcohol use may have had over the course of the study. Additionally, although the QFI is a standard measure for alcohol consumption, it relies on participants' gross appraisal of their typical drinking habits, as it asks individuals to recall the average number of days per week they typically drink and an average amount consumed over the past 6 months. Thus, the QFI is likely prone to measurement error, especially if there is a great

20

deal of variability in participants' frequency of drinking and quantity consumed. Although some findings did emerge with the QFI, additional drinking pattern variables that are known to be influential – such as whether or not the couple drank in each other's presence (Homish & Leonard, 2005) – were not accounted for, primarily to maintain clarity in the findings and reduce the complexity of the model.

Conclusion

Although there is evidence that the discrepancy between men's and women's drinking habits associates with relationship satisfaction, the present findings suggest that conflict specific to alcohol use, in part, mediates this link. Specifically, it was found that discordant drinking, in which the men drank more than the women, predicted higher levels of conflict about men's alcohol use and, in turn, relationship dissatisfaction for men, but not women. Notably, however, the extent that the woman drank commensurately with the man also lead to decreased satisfaction for men, but this was potentially mediated by conflict about women's alcohol use. These findings have implications for targeted interventions for men with alcohol use disorders and their spouses.

.

References

Bowers, T. G., al-Redha, M. R. (1990). A comparison of outcome with group/marital and standard/individual therapies with alcoholics. *Journal of Studies on Alcohol, 51*, 301-309.

Bushman, B. J., & Cooper, M. M. (1990). Effects of alcohol on human aggression: An integrative research review. *Psychological Bulletin, 107*, 341-354.

Caces, M. F., Harford, T. C., Williams, G. D., & Hanna, E. Z. (1999). Alcohol consumption and divorce rates in the United States. *Journal of Studies of Alcohol, 60*, 647–652.

Cahalan, D., Cissin, I. H., & Crossley, H. M. (1969). *American drinking practices: A national study of drinking behavior and attitudes*. New Brunswick, NJ: Rutgers Center of Alcohol Studies.

Coker, A. L., Smith, P. H., McKeown, R. E., & King, M. J. (2000). Frequency and correlates of intimate partner violence by type: physical, sexual, and psychological battering. *American Journal of Public Health, 90*, 553-559.

Cunningham, J. A., Sobell, L. C., Sobell, M. B., & Gaskin, J. (1994). Alcohol and drug abusers' reasons for seeking treatment. *Addictive Behaviors, 19*, 691–96.

Dethier, M., Counerotte, C., & Blairy, S. (2011). Marital satisfaction in couples with an alcoholic husband. *Journal of Family Violence, 26*, 151-162.

First, M. B., Spitzer, R. L., Gibbon, M., & Williams, J. (1996). Structured clinical interview for DSM-IV axis I disorders-Patient edition (SCID-I/P, Version 2.0). NY: New York Biometrics Research Department, State Psychiatric Institute.

Foran, H. M., & O'Leary, D. K. (2008). Alcohol and intimate partner violence: a meta-analytic review. *Clinical Psychology Review, 28*, 1222-1224.

Gomberg, E. L. (1988). Alcoholic women in treatment: The question of stigma and age. *Alcohol and Alcoholism, 23*, 507 – 514.

Gottman, J. M. (1994). *What predicts divorce? The relationship between marital processes and marital outcomes*. Hillsdale, NJ: Erlbaum.

Grant, B. F. (1997). Prevalence and correlates of alcohol use and DSM-IV alcohol dependence in United States: Results of the national longitudinal epidemiology survey. *Journal of Studies on Alcohol, 58*, 464-473.

Haber, J. R., & Jacob, T. (1997). Marital interactions of male versus female alcoholics. *Family Process, 36*, 385–402.

Halford, W. K., & Osgarby, S. M. (1993). Alcohol abuse in clients presenting with marital problems. *Journal of Family Psychology, 6*, 245–254.

Hall, R. L., Hesselbrock, V. M., Stabenau, J. R. (1983). Familial distribution of alcohol use: II. Assortative mating of alcoholic probands. *Behavior Genetics, 13*, 373-382.

Hayes, A. F. (2006). A primer on multilevel modeling. *Human Communication Research, 32*, 385-410.

Holmila, M. (1988) Wives, Husbands and Alcohol: A study of informal drinking control within the family. *Finnish Foundation for Alcohol Studies*, 36.

Holmila, M., Mustonen, H., & Rannik, E. (1990). Alcohol use and its control in Finnish and Soviet marriages. *British Journal of Addictions, 85*, 509–520.

Homish, G. G., & Leonard, K. E. (2005). Marital quality and congruent drinking. *Journal of Studies on Alcohol, 66*, 88–496.

Homish, G. G., & Leonard, K. E. (2007). The drinking partnership and marital satisfaction: The longitudinal influence of discrepant drinking. *Journal of Consulting and Clinical*

Psychology, 75, 43–51.

Hradilova-Selin, K. (2004). Alkohol i parrelationer: dricka tillsammans—kon- trollera varandra? [Alcohol in couple relationships: drinking together— controlling each other?] In K. Hradilova-Selin (Ed.), M. Eriksson, H. Leifman, B. Olsson, M. Ramstedt, R. Room, & P. Steen. *Svenska dryckesvanor och deras konsekvenser i början av det nya milleniet*, SoRAD—Forskningsrapport nr 20, pp. 133-146. Stockholm: SoRAD.

Hradilova-Selin, K., Holmila, M., & Knibbe, R. (2009). Informal social control of drinking in intimate relationships – a comparative analysis. *Contemporary Drug Problems, 36*, 31-59.

Kantor, G. K., & Straus, M. A. (1989). Substance abuse as a precipitant of wife abuse victimizations. *American Journal of Drug and Alcohol Abuse, 15*, 173–189.

Kelly, A. B., Halford, W. K., & Young, R. M. (2002). Couple communication and female problem drinking: A behavioral observation study. *Psychology of Addictive Behaviors, 16*, 269–271.

Kenny, D. A. (1995). The effect of nonindependence on significance testing in dyadic research. *Personal Relationships, 2*, 67-75.

Kenny, D. A., Kashy, D. A., & Cook, W. L. (2006). *Dyadic data analysis*. New York: Guilford Press.

Keyes, K. M., Grant, B. F., Hasin, D. S. (2008). Evidence for a closing gender gap in alcohol use, abuse, and dependence in the United States population. *Drug and Alcohol Dependence, 11*, 21–29.

Leadley, K., Clark, C. L., & Caetano, R. (2000). Couples' drinking patterns, intimate partner violence, and alcohol-related partnership problems. *Journal of Substance Abuse, 11*,

253–263.

MacKinnon, D. P., Fritz, M. S., Williams, J., & Lockwood, C. M. (2007). Distribution of the

product confidence limits for the indirect effect: Program PRODCLIN. *Behavior*

Research Methods, 39, 384-389.

Marshall, M. P., (2003). For better or for worse? The effects of alcohol use on marital

functioning. *Clinical Psychology Review, 23*, 959-997.

Mattson, R. E., O'Farrell, T. J., Lofgreen, A. M., Cunningham, K., & Murphy, C. M. (2011). The

role of illicit substance use in a conceptual model of intimate partner violence in men

undergoing treatment for alcoholism. *Psychology of Addictive Behaviors*. Advance online

publication.

Mattson, R. E., O'Farrell, T. J., Monson, C. M., Panuzio, J., & Taft, C. T. (2010). Female

perpetrated dyadic psychological aggression predicts relapse in a treatment sample of

men with substance use disorders. *Journal of Family Violence, 25*, 33-42.

McCrady, B. S., Stout, R., Noel, N., Abrams, D., Fisher Nelson, H. (1991). Effectiveness of

three types of spouse involved behavioral alcoholism treatment. *British Journal of*

Addiction, 86, 1415-1424.

Miller, W. R., & Tonigan, J. S. (1995). The Drinker Inventory of Consequences (DrInC): An

instrument for assessing adverse consequences of alcohol abuse, test manual. Rockville,

MD: National Institute on Alcohol Abuse & Alcoholism.

Mudar, P., Leonard, K. E., & Soltysinski, K. (2001). Discrepant substance use and marital

functioning in newlywed couples. *Journal of Consulting and Clinical Psychology, 69*,

130–34.

Mumenthelar, M. S., Taylor, J. L., O'Hara, R., & Yesavage, J. A. (1999). Gender differences in

moderate drinking effects. *Alcohol Research and Health, 23*, 55-64.

Murphy, C. M., & Cascardi, M. (1999). Psychological aggression and abuse in marriage. In

    Hampton, R. (Ed.), *Family violence: Prevention and treatment 2nd ed.* (pp. 198-226).

    Newbury Park, CA: Sage.

Nolen-Hoeksema, S. (2004). Gender differences in risk factors and consequences for alcohol use

    and problems. *Clinical Psychology Review, 24*, 981–1010.

O'Farrell, T. J., & Bayog, R. D. (1986). Antabuse contracts for married alcoholics and their

    spouses: A method to maintain antabuse ingestion and decrease conflict about drinking.

    Journal of Substance Abuse Treatment, 3, 1–8.

O'Farrell, T. J., Cutter, H. S. G., Choquette, K. A., Floyd, F. J., & Bayog, R. D. (1992).

    Behavioral marital therapy for male alcoholics: marital and drinking adjustment during

    the two years after treatment. *Behavior Therapy, 23*, 529-549.

O'Farrell, T. J., Hooley, J., Fals-Stewart, W., & Cutter, H. S. G. (1998). Expressed emotion and

    relapse in alcoholic patients. *Journal of Consulting and Clinical Psychology, 66*, 744–

    752.

Ostermann, J., Sloan, F. A., Taylor, D. H. (2005). Heavy alcohol use and marital dissolution in

    the USA. *Social Science and Medicine, 61*, 2304-2316.

Polcin, D. L., & Weisner, C. (1999). Factors associated with coercion in entering treatment for

    alcohol problems. *Drug and Alcohol Dependence, 54*, 63–68.

Raudenbush, S. W., Brennan, R. T., & Barnett, R. C. (1995). A multivariate hierarchical model

    for studying psychological change within married couples. *Journal of Family*

    Psychology, 9, 161-174.

Raitsalo, K., & Holmila, M. (2005). The role of the spouse in regulating one's drinking. *Addiction Research and Theory, 13*, 137-144.

Roberts, L., & Leonard, K. (1998). An empirical typology of drinking partnerships and their relationship to marital functioning and drinking consequences. *Journal of Marriage and the Family, 60*, 515–526.

Sabourin, S., Valois, P., & Lussier, Y. (2005). Development and validation of a brief version of the Dyadic Adjustment Scale with a nonparametric item analysis model. *Psychological Assessment, 17*, 15–27.

Singer, D., & Willett, J. B. (2003). *Applied longitudinal data analysis: Modeling change and event occurrence.* New York: Oxford University Press.

Spanier, G. B. (1976). Measuring dyadic adjustment: New scales for assessing the quality of marriage and similar dyads. *Journal of Marriage and the Family, 38,* 15-28.

Straus, M. A., Hamby, S. L., Boney-McCoy, S., & Sugarman, D. B. (1996). The revised Conflict Tactics Scales (CTS2) Development and preliminary psychometric data. *Journal of Family Issues, 17*, 283–316.

Taft, C. T., O'Farrell, T. J., Torres, S. E., Panuzio, J., Monson, C. M., Murphy, M., & Murphy, C. M. (2006). Examining the correlates of psychological aggression among a community sample of couples. *Journal of Family Psychology, 20*, 581–588.

Vaughn, C. & Leff, J. P. (1976). The measurement of expressed emotion in families of psychiatric patients. *British Journal of Social & Clinical Psychology, 15*, 157 -165.

Appendix
Questionnaire Items Included in the Analyses

Relationship Satisfaction: Items from the DAS

1. How often do you discuss, or have you considered divorce, separation, or terminating your relationship?

All the time	Most of the time	More often than not	Occasionally	Rarely	Never
0	1	2	3	4	5

2. In general, how often do you think that things between you and your partner are going well?

All the time	Most of the time	More often than not	Occasionally	Rarely	Never
0	1	2	3	4	5

3. Do you confide in your partner?

All the time	Most of the time	More often than not	Occasionally	Rarely	Never
0	1	2	3	4	5

4. The numbers on the following line represent different degrees of happiness in your relationship. The middle point, "happy," represents the degree of happiness of most relationships. Please CIRCLE the NUMBER which best represents the DEGREE OF HAPPINESS, all things considered, of your relationship.

Extremely Unhappy	Fairly Unhappy	A Little Unhappy	Happy	Very Happy	Extremely Happy	Perfect
0	1	2	3	4	5	6

Drinking Patterns: QFI

1. How many times in the <u>last 6 months</u> did you USUALLY have ANY kind of beverage

   CONTAINING ALCOHOL, whether it was wine, beer, whiskey, or any other drink?

Never	Several times	About once a month	Several times a month	1-2 days a week	3-4 days a week	5-6 days a week	Every day
0	1	2	3	4	5	6	7

2. On those days when you did drink beer, wine, or hard liquor during the <u>last 6 months</u>,

   how many drinks did you USUALLY have per day?   _____

Alcohol-specific Conflict

   Answer each of the following questions about your MARRIAGE/RELATIONSHIP and

your ALCOHOL USE. Answer all questions as carefully as you can. Please CIRCLE the

appropriate response for each question.

1. Does your partner get angry over your drinking?

   Not at all   Always
      0   1   2   3   4   5

2. Do you get irritated when your partner comments on your drinking?

   Not at all   A great deal
      0   1   2   3   4   5

3. Does your partner nag you about your drinking?

   Not at all   Frequently
      0   1   2   3   4   5

Level of General Conflict

How often do you and your partner have marital/relationship disputes that do not focus on

drinking?

Not at all					Frequently
0	1	2	3	4	5

Table 1.

Demographic Characteristics of Men and Women in the Current Sample

	Men	Women
Age	41.2 (*SD*=8.9)	39.6 (*SD*=9.5)
Ethnicity		
Caucasian	82%	82%
African American	6%	3%
Hispanic	3%	5%
Hawaiian/Pacific Islander	<1%	<1%
American Indian/Alaskan Native	<1%	2%
Other	8%	7%
Employment		
Full-time	52%	59%
Part-time	9%	19%
Unemployed	35%	21%
Retired	3%	-
Student	1%	-
Other	-	1%
Annual Income		
< $19,999	40%	51%
$20,000-$49,999	44%	42%
> $50,000	16%	7%
Years of Formal Education	12.7 (*SD*=2.2)	13.6 (*SD*=2.4)

Table 2.
Standardized Estimates for Preliminary Model, Control Model, and Hypothesized Model, using DAS as Criterion

Parameter	Preliminary Model Estimates	SE	Control Model Estimates	SE	Hypothesized Model Estimates	SE
Estimates of Fixed Effects						
Male	13.44***	.28	13.63***	.29	14.82***	.48
Male*Time	-.01	.55	-.02	.03	-.08~	.09
Female	11.86***	.31	11.91***	.32	12.48***	.55
Female*Time	-.01	.03	-.01	.03	-.02	.05
Male*Treatment			-.38*	.15	-.35*	.15
Male*General Conflict - Actor			-.55~	.28	-.33	.28
Male*General Conflict – Partner			-.22	.28	-.26	.27
Male*Time*General Conflict - Actor			.01	.02	.01	.03
Male*Time*General Conflict - Partner			.04	.02	.04	.02
Female*Treatment			-.38**	.16	-.38*	.16
Female*General Conflict - Actor			-.82**	.31	-.89**	.31
Female*General Conflict - Partner			.11	.32	.25	.32
Female*Time*General Conflict - Actor			.05~	.03	.05~	.03
Female*Time*General Conflict - Partner			-.01	.03	-.01	.03

Male*Alcohol Conflict - Actor					-1.56***	.37
Male*Alcohol Conflict - Partner					.23	.40
Male*Time*Alcohol Conflict - Actor					.05	.03
Male*Time*Alcohol Conflict - Partner					-.03	.04
Female*Alcohol Conflict – Actor					-.05	.47
Female*Alcohol Conflict - Partner					-.96*	.41
Female*Time*Alcohol Conflict - Actor					-.00	.04
Female*Time*Alcohol Conflict - Partner					.02	.04

Estimates of Covariance Parameters

CS Diagonal	4.02***	.45	4.05***	.46	4.11***	.47
CS Covariance	1.74***	.49	1.59**	.48	1.64**	.50

Male + Female + Male (Time) + Female (Time)

UN (1,1)	8.77***	1.50	8.94***	1.52	7.65***	1.43
UN (2,1)	6.50***	1.35	6.88***	1.38	5.82***	1.32
UN (2,2)	12.25***	1.85	12.39***	1.88	11.53***	1.84
UN (3,1)	-.03	.11	-.05	.11	-.01	.10
UN (3,2)	-.15	.11	-.15	.11	-.11	.11
UN (3,3)	.03*	.01	.02*	.01	.02~	.01
UN (4,1)	.04	.12	.01	.11	.03	.11

UN (4,2)	-.12	.13	-.09	.13	-.06	.13
UN (4,3)	.04***	.01	.03**	.01	.03**	.01
UN (4,4)	.07***	.02	.05**	.01	.05**	.02

Pseudo R^2 Statistics and Goodness-of-fit

$R^2_{1,1}$			-.01		.14	
$R^2_{2,1}$			-.06		.15	
$R^2_{2,2}$			-.01		.07	
$R^2_{3,1}$			-.05		.80	
$R^2_{3,3}$			.02		.17	
$R^2_{4,2}$			-.09		.33	
$R^2_{4,3}$			.32		0	
$R^2_{4,4}$			.05		.02	
Akaike's Information Criterion (AIC)	5388.61		5255.91		5142.60	
Schwarz's Bayesian Criterion (BIC)	5447.65		5314.57		5200.53	

Note. ~ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

The Preliminary Model predicts DAS as a function of time (level 1) and gender (level 2). The Control Model enters the control variables, Treatment and General Conflict, in their centered forms. The Hypothesized Model enters the level 2 predictor of primary interest, Alcohol-Specific Conflict, in its centered form. Psuedo-R^2 was only provided if random effects were significant in the Preliminary Model or Control Model.

Table 3.

Standardized Estimates Concordant and Discordant Drinking using Alcohol-Specific Conflict as Criterion

Parameter	Estimate	SE
Estimates of Fixed Effects		
Male	9.91**	.36
Male*Treatment	-.03	.38
Male*Concordant	-.55~	.30
Male*Discordant	.62*	.29
Female	1.69***	.36
Female*Treatment	-.09	.38
Female*Concordant	.80**	.30
Female*Discordant	-.72*	.30
Male*General Conflict - Actor	.71*	.30
Male* General Conflict - Partner	-.11	.29
Female*General Conflict - Actor	-.06	.30
Female*General Conflict - Partner	.15	.30

Note. ~ *p* < .10; * *p* < .05; ** *p* < .01; *** *p* < .001