

DOES MARITAL CONFLICT PREDICT LATER ALCOHOL USE?

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THESIS ABSTRACT

DOES MARITAL CONFLICT PREDICT LATER ALCOHOL USE

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Couple's physical and verbal aggression were examined longitudinally to determine if they predict later alcohol use, controlling for SES, race/ethnicity, and individual partner's age. The sample consisted of 194 couples from different counties in the state of Alabama. The current study showed that overall, couple's physical and verbal aggression do predict later alcohol use even controlling for SES, race/ethnicity, and individual partner's age. Specifically, the couple's earlier physical aggression predicted wives' later alcohol use and couples' earlier verbal aggression predicted husbands' later alcohol use. In addition, by fitting a second series of models, in which husbands' and wives' earlier alcohol use predicted later physical and verbal aggression, only husbands' alcohol use predicted the couple's physical and verbal aggression, again controlling for SES, race/ethnicity, and age, replicating previous findings in the literature.

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INTRODUCTION

The marital relationship is regarded as the base of the family unit in family systems (Owen & Cox, 1997). One of the most robust predictors of relationship dissatisfaction, divorce, domestic violence, physical health, and depression in marriage has been marital conflict (Berns, Jacobson, & Gottman, 1999; Gordon, Friedman, Miller, & Gaertner, 2005; Gotlib & Whiffen, 1989; Karney & Bradbury, 1995; Kiecolt Glaser, Newton, Cacioppo, MacCallum, Glaser & Malarkey, 1996). Alcohol use also has been associated with marital dissolution (Ostermann, Sloan, & Taylor, 2005), depression (Homish, Leonard, & Kearns-Bodkin, 2006), and domestic violence (Walton-Moss, Manganello, & Frye, 2005). In cross-sectional and longitudinal studies, alcohol use has been shown to predict marital conflict (Heyman, O'Leary, & Jouriles 1995; Leonard & Quigley, 1999; Quigley & Leonard, 1999), but it is possible that marital conflict also contributes to alcohol use, or that the two influence one another. However, fewer studies have examined how marital conflict may predict alcohol use.

Research has shown that alcohol use increases the use of verbal aggression and physical aggression (Kelly, Halford, & Young, 2002; Leonard & Roberts; 1998a; Leonard & Roberts; 1998b; Pan, Neidig, and O'Leary, 1994; Steele & Josephs, 1988; Taylor & Leonard, 1983). But the possibility that verbal and physical aggression might predict later alcohol use (Bachman, Wadsworth, O'Malley, Johnston, & Schulenberg, 1997; Leonard

& Rothbard, 1999) has yet to be tested. Therefore, in this study the relationship between marital conflict as measured by verbal and physical aggression and later alcohol use within the marital relationship was examined.

The main research goal for the current study is to determine whether marital conflict, specifically verbal and physical aggression, serves as a risk factor for later alcohol use. The second research goal is to investigate whether these two domains of marital conflict, verbal aggression and physical aggression, differentially predict later alcohol use by husbands and wives. The third research goal is to replicate previous findings in which alcohol use predicts later marital conflict – couple physical and verbal aggression. These three goals will be explored through the current two-wave study in which the waves are two years apart.

In the literature review, previous studies about the relationship between alcohol use and physical/verbal aggression will be examined, as well as possible predictors of alcohol use and marital conflict such as gender, socioeconomic status, race/ethnicity, and age. Since the main goal of current study is to test whether physical and verbal aggression predict later alcohol use, studies about the impact of marital functioning on alcohol use will be examined as well as research about alcohol use as a means of regulating the affect that occurs in situations of couple aggressive behaviors.

O'Farrell, Murphy, Neavins, and Van Hutton (2000) showed that behavioral marital therapy (BMT) for alcoholism helped significantly to decrease the verbal aggression of alcoholic husbands and their wives even two years after BMT. Their intervention was based on previous findings that alcohol use predicts later marital

conflict. If the current study shows that marital conflict predicts later alcohol use in marital couples, couple therapy targeting conflict may be recommended in order to prevent the development of later alcohol use problems.

LITERATURE REVIEW

Alcohol use predicts physical aggression

Over the past three decades of research, alcohol use, especially excessive alcohol consumption, has been consistently related to physical aggression, particularly domestic violence. In a nationally representative sample of 5,159 families, Kantor and Straus (1987) found that for episodes of man-to-woman abuse, 22% of the men and 10% of the women reported that they were drinking alcohol at the time of the violence. In most of their cases, alcohol use was by the husband alone or by both the husband and the wife. Their study indicated that alcohol consumption and marital violence were linearly associated in about 25% of the incidents. Pan, Neidig, and O'Leary (1994) in a study of 15,023 military personnel, found that husbands who had a drinking problem were more inclined to be involved in mild and severe violence than husbands without such problems. The next year, Heyman, O'Leary, and Jouriles (1995) provided similar results using a relatively small community sample of couples planning marriage in New York ($N = 272$). They found that severe violence in the couple was predicted by husband's drinking before marriage and during the first 6 months after marriage.

On the other hand, studies of battered women found that 40%-60% of the abusive husbands were labeled by their wives as "heavy drinkers," "problem drinkers," or "alcoholics" (Fagan, Stewart, & Hansen, 1983; Roy, 1982). One recent study conducted

with 3,637 women in 11 USA metropolitan cities also confirmed that alcohol use was one of the risk factors for male partners to perpetrate intimate partner violence (Walton-Moss, Manganello, & Frye, 2005). Studies depending on husbands' reports revealed similar results (Leonard, Bromet, Parkinson, Day, & Ryan, 1985). In all of the above studies, self-report questionnaires were the main data source. Although some methodological limitations exist in these studies (e.g., absence of multiple measurements and comparison groups), the link between alcohol use and husband violence generally has been established.

This relationship between alcohol use and the use of physical aggression has been validated in both cross-sectional and longitudinal studies that have used multiple reporters (Leonard & Senchak, 1996; Quigley & Leonard, 2000a). In these studies, questionnaires were administered and face-to-face or phone interviews were conducted about the occurrence and circumstances of marital aggression.

Using 3-year longitudinal data collected from questionnaires completed by 567 couples, Quigley and Leonard (2000a) found that not only husbands' alcohol use but both husbands' and wives' drinking patterns in the first year of marriage predicted violence in later years. Husband's drinking did not predict violence in the second and third years of marriage if his wife was a heavy drinker. If his wife was a light drinker, husband's drinking could predict the violence in the second and three years of marriage. Their findings showed that the highest levels of violence were related to couples in which husbands drank a lot and wives did not drink at all. In 2003, Fals-Steward used daily log sheets to examine the day-to-day relationship between male partners' drinking and the

occurrence of male-to-female physical aggression. The final sample consisted of 137 couples who reported at least one episode of male-to-female physical aggression in their relationship during the year before the study. The sample was recruited from either a 12-week domestic violence outpatient treatment program or a 12-week outpatient alcoholism treatment program. His findings showed that the likelihood of male-to-female physical aggression was substantially higher on days of drinking by male partners compared with days of no drinking, even after controlling for levels of relationship disharmony and alcohol severity. These findings also indicated that violence was more likely during male partners' drinking or shortly after drinking episodes stopped compared with the likelihood of violence occurring at a time long after drinking ceased.

However, heavy alcohol consumption did not uniformly predict severe violence. Research shows that severe violence was most frequent when there was high verbal conflict in the marriage and when the husband was a heavy drinker (Quigley & Leonard, 1999). When there was low verbal conflict and excessive alcohol consumption by the husband, significantly less violence existed than when there was high conflict and heavy drinking. Their hypothesized explanation was that perhaps the lack of aggression among these couples occurred because no or few interactions between these husbands and wives existed, and thus verbal aggression seldom occurred. A study conducted by Field, Caetano, and Nelson provided another perspective (2004). Using a probability sample of 1,468 Caucasian, African-American, and Hispanic couples in 48 states, they found that although all of the alcohol and violence related cognitive risk factors were associated with the perpetration of domestic violence, expectations of aggressive behaviors following

alcohol assumption appeared to be the strongest predictor of the domestic violence among current drinkers.

So far several models have been proposed to explain the relationship between alcohol use and intimate partner violence mentioned above: (a) the alcohol expectancy model (Kantor & Asidigian, 1997b), (b) the spurious model (Gelles, 1993), (c) the proximal effect model (Flanzer, 1993) and (d) the indirect effect model (Leonard & Quigley, 1999). The alcohol expectancy model holds that drinking behavior might be influenced by expectancies, which means that individuals believe that alcohol has effects on self and others. With such a belief, the violent episode may be excused by the perpetrator and others when the perpetrator is drunk. In Kantor and Asidigian's study (1997b), male perpetrators of violence were significantly more likely than female perpetrators to believe that alcohol use leads to impulsive behaviors. The spurious model, on the other hand, indicates that drinking and domestic violence are associated due to other factors that are related to both domestic violence and drinking (e.g., the couple's mental health or personality) (Anderson, 2002). In Anderson's study, when the above factors were controlled, no significant relationship between domestic violence and drinking existed. The proximal model suggests that alcohol intoxication facilitates domestic violence by its impact on cognitive processing. Under this theory, alcohol causes physiological, emotional, and cognitive changes that may lead to aggressive behavior such as partner abuse (Bushman, 1997; Chermack & Taylor, 1995; Leonard & Senchak, 1996) and thus violence occurs shortly after alcohol consumption. The indirect effect model (Leonard & Quigley, 1999), on the other hand, proposes that within intimate

relationship, unhappy and conflictual dyadic and family environments as a result of chronic drinking by one or both partners are related to violence of partner, rather than the intoxicating effects of alcohol per se.

Alcohol use predicts verbal aggression

Alcohol use has also been shown to predict verbal aggression. Comparing alcoholic to non-alcoholic men and their partners, O'Farrell et al.(2000) found that the prevalence of clinically elevated verbal aggression was five to seven times higher for alcoholic men and their wives than for a demographically matched, nonalcoholic control group. They had treated 88 male alcoholics and their wives using Behavior Marital Therapy alcoholism treatment program and then interviewed the men and their wives quarterly during the 2 years of follow-up with the Time Line Follow-Back interview (TLFB; Sobell & Sobell, 1996), a calendar for daily drinking. Even in the two years after BMT treatment, a significant reduction of verbal aggression existed from the year before BMT, verbal aggression among alcoholic men and their wives remained significantly elevated relative to demographically similar nonalcoholic controls.

Similar findings were found by Leonard and Roberts' (1998a) with some discrepancies. In their Buffalo Marital Interaction Project, they had 60 aggressive and 75 non-aggressive married couples interact in two 15-minute conversations that focused on an arena of disagreement in their marriage. To test the effects of alcohol, some husbands received three to four drinks of vodka and tonic prior to the second interaction. Their results indicated that alcohol instead of a placebo, led to increased negativity of both husbands and wives. However, the consumption of alcohol had relatively few effects that

were consistent across the entire sample. The effect of alcohol was to exaggerate differences between aggressive and non-aggressive husbands. For example, in the alcohol condition, aggressive husbands attributed much less constructive engagement to wives than wives attributed to themselves. By contrast, non-aggressive husbands saw wives as more constructive and cooperative than wives perceived themselves to be. As expected, the wives of aggressive husbands engaged in considerable editing of negative thoughts when the husband was drunk, perhaps in recognition of his volatility. Therefore, in marriages in which aggression occurs, alcohol adds to an already volatile situation by increasing distortions in the way aggressive husbands interpret interactions, and by affecting their tendency to act upon these distortions. Marital research also has indicated that couples characterized by problem drinking exhibit poor communication practices such as interruption, difficulties listening and speaking ineffectively (Kelly, Halford, & Young, 2002).

Gender differences in alcohol use and marital conflict

Leonard and Quigley's study (1999) with 366 newlywed couples revealed gender differences in marital aggression. They conducted in-person interviews focusing on characteristics (location, presence of other people, husband's drinking, wife's drinking) of the most severe verbal conflict, and the first and the most severe episode of physical aggression. Their results supported an association between husbands' drinking and the occurrence of marital aggression, but not between wives' drinking and the occurrence of aggression. With regard to the severity of aggression, there was some suggestion that

wife's drinking, primarily in the context of both husband's and wife's drinking, was associated with more severe episodes.

The research of Noel, McCrady, Stout, and Fisher-Nelson (1991) showed that maritally distressed (MD) couples in which the woman abused alcohol (MD_WA) were less negative or upset and more positive than distressed couples in which the man abused alcohol (MD_MA). Another study conducted by Kelly, et al. (2002) found that MD_WA couples showed more negative communication than did couples with neither marital distress (ND) nor alcohol problems (ND_NA), but this negativity varied by gender and was not the same cross-gender negativity seen in maritally distressed couples with no alcohol problems (MD_NA). Men in MD_WA couples had high rates of speaking negatively but not listening negatively, whereas women in MD_WA couples had high rates of listening negatively but not speaking negatively. MD_WA couples also showed gender-specific high rates of male criticism, female justifications, and female withdrawal. However, the samples of MD_WA couples for both studies were very small ($N = 12$ and $N = 19$).

Nonetheless, not all studies have showed consistent findings. A recent investigation by Chase and colleagues (2003) examined risk factors for both female-perpetrated and male-perpetrated violence in relationships where the woman was an alcoholic. Using 103 female alcoholic patients seeking couples-based outpatient alcoholism treatment, their study indicated that in these couples, women committed more violent acts overall and were more likely to commit severely violent acts than the men (64% of men and 68% of women), with men reportedly committing fewer acts of severe

violence than women (22% vs 50%). Drapkin and colleagues (2005) came to a similar conclusion with 109 female alcoholics. They found that female alcoholics and their partners were equally likely to be violent, but the women were committing more frequent and serious acts of violence. Furthermore, the women were more frequently verbally aggressive, psychologically coercive, and engaged in more minor or severe violence than their partners. The intensity of the women's drinking was consistently associated with higher levels of physical and verbal aggression. However, the less frequently her partner drank, the greater the level of the woman's verbal aggression, psychological coercion, and minor physical violence.

SES, race/ethnicity, and age in predicting alcohol use and marital conflict

Lower socioeconomic status (SES, Hollingshead, 1975) has been associated with problem drinking (Fitzgerald & Zucker, 1995; Kenkel & Ribar, 1994) and marital aggression (Anderson, 1997). However, in a historical review of the research on the association of social class and alcoholism, Park (1983) concluded that the rate of alcoholism among the lower classes seems to be exaggerated. There is also a study showing a higher ratio of intoxication rate among highly educated people when a general population sample of both American men and women was used (Harford et al., 1991). Cunradi, Caetano, and Schafer (2002) investigated the relationship between SES and intimate partner violence. In 555 Caucasian, 358 African-American, and 527 Hispanic couples, they found that lower annual household income had the greatest relative influence on the probability of partner violence. Male and female employment status had no impact. The mean years of couple education was strongly related to the probability of

female-to-male partner violence among Caucasian and Hispanic couples, but was only marginally significant among African-American couples.

Race/Ethnicity has also been examined in terms of its relationship to alcohol use and intimate partner violence (Caetano, Schafer, & Cunradi, 2001). From a 1995 national study, 23% of the African American, 17% of the Hispanic, and 11.5% of Caucasian couples surveyed reported at least one male-to-female intimate partner violence incident in the year prior to the survey. The female-to-male violence was not low either: 30% among African American, 21% among Hispanic, and 15% among Caucasian couples. In the same survey, they also found the critical role of alcohol in intimate partner violence: 30% to 40% of men and 27% to 34% of women who perpetrated violence against their partners were drinking at the time of violent episode.

Positive associations have been shown between alcohol problems and age (Clark & Hilton, 1991; Selin, 2005); younger individuals appear to have more alcohol problems than do older individuals. This phenomenon has several explanations. Some researchers have argued that younger individuals have lower physical tolerance (Hurst et al., 1994), some have proposed that they also have less control over their drinking behavior (Clark & Hilton, 1991), so they tend to drink considerably more when they do drink. Some researchers hypothesize that individuals above a certain age are less willing to admit or report drinking problems out of fear of being stigmatized (Selin, 2005). In 5,469 completed telephone interviews with Swedish adults who were 17 years old or older, Selin (2005) found that age was the strongest predictor of excessive drinking when gender, marriage status, and SES were controlled; younger adults were more excessive

drinkers than were older adults. Previous studies (See Wilt & Olson, 1996, for a review) also found that domestic violence was more prevalent among younger individuals. One study using a national probability sample conducted by Straus et al. (1991) showed that couples who were younger than 30 years of age tended to have more incidents of violence at home.

Marital functioning and alcohol use

The earliest research on the alcoholic marriage focused on the personality characteristics of the wife (Futterman, 1953; Kalashian, 1959). The theorists posed that the wife's psychodynamic needs drove her to encourage her husband's drinking, to weaken his efforts to abstain, and to maintain a damaging and dominating relationship. However, the lack of empirical evidence was the mortal wound of this "wife's disturbed personality" hypothesis. At the same time, these theoretical efforts implied that relationship patterns might be related to alcohol problems.

From a family systems approach, Steinglass and his colleagues (Steinglass, Weiner, & Mendelson, 1971) contended that abusive drinking could serve two different functions. One possibility was that drinking could uphold the family unit by stabilizing the family system. In other words, by rewarding alcohol use through positive subsequent interactions, family dynamics could serve to maintain drinking behaviors. Another possibility was that drinking could be a sign of de-stabilization in which individuals were stressed due to the family system's dysfunction or some systemic stress (e.g. financial problems, sudden death of a family member, divorce, etc.)

Roberts and Leonard's (1998) cluster analysis provided some support for the stabilization hypothesis. They studied 310 couples in which both partners drank occasionally. The couples were categorized as "husband heavy," "heavy out-of-home," "light social," "light intimate," and "frequent intimate" drinking couples. All of these categories were used to describe couple's drinking behavior as a whole. Only the first category was characterized by a marked elevation in the husband's drinking. The results of the study proposed that light or moderate levels of alcohol use help sustain a healthy level of marital satisfaction, which confirmed the findings of previous studies that in non-heavy drinking conditions, couples were more positive (Haber & Jacob, 1997). The light drinkers tended to have more problem-solving behaviors when they were drinking than when they were not drinking. Jacob et al. (1983) even found that high alcohol consumption was related to high levels of marital satisfaction in the spouses of steady but not heavy episodic drinkers.

Other studies also have provided evidence for the alternative de-stabilization of marriage hypothesis (Bachman, Wadsworth, O'Malley, Johnston & Schulenberg, 1997; Hilton, 1991; Jay, Freisthler & Svare, 2004; Leonard & Rothbard, 1999; Power & Estaugh, 1990; San Jose, Van Oers, Van De Mheen, Garretsen, & Mackenbach, 2000). Hilton (1991) reported that married men were less likely than single men to report drinking at problematic levels. However, divorced men reported drinking patterns quite similar to those reported by single men. In a study involving nearly 33,000 high school seniors assessed at 2-year intervals, Bachman et al. (1997) found that the transition from marriage to divorce led to increases in the percentage of both men and women drinking as

well as an increase in the proportion of men and women who were classified as heavy drinkers. Also, there appears to be an increase in both the frequency and the amount of alcohol consumed. Thus, Leonard and Rothbard (1999) concluded that continued drinking and drinking problems are associated with marital instability and that the breakup of a marriage is associated with increased drinking and drinking problems. In a representative general population sample of 2,802 Dutch adults 15–74 years of age, heavy drinking was positively associated with negative life events, specifically with crime victimization, decreased financial status, and divorce/breakup. However, all of these associations were significant only for men. In addition to acute stress, this study examined chronic stress and found a positive association between marital dissatisfaction and heavy drinking for both men and women, and a positive association between unemployment and heavy drinking for men only (San Jose et al., 2000). The findings of this study that stress and heavy drinking were related were also supported by other studies (Dawson, Grant, Ruan, 2005; Jay et al., 2004). Thus, even though research has shown evidence that alcohol use predicts marital conflict, we cannot discard the possibility that marital conflict might predict alcohol use as well because, as Gelles and Cavanaugh (2005) argued, social and family context does dictate the family members' responses to alcohol use.

Alcohol use as affect regulation

Research on why people drink alcohol has been extensive. Alcohol is believed to influence affective states (Sher & Trull, 1994). Labouvie, Pandina, White and Johnson (1990) found that negative affect could strongly predict high levels of alcohol and drug

use. Martin, Lynch, Pollack, and Clark (2000) also found gender similarities in the relationship between alcohol problems and negative affect. In 1995, an affect-regulation model of alcohol consumption was proposed by Cooper, Frone, Russell, and Mudar. Using 2,544 adolescents, aged 13-19, and 1,933 adults with a mean age of 41.8, they tested the hypothesis that drinking might be a strategic or motivated behavior used to regulate both positive and negative affective experiences. Drinking to cope was depicted as an aversive motivational process. In contrast, drinking to enhance was conceptualized as an appetitive process — as behavior emitted to achieve a desired state or outcome rather than avoid or minimize an aversive one. Their results revealed that drinking to enhance and drinking to cope represented psychologically distinct behaviors, which was consistent with theory and research on positive and negative emotions. Several studies have tested similar models for alcohol use and problems (Cooper, Agocha, & Sheldon, 2000; Read, Wood, Kahler, Maddock, & Palfai, 2003; Simons, Gaher, Correia, Hansen, & Christopher, 2005; Weller, 2000). Most studies included two predictors of enhancement motives (sensation seeking and positive affect) and three predictors of coping motives (negative affect, negative mood regulation expectancies, and affect lability). The results generated from these studies indicated that enhancement motives were most often indirectly associated with alcohol problems through alcohol use (Cooper et al., 1995; Read et al., 2003; Weller, 2000). However, coping motives exhibited both an indirect and direct association with alcohol problems (Cooper et al., 1995; Simons, et al., 2005).

Marital conflict (e.g., physical and verbal aggression) might serve as stress that generates negative affect in couple relationship. Two different theories have been adopted to explain the relationship between marital conflict and each partner's experience of affect. The behavioral exchange theory (Jacobson & Margolin, 1979; Pasch & Bradbury, 1998; Weiss, 1978; Weiss & Dehle, 1994; Weiss & Heyman, 1990a) focuses on behaviors: the rewarding or positive behaviors of the spouses are thought to enhance global functioning of the marriage, whereas punishing or negative behaviors are thought to damage the marriage. Control of the other person as well as negative reinforcement and reciprocity of negative affect have often been used by partners as a means to stop annoying demands of the other partner, even though these more often led to escalation rather than de-escalation of conflict. Distressed couples show a tendency toward mutual aversive responses and remain caught in a vicious cycle; whereas non-distressed couples seem to be able to decrease negative exchanges (Pasch & Bradbury, 1998; Weiss & Dehle, 1994).

The second theory to explain marital conflict is cognitive attribution theory. Cognitive attributions (e.g., "She is selfish! She only cares about herself!") have been hypothesized as contributors to the display of the overt behaviors of marital conflict (e.g., "Don't tell me what to do! You're not my boss!"). Research on attributions (Bradbury & Fincham, 1990; Fincham & Bradbury, 1992; Gordon, et al., 2005; Miller & Rempel, 2004; Sillars, Roberts, & Leonard, 2000) consistently has indicated that distressed couples, as compared to non-distressed couples, interpret the positive and negative behaviors of their partners in a way that casts their partners in a negative light. In

distressed couples, negative behaviors by one partner are attributed to global, internal, and stable causes by the other partner (e.g., He didn't do it because he hated to do whatever I asked him to do). In addition, the causes of the negative behavior by the partner are viewed as intentional and selfishly motivated. Positive partner behaviors are attributed to specific, unstable, and unintentional factors (e.g., He treated me well last night just because he wanted sex). The distressed partners basically minimize positive behavior and maximize negative behavior as distress-maintaining attributions. The more rigid use of negative attributions by distressed partners is consistent with empirical findings on the communication patterns of distressed couples.

The research supporting the hypothesis that alcohol use predicts marital conflict is abundant. But the hypothesis that marital conflict might predict alcohol use has yet to be fully examined. In the current study, I hope to fill this gap in the literature. Based on the affect-regulation model of alcohol, marital conflict might serve as a risk factor to induce drinking behavior as a means of coping in order to avoid or decrease negative affect or as a means of promoting temporarily positive affect in the midst of conflictual dyadic cycle. Since SES, race/ethnicity, and age have been shown to have an impact on drinking behaviors and marital conflict, they will be control predictors in the current study.

The research goals for the current study are to determine (a) whether marital conflict, specifically verbal and physical aggression, serves as a risk factor for later alcohol use, (b) whether verbal aggression and physical aggression, differentially predict later alcohol use by husbands and wives, (c) whether previous findings in which alcohol use predicts later marital conflict—couple verbal and physical aggression can be

replicated. In the current study, alcohol use is regarded as continuous measures rather than group status designations. To be defined as having drinking problem, either the husband or the wife or both have to have an unweighted Michigan Alcoholism Screening Test (MAST; Selzer, 1971) score equal or more than 5, which is the cut-off point for alcohol problems. Individual who has drinking problem tends to feel bad about their drinking habits; have relationship problem due to drinking; fail to do what he/she should at work or at home because of drinking; be not able to stop drinking once he/she starts; and seek medical help due to drinking. Marital conflict, on the other hand, is a multidimensional construct. Marital conflict starts from disagreements between spouses that result in psychological and physical reaction to their negative affective state. Angry interactions are likely to be represented by physical or verbal aggression initiated by either spouse. In the current study, marital conflict is defined as physical and verbal aggression presented by couples.

METHOD

Sample and Procedure

This study was part of a larger research project that assessed vulnerability and protective factors for parental drinking, marital conflict, and children's adjustment. The data were collected twice with a two-year gap between the two time points. In this study, only the data related to husbands' and wives' marital conflict and alcohol consumption were used.

At the first time point, or T1, 5% of families were recruited through birth announcements published in newspapers, 13% of families were recruited through newspaper announcements that requested families with two-parents and a child in the desired age range (6 to 12 years), and 82% of families were recruited through flyers posted in town and distributed to community schools and organizations. Six of the children recruited from newspaper advertisements, were recruited through ads that, in addition to requesting participation of two-parent families with children in the desired age range, also asked for families that used alcohol (without any reference to amount). A few additional families ($N = 5$) were recruited from alcohol treatment centers. These five families were excluded from current analyses because their small number did not allow examination of possible differences between community and treatment center participants. Families who were interested were notified that the study's objective was to

examine the relation between family and child functioning. Screening questionnaires containing demographic questions, Michigan Alcohol Screening Test (MAST; Selzer, 1971), Alcohol Dependence Scale (ADS; Skinner & Horn, 1984) and Conflict Tactics Scale (CTS; Straus, 1979) were sent to the parents who wanted to participate in the study. The feedback from these parents was used to decide whether children belonged to the comparison group or the alcohol problem group, namely, children with problem drinkers as parents. A total of 158 families participated in the first wave study. In addition to these families, 36 families only filled out the screening questionnaires, and did not participate in the lab session. Thus, the final sample consisted of 194 families.

The final sample included 130 European American couples, 53 African American couples, 4 Native American couples, 2 Asian couples, 2 Hispanic couples, 2 inter-racial (Caucasian/Native American) couples and 1 couple from another multiethnic background. The mean age of husbands was 39.4 years ($SD = 6.56$) with a range of 23.6 to 71.3 years, while the mean age of wives was 37.1 years ($SD = 6.38$) with a range of 21.2 to 57.8 years. Socioeconomic status was examined through the Hollingshead Factor Index (Hollingshead, 1975). This index uses education and occupation to derive a family's composite socioeconomic status. Time 1 socioeconomic status level (one to five) had a mean of 3.96 ($SD = 1.07$) that indicated middle class status. At Time 1, 4% of families were in level 1 (e.g., working as unskilled labor such as menial labor, or supported by public assistance), 7% were in level 2 (e.g., skilled manual employees or machine operators), 18% were in level 3 (e.g., small business owner and minor professional such as clerical or sales), 34% were in level 4 (e.g., administrative personnel), and 38% were

in level 5 (e.g., major professional and higher executives). Thus, there was a wide range of SES in the sample.

Families participating in the study during the second time of assessment (T2) were contacted through information obtained during the first time of participation, which was two years prior. The 36 families who only filled out the screening questionnaires were not asked to take part in the second wave of assessment. If families could not be reached through their original residential records, other contacts provided by families were called to help locate the families. This time, some families could not take part in all portions of the study due to environmental issues (e.g., relocation). These families were sent questionnaires and asked to complete them. A total of 113 families participated in the second wave of assessment. Around 58% of families who participated at T1 also participated at T2.

At both time points, participating families came to the lab, and the couples filled out questionnaires. If a partner could not come on that day, his/her questionnaire was sent home for him/her to fill out. A copy of all questionnaires used is in Appendix A.

Measures

In the current study, each partner served as a reporter of his/her own alcohol use and aggressive marital conflict tactics behaviors and as a collateral reporter of his/her spouse's alcohol use and marital conflict tactics.

Demographic Questionnaire. A demographic questionnaire was filled out by either the husband or wife. The questionnaire included questions regarding race/ethnicity, income, occupation, marital status, couple education and the ages of participating family members.

Couple Conflict. To assess conflict between the couples, the Conflict Tactics Scale (CTS; Straus, 1979) was administered to both husbands and wives. The CTS was designed to assess the prevalence and frequency of acts of physical and verbal aggression. Internal consistency, test-retest reliability, and validity have been well established for the CTS (Cascardi, Avery-Leaf, O'Leary & Slep, 1999; Schafer, 1996; Straus & Gelles, 1990). At time 2, the CTS was replaced by the Revised Conflict Tactics Scales (CTS-2). The CTS-2 was intended to improve the original CTS in several ways: The physical aggression scale was expanded to incorporate additional items. The verbal aggression subscale was replaced by the psychological aggression subscale and additional items regarding nonverbal psychological aggression were included. Finally, additional subscales assessing injury and sexual coercion were created (Straus et al, 1996). Good internal consistency, construct validity, and discriminant validity was established by Straus and his colleagues among a sample of college students, and other researchers have used factor analysis to examine the validity of the CTS-2 among other populations (Lucente, Fals-Stewart, Richards, & Goscha, 2001; Newton, Connelly, & Landsverk, 2001). Principal components analyses of the CTS subscales (physical aggression, verbal aggression, and discussion) at Time 1 and Time 2 indicated that only the physical and verbal aggression scales (self-report and other-report) should be used as indicators of marital conflict. The

discussion subscales were not highly related to the other subscales and hence were dropped from further analyses. At T1, only physical and verbal aggression subscales loaded on the first PC, the discussion subscale did not contribute to that PC. The first PC had an eigenvalue of 5.60 and accounted for 47 % of the variance in the two subscales. At T2, again, only physical and verbal aggression subscales loaded on the first PC. The first PC had an eigenvalue of 2.39, accounting for 20% of the variance in these measures.

Couple Problem Drinking. Husbands and wives filled out the Michigan Alcohol Screening Test (MAST; Selzer, 1971) and Alcohol Dependence Scale (ADS; Skinner & Horn, 1984) for their own drinking behavior and that of their partners. The internal consistency and validity of the MAST has been well established when used to determine whether participants are problem drinkers (Selzer, 1971; Selzer, Vinokur, & van Rooijen, 1975). The MAST also has good psychometric properties when completed by members of the family regarding other members of the family (McAuley, Longabaugh, & Gross, 1978). The ADS, on the other hand, is used to examine the severity of alcohol dependence by assessing tolerance to alcohol and withdrawal symptoms. The ADS has an established strong predictive value in association with DSM diagnosis of alcohol dependence. It also has good reliability and validity (Ross, Gavin, & Skinner, 1990; Skinner & Allen, 1982).

Alcohol variables at Time 1 for husbands and wives were examined separately through principal component analyses (PCA). All of the variables related to husbands' drinking (his report on the MAST and ADS, and his wives' report of his drinking on the MAST and the ADS) were included in the PCA for the husbands' drinking. Similarly a

PCA was conducted for the variables related to wives' alcohol use. The four variables for the husbands' drinking behavior loaded well on the first PC (.48 to .52) which had an eigenvalue of 3.20, accounting for 80% of the variance in these measures. The four variables for the wives' alcohol use also loaded well on the first PC (.47 to .51) which had an eigenvalue of 3.18, accounting for 79% of the variance in these measures. Thus, these two sets of measures, one for the husbands' drinking and one for the wives' drinking were included as observed variables for each of the constructs of alcohol use that were used in the Structural Equation Models (SEM).

At Time 2, Alcohol variables for husbands and wives were examined in the same way. The four variables for the husbands' alcohol use at Time 2 loaded well on the first PC (.47 to .51) which had an eigenvalue of 3.25, accounting for 81% of the variance in these measures. The four variables for the wives' alcohol use at Time 2 also loaded well on the first PC (.40 to .54) which had an eigenvalue of 2.06, accounting for 51% of the variance in these measures.

Race/ethnicity. A variable of African American/Other was created as a dummy variable to represent race/ethnicity. This dummy variable, AA/Other, was coded 1 for participants who identified as African American or other ethnic groups other than European American and was coded 0 for participants who identified as European American. Thus, European American was used as the comparison group.

Attrition issue. The 36 families who only filled out the screening questionnaires were not significantly different on their MAST, ADS, and CTS scores from the rest of the sample. But these 36 families ($M = 35$; $SD = 5.05$) were significantly younger ($t = 2.703$,

$p = .008$ for wives; $t = 2.719$, $p = .007$ for husbands) than the rest of the sample ($M = 39$; $SD = 6.57$). They also had lower SES level ($M = 3.51$; $SD = 1.22$) than the rest of the sample ($M = 4.06$; $SD = 1.02$). More African Americans/Other couples dropped out at Time 2 than European American couples. People who dropped out at Time 2 tended to have more verbal and physical aggression. They also used alcohol more. And thus, the current results might underestimate the relationships found among the constructs.

Structural Equation Modeling (SEM) Analysis Plan. SEM (Mplus 3.01; Muthen & Muthen, 2004) was used to test these hypotheses: (a) that the latent constructs for Time 1 physical aggression and verbal aggression, representing marital conflict, measured by both husbands' and wives' reports of their own and their partner's use of physical and verbal conflict tactics predict husbands' and wives' separate latent constructs of Time 2 alcohol use (See Figure 1 for this hypothesized model), (b) that the latent constructs for husbands' and wives' alcohol use at Time 1 predict the latent constructs of physical and verbal aggression (marital conflict) at Time 2 (See Figure 2 for this hypothesized model), and (c) that how the couple's SES, race, and their individual ages influence the outcomes in these hypothesized models. In order to account for shared method variance, errors of the observed variables of the latent constructs were allowed to covary across reporters (e.g., wife's report of self physical aggression with wife's report of husband's physical aggression; wife's report of self verbal aggression with wife's report of husband's verbal aggression; wife's report of self alcohol use with wife's report of husband's alcohol use; vice versa for husband's report) in order to account for rater effects. Also, the predictor latent constructs and the residuals of the outcome latent constructs were allowed to

covary respectively (e.g. physical aggression with verbal aggression; wife's alcohol use with husband's alcohol use).

RESULTS

Univariate and Bivariate Analysis

Univariate analysis and bivariate analysis were conducted to describe the distributional qualities of all the observed variables, including marital conflict and alcohol use at Time 1 and Time 2 (the major question and predictor variables), and the control variables (socioeconomic status, race/ethnicity, and individual partner's age) and their correlational properties with each other.

Table 1 presents the means, standard deviations, and ranges for all study variables. Table 2 and Table 3 present the intercorrelations among all study variables. Mean scores on the MAST, ADS, and CTS physical aggression scale indicated relatively low levels of problem drinking and physical aggression, which is consistent with a community sample. A wide range of scores existed for both alcohol consumption behaviors and marital conflict variables. According to Selzer et al. (1975), a MAST score of 5 to 6 is suggestive of alcoholism, and a score of 7 or greater is indicative of alcoholism. The latter cut-off score has fewer false positives. For ADS, the cut-off score for alcoholism is 14. Even though generally speaking, the physical aggression scores were quite low for both Time 1 and Time 2, at Time 1, about 24.5% of the families reported at least one wife-to-husband physical aggression episode in the past year, and about 22.8% of the families reported at least one husband-to-wife physical aggression episode in the past year. At Time 2, about 13% of the families reported at least one wife-to-husband physical

aggression episode in the past year, and about 10.8% of the families reported at least one husband-to-wife physical aggression episode in the past year. It is apparent that the one-time physical aggression rate decreased dramatically at Time 2. This phenomenon might be because people who attrited at Time 2 ($N = 81$) tended to have more physical aggression as analyzed by previous attrition analyses.

The stem and leaf plots of the observed variables of alcohol use, MAST and ADS, as well as the observed variables of marital conflict, physical aggression scales and verbal aggression scales of CTS, were all skewed to the right. Given the skewed distribution, a natural logarithm transformation was used to transform the data according to Tukey's Ladder of Transformations (Tukey, 1977). Because all variables include "zero" as one of the values, a constant, 1, was added before logging the variables. The result of the log transformation was that the current positively-skewed data was transformed into a more symmetrical data distribution. Another result of log transformation was lessening the influence of very high values in the estimation of the mean value, because these values would get smaller with log transformation. The analyses planned for these data required that the variables be related linearly, thus these transformation prevented the assumptions of the linear procedures from being violated. After logging the variables, the scatter plots showed that this transformation was sufficient to insure that the relationships among the variables was linear, thus linear procedures could be used in the analyses.

From the correlation matrix, it is evident that Time 1 husbands' and wives' alcohol use variables were all negatively associated with SES, and positively associated with the race/ethnicity variable (AA/Other). From the correlations, we could tell that

Time 1 physical and verbal aggression variables were also positively related to non-European American husbands and wives. Physical aggression variables at Time 1 were particularly negatively related to SES level, which indicated that couples of lower SES level seemed to have more marital conflict in terms of physical aggression than did those at higher SES levels.

Confirmatory Factor Models

Aggression at Time 1 and Alcohol Use at Time 2. SEM was used to test the hypothesized models. Because of the large amount of missing data at Time 2, one of the advantages of using SEM was that the models could all be fit using Full Information Maximum Likelihood (FIML) estimation (Muthen & Muthen, 1998-2004) in which observations are sorted into missing data patterns, and each parameter is estimated using all available data for that particular parameter (Little & Rubin, 2002). In the SES analysis, I first fit the measurement model using a confirmatory factor analysis. The confirmatory factor analysis was conducted to see if the pattern of variances and covariances in the data was consistent with the hypothesized measurement model. Since the chi-square statistic is very sensitive to sample size, other goodness of fit indices such as Tucker-Lewis index (TLI), comparative fit index (CFI), the standardized root mean square residual (SRMR), and the root mean square error of approximation (RMSEA) were also used. For TLI and CFI, an estimate between .90 and 1.00 represents good model fit (Keiley, Dankoski, Dolbin-Azcnab & Liu, 2005). Hu and Bentler (1999) recommended the values to be close to .06 (or less) for the RMSEA with a non-significant p-value, and < .08 for the SRMR. The current measurement model for couple's physical and verbal aggression at Time 1

predicting wives' and husbands' alcohol use at Time 2 demonstrated a reasonable fit ($\chi^2(98) = 350.78, p = .00, CFI = .86, TLI = .83, SRMR = .06, RMSEA = .12, p = .00$). The χ^2 statistic was significant and the SRMR was less than .08. The RESEA was not close to .06, and the CFI and TLI were not between .90 and 1.00. But the CFI and TLI were not very far from .90. Thus, this model was not a good fit but a reasonable fit for a confirmatory factor analysis. The estimated variances for the latent constructs of physical aggression at Time 1 ($\sigma_p^2 = .70, p < .001$), verbal aggression at Time 1 ($\sigma_v^2 = .41, p < .001$), wives' alcohol use at Time 2 ($\sigma_{wa}^2 = .33, p < .01$), and husbands' alcohol use at Time 2 ($\sigma_{ha}^2 = .73, p < .001$) were all significantly different from zero. If the variances for the latent constructs estimated by observed variables were not significantly different from zero, they could not be used as outcome or predictor latent constructs. All factor loadings of the latent factors on the observed variables measuring the respective latent constructs were significant at the $p = .001$ level. The wives' report of husbands' ADS had the highest reliability (.93) (refer to Table 4). The items for all factors were fairly reliable except for husbands' report of wives' MAST (.24). Overall, wives' alcohol use at Time 2 seemed to be the least reliable construct among all of the constructs. However, it still had fair enough reliability (from .24 to .68). The reader will note in Table 4 that the unstandardized factor loadings for the first indicator of each latent construct is set to 1.00 prior to estimation of the model in order to see the metric for the construct.

Alcohol Use at Time 1 and Aggression at Time 2. The measurement model for wives' and husbands' alcohol use at Time 1 predicting couple's physical and verbal aggression at Time 2 demonstrated a reasonable fit ($\chi^2(98) = 408.20, p = .00, CFI = .81,$

TLI = .77, SRMR = .09, RMSEA = .13, $p = .00$). The χ^2 statistic was significant but the SRMR was not less than .08. The RESEA was not close to .06, and the CFI and TLI were not between .90 and 1.00. But the CFI and TLI were not very far from .90. Thus, this model was not a good fit but a reasonable fit for a confirmatory factor analysis (Muthen & Muthen, 1998-2004). The estimated variances for the latent constructs of wives' alcohol use at Time 1 ($\sigma_{wa}^2 = .45, p < .001$), husbands' alcohol use at Time 1 ($\sigma_{ha}^2 = .87, p < .001$), couple's physical aggression at Time 2 ($\sigma_p^2 = .16, p < .01$), and couple's verbal aggression at Time 2 ($\sigma_v^2 = .57, p < .001$) were all significantly different from zero. All factor loadings of the latent factors on the observed variables measuring the respective latent constructs were significant at the $p = .001$ level. The husbands' report of wives' physical aggression had the highest reliability (.89) (refer to Table 5). The items for all factors were fairly reliable except for wives' report of her own physical aggression (.40). Overall, wives' alcohol use at Time 1 seemed to be the least reliable construct among all. However, it still had fair enough reliability (from .50 to .66).

Structural Equation Models of Time 1 Aggression Predicting Time 2 Alcohol Use

Unconditional Model. A model was fit in which couple physical and verbal aggression (marital conflict) at Time 1 predicted wives' and husbands' alcohol use at Time 2 (See Figure 3). Fit indices supported the model as a good fit for the data, $\chi^2(90) = 215.95, p = .00$, CFI = .93, TLI = .91, SRMR = .06, and RMSEA = .09, $p = .00$. All the indices met the criteria for good model fit, except for RMSEA. An examination of the path coefficients indicated that, on average, high levels of physical aggression for the couple at Time 1 predicted high levels of alcohol use by wives at Time 2 ($\beta = .45, p <$

.001) and vice versa, controlling for verbal aggression and husbands' alcohol use at Time 2 in the population. In addition, on average, high levels of verbal aggression for the couple at Time 1 predicted high levels of alcohol use by husbands at Time 2 ($\beta = .56, p < .01$) and vice versa, controlling for physical aggression at Time 1 and wives' alcohol use at Time 2 in the population. Higher levels of physical aggression for both partners at Time 1 predicted, on average, high levels of alcohol use by husbands at Time 2 ($\beta = .32, p < .05$) and vice versa, controlling for verbal aggression at Time 1 and wives' alcohol use at Time 2. The relationship between verbal aggression for the couple at Time 1 and wives' alcohol use at Time 2 ($\beta = -.01, p > .05$) was not significant. Thus, the model supported the hypothesis that physical aggression for the couple at Time 1 predicts alcohol use by both husbands and wives at Time 2, but verbal aggression for the couple at Time 1 only predicts alcohol use by husbands at Time 2. The variance of wives' alcohol use at Time 2 that was accounted for by all variables in the model was 37.4%. Meanwhile, 41.7% of the variance of husbands' alcohol use at Time 2 was predicted by both physical aggression and verbal aggression at Time 1, controlling for wives' alcohol use. The high correlation between Time 1 physical aggression and verbal aggression (.67) indicated that these two predictor constructs were highly related, perhaps as the underlying construct-marital conflict. The correlation of the residuals of the outcome latent constructs of husbands and wives' alcohol use (.34) indicated that what was left over after the variance due to physical and verbal aggression at Time 1 was removed was still related, perhaps due to another variable such as SES or race/ethnicity.

Conditional Model with SES. To test the hypothesis that couples' marital conflict

may be influenced by their socioeconomic status (SES), SES was entered into the model above predicting Time 1 marital conflict. Adding SES as a predictor did significantly improve the fit of the model (refer to figure 4) and the delta chi-square test indicated that SES was a significant predictor of marital conflict ($\chi^2(2) = 9.77$, Critical $\chi^2(\alpha = .05, df = 2) = 5.99$). However, when SES was added to predict Time 2 alcohol use, the resulting delta chi-square test was nonsignificant ($\chi^2(2) = -.23$, Critical $\chi^2(\alpha = .05, df = 2) = 5.99$), indicating that SES did not predict alcohol use at Time 2 controlling for all else in the model. The results of this model did not change the original coefficients between marital conflict at Time 1 and alcohol use at Time 2 dramatically. But SES significantly predicted Time 1 physical aggression and verbal aggression ($\beta = -.37, p < .01$ for physical aggression; $\beta = -.23, p < .01$ for verbal aggression), controlling for wives' and husbands' alcohol use in the population. On average, higher level of SES was related to lower levels of both physical and verbal aggression at Time 1 and vice versa. About 24.7% of the variance of physical aggression at Time 1 was predicted by SES, and 16% of the variance of verbal aggression was predicted by SES as well. The correlations between the aggression latent factor residuals decreased from .67 to .48, but the correlations between husbands' and wives' alcohol factor residuals did not change a lot (from .34 to .35), indicating that what was not predicted by physical and verbal aggression was still correlated, not due to SES, but perhaps due to race/ethnicity.

Conditional Model with SES and Race/Ethnicity. Race/ethnicity was added then to the model that included SES to test its effect on the latent constructs of marital conflict and alcohol use. The delta chi-square test indicated that race/ethnicity significantly

predicted only Time 1 marital conflict but not Time 2 alcohol use, and thus a total of 2 paths were added to the model. The delta chi-square ($\chi^2(2) = 42.9$, Critical $\chi^2(\alpha = .05, df = 2) = 5.99$) showed the null hypothesis that $H_0: \beta_{AA/Other} = 0$ in predicting couple's physical aggression and verbal aggression at Time 1 could be rejected, controlling for SES and the couple's alcohol use in the population (refer to Figure 5). Comparing the model in which only SES predicted Time 1 marital conflict with the model in which both SES and race/ethnicity predicted Time 1 marital conflict, one can see that the path between physical aggression at Time 1 and husbands' alcohol use at Time 2 changed from significant to nonsignificant, indicating that after controlling for race/ethnicity, physical aggression at Time 1 did not predict husbands' alcohol use at Time 2, controlling for all else in the model. In addition, adding race/ethnicity to the model accounted for more of the variances of physical aggression and verbal aggression at Time 1 than did just SES (physical aggression: from 24.7% in the previous model to 31.1%; verbal aggression: from 16.0% to 17.9%). Race/ethnicity also predicted physical aggression significantly ($\beta = .46, p < .01$) but not verbal aggression. Compared to European American couples, African American/other ethnicities had higher levels of physical aggression at Time 1. After race/ethnicity was added into the model, the correlations between the latent factor residuals decreased from .48 to .44, but the correlations between the latent factor residuals of husbands' and wives' alcohol use remained the same.

Conditional Model with SES, Race/Ethnicity, and Age. Age of the respondents was entered then as another control predictor of marital conflict at Time 1. The delta chi-square test ($\chi^2(4) = 33.57$, Critical $\chi^2(\alpha = .05, df = 4) = 9.49$) revealed that the null

hypothesis, $H_0 : \beta_{\text{wage}} = 0$ and $\beta_{\text{hage}} = 0$ in predicting couple's physical aggression and verbal aggression at Time 1 could be rejected, controlling for SES, race/ethnicity, and the couple's alcohol use in the population (refer to Figure 6). Again, individual partner's age did not predict couple's alcohol use at Time 2. The younger the husband was at Time 1, the higher were his levels of physical aggression at Time 1, and vice versa, controlling for all else in the model. The age of the wife did not significantly predict physical or verbal aggression at Time 1. After individual partner's age was added as a control predictor, the variance predicted for physical and verbal aggression at Time 1 increased slightly from the previous model (physical aggression: from 31.1% to 34.8%; verbal aggression: from 17.9% to 19.4%). Everything else remained quite similar to the previous model in which only SES and race/ethnicity were added as controlled predictors. After individual partner's age was added into the model, the correlations between the latent factor residuals at Time 1 slightly decreased from .44 to .42, but the correlations between the latent factor residuals at Time 2 remained the same.

The coefficients in the final model (see Figure 6) indicated that controlling for all else in the model, on average, the couples' physical aggression at Time 1 was highly related ($r = .59$) to wives' alcohol use at Time 2; the couples' verbal aggression at Time 1 was also moderately related to the husbands' alcohol use at Time 2 ($r = .42$), both controlling for all else in the model. In this final model, 36.8% of the variation in wives' alcohol use was predicted by physical aggression, controlling for verbal aggression, SES, race/ethnicity, and individual partner's age. For husbands' alcohol use at Time 2, 41.6% of the variation was predicted by verbal aggression, controlling for physical aggression,

SES, race/ethnicity, and individual partner's age in the population. It should be noted that the residuals of the two predictor constructs ($r = .42$) and the two outcome constructs ($r = .35$) were significantly associated, indicating that the variance remaining in these constructs was still related and other predictors could be included in the model.

Structural Equation Models of Time 1 Alcohol Use Predicting Time 2 Aggression

Unconditional Model. The model was fitted in which wives' and husbands' alcohol use at Time 1 predicted the couple's physical and verbal aggression (marital conflict) at Time 2 (See Figure 7). Fit indices indicated the model as a good fit for the data, $\chi^2(90) = 204.55, p = .00$, CFI = .93, TLI = .91, SRMR = .06, and RMSEA = .08, $p = .00$. Again, all the indices met the criteria, except for RMSEA. An examination of the path coefficients revealed that, on average, for husband with high levels of alcohol use at Time 1, physical and verbal aggression at Time 2 for the couple was high as well ($\beta = .28, p < .01$ for physical aggression; $\beta = .29, p < .05$ for verbal aggression) and vice versa, controlling for all else in the model. However, on average, wives' alcohol use at Time 1 did not have a significant impact on physical and verbal aggression used by the couple at Time 2 ($\beta = -.09, p > .05$ for physical aggression; $\beta = -.19, p > .05$ for verbal aggression), controlling for all else in the model. In this model, 19.5% of the variance of physical aggression at Time 2 was predicted by husbands' alcohol use at Time 1, wives' alcohol use at Time 1, and verbal aggression. On the other hand, 7% of the variance of verbal aggression at Time 2 was predicted by husbands' alcohol use at Time 1, wives' alcohol use at Time 1, and physical aggression. The correlation between the alcohol use predictor constructs in this model is .50 and between the aggression residuals is .52.

Conditional Model with SES. Again, SES was entered into the model to test whether it predicted alcohol use at Time 1. SES was a significant predictor of alcohol use at Time 1 ($\chi^2(2) = 11.32$, Critical $\chi^2(\alpha = .05, df = 2) = 5.99$). Fit indices for this model containing SES predicting Time 1 couple's alcohol use indicated that the model was a good fit for the data (refer to Figure 8). However, when SES was added to predict Time 2 alcohol use, the resulting statistic delta chi-square was nonsignificant ($\chi^2(2) = -1.29$, Critical $\chi^2(\alpha = .05, df = 2) = 5.99$). The results of this model only changed the original coefficients between alcohol use at Time 1 and marital conflict at Time 2 slightly. But SES did significantly predict Time 1 alcohol use ($\beta = -.36, p < .01$ for husbands' alcohol use; $\beta = -.28, p < .01$ for wives' alcohol use). Higher levels of SES were related to lower levels of alcohol use for both husbands and wives at Time 1 and vice versa, controlling for couple's marital conflict. Adding SES dramatically decreased the correlation between the residuals of the alcohol constructs at Time 1 (from .50 to .32) but did not change the correlation between the residuals of the marital conflict constructs at Time 2. SES predicted 18.6% of the variance of wives' alcohol use at Time 1 and 17.7% of the variance of husbands' alcohol use at Time 1, controlling for all else in the model. SES did not change the prediction of the variance of the outcome constructs.

Conditional Model with SES and Race/Ethnicity. Race/ethnicity was added then to the model that included SES to test its impact on the latent constructs of alcohol use and marital conflict. The delta chi-square test indicated that race/ethnicity could predict only Time 1 alcohol use but not Time 2 marital conflict. The significant delta chi-square ($\chi^2(2)$)

= 17.35, Critical χ^2 ($\alpha = .05$, $df = 2$) = 5.99) indicated the null hypothesis that $H_0 : \beta_{AA/\text{other}} = 0$ in predicting couple's alcohol use at Time 1 could be rejected, controlling for SES, physical and verbal aggression, and husbands' and wives' alcohol use in the population (refer to Figure 9). Comparing the model in which only SES predicted Time 1 alcohol use with the model in which both SES and race/ethnicity predicted Time 1 alcohol use, one cannot see a big change in terms of path coefficients. However, race/ethnicity significantly predicted husbands' alcohol use at Time 1 ($\beta = .53$, $p < .01$) but not wives' alcohol use, controlling for all else in the model. Compared to European American couples, African American and other ethnically diverse couples tended to drink more at Time 1, controlling for all else in the model. However, the prediction of marital conflict at Time 2 from alcohol use at Time 1 did not change a lot after race/ethnicity was added to the model. Race/ethnicity did predict more variance of Time 1 wives' alcohol use than the previous model (from 18.6% to 19.4%); it also predicted more variance of Time 1 husbands' alcohol use than the previous model (from 17.7% to 24.4%), controlling for all else in the model. The correlations between the residuals of the predictor constructs of alcohol use and the residuals of the outcome constructs of marital conflict did not change a lot from the previous model.

Conditional Model with SES, Race/Ethnicity, and Age. Age of the respondents was entered then as another predictor of couple's alcohol use at Time 1. The delta chi-square ($\chi^2(4) = 40.76$, Critical χ^2 ($\alpha = .05$, $df = 4$) = 9.49) indicated that $H_0 : \beta_{\text{wage}} = 0$ and $\beta_{\text{hage}} = 0$ in predicting couple's alcohol use at Time 1 could be rejected, controlling for marital conflict, SES and race/ethnicity in the population (refer to Figure 10). Again,

individual partner's age did not predict couple's marital conflict at Time 2. After individual partner's age was added as a control predictor, the variance of wives' and husbands' alcohol use at Time 1 increased slightly (wives' alcohol use: from 19.4% to 22.8%; husbands' alcohol use: from 24.4% to 25.1%). All else remained similar to the previous model in which only SES and race/ethnicity were added as controlled predictors.

The coefficients in the final model (see Figure 10) revealed that controlling for all else in the model, husbands' alcohol use at Time 1 was related moderately ($r = .49$) to physical aggression at Time 2; husbands' alcohol use at Time 1 was also related to verbal aggression at Time 2 ($r = .30$), controlling for wives' alcohol use at Time 1, SES, race/ethnicity, and individual partner's age in the population. In this final model, 20.4% of the physical aggression at Time 2 was predicted by alcohol use at Time 1, verbal aggression, SES, race/ethnicity, and individual partner's age. For verbal aggression at Time 2, 7% of the variation was predicted. Again, the residuals of the predictor constructs of alcohol use ($r = .29$) and the residuals of the outcome constructs of marital conflict ($r = .52$) were associated with each other.

DISCUSSION

The major contribution of this study has been to show that physical and verbal aggression do predict later alcohol use by marital couples. Previous research has established the impact of alcohol use on later marital conflict, but very few studies have investigated the impact of marital conflict on future alcohol use. One very important finding of the current study was that overall, physical and verbal aggression do predict later alcohol use, even after controlling for SES, race/ethnicity, and individual partner's age. The current study also showed alcohol's impact on later marital conflict, corroborating the already well-established evidence, based on cross-sectional and longitudinal studies, that alcohol use predicts later marital conflict (Fals-Steward, 2003; Kelly, Halford, & Young, 2002; Leonard & Roberts; 1998a; Leonard & Roberts; 1998b; Pan, Neidig, and O'Leary, 1994; Quigley & Leonard, 2000a; Steele & Josephs, 1988).

The results indicated that couple's earlier physical aggression predicted both wives' and husbands' later alcohol use. However, couple's earlier verbal aggression only predicted husbands' later alcohol use. The entry of SES as a control predictor did not change this pattern even though SES significantly predicted both couple's earlier physical and verbal aggression, but when both race/ethnicity and SES were controlled, couple's earlier physical aggression predicted only wives' later alcohol use but not husbands' later alcohol use, which may mean that race/ethnicity accounted for most of the variance of the

couple's earlier physical aggression that had predicted husbands' later alcohol use. The pattern remained the same after individual partner's age was entered as another control predictor, even though husbands' age did predict earlier couple's physical aggression.

Based on results of the final model of couple's earlier physical and verbal aggression predicting wives' and husbands' later alcohol use, several possible explanations could be provided. According to the previous research, women are at greater risk than men for being the victims of domestic physical aggression, or domestic violence due to the fact that men have more physical advantages (Johnson, 2000a; Roberts, O'Toole, Raphael, Lawrence, & Ashby, 1996). Even though the frequency of husband-to-wife and wife-to-husband physical aggression is similar, women might receive more injuries than men. If this is the case, wives could be expected to use alcohol to cope with the negative affect generated by husband-to-wife physical aggression, or to maximize their positive affect in the midst of conflictual relationship based on the affect regulation model of alcohol consumption proposed by Cooper et al. (1995).

On the other hand, husbands' alcohol use might be incurred by wives' verbal aggression. The pattern of wives demand/husbands withdraw has been established by many studies in marital research, which has been assessed via self-report and with various observational rating systems (Christensen and Eldridge, 2002; Eldridge, 2000; Gottman, 1994). In this pattern, the demander criticizes, nags, and makes demands of the other, while the withdrawer avoids confrontation, withdraws, and becomes defensive. Most studies support the conclusion that wives tend to demand and husbands tend to withdraw during conflict. Withdrawal from conflict is a typical response of individuals with

avoidant attachment style. Cross-sectional studies of community samples have indicated correlation between avoidant styles of coping with emotional distress and increased alcohol use among both adults and adolescents (Cooper et al., 1988; Evans & Dunn, 1995; Frone & Windle, 1997). Research also indicates that stressful life events (Aneshensel et al., 1991) and marital conflict (Horwitz & Davies, 1994) are more strongly associated with substance abuse for men. And thus, it's possible that wives' earlier verbal aggression might predict husbands' later alcohol use. However, in the future, to investigate these two possible explanations, both earlier physical and verbal aggression should be clearly differentiated into husbands-to-wives physical and verbal aggression constructs and wives-to-husbands physical and verbal aggression constructs and their impact on later alcohol use.

The finding that race/ethnicity may have accounted for the prediction by couple's earlier physical aggression of husbands' later alcohol use was interesting. In the current study, African American and other ethnic couples tended to have more physical aggression than European American couples at time 1. Literature in the 1990s with survey research regularly showed higher levels of partner violence among African American couples than among European American couples (Anderson, 1997; Greenfield & Rand, 1998; Tjaden & Thoennes, 1999). Recent studies tend to be more inclusive in the sampling of ethnic groups. In a study conducted by Caetano, Schafer, and Cunradi in 2001, among different ethnic couples, they showed the pattern that African American and Hispanic couples tended to have more intimate partner violence in both male-to-female or female-to-male intimate partner violence. Among African American couples, male

alcohol use was strongly related to male-to-female intimate partner violence. Among European American and African American couples, female alcohol use significantly predicted female-to-male intimate partner violence. Though in the current research, we did not differentiate husbands-to-wives physical aggression from wives-to-husbands' physical aggression, a similar pattern was found: race/ethnicity not only predicted couple earlier physical aggression, it also had strong impact on the relationship between earlier physical aggression and husbands' later alcohol use. Further effects of race/ethnicity need to be explored. From the same model, lower level of SES and husbands' age also showed their prediction of couple's earlier physical and verbal aggression, which is consistent with previous research (Anderson, 1997; Straus et al., 1991; Wilt & Olson, 1996).

The second set of fitted models indicated that husbands' earlier alcohol use predicted both later verbal and physical aggression as reported by couples, which was a replication of numerous previous studies (Fals-Steward, 2003; Heyman, O'Leary, & Jouriles, 1995; Leonard, Bromet, Parkinson, Day, & Ryan, 1985; Leonard & Roberts, 1998; Leonard & Senchak, 1996; Quigley & Leonard, 2000a; Walton-Moss, Manganello, Frye, 2005). In contrast, wives' earlier alcohol use did not seem to have impact on couple's later verbal or physical aggression. This pattern remained the same even after SES, race/ethnicity, and individual partner's age were entered as control predictors in the model. SES was still a strong predictor of wives' and husbands' earlier alcohol use. But race/ethnicity only predicted husbands' earlier alcohol use. And only husbands' age was related to husbands' earlier alcohol use.

The above results were consistent with earlier studies (Leonard & Quigley, 1999; Noel, McCrady, Stout, & Fisher-Nelson, 1991) that showed an association between husbands' drinking and the occurrence of marital aggression, but not between wives' drinking and the occurrence of aggression. Noel et al.'s study even indicated that martially distressed couples in which only the wife abused alcohol were less negative and distressed and more positive than distressed couples in which only the husband abused alcohol. Meanwhile, consistent with previous research, SES was inversely associated with both husbands' and wives' alcohol use (Fitzgerald & Zucker, 1995; Kenkel & Ribar, 1994). Also, minority ethnic groups were positively associated with husbands' alcohol use at Time 1. This might be due to minority ethnic groups tending to have less social resources, and thus have lower SES, which was negatively associated with couple's alcohol use in current study.

Study strengths and limitations

This study had several methodological assets. First, the current study was a longitudinal study that allowed us to test two models: whether couple's earlier physical and verbal aggression predicted wives' and husbands' later alcohol use and whether earlier wives' and husbands' alcohol use predicted later couples' physical and verbal aggression. The examination of these hypotheses attempted to replicate the results of previous studies as well as contribute to the paucity of research on the former hypothesis. Second, the use of SEM is another advantage. SEM can be used to estimate multiple and interrelated relations between variables. SEM is also able to represent latent variables in these relations while accounting for estimated measurement error associated with the

imperfect measurement of variables (Byrne, 2001; Hair et al, 1995). In addition, because of FIML estimation procedures were available in the SEM package that was used for the analyses, data from individuals who only completed questionnaires at time 1 could be included, thus increasing the sample size. Third, the use of collateral reports of husbands and wives was able to help remedy the lack of observation measures. Fourth, the data for the current study were obtained from a community sample of several counties in the state of Alabama rather than from a clinical sample, thus the findings may be generalized to the household population in the state of Alabama.

One of the limitations of current study is the research design. Though the current research is a longitudinal study, its lack of experimental design limits the ability to draw causal relationship between marital conflict and alcohol use. The other limitation is the sole measurement by self-report and other-report, as mentioned above. Because these self and other reports are about alcohol use and verbal and physical aggression, the respondents might have been hesitant to report about their own alcohol use and aggression. The use of collateral reports ameliorated some of this possible bias. The “conflict-resolution paradigm” developed by John Gottman (1979) can assist future researchers to assess verbal and physical aggression within marriage through videotaping married couples’ attempts to resolve actual marital conflicts which will help resolve the reporting bias. Another limitation is that the construct of physical aggression and verbal aggression were not differentiated by wives-to-husbands physical and verbal aggression and husbands-to-wives physical and verbal aggression, which limited the investigation of gender difference in marital aggression. In future research, separate physical and verbal

aggression constructs for wives and husbands will be used to predict later alcohol use by wives and husbands. Finally, a number of potential confounds (e.g., mental health status such as depression, family history of alcohol use) were not assessed. Inclusion of these possible correlates may change the associations found in this study.

Despite its limitations, this study underlines the importance of including marital conflict predictors within alcohol research. Furthermore, results of the current study suggest a possibility that if the couple can get help from interventions such as couple therapy or psychoeducation program to deal with their conflicts, the risk of their later alcohol use might be decreased. Further research to replicate current results are needed. Also, interventions regarding this area needs to be developed.

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Table 1. Mean, Standard Deviation, and Range of Variables.

	Husbands				
	<u>Time 1</u>			<u>Time 2</u>	
	Mean	SD	Range	Mean	SD
<u>Marital Conflict</u>					
PA (SR)	2.30	6.35	0-38	.44	1.80
PA (OR)	2.76	7.60	0-41	1.94	6.42
VA (SR)	9.47	8.15	0-36	5.32	6.16
VA (OR)	10.10	8.20	0-36	5.78	7.83
<u>Alcohol</u>					
MAST (SR)	4.79	8.61	0-49	2.25	5.26
MAST (OR)	4.03	8.05	0-51	3.34	7.86
ADS (SR)	2.60	6.34	0-19	.93	3.32
ADS (OR)	3.24	7.29	0-42	1.81	6.01

Note. PA = Physical Aggression; VA = Verbal Aggression; SR = Self Report; OR = Other (Spouse) Report.

Table 1 continues

	Wives			Time2		
	Time 1 Mean	SD	Range	Mean	SD	Range
<u>Marital</u>						
<u>Conflict</u>						
PA (SR)	2.27	6.26	0-46	1.32	5.95	0-46
PA (OR)	2.19	5.99	0-37	.73	3.18	0-25
VA (SR)	10.36	7.73	0-36	5.94	6.13	0-30
VA (OR)	9.22	7.31	0-31	5.07	5.66	0-30
<u>Alcohol</u>						
MAST (SR)	2.68	6.31	0-45	1.93	5.15	0-43
MAST (OR)	2.46	5.61	0-42	.96	1.68	0-6
ADS (SR)	1.38	3.85	0-25	.90	2.86	0-18
ADS (OR)	.58	2.38	0-19	.22	1.01	0-7

Table 2
Correlations between All Study Variables of Time 1 Couple's Physical and Verbal Aggression Predicting Time 2 Wives' and Husbands' Alcohol Use

Variable	1	2	3	4	5	6	7	8	9	10	11
1. SES level	—										
2. H_Age	.36**	—									
3. W_Age	.28*	.73***	—								
4. AA/Other	-.22*	-.10	-.04	—							
5. H_S_P1	-.45***	-.20	-.29*	.34**	—						
6. H_S_V1	-.21	-.08	-.03	.30**	.47***	—					
7. W_O_P1	-.38***	-.17	-.24*	.35**	.80***	.40***	—				
8. W_O_V1	-.20	-.11	-.06	.32**	.46***	.79***	.53***	—			
9. W_S_P1	-.36**	-.16	-.27*	.54***	.77***	.44***	.84***	.46***	—		
10. W_S_V1	-.19	-.19	-.19	.22	.41***	.44***	.48***	.56***	.44***	—	
11. H_O_P1	-.38***	-.22	-.33**	.39***	.94***	.49***	.76***	.45***	.83***	.43***	—
12. H_O_V1	-.25*	-.12	-.13	.19	.45***	.52***	.44***	.45***	.45***	.73***	.48***
13. H_S_M2	-.24*	-.15	-.10	.25*	.48***	.33***	.42***	.33**	.47***	.36**	.46***
14. M_O_M2	.07	-.01	.08	.00	.11	.09	.08	.08	.14	.06	.16
15. M_S_M2	-.03	.09	.14	.05	.27*	.29*	.22	.23*	.35**	.29*	.33**
16. H_O_M2	-.10	-.01	-.01	.20	.47***	.30**	.48***	.41***	.52***	.45***	.52***
17. H_S_A2	-.30**	-.12	-.18	.02	.55***	.32**	.40***	.35**	.35**	.32**	.50***
18. W_O_A2	-.23*	-.09	-.06	-.08	.42***	.00	.42***	.23*	.26*	.18	.33**
19. W_S_A2	-.15	-.09	-.14	-.13	.24*	-.03	.28*	.11	.17	.15	.21
20. H O A2	-.23*	-.03	-.09	.00	.52***	.20	.37***	.35**	.31**	.33**	.48***

Note. W = Wives; H = Husbands; S = Self Report; O = Spouse Report; P = Physical Aggression; V = Verbal Aggression; M = MAST; A = ADS.

* $p < .05$; ** $p < .01$; *** $p < .001$.

Table 2 continues

Variable	12	13	14	15	16	17	18	19	20
1. SES level									
2. H_Age									
3. W_Age									
4. AA/Other									
5. H_S_P1									
6. H_S_V1									
7. W_O_P1									
8. W_O_V1									
9. W_S_P1									
10. W_S_V1									
11. H_O_P1									
12. H_O_V1	–								
13. H_S_M2	.40***	–							
14. M_O_M2	.10	.41***	–						
15. M_S_M2	.36**	.27**	.45***	–					
16. H_O_M2	.43***	.66***	.30**	.37***	–				
17. H_S_A2	.34**	.63***	.13	.21	.61***	–			
18. W_O_A2	.13	.37**	.33**	.19	.40***	.57***	–		
19. W_S_A2	.10	.38***	.26*	.27*	.37***	.38***	.51***	–	
20. H O A2	.37***	.61***	.26*	.24*	.74***	.84***	.57***	.48***	–

Note. W = Wives; H = Husbands; S = Self Report; O = Spouse Report; P = Physical Aggression; V = Verbal Aggression; M = MAST; A = ADS.

* $p < .05$; ** $p < .01$; *** $p < .001$.

Table 3

Correlations between All Study Variables of Time 1 Wives' and Husbands' Alcohol Use Predicting Time 2 Couple's Physical and Verbal Aggression

Variable	1	2	3	4	5	6	7	8	9	10	11
1. SES level	—										
2. H_Age	.39***	—									
3. W_Age	.33**	.75***	—								
4. AA/Other	-.20	-.10	-.05	—							
5. H_S_M1	-.21	-.11	-.09	.33**	—						
6. W_O_M1	-.05	-.09	-.04	.28**	.43***	—					
7. W_S_M1	-.17	-.09	.03	.08	.17	.23*	—				
8. H_O_M1	-.29**	-.13	-.12	.30**	.68***	.21*	.48***	—			
9. H_S_A1	-.22*	-.06	-.11	.26*	.72***	.09	.04	.60***	—		
10. W_O_A1	-.08	.06	.14	.15	.09	.13	.11	.07	.09	—	
11. W_S_A1	-.20	-.13	-.12	.08	.16	.10	.26*	.27*	.19	.06	—
12. H_O_A1	-.23*	-.00	-.05	.17	.69***	.03	.10	.74***	.82***	.04	.31**
13. H_S_P2	-.10	-.14	-.15	.06	.39***	.17	.04	.33**	.33**	-.10	-.04
14. H_S_V2	-.14	-.08	-.01	.05	.27**	.06	.04	.21*	.25*	.02	.07
15. W_O_P2	-.15	-.23*	-.21	.13	.39***	.23*	.07	.30**	.23*	-.10	.01
16. W_O_V2	-.20	-.13	-.05	.06	.25**	.10	.12	.16	.26*	.02	.13
17. W_S_P2	-.17	-.27*	-.32***	.35***	.45***	.26*	-.04	.46***	.43***	-.02	.17
18. W_S_V2	-.20	-.17	-.26**	.16	.22*	.11	.07	.26*	.26*	-.07	.15
19. H_O_P2	-.14	-.17	-.23*	.20	.37***	.22*	.00	.42***	.34**	-.12	.03
20. H_O_V2	-.23	-.17	-.17	.10	.30**	.08	.10	.31**	.34**	-.17	.11

Note. W = Wives; H = Husbands; S = Self Report; O = Spouse Report; P = Physical Aggression; V = Verbal Aggression; M = MAST; A = ADS.

* $p < .05$; ** $p < .01$; *** $p < .001$.

Table 3 continues

Variable	12	13	14	15	16	17	18	19	20
1. SES level									
2. H_Age									
3. W_Age									
4. AA/Other									
5. H_S_M1									
6. W_O_M1									
7. W_S_M1									
8. H_O_M1									
9. H_S_A1									
10. W_O_A1									
11. W_S_A1									
12. H_O_A1	—								
13. H_S_P2	.37***	—							
14. H_S_V2	.25*	.45***	—						
15. W_O_P2	.26*	.88***	.44***	—					
16. W_O_V2	.20	.40***	.86***	.46***	—				
17. W_S_P2	.50***	.50***	.31***	.63***	.30**	—			
18. W_S_V2	.24*	.37***	.65***	.42***	.64***	.43***	—		
19. H_O_P2	.42***	.69***	.34**	.69***	.21*	.79***	.48***	—	
20. H O V2	.35***	.49***	.69***	.48***	.67***	.45***	.84***	.49***	—

Note. W = Wives; H = Husbands; S = Self Report; O = Spouse Report; P = Physical Aggression; V = Verbal Aggression; M = MAST; A = ADS.
* $p < .05$; ** $p < .01$; *** $p < .001$.

Table 4. *Estimated Psychometric Properties and Factor Loadings from the Measurement Model of Time 1 Couple's Physical and Verbal Aggression Predicting Time 2 Wives' and Husbands' Alcohol Use.*

Psychometric properties of indicator							
Indicator	Observed variance, σ_x^2	Error variance σ_δ^2	True variance $\sigma_x^2 - \sigma_\delta^2$	Reliability (True/obs.), $\rho(X)$	Factor-indicator corr., $\sqrt{\rho(X)}$	Unsd. factor loading	Std. factor loading
Physical Aggression							
Time 1							
W_S_P	.882	.185	.697	.79	.89	1.00f	.89
W_O_P	.851	.249	.602	.71	.84	.94	.84
H_S_P	.887	.146	.741	.84	.91	1.03	.91
H_O_P	1.032	.084	.948	.92	.96	1.16	.96
Verbal Aggression							
Time 1							
W_S_V	.686	.273	.413	.60	.78	1.00f	.78
W_O_V	.819	.246	.573	.70	.84	1.18	.84
H_S_V	.865	.243	.622	.72	.85	1.24	.85
H_O_V	.877	.342	.535	.61	.78	1.14	.78
Wives' Alcohol Use							
Time 2							
W_S_M	.777	.445	.332	.43	.66	1.00f	.66
W_O_M	.467	.362	.105	.24	.49	.58	.49
W_S_A	.431	.172	.259	.61	.78	.90	.78
W_O_A	.157	.054	.103	.68	.82	.58	.82
Husbands' Alcohol Use							
Time 2							
H_S_M	1.067	.413	.654	.64	.80	1.00f	.80
H_O_M	1.198	.436	.762	.63	.79	1.01	.79
H_S_A	.566	.066	.5	.88	.94	.82	.94
H_O_A	.979	.066	.913	.93	.97	1.13	.97

Note. F = fixed; W = Wives; H = Husbands; S = Self Report; O = Spouse Report; P = Physical aggression; V = Verbal aggression; M = MAST; A = ADS.

Table 5. *Estimated Psychometric Properties and Factor Loadings from the Measurement Model of Time 1 Wives' and Husbands' Alcohol Use Predicting Time 2 Couple's Physical and Verbal Aggression.*

Indicator	Psychometric properties of indicator						
	Observed variance, σ_x^2	Error variance σ_δ^2	True variance $\sigma_x^2 - \sigma_\delta^2$	Reliability (True/obs.), $\rho(X)$	Factor-indicator corr., $\sqrt{\rho(X)}$	Unsd. factor loading	Std. factor loading
Wives' Alcohol							
Use Time 1							
W_S_M	.945	.477	.468	.50	.71	1.00f	.70
W_O_M	.851	.376	.475	.56	.75	1.03	.75
W_S_A	.573	.216	.357	.62	.79	.89	.79
W_O_A	.416	.141	.275	.66	.81	.78	.81
Husbands' Alcohol							
Use Time 1							
H_S_M	1.262	.396	.866	.69	.83	1.00f	.83
H_O_M	1.362	.531	.831	.61	.78	.98	.78
H_S_A	1.101	.331	.770	.70	.84	.94	.84
H_O_A	1.173	.235	.938	.80	.89	1.036	.89
Physical Aggression							
Time2							
W_S_P	.581	.351	.230	.40	.63	1.00f	.56
W_O_P	.349	.038	.311	.89	.94	1.37	.94
H_S_P	.235	.037	.198	.84	.92	1.09	.92
H_O_P	.849	.403	.446	.53	.72	1.50	.69
Verbal Aggression							
Time2							
W_S_V	.954	.339	.615	.64	.79	1.00	.79
W_O_V	.954	.172	.782	.82	.91	1.17	.91
H_S_V	.957	.147	.810	.85	.92	1.20	.92
H_O_V	1.206	.383	.823	.68	.82	1.17	.82

Note. F = fixed; W = Wives; H = Husbands; S = Self Report; O = Spouse Report; P = Physical aggression; V = Verbal aggression; M = MAST; A = ADS.

FIGURE CAPTIONS

Figure 1. Hypothesized model of couple's physical and verbal aggression at Time 1 predicting wives' and husbands' alcohol use at Time 2.

Figure 2. Hypothesized model of wives' and husbands' alcohol use at Time 1 predicting couple's physical and verbal aggression at Time 2.

Figure 3. Fitted model of Time 2 couple's alcohol use predicted by Time 1 marital conflict.

Figure 4. Fitted model of Time 2 wives' and husbands' alcohol use predicted by Time 1 couple's physical and verbal aggression, controlling for SES.

Figure 5. Fitted model of Time 2 wives' and husbands' alcohol use predicted by Time 1 couple's physical and verbal aggression, controlling for SES and race/ethnicity.

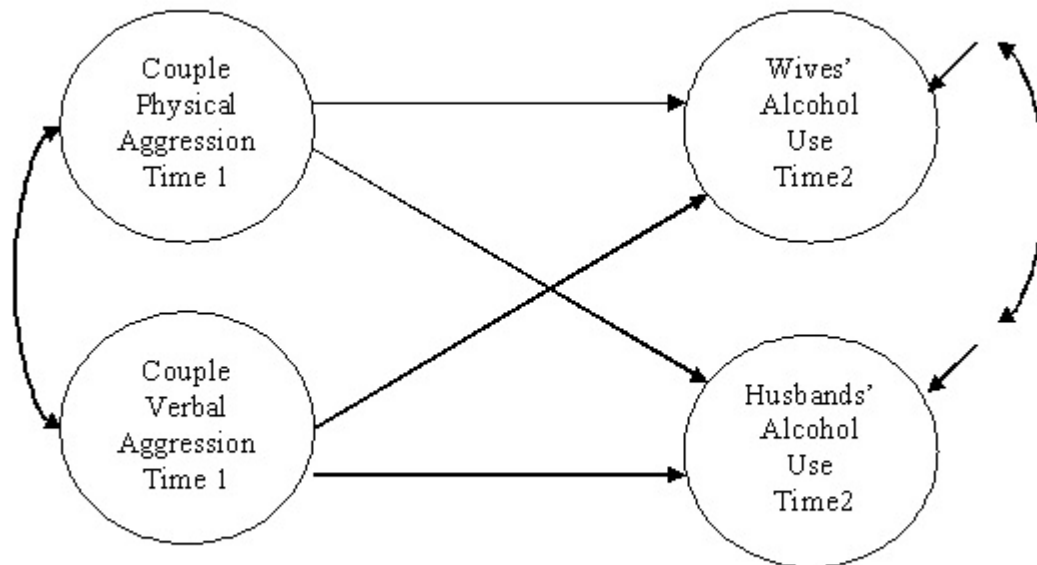
Figure 6. Fitted model of Time 2 wives' and husbands' alcohol use predicted by Time 1 couple's physical and verbal aggression, controlling for SES, race/ethnicity, and individual partner's age.

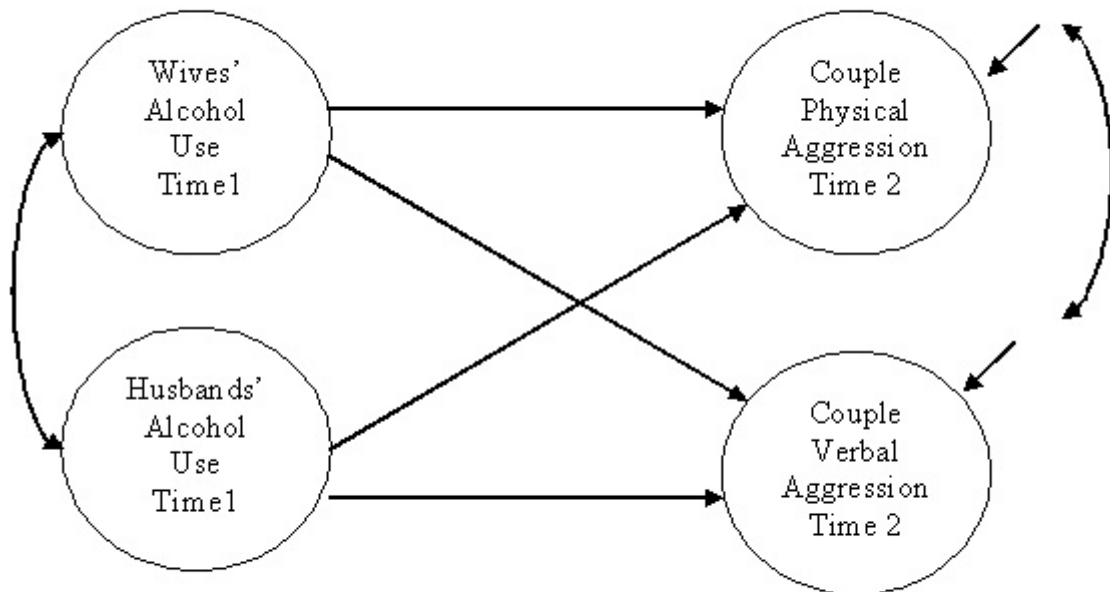
Figure 7. Fitted model of Time 2 couple's physical and verbal aggression predicted by Time 1 wives' and husbands' alcohol use.

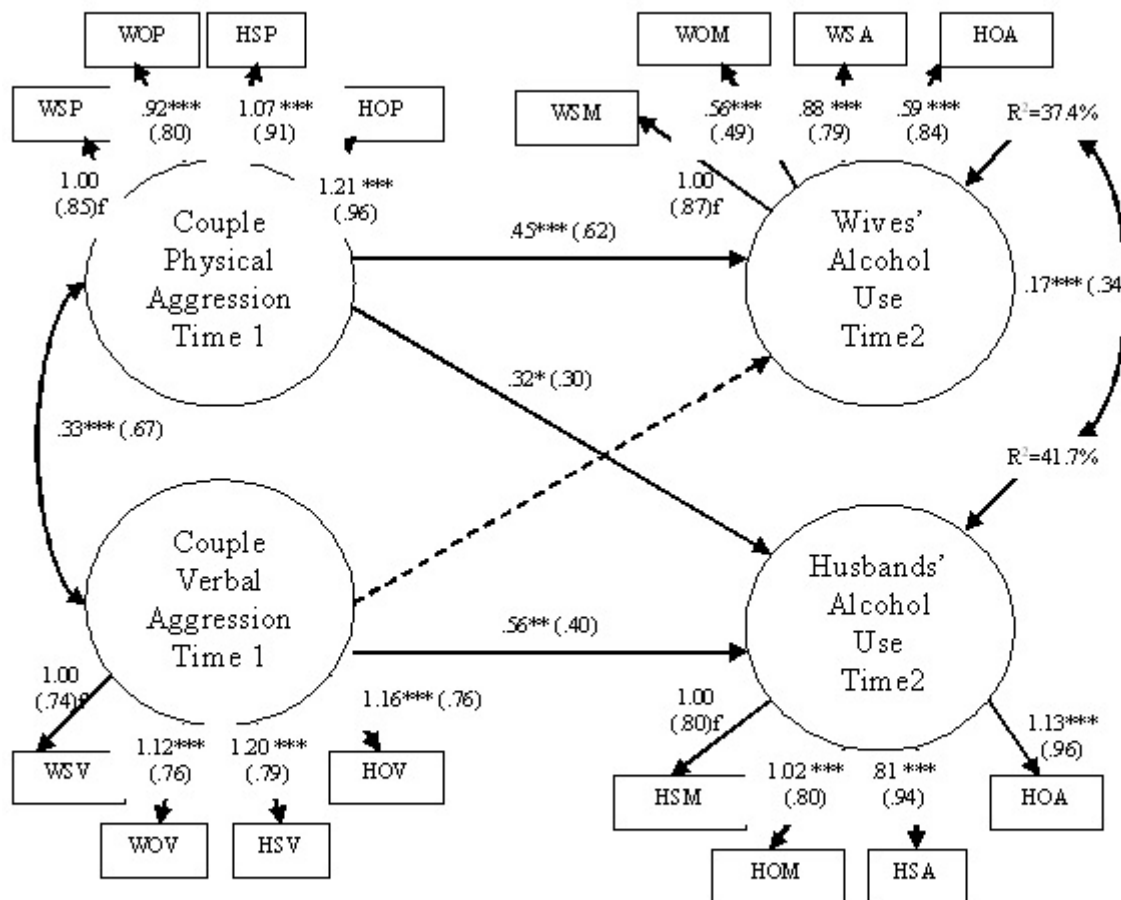
Figure 8. Fitted model of Time 2 couple's physical and verbal aggression predicted by Time 1 wives' and husbands' alcohol use, controlling for SES.

Figure 9. Fitted model of Time 2 couple's physical and verbal aggression predicted by Time 1 wives' and husbands' alcohol use, controlling for SES and race/ethnicity.

Figure 10. Fitted model of Time 2 couple's physical and verbal aggression predicted by Time 1 wives' and husbands' alcohol use, controlling for SES, race/ethnicity, and individual partner's age.

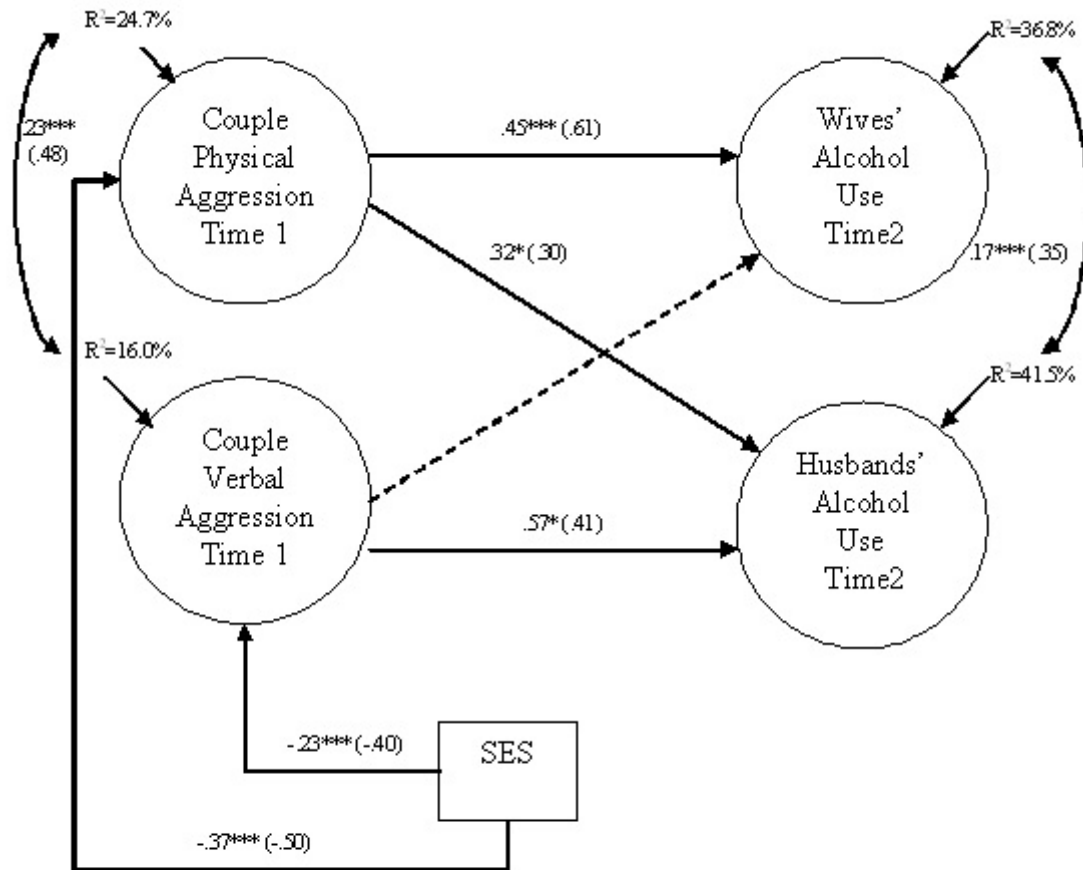






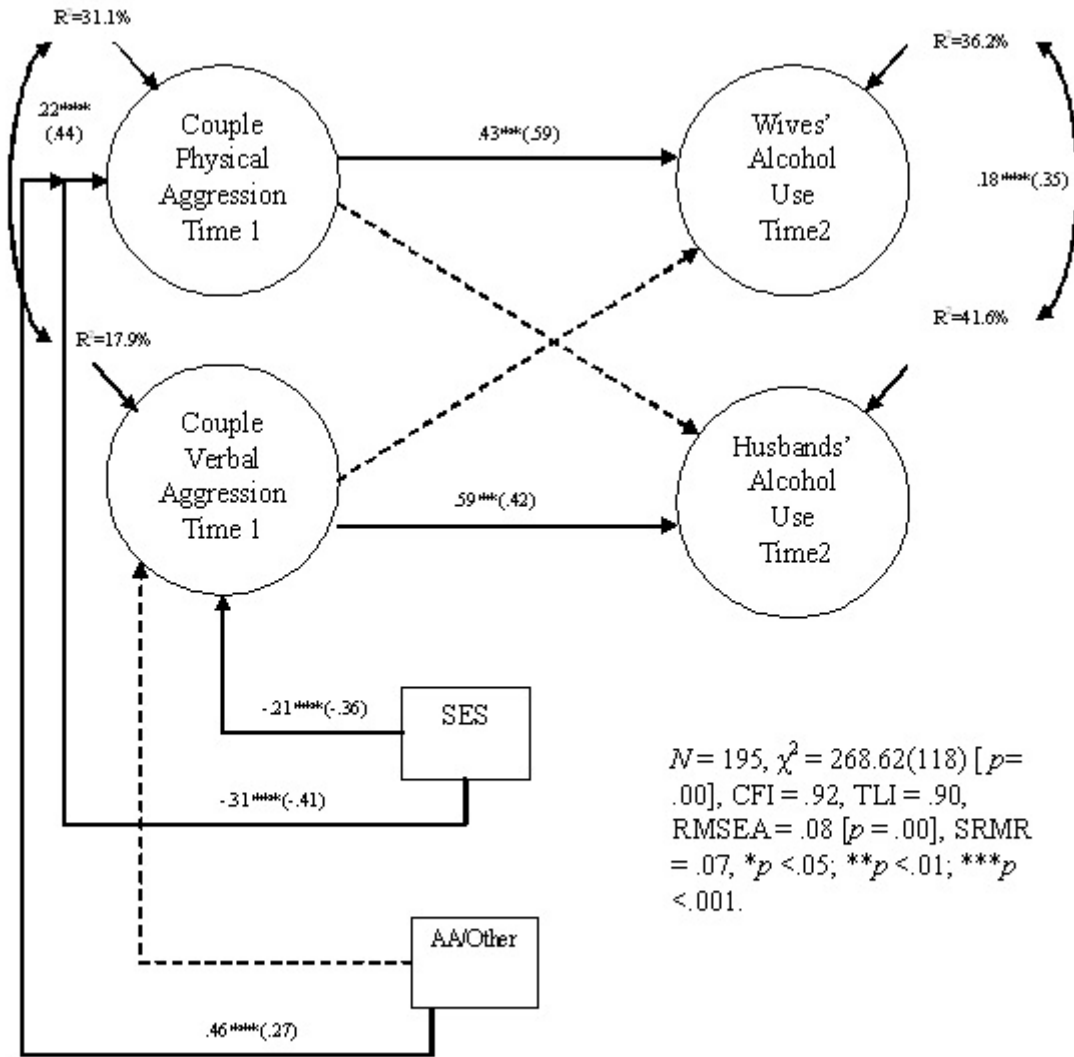
$N=191$, $\chi^2 = 215.95 (90)$ [$p = .00$], CFI = .93, TLI = .91 RMSEA = .09 [$p = .00$], SRMR = .06, * $p < .05$; ** $p < .01$; *** $p < .001$.

Note: Path coefficients are unstandardized. Standardized coefficients (correlations) are in parentheses. Significant pathways are presented as solid lines while non-significant pathways are presented as dotted lines. F denotes a fixed path; W = Wives; H = Husbands; S = Self Report; O = Spouse Report; M = MAST; A = ADS; P = Physical Aggression; V = Verbal Aggression. R^2 is the fraction of the variance that is explained.

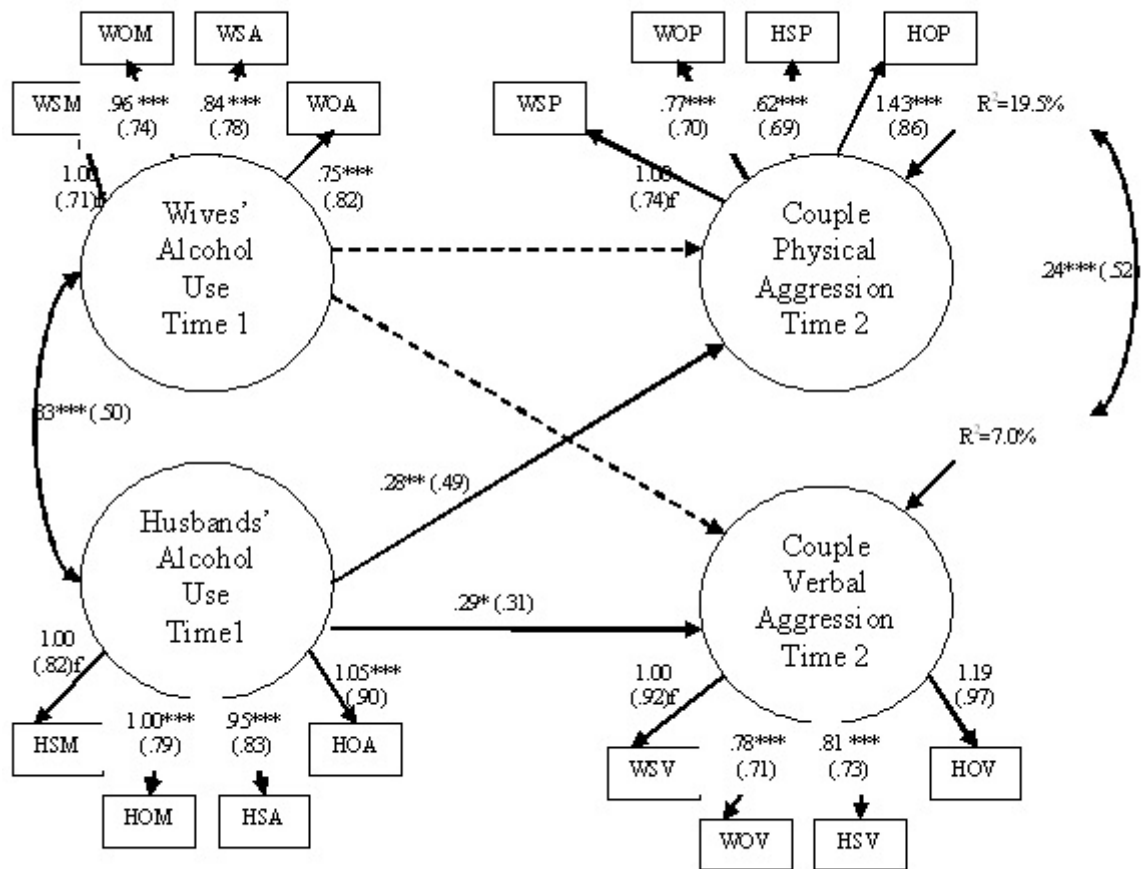


$N = 194$, $\chi^2 = 225.72$ (104) [$p = .00$], CFI = .94, TLI = .92, RMSEA = .08 [$p = .00$], SRMR = .06 * $p < .05$; ** $p < .01$; *** $p < .001$.

Note: Path coefficients are unstandardized. Standardized coefficients (correlations) are in parentheses. Significant pathways are presented as solid lines while non-significant pathways are presented as dotted lines. R² is the fraction of the variance that is explained.

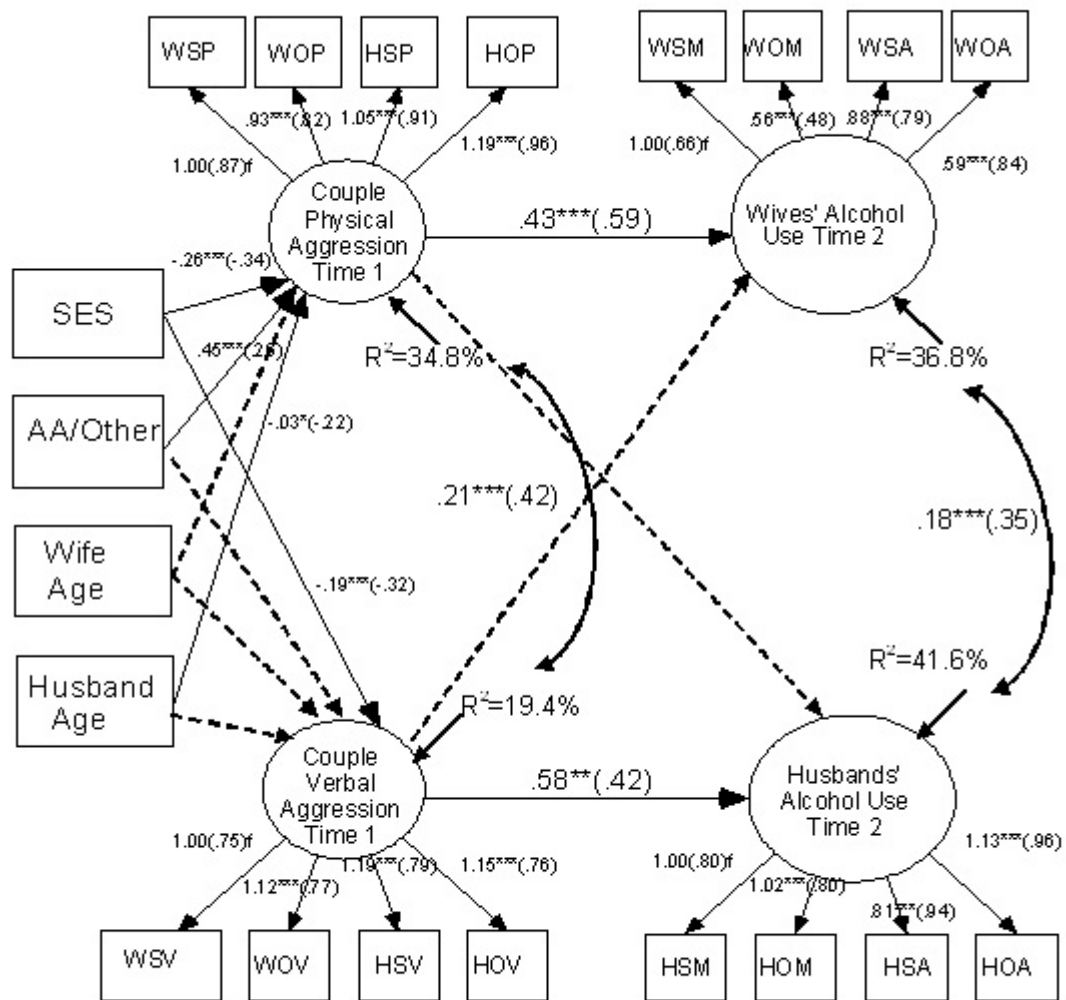


Note: Path coefficients are unstandardized. Standardized coefficients (correlations) are in parentheses. Significant pathways are presented as solid lines while non-significant pathways are presented as dotted lines. R^2 is the fraction of the variance that is explained.



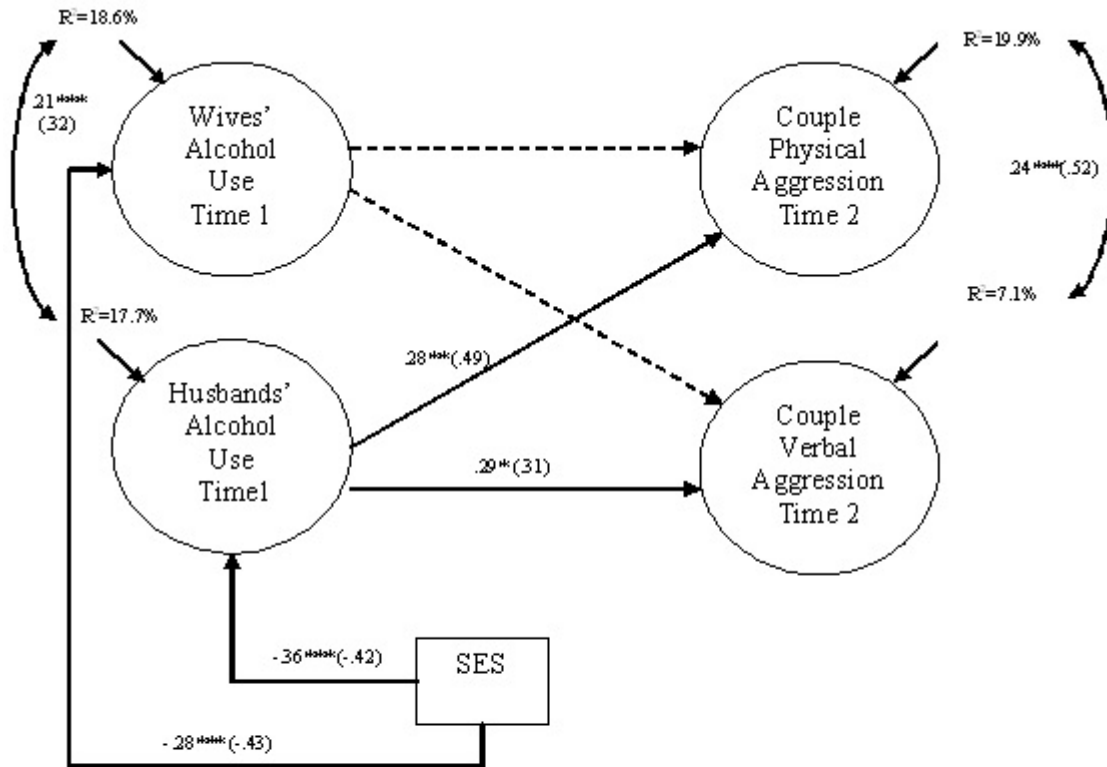
$N = 193$, $\chi^2 = 204.55 (90)$ [$p = .00$], CFI = .93, TLI = .91, RMSEA = .08 [$p = .00$], SRMR = .06; * $p < .05$; ** $p < .01$; *** $p < .001$.

Note: Path coefficients are unstandardized. Standardized coefficients (correlations) are in parentheses. Significant pathways are presented as solid lines while non-significant pathways are presented as dotted lines. F denotes a fixed path; W = Wives; H = Husbands; S = Self Report; O = Spouse Report; M = MAST; A = ADS; P = Physical Aggression; V = Verbal Aggression. R² is the fraction of the variance that is explained.



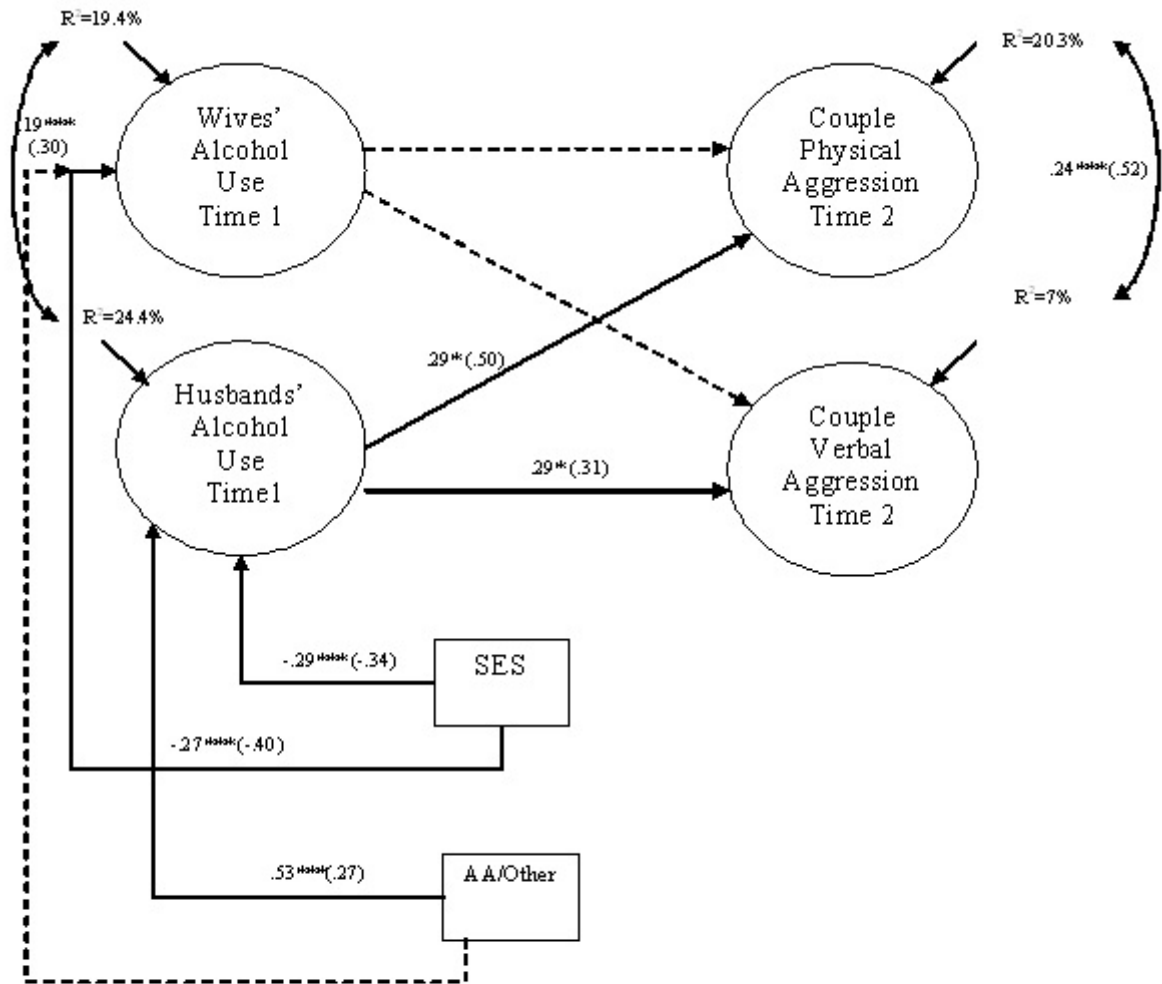
$N = 195$, $\chi^2 = 302.19(146)$ [$p = .00$], CFI = .92, TLI = .90, RMSEA = .07 [$p = .00$], SRMR = .07; * $p < .05$; ** $p < .01$; *** $p < .001$

Note: Path coefficients are unstandardized. Standardized coefficients (correlations) are in parentheses. Significant pathways are presented as solid lines while non-significant pathways are presented as dotted lines. F denotes a fixed path; W = Wives; H = Husbands; S = Self Report; O = Spouse Report; M = MAST; A = ADS; P = Physical Aggression; V = Verbal Aggression. R^2 is the fraction of the variance that is explained.



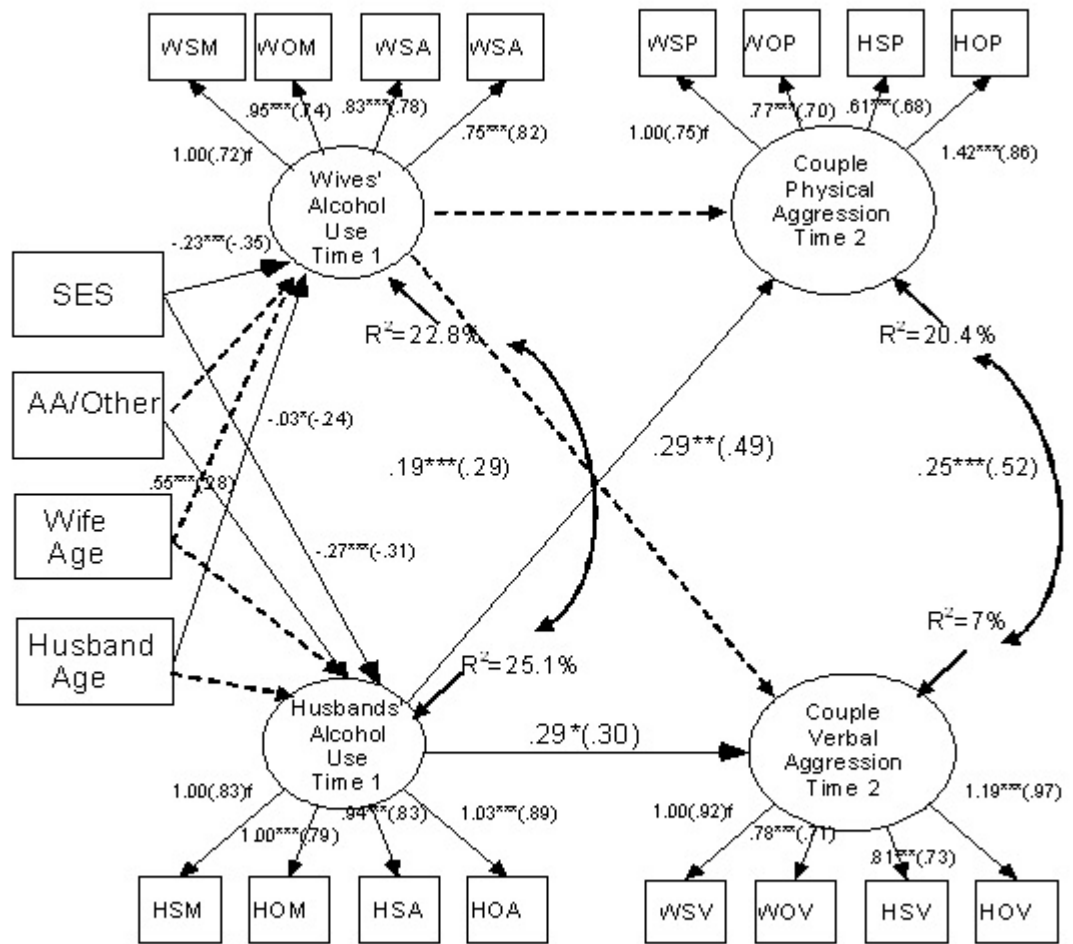
$N = 194$, $\chi^2 = 215.87 (104) [p = .00]$, CFI = .93, TLI = .91, RMSEA = .07 [$p = .00$], SRMR = .06; * $p < .05$; ** $p < .01$; *** $p < .001$.

Note: Path coefficients are unstandardized. Standardized coefficients (correlations) are in parentheses. Significant pathways are presented as solid lines while non-significant pathways are presented as dotted lines. R^2 is the fraction of the variance that is explained.



$N = 195$, $\chi^2 = 233.22 (118)$ [$p = .00$], CFI = .93, TLI = .91, RMSEA = .07 [$p = .01$], SRMR = .06; * $p < .05$; ** $p < .01$; *** $p < .001$.

Note: Path coefficients are unstandardized. Standardized coefficients (correlations) are in parentheses. Significant pathways are presented as solid lines while non-significant pathways are presented as dotted lines. R² is the fraction of the variance that is explained.



$N = 195$, $\chi^2 = 273.98$ (146) [$p = .00$], CFI = .93, TLI = .91, RMSEA = .07 [$p = .01$], SRMR = .07; * $p < .05$; ** $p < .01$; *** $p < .001$

Note: Path coefficients are unstandardized. Standardized coefficients (correlations) are in parentheses. Significant pathways are presented as solid lines while non-significant pathways are presented as dotted lines. F denotes a fixed path; W = Wives; H = Husbands; S = Self Report; O = Spouse Report; M = MAST; A = ADS; P = Physical Aggression; V = Verbal Aggression. R^2 is the fraction of the variance that is explained.

APPENDIX A

Demographic Screening Questionnaire

1. Child's Name _____ Date of Birth _____ Sex _____
2. Mother's Name _____ Date of Birth _____
3. Father's Name _____ Date of Birth _____
 - A. Is this the biological father of the child? Yes _____ No _____
 - B. Is the father listed above your current partner? Yes _____ No _____
4. How long have you and your partner been married or living together?

5. Have you or your partner ever been previously married? Yes _____ No _____
 - A. If so, when and how were the marriages dissolved? _____
6. Ethnic Group (Check One)

_____ African American	_____ Native American
_____ Asian	_____ Spanish Descent
_____ Caucasian	_____ Other _____
7. Mother's Occupation _____ Currently Employed? Yes _____ No _____
8. Father's Occupation _____ Currently Employed? Yes _____ No _____
9. Annual Income (Check One)

_____ Less Than 10,000
_____ 10,001 – 20,000
_____ 20,001 – 35,000
_____ 35,001 - 50,000
_____ 50,001 – 75,000
_____ More Than 75,000
10. What is the highest degree or grade that you have completed? _____
11. What is the highest degree or grade that the father has completed?

12. Have you and your current partner ever been referred to or participated in marital therapy? YES _____ NO _____
 - A. If so, please specify date(s) and condition(s), and whether you actually participated in therapy. _____
13. Have you or your partner ever been referred to or participated in therapy for a psychological condition and/or alcohol consumption problems? _____
 - A. If so, please specify date (s) and condition(s). _____
14. Other children in the family:

Name: _____	Date of Birth _____	Sex _____
Name: _____	Date of Birth _____	Sex _____
Name: _____	Date of Birth _____	Sex _____

APPENDIX B

Michigan Alcohol Screening Test

MAST

Have you had any alcoholic beverages within the last 2 years? YES ___ NO ___

If you selected "YES", please complete this form.

If you selected "No", please skip this and the following two pages.

PLEASE CIRCLE THE APPROPRIATE ANSWER FOR EACH QUESTION AS IT PERTAINS TO YOUR DRINKING HABITS WITHIN THE LAST YEAR (12 MONTHS).

1. Do you feel you are a normal drinker?
YES NO
2. Have you awakened in the morning after some drinking the night before and found that you could not remember a part of the evening before?
YES NO
3. Does your wife (husband) ever worry or complain about your drinking?
YES NO
4. Can you stop drinking without a struggle after one or two drinks?
YES NO
5. Do you ever feel bad about your drinking?
YES NO
6. Do friends or relatives think you are a normal drinker?
YES NO
7. Do you ever try to limit your drinking to certain times of the day or to certain places?
YES NO
8. Are you always able to stop drinking when you want to?
YES NO
9. Have you attended a meeting of Alcoholics Anonymous (AA)?
YES NO
10. Have you gotten into fights when drinking?
YES NO
11. Has drinking created problems with you and your spouse?
YES NO
12. Has your spouse (or other family member) gone to anyone for help about your drinking?
YES NO
13. Have you lost friends or girlfriends/boyfriends because of drinking?
YES NO

14. Have you gotten into trouble at work because of drinking?
YES NO
15. Have you lost a job because of drinking?
YES NO

PLEASE REMEMBER TO ANSWER BASED ON THE LAST YEAR

16. Have you neglected your obligations, your family, or your work for two or more days in a row because you were drinking?
YES NO
17. Do you ever drink before noon?
YES NO
18. Have you been told you have liver trouble? Cirrhosis?
YES NO
19. Have you had delirium tremens (DT's), sever shaking, heard voices, or seen things that weren't there after heavy drinking?
YES NO
20. Have you gone to anyone for help about your drinking?
YES NO
21. Have you been in a hospital because of drinking?
YES NO
22. Have you been a patient in a psychiatric hospital or on a psychiatric ward of a general hospital where drinking was a part of the problem?
YES NO
23. Have you been seen at a psychiatric or mental health clinic, or gone to a doctor, social worker, or clergyman for help with an emotional problem in which drinking played a part?
YES NO
24. Have you been arrested, even for a few hours, because of drunk behavior?
YES NO
25. Have you been arrested for drunk driving after drinking?
YES NO

SPOUSE MAST

Have your spouse had any alcoholic beverages within the last 2 years? YES ___ NO ___

If you selected "YES", please complete this form.

If you selected "No", please skip this and the following two pages.

PLEASE CIRCLE THE APPROPRIATE ANSWER FOR EACH QUESTION AS IT PERTAINS TO YOUR DRINKING HABITS WITHIN THE LAST YEAR (12 MONTHS).

1. Do you feel your spouse is a normal drinker?
YES NO
2. Has your spouse awakened in the morning after some drinking the night before and found that he/she could not remember a part of the evening before?
YES NO
3. Do you ever worry or complain about your spouses' drinking?
YES NO
4. Can your spouse stop drinking without a struggle after one or two drinks?
YES NO
5. Does your spouse ever feel bad about his/her drinking?
YES NO
6. Do friends or relatives think your spouse is a normal drinker?
YES NO
7. Does your spouse ever try to limit his/her drinking to certain times of the day or to certain places?
YES NO
8. Is your spouse always able to stop drinking when he/she wants to?
YES NO
9. Has your spouse attended a meeting of Alcoholics Anonymous (AA)?
YES NO
10. Has your spouse gotten into fights when drinking?
YES NO
11. Has drinking created problems with you and your spouse?
YES NO
12. Have you (or other family member) gone to anyone for help about your spouses' drinking?
YES NO
13. Has your spouse lost friends or girlfriends/boyfriends because of drinking?
YES NO
14. Has your spouse gotten into trouble at work because of drinking?
YES NO

15. Has your spouse lost a job because of drinking?
YES NO

PLEASE REMEMBER TO ANSWER BASED ON THE LAST YEAR

16. Has your spouse neglected his/her obligations, family, or work for two or more days in a row because he/she was drinking?
YES NO

17. Does your spouse ever drink before noon?
YES NO

18. Has your spouse been told he/she has liver trouble? Cirrhosis?
YES NO

19. Has your spouse had delirium tremens (DT's), sever shaking, heard voices, or seen things that weren't there after heavy drinking?
YES NO

20. Has your spouse gone to anyone for help about his/her drinking?
YES NO

21. Has your spouse been in a hospital because of drinking?
YES NO

22. Have you been a patient in a psychiatric hospital or on a psychiatric ward of a general hospital where drinking was a part of the problem?
YES NO

23. Has your spouse been seen at a psychiatric or mental health clinic, or gone to a doctor, social worker, or clergyman for help with an emotional problem in which drinking played a part?
YES NO

24. Has your spouse been arrested, even for a few hours, because of drunk behavior?
YES NO

25. Has your spouse been arrested for drunk driving after drinking?
YES NO

APPENDIX C

Alcohol Dependence Scale

Instructions: These questions relate to your PAST and/or Present drinking. Carefully read each question and the possible answers provided and circle the one choice that is most true for you.

- (1) How much did you drink the last time you drank?
 - A. Enough to get high or less than that amount
 - B. Enough to get drunk
 - C. Enough to pass out
- (2) Did you often have hangovers on Sunday or Monday mornings?
 - A. No
 - B. Yes
- (3) Have you had the “shakes” when sobering up (hands tremble, shake inside)?
 - A. No
 - B. Sometimes
 - C. Almost every time I drink
- (4) Did you get physically sick (e.g., vomit, stomach cramps) as a result of drinking?
 - A. No
 - B. Sometimes
 - C. Almost every time I drink
- (5) Have you had the DTs (delirium tremens)—that is, seen, felt, or heard things not really there, felt very anxious, restless, or overexcited?
 - A. No
 - B. Once
 - C. Several times
- (6) When you drink, did you stumble about, stagger, or weave?
 - A. No
 - B. Sometimes
 - C. Often
- (7) As a result of drinking, have you felt overly hot and sweaty (feverish)?
 - A. No
 - B. Once
 - C. Several times
- (8) As a result of drinking, have you seen things that were not really there?
 - A. No
 - B. Once
 - C. Several times
- (9) Do you panic because you feared you may not have a drink when you need it?
 - A. No
 - B. Yes
- (10) Have you had blackouts (“loss of memory” without passing out) as a result of drinking?
 - A. No, never
 - B. Sometimes
 - C. Often
 - D. Almost every time I drink
- (11) Do you carry a bottle with you or keep one close at hand?
 - A. No

- B. Some of the time
 - C. Most of the time
- (12) After a period of abstinence (non drinking), do you end up drinking heavily again?
- A. No
 - B. Sometimes
 - C. Almost every time
- (13) In the past 12 months, did you pass out as a result of drinking?
- A. No
 - B. Once
 - C. More than once
- (14) Have you had a convulsion (fit, seizure) following a period of drinking?
- A. No
 - B. Once
 - C. Several times
- (15) Do you drink throughout the day?
- A. No
 - B. Yes
- (16) After drinking heavily, has your thinking been fuzzy or unclear?
- A. No
 - B. Yes, but only for a few hours
 - C. Yes, for one or two days
 - D. Yes, for many days
- (17) As a result of drinking, have you felt your heart beating rapidly?
- A. No
 - B. Once
 - C. Several times
- (18) Do you almost constantly think about drinking and alcohol?
- A. No
 - B. Yes
- (19) As a result of drinking, have you heard “things” that were not really there?
- A. No
 - B. Once
 - C. Several times
- (20) Have you had weird and frightening sensations when drinking?
- A. No
 - B. Once or twice
 - C. Often
- (21) As a result of drinking, have you “felt things crawling” on you that were not really there (e.g., bugs, spiders)?
- A. No
 - B. Once
 - C. Several times
- (22) With respect to blackouts (loss of memory):
- A. Have never had a blackout
 - B. Have had blackouts that last less than an hour
 - C. Have had blackouts that last for several hours
 - D. Have had blackouts that last for a day or more
- (23) Have you tried to cut down on your drinking and failed?
- A. No
 - B. Once

- C. Several times
- (24) Do you gulp drinks (drink quickly)?
A. No
B. Yes
- (25) After taking one or two drinks, could you stop?
A. Yes
B. No
- (26) Do you ever drink continuously for 12 hours or more?
A. Yes
B. No
- (27) Were you arrested for drunk driving or public drunkenness?
A. No
B. Yes
- (28) Do you drink in the morning before noon, after awakening (or shortly after awakening, if you worked night shifts)?
A. No
B. Yes, sometimes
C. Yes, almost every time I drank
- (29) After drinking, do you find that you have been drinking a greater amount than or over a longer period of time than you had originally intended?
A. No
B. Yes
- (30) Do you spend a great deal of time in activities related to drinking including the purchasing of alcohol, the drinking of alcohol, or recovering from the effects of alcohol?
A. No
B. Yes
- (31) Do you find that you need increasingly greater amounts of alcohol in order to achieve intoxication or a desired effect or have you found that the same amount of alcohol no longer has the desired effect it had in the past?
A. No
B. Yes

APPENDIX D

Conflict Tactics Scale

This form is completed by (Please circle one answer): Mother Father

CTS2-A

Parent Version

No matter how well a couple gets along, there are times when they disagree, get annoyed with the other person, want different things from each other, or just have spats or fights because they are in a bad mood, are tired, or for some other reason. Couples also have many different ways of trying to settle their differences. This is a list of things that might happen when you have differences. Please circle how many times you did each of these things in the past year, how many times your partner did them in the past year and percentage of times your child saw either of you do these things in the past year. If you or your partner did not do one of these things in the past year, but it happened before that, circle "7".

How often did this happen?

- 1 = Once in the past year
- 2 = Twice in the past year
- 3 = 3-5 times in the past year
- 4 = 6-10 times in the past year
- 5 = 11-20 times in the past year
- 6 = More than 20 times in the past year
- 7 = Not in the past year, but it did happen before
- 0 = this has never happened

1. I showed my partner I cared even though we disagreed.
1 2 3 4 5 6 7 0
2. My partner showed care for me even though we disagreed.
1 2 3 4 5 6 7 0
3. I explained my side of a disagreement to my partner.
1 2 3 4 5 6 7 0
4. My partner explained his or her side of a disagreement to me.
1 2 3 4 5 6 7 0
5. I insulted or swore at my partner.
1 2 3 4 5 6 7 0
6. My partner did this to me.
1 2 3 4 5 6 7 0
7. I threw something at my partner that could hurt.

- 1 2 3 4 5 6 7 0
8. My partner did this to me.
1 2 3 4 5 6 7 0
9. I twisted my partner's arm or hair.
1 2 3 4 5 6 7 0
10. My partner did this to me.
1 2 3 4 5 6 7 0
11. I had a sprain, bruise, or small cut because of a fight with my partner.
1 2 3 4 5 6 7 0
12. My partner had a sprain, bruise, or small cut because of a fight with me.
1 2 3 4 5 6 7 0
13. I showed respect for my partner's feelings about an issue.
1 2 3 4 5 6 7 0
14. My partner showed respect for my feelings about an issue.
1 2 3 4 5 6 7 0
15. I pushed or shoved my partner.
1 2 3 4 5 6 7 0
16. My partner did this to me.
1 2 3 4 5 6 7 0
17. I used a knife or gun on my partner.
1 2 3 4 5 6 7 0
18. My partner did this to me.
1 2 3 4 5 6 7 0
19. I passed out from being hit on the head by my partner in a fight.
1 2 3 4 5 6 7 0
20. My partner passed out from being hit on the head in a fight with me.
1 2 3 4 5 6 7 0
21. I called my partner fat or ugly.
1 2 3 4 5 6 7 0
22. My partner called me fat or ugly.
1 2 3 4 5 6 7 0
23. I punched or hit my partner with something that could hurt.
1 2 3 4 5 6 7 0
24. My partner did this to me.
1 2 3 4 5 6 7 0
25. I destroyed something belonging to my partner.
1 2 3 4 5 6 7 0
26. My partner did this to me.
1 2 3 4 5 6 7 0
27. I went to a doctor because of a fight with my partner.
1 2 3 4 5 6 7 0
28. My partner went to a doctor because of a fight with me.
1 2 3 4 5 6 7 0
29. I choked my partner.

- 1 2 3 4 5 6 7 0
30. My partner did this to me.
1 2 3 4 5 6 7 0
31. I shouted or yelled at my partner.
1 2 3 4 5 6 7 0
32. My partner did this to me.
1 2 3 4 5 6 7 0
33. I slammed my partner against the wall.
1 2 3 4 5 6 7 0
34. My partner did this to me.
1 2 3 4 5 6 7 0
35. I said I was sure we could work out a problem.
1 2 3 4 5 6 7 0
36. My partner was sure we could work it out.
1 2 3 4 5 6 7 0
37. I needed to see a doctor because of a fight with my partner, but I didn't.
1 2 3 4 5 6 7 0
38. My partner needed to see a doctor because of a fight with me, but didn't.
1 2 3 4 5 6 7 0
39. I beat up my partner.
1 2 3 4 5 6 7 0
40. My partner did this to me.
1 2 3 4 5 6 7 0
41. I grabbed my partner.
1 2 3 4 5 6 7 0
42. My partner did this to me.
1 2 3 4 5 6 7 0
43. I stomped out of the room or house or yard during a disagreement.
1 2 3 4 5 6 7 0
44. My partner did this to me.
1 2 3 4 5 6 7 0
45. I slapped my partner.
1 2 3 4 5 6 7 0
46. My partner did this to me.
1 2 3 4 5 6 7 0
47. I had a broken bone from a fight with my partner.
1 2 3 4 5 6 7 0
48. My partner had a broken bone because of a fight with me.
1 2 3 4 5 6 7 0
49. I suggested a compromise to a disagreement.
1 2 3 4 5 6 7 0
50. My partner did this to me.
1 2 3 4 5 6 7 0
51. I burned or scalded my partner on purpose.

- 1 2 3 4 5 6 7 0
52. My partner did this to me.
1 2 3 4 5 6 7 0
53. I accused by partner of being a lousy lover.
1 2 3 4 5 6 7 0
54. My partner did this to me.
1 2 3 4 5 6 7 0
55. I did something to spite my partner.
1 2 3 4 5 6 7 0
56. My partner did this to me
1 2 3 4 5 6 7 0
57. I threatened to hit or throw something at my partner.
1 2 3 4 5 6 7 0
58. My partner did this to me.
1 2 3 4 5 6 7 0
59. I felt physical pain that still hurt the next day because of a fight with my partner.
1 2 3 4 5 6 7 0
60. My partner still felt physical pain the next day because of a fight with my partner.
1 2 3 4 5 6 7 0
61. I kicked by partner.
1 2 3 4 5 6 7 0
62. My partner did this to me.
1 2 3 4 5 6 7 0
63. I agreed to try a solution to a disagreement my partner suggested.
1 2 3 4 5 6 7 0
64. My partner agreed to try a solution I suggested.
1 2 3 4 5 6 7 0