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The Longitudinal Association between Multiple Substance Use Discrepancies and Marital Satisfaction

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Abstract

AIMS—The objective of this work was to examine the relation between patterns of substance use among newly married couples and marital satisfaction over time. In particular, this work examined if differences between husbands' and wives' heavy alcohol use and cigarette smoking, rather than simply use per se, predicted decreases in marital satisfaction over the first seven years of marriage.

METHODS—Married couples ($n=634$ couples) were assessed on a variety of substance use and relationship variables at the time of marriage and again at the first, second, fourth and seventh year of marriage.

RESULTS—After controlling for key sociodemographic variables, discrepancies in husband and wife cigarette smoking and heavy alcohol use were related to significant reductions in marital satisfaction. Importantly, couples who were discrepant on both substances experienced the greatest declines in marital satisfaction over time.

CONCLUSIONS—Patterns of substance use among newly married couples are important predictors of changes in marital functioning over time. It was not simply the heavy alcohol use or cigarette smoking that predicted dissatisfaction, but rather, differences between husbands' and wives' substance use that impacted the relationship.

Keywords

Alcohol Use; Tobacco Use; Discrepancy; Marital Satisfaction

Individuals tend to select mates that are more like themselves in a variety of ways. For example, Price and Vandenberg [1] found that couples reported a great deal of similarity in types of social activities, levels of activity, compulsiveness, and conformity. In a review of 103 studies of health concordance, Meyler and colleagues [2] found significant evidence of similarity for physical health, mental health, and health behaviors such as dietary intake.

Among newly married couples, significant concordance has been found for alcohol use [3], cigarette smoking [4], and illicit drug use [5]. Selecting a mate based on the similarity of characteristics, experience, and behaviors can also mean that future behaviors are derived from earlier, shared experiences. For example, Rhule-Louie and McMahon [6] suggest that concordance of problem behaviors among couples (e.g. substance abuse) may be a secondary outcome on the basis of couples who share similar, antisocial environments.

There is also evidence that suggests that the observed similarity among couples develops through some type of change process that has been described variously in the literature as a partner influence model [7,8], social contagion [9,10], or convergence [1,11]. In a longitudinal study of married couples (the same data as the current report), one spouse's level of depressive symptoms predicted increases in the partner's depressive symptoms [12]. These results remained after considering other risk factors and the health status of the partners. In a more behaviorally relevant domain, Bove and colleagues [13] found evidence of symmetrical (both individuals change) and asymmetrical convergence (only one individual changes) for food choices among newly married couples. In our longitudinal work with newly married couples, we found that husbands' alcohol use prior to marriage predicted wives' drinking at the first anniversary [14]; however, wives' drinking at the first anniversary predicted husbands' drinking at the second anniversary [8].

Similarity across a variety of domains likely arises through some combination of assortative mating and convergence over time, as well as marital break-up contributing to the similarity of those continuing to be married. Regardless of how the similarity arises, there is evidence that similarity of characteristics, attitudes, and behaviors directly relate to marital functioning. Luo and Klohnen [15] found that similarity in personality-related domains was positively associated with marital satisfaction among newly married couples. Wilson and Cousins [16] examined compatibility with a 25 item measure of behavioral and attitude similarity (e.g., religion, physical appearance, attitudes, etc.) and found that higher levels of overall similarity among partners was related to marital satisfaction.

In terms of the impact of different patterns of substance use on marital functioning, we have found cross-sectional evidence [17] that discrepancies in husbands' and wives' heavy drinking are related to lower levels of marital satisfaction. In an extension of this work, we examined if differences between wives' and husbands' heavy drinking (i.e. discrepancies) over the first three years of marriage were longitudinally predictive of decreased marital satisfaction [18]. Significant evidence supported the finding that discrepancies in heavy drinking were related to decreased marital satisfaction [18]. Importantly, we found that regardless of whom the heavier drinker was, the association persisted. Further, to ensure that these results were not impacted by non-discrepant couples who never drank to excess, the models were re-estimated excluding these couples; the results remained the same. In a cross-sectional sample [17] of newly married couples, differences between husband and wife cigarette smoking were unrelated to marital satisfaction. Others, however, have found that discrepancies in attitudes towards smoking were associated with marital satisfaction for women, although not for men [16]. To date, research has not examined the longitudinal impact of smoking discrepancy on marital satisfaction; however, given the fact that different attitudes about smoking relate to marital satisfaction and concordance of health behaviors among married couples [e.g., 2,7], something that negatively impacts health (i.e., smoking) in which couples disagree upon is likely to lead to impaired marital functioning. Moreover, research has not addressed the joint impact of drinking and smoking discrepancies. The objective of this study was to examine the relative influence of alcohol discrepancy, smoking discrepancy, and the joint influence on marital functioning. On the basis of compatibility theory, we expect that couples who are discrepant on both heavy drinking and

smoking will experience greater reductions in marital satisfaction over time, although this may represent a simple additive rather than an interactive effect.

Methods

Participants

Participants for this report were involved in a longitudinal study of marriage and alcohol involvement. All participants were at least 18 years old at the beginning of the study, spoke English, were literate and were in their first marriage. Recruitment occurred over a 3 year period from 1996–1999. At the initial assessment, the average age of the men [mean (SD)] was 28.7 (6.3) years and the average of the women was 26.8 (5.8) years (N=634 couples). The majority of the men and women in the sample were European American (husbands: 59%; wives: 62%). About one-third of the sample was African American (husbands: 33%; wives: 31%). The sample also included small percentages (less than 5%) of Hispanic, Asian, and Native American participants. A large proportion of husbands and wives had at least some college education (husbands: 64%; wives: 69%) and most were employed at least part-time (husbands: 89%; wives 75%). Consistent with other studies of newly married couples [19–21], many of the couples were parents at the time of marriage (38% of the husbands and 43% of the wives) and were living together prior to marriage (70%). The Institutional Review Board of the State University of New York at Buffalo approved the research protocol.

Procedures

After applying for a marriage license, couples were recruited for a 5–10 minute paid (\$10) interview. The interview assessed demographic factors, family and relationship factors, and substance use questions. For interested individuals who did not have time to complete this interview, a telephone interview was conducted later that day or the next day (N = 62). Less than 8% of individuals approached declined to participate in the brief recruitment interview. We interviewed 970 eligible couples.

Complete details of the recruitment process can be found elsewhere [14,18]. Couples who agreed to participate in the longitudinal study were given identical questionnaires to complete at home and asked to return them in separate postage paid envelopes (Wave 1 Assessment). Participants were asked not to discuss their responses with their partners. Each spouse received \$40 for his or her participation. Only 7% of eligible couples refused to participate in the longitudinal study. Those who agreed to participate, compared to those who did not, had lower incomes ($p < .01$) and the women were more likely to have children ($p < .01$). No other differences were identified. Of the 887 eligible couples who agreed to participate (13 of the original 900 did not marry), data were collected from both spouses for 634 couples (71.4%). The 634 couples are the basis for this report. Couples who returned the questionnaires were more likely to be living together compared to couples who did not return the questionnaires (70% vs. 62%; $p < .05$) and more likely to be European American. No other sociodemographic differences existed between the couples who responded compared to those who did not. Average past year alcohol consumption did not differ between couples that returned the questionnaires and those who did not. Husbands in non-respondent couples consumed 6 or more drinks or were intoxicated in the past year more often than husbands who completed the questionnaire; however, these differences were small.

At the couples' first, second, fourth and seventh wedding anniversaries (Waves 2, 3, 4, and 5), they were mailed questionnaires similar to those they received at the first assessment. Wave 6 assessments (9th anniversary) are currently being completed. As with the first

assessment, they were asked to complete the questionnaires and return them in the postage paid envelopes. Each spouse received \$40 for his or her participation for assessments 2 and 3 and \$50 for the fourth and fifth assessments. At the fifth assessment, 79.7% (N= 505) of women completed the questionnaire. Wives who did not complete the fifth assessment did not differ from others wives in terms of Wave 1 frequency of heavy drinking, past year smoking status, or marital satisfaction. At the fifth assessment, 68.1% (N= 432) of the original sample of husbands completed the questionnaires. Husbands who did not participate in the fifth assessment did not differ from other husbands on the basis of Wave 1 frequency of heavy drinking, past year smoking status, or marital satisfaction.

Measures: Outcome Variable

Marital Satisfaction—At each assessment, overall marital quality was assessed with the 15-item Marital Adjustment Test (MAT) [22]. Higher scores indicated greater relationship quality (range: 2–158). The MAT had an adequate reliability for the study ($\alpha = .81$ for husbands; $.80$ for wives).

Measures: Predictor Variables

Heavy Drinking Discrepancy—At each wave, heavy drinking was assessed with two items. Frequency of past year intoxication was assessed on a 9-point scale that ranged from “didn’t get drunk last year” (coded 0) to “everyday” (coded 8). The frequency of drinking 6 or more drinks on an occasion in the past year was also assessed using the same 9-point scale. Following our earlier work [18], heavy drinking was defined as the maximum of these two responses. To test the reliability of our single item measures of frequency of intoxication and frequency of drinking 6 or more drinks, correlations were examined between wave 1 responses to these items and participants’ responses to these items at the screening interview at city hall. These two assessments differed in type (interview versus questionnaire), context (city hall vs. at home), and time (approximately 1–2 months between city hall interview and receipt of questionnaires). Nonetheless, among husbands, frequency of 6 or more drinks reported at the screening was significantly correlated with their response to this item at wave 1 ($r = .57, p < .01$) as well as the correlation for frequency of intoxication ($r = .68, p < .01$). The comparable correlations for the wives were $.65$ ($p < .01$) and $.44$ ($p < .01$). Additionally, we examined the correlations between participants’ response to these items on the questionnaire and their partners’ report of their behavior. For both the frequency of intoxication and the frequency of drinking 6 or more drinks, participants’ reports were significantly correlated with their partners’ reporting of their behavior (correlations range from $.51$ to $.65$ and all were significant at $p < .01$). For each wave, the heavy drinking discrepancy variable was calculated by subtracting wives’ past year heavy drinking from their husbands’ past year heavy drinking. This variable was dichotomized to indicate “any discrepancy in the frequency of past year heavy drinking” vs. “no discrepancy.” Heavy drinking discrepancy was modeled as a time-varying predictor (coded 0 for no discrepancy and 1 for any discrepancy).

Tobacco Use—At each assessment, each spouse was asked if they smoked cigarettes in the past year. For those who reported past year smoking, they were asked to quantify the amount smoked with responses on an 8-point scale from “a few cigarettes per day or less” to “2 packs or more.” For the current report, past year smoking was dichotomized into smoker or non-smoker on the basis of the first question. Based on husband and wife smoking status, a discrepancy variable was created to indicate “any discrepancy in past year cigarette smoking” vs. “no discrepancy in past year cigarette smoking.” Smoking discrepancy indicated whether the couple was concordant (i.e., both smoke or neither smoke) or discordant (only one person smokes) (coded 0 for no discrepancy and 1 for any discrepancy). This variable was modeled as a time-varying predictor.

Demographic Factors—At the initial in-person interview, each spouse reported their age, race/ethnicity, income, highest level of education obtained, employment status, if they had children prior to the current marriage, and the number of months cohabitating prior to marriage. These variables were modeled as time invariant covariates in the regression model. Additionally, past year childbirth was included as time-varying covariate.

Analysis

Descriptive statistics were used to characterize the outcome variables for husbands and wives at each wave. Because longitudinal datasets contain repeated observations of the same participants over time, the data are often correlated; thus requiring more specialized analytic tools. For the current report, we used multilevel regression models to identify time-varying and time-invariant predictors of marital satisfaction over time. Multilevel modeling is used to study nested data, such as students within schools, but it can also be applied to longitudinal studies [23,24]. In this report, the repeated assessment of the couples is considered nested within the couple. The application of multilevel modeling in longitudinal studies has many advantages over traditional analyses. A complete discussion of these advantages is available elsewhere [23,25], but briefly, the use of multilevel modeling in longitudinal studies is particularly beneficial in terms of dealing with missing data. With many other methods, participants who did not provide data for each assessment would be considered missing; however, multilevel modeling allows participants with information from only one assessment to be included in the analyses [25]. Multilevel modeling also allows for the inclusion of time varying or time invariant predictors [23].

For the current report, two sets of multilevel regression models were analyzed. The outcome variable for the first model was husbands' marital satisfaction over time and the outcome variable for the second model was wives' marital satisfaction over time. The outcome variables were centered; therefore, changes in marital satisfaction represent changes (i.e. increases or decreases) from the sample's average marital satisfaction scores. For the first set of models, changes in marital satisfaction on the basis of smoking discrepancy and alcohol discrepancy were examined. The second set of models included an interaction term that represented a smoking discrepancy by drinking discrepancy. The discrepancies were entered as time varying, lagged predictors; thus, the predictors were allowed to change over time and the assessment of the predictor was conducted in the assessment prior to the outcome. The presence of a discrepancy was coded as a 1 and the absence of a discrepancy was coded 0. Time was modeled as a linear factor to account for natural decreases in marital satisfaction over the early years of marriage. Both cubic and quadratic factors were also examined to determine if the natural decrease in marital satisfaction was more appropriately modeled as a curvilinear function. Upon non-significant curvilinear effects, only the linear time term was modeled.

Results

Over the first seven years of marriage, husbands and wives experienced initial declines in marital satisfaction followed by a period of stabilization (Table 1). At the first assessment, 30% (n= 196) of wives reported past year smoking and 36% (n= 231) of husbands reported past year smoking. These smoking rates are comparable to estimates from US national estimates for women and men during the same year that these data were collected (past year smoking prevalence for women, 35% and for men 40%) [26]. Although these national estimates are for similarly aged individuals, they do not consider marital status. In terms of the frequency of past year heavy drinking at the first assessment, 41% (n= 262) of wives reported that they did not drink heavily in the past year and 30% (n= 192) of husbands

reported no past year heavy drinking. These rates are generally comparable to national estimates from the National Survey on Drug Use and Health [27].

Of the 23% (N=145) of discrepant smokers at baseline (i.e., one partner smoked and the other one did not), about 14% of couples reported husband only smoking and 9% reported wife only smoking. Of the 25% (N=160) of discrepant heavy drinking couples (dissimilar frequencies of heavy drinking), about 18% of these couples the husband was the heavier drinker and about 7% the wife was the heavier drinker. Importantly, the average differences between husbands' and wives' heavy drinking was less than one category difference on the 9-point frequency of heavy drinking. In terms of discrepancy of both smoking and heavy drinking behaviors among couples, 38% of husbands and wives reporting similar behaviors in terms of the frequency of their past year heavy drinking and smoking (Table 1). Over time, the prevalence of the concordant group was very stable. About 16% reported differences in both frequency of heavy drinking and smoking. At each time point, it was more common for couples to report differences in their past year frequencies of heavy drinking compared to smoking.

The first set of multilevel models examined the predictive value of differences in heavy drinking frequency and smoking as they relate to changes in wives' marital satisfaction over time after considering the impact of time, birth of a child, and sociodemographic covariates. The first model considered smoking and heavy drinking discrepancies as independent predictors and the second model considered the interactive effects of the two discrepancies. Both smoking discrepancies and heavy drinking discrepancies were related to significant reductions in marital satisfaction over time (Table 2). It is important to note that the discrepancy variables are lagged variables and, therefore, occurred prior to the assessment of marital satisfaction. A significant interaction was found in the second model. When considering the interaction, wives in relationships characterized by discrepant heavy drinking and smoking in the past year had the greatest declines in marital satisfaction (Figure 1) with an average decline of 8.7 points per assessment (95% Confidence Interval [CI]: -12.5, -5.0) on their marital satisfaction scores compared to the sample average of wives' marital satisfaction scores.

The second set of models examined the relation between the discrepancy predictors and husbands' marital satisfaction. After controlling for time, past year childbirth, and sociodemographic covariates, discrepancy on either smoking or drinking was related to significant declines in marital satisfaction (Table 3). Similar to the model predicting wives' marital satisfaction, the interaction term was also highly significant in the model predicting changes in husbands' marital satisfaction (Figure 2). Husbands who were discrepant on both heavy drinking and smoking experienced the greatest declines in marital satisfaction per assessment compared to the average husbands' marital satisfaction (-10.1 points, 95% CI: -13.8, -6.5).

Discussion

This work examined the impact of differences in patterns of substance use on marital satisfaction over the first seven years of marriage. Consistent with prior research, we found that after initial declines in marital satisfaction for both husbands and wives, there was a "leveling off" after the first few years [28]. At each assessment, the discrepancy in heavy drinking was more common compared to smoking discrepancy. About 15% of couples reported being discrepant on both heavy drinking and smoking.

We found evidence that discrepancies in smoking were longitudinally predictive of decreased marital satisfaction. This was true among both husbands and wives. Importantly,

these variables were modeled as time lagged variables; therefore, their assessment occurred in the wave prior to the assessment of marital satisfaction. It is important to note that our models considered the impact of time on marital satisfaction which has been shown to related to initial, sharp reductions in marital satisfaction among newlyweds [28]. Additionally, the current models also controlled for the birth of a child; an event that has also been consistently linked with declines in marital satisfaction [29]. In early work with the current sample [17], a discrepancy between husbands' and wives' smoking was not related to marital satisfaction; however, this was based on cross-sectional data that only considered the year prior to marriage. Wilson and Cousins [16] examined the relation between tolerance of smoking and marital satisfaction and found a significant relation between discrepancies on attitudes regarding smoking and marital satisfaction. However, unlike the current work that found this relation for men and women, Wilson and Cousins found a significant relation only for women. Although the measure of attitudes about smoking included questions about the individuals' smoking patterns, it is not clear from their report how many individuals endorsed past year smoking. It is possible that the gender difference identified related to the base rate of smoking by gender in their sample.

Over the early years of marriage, we found evidence that discrepancies in husbands' and wives' heavy drinking were longitudinally predictive of decreased levels of marital satisfaction. For example, Roberts and Leonard [30] examined the relation between patterns of drinking between couples (the "Drinking Partnership") and marital functioning. They found that couples with similar pattern of drinking (both in terms of consumption and frequency) had higher levels of marital satisfaction compared to other couples. In a longitudinal examination of drinking discrepancies and marital functioning, Homish and Leonard [18] found a significant relationship between heavy drinking discrepancies and marital satisfaction. That is, couples in which only one member was a heavy drinker had steeper declines in marital satisfaction compared to couples in which both were heavy drinkers or neither were heavy drinkers. Importantly, it did not matter if the heavy drinker was the husband or wife; it was simply the existence of discrepancies that drove the reduction in marital satisfaction.

When considering the interaction between the two discrepancy terms, there was evidence that couples who were discrepant on both heavy drinking and smoking had greater declines in marital satisfaction compared to other couples. In fact, for each year of marriage, these couples reported scores on the Locke-Wallace Marital Adjustment Test of less than 100—the cutpoint commonly used to identify couples with significant levels of marital distress [22,31]. Therefore, these couples and their families may be at higher levels of risk for negative outcomes. For instance, Leadley, Clark, and Caetano [32] found that couples whose drinking patterns were dissimilar were at increased risk for not only marital distress but also for the occurrence of interpersonal violence. There are important clinical implications related to these findings. For example, if one partner of a concordant heavy drinking couple enters treatment for his/her alcohol use, positive changes resulting from treatment (i.e., reduction/cessation in heavy drinking) could have unexpected consequences for the relationship. Thus, the break-up of the "Drinking Partnership" could have unintended negative outcomes for the couple. Therefore, approaches such as Behavior Couples Therapy [33] that assess and treat both partners could have a more beneficial outcome at both the individual and family levels. In terms of research implications, the current findings suggest that an assessment of substance use should extend beyond quantity and frequency of substance use and incorporate information about partner behaviors as well.

Our findings are also consistent with the notion of compatibility theories which suggest that couples who are more similar across a multitude of domains will exhibit better outcomes [34]. It is possible that these couples are dissimilar across many domains and it that an

“excess” of dissimilarities is responsible for the significant reductions in marital satisfaction over time. Weisfeld and colleagues [35] found that couples with fewer things in common reported lower levels of marital satisfaction; thus, the couples who were discrepant on both smoking and drinking would be consistent with this notion. Because these couples were dissimilar in both their smoking patterns and heavy drinking this fact could also suggest that these couples are spending less time with their partners, which, in turn could relate to the reductions in marital satisfaction. For example, in other work [36], we found that couples who reported drinking more often with their partner had higher levels of marital satisfaction compared to couples who drank similar levels but away from their partner. This suggested that the alcohol use was involved in the couples socializing.

Several limitations need to be considered when interpreting the current findings. Our assessment of smoking was simply a dichotomized measure of past year smoking (yes or no). It is possible that the magnitude of the difference may also be related to changes in marital satisfaction. For example, marital functioning between a nonsmoker and a heavy smoker may be very different compared to marital functioning between a nonsmoker and a light smoker—both cases that would simply be identified as discrepant in the current report. Additionally, the assessments of smoking and drinking were reported on the basis of past year use; thus, changes that could have occurred during the past year were not captured and their impact on changes of marital satisfaction would be missed. Although we found evidence of substance use discrepancies impacting marital functioning, there are many other reasons for significant reductions in marital satisfaction over the early years of marriage such as expectations about marriage [37], depression [38], and negativity [39].

Using a community sample of adults, we found longitudinal evidence that discrepancies in smoking and heavy drinking were related to reductions in marital satisfaction. Although discrepancies on smoking and heavy drinking each related to reductions in marital satisfaction, it is important to note that the interaction was significant suggesting that couples discrepant on both substances were at greater risk. Given the link between discrepancies and marital satisfaction as well as the link between marital satisfaction and mental health (e.g., depression), future work should examine the association between discrepancies, marital satisfaction, and mental health outcomes.

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References

1. Price RA, Vandenberg SG. Spouse similarity in American and Swedish couples. *Behav Genet.* 1980; 10(1):59–71. [PubMed: 7191703]
2. Meyler D, Stimpson JP, Peek MK. Health concordance within couples: A systematic review. *Social Science & Medicine.* 2007; 64(11):2297–2310. [PubMed: 17374552]
3. Leonard KE, Eiden RD. Husband's and wife's drinking: unilateral or bilateral influences among newlyweds in a general population sample. *J Stud Alcohol Suppl.* 1999; 13:130–138. [PubMed: 10225497]
4. Homish GG, Leonard KE. Spousal Influence on Smoking Behaviors in a US Community Sample of Newly Married Couples. *Social Science & Medicine.* 2005; 61:2557–2567. [PubMed: 15978712]
5. Homish GG, Leonard KE, Cornelius JR. Illicit drug use and marital satisfaction. *Addictive Behaviors.* 2008; 33(2):279–291. [PubMed: 17945436]
6. Rhule-Louie DM, McMahon RJ. Problem behavior and romantic relationships: assortative mating, behavior contagion, and desistance. *Clin Child Fam Psychol Rev.* 2007; 10(1):53–100. [PubMed: 17318381]

7. Homish GG, Leonard KE. Spousal Influence on General Health Behaviors in a Community Sample. *American Journal of Health Behavior*. 2008; 32(6):754–763. [PubMed: 18442354]
8. Leonard KE, Mudar P. Husbands' influence on wives' drinking: testing a relationship motivation model in the early years of marriage. *Psychology of Addictive Behaviors*. 2004; 18(4):340–349. [PubMed: 15631606]
9. Levy DA, Nail PR. Contagion: a theoretical and empirical review and reconceptualization. *Genet Soc Gen Psychol Monogr*. 1993; 119(2):233–284. [PubMed: 8405969]
10. Gump BB, Kulik JA. Stress, Affiliation, and Emotional Contagion. *Journal of Personality & Social Psychology* February. 1997; 72(2):305–319.
11. Feng D, Baker L. Spouse similarity in attitudes, personality, and psychological well-being. *Behavior Genetics*. 1994; 24(4):357–364. [PubMed: 7993314]
12. Tower RB, Kasl SV. Depressive Symptoms Across Older Spouses: Longitudinal Influences. *Psychology and Aging*. 1996; 11(4):683–697. [PubMed: 9000299]
13. Bove CF, Sobal J, Rauschenbach BS. Food choices among newly married couples: convergence, conflict, individualism, and projects. *Appetite*. 2003; 40(1):25–41. [PubMed: 12631502]
14. Leonard KE, Mudar P. Peer and partner drinking and the transition to marriage: a longitudinal examination of selection and influence processes. *Psychol Addict Behav*. 2003; 17(2):115–125. [PubMed: 12814275]
15. Luo S, Klohnen EC. Assortative Mating and Marital Quality in Newlyweds: A Couple-Centered Approach. *Journal of Personality and Social Psychology*. 2005; 88(2):304–326. [PubMed: 15841861]
16. Wilson G, Cousins J. Partner similarity and relationship satisfaction: development of a compatibility quotient. *Sexual and Relationship Therapy*. 2003; 18(2):161–170.
17. Mudar P, Leonard KE, Soltysinski K. Discrepant substance use and marital functioning in newlywed couples. *J Consult Clin Psychol*. 2001; 69(1):130–134. [PubMed: 11302271]
18. Homish GG, Leonard KE. The drinking partnership and marital satisfaction: The longitudinal influence of discrepant drinking. *Journal of Consulting & Clinical Psychology*. 2007; 75(1):43–51. [PubMed: 17295562]
19. Chadiha LA, Veroff J, Leber D. Newlywed's narrative themes: Meaning in the first year of marriage for African American and White couples. *Journal of Comparative Family Studies*. 1998; 29(1):115–130.
20. Crohan SE, Veroff J. Dimensions of marital well-being among White and Black newlyweds. *Journal of Marriage & the Family*. 1989; 51(2):373–383.
21. Orbuch TL, Veroff J. A programmatic review: Building a two-way bridge between social psychology and the study of the early years of marriage. *Journal of Social and Personal Relationships*. 2002; 19(4):549–568.
22. Locke HJ, Wallace KM. Short marital-adjustment prediction tests: Their reliability and validity. *Marriage and Family Living*. 1959; 21:251–255.
23. Hox, JJ. Quantitative methodology series. Mahwah, N.J: Lawrence Erlbaum Associates; 2002. Multilevel analysis: techniques and applications; 304 p.x
24. Homish GG, Leonard KE, Kearns-Bodkin JN. Alcohol use, alcohol problems, and depressive symptomatology among newly married couples. *Drug Alcohol Depend*. 2006; 83(3):185–192. [PubMed: 16337752]
25. Raudenbush, SW.; Bryk, AS. Advanced quantitative techniques in the social sciences. 2nd ed.. Vol. 1. Thousand Oaks: Sage Publications; 2002. Hierarchical linear models: applications and data analysis methods; 485 p.xxiv
26. Substance Abuse and Mental Health Services Administration. National household survey on drug abuse, main findings. Rockville, MD: US Department of Health and Human Services; 1997.
27. Substance Abuse and Mental Health Services Administration. National household survey on drug use and health. Rockville, MD: US Department of Health and Human Services; 2007.
28. Glenn ND. The Course of Marital Success and Failure in Five American 10-Year Marriage Cohorts. *Journal of Marriage and the Family*. 1998; 60(3):569–576.

29. Karney BR, Bradbury TN. The longitudinal course of marital quality and stability: a review of theory, method, and research. *Psychol Bull.* 1995; 118(1):3–34. [PubMed: 7644604]
30. Roberts LJ, Leonard KE. An empirical typology of drinking partnerships and their relationship to marital functioning and drinking consequences. *Journal of Marriage & the Family.* 1998; 60(2): 515–526.
31. Freeston MH, Plechaty M. Reconsideration of the Locke-Wallace marital adjustment test: Is it still relevant for the 1990s? *Psychological Reports.* 1997; 81(2):419–434. [PubMed: 9354091]
32. Leadley K, Clark CL, Caetano R. Couples' drinking patterns, intimate partner violence, and alcohol-related partnership problems. *J Subst Abuse.* 2000; 11(3):253–263. [PubMed: 11026124]
33. Fals-Stewart W, Birchler GR, Kelley ML. Learning Sobriety Together: A Randomized Clinical Trial Examining Behavioral Couples Therapy With Alcoholic Female Patients. *Journal of Consulting and Clinical Psychology.* 2006; 74(3):579–591. [PubMed: 16822114]
34. Levinger, G.; Rands, M. Compatibility in marriage and other close relationships. In: Ickes, WJ., editor. *Compatible and incompatible relationships.* New York: Springer-Verlag; 1985. p. 309-331.
35. Weisfeld G, Russell R, Weisfeld C, Wells PA. Correlates of satisfaction in British marriages. *Ethology & Sociobiology.* 1992; 13(2):125–145.
36. Homish GG, Leonard KE. Marital Quality and Congruent Drinking. *Journal of Studies on Alcohol.* 2005; 66(4):488–496. [PubMed: 16240556]
37. McNulty JK, Karney BR. Positive expectations in the early years of marriage: should couples expect the best or brace for the worst? *J Pers Soc Psychol.* 2004; 86(5):729–743. [PubMed: 15161397]
38. Fincham FD, Beach SR, Harold GT, Osborne LN. Marital satisfaction and depression: Different causal relationships for men and women? *Psychological Science.* 1997; 8(5):351–357.
39. Neff LA, Karney BR. The dynamic structure of relationship perceptions: differential importance as a strategy of relationship maintenance. *Pers Soc Psychol Bull.* 2003; 29(11):1433–1446. [PubMed: 15189580]

Figure 1.
Interaction of Smoking and Drinking Discrepancies on Wives' Marital Satisfaction

Figure 2.
Interaction of Smoking and Drinking Discrepancies on Husbands' Marital Satisfaction

Table 1

Marital Satisfaction (Mean and SD) , Smoking and Alcohol Discrepancies (% and N) and Marital Status (% and N) by timepoint

	Time 1	Time 2	Time 3	Time 4	Time 5
Wives' marital Satisfaction	120.5 (20.1)	109.1 (29.5)	105.2 (33.4)	105.6 (32.2)	103.1 (31.5)
Husbands' marital satisfaction	117.9 (20.8)	108.6 (28.2)	105.9 (30.3)	106.0 (28.7)	104.7 (30.3)
No smoking/alcohol discrepancy	38.0% (241)	36.6% (197)	36.3% (177)	36.7% (156)	37.8% (145)
Alcohol discrepancy/no smoking discrepancy	39.0% (247)	41.6% (224)	40.0% (195)	40.9% (174)	37.8% (145)
Smoking discrepancy/no alcohol discrepancy	7.2% (45)	6.7% (36)	8.2% (40)	6.6% (28)	7.6% (29)
Discrepant on both	15.8% (100)	15.1% (81)	15.4% (75)	15.8% (67)	14.6% (56)
Included in analysis	634	538	487	425	384
Excluded: currently separated	0	9.6% (24)	6.6% (36)	9.6% (51)	8.0% (40)
Excluded: divorced	0	1.8% (10)	3.2% (18)	10.0% (53)	18.4% (92)

The "Included in Analysis" for each column represents only the couples who are still married at the assessment (i.e., individuals who reported that they are currently separated, filed for divorce, became divorced, or failed to return the surveys are excluded from the analysis). The "Included in Analysis" includes couples who have had a previous separation but were back together at the time of the assessment.

Totals may not add to 100% because of rounding

Table 2

Wives' Marital Satisfaction

	Model 1		Model 2	
	Regression Coefficient	95% Confidence Interval	Regression Coefficient	95% Confidence Interval
Lagged Smoking Discrepancy	-5.1 *	-9.4, -0.8	-0.1	-5.0, 4.8
Lagged Alcohol Discrepancy	-4.9 **	-8.5, -1.3	-3.9 *	-7.6, -0.3
Interaction Between Discrepancy Variables			-11.6 ***	-17.2, -6.1
Time	-3.8 *	-7.3, -0.2	-3.7 *	-7.3, -0.2
Past year birth (0=no, 1=yes)	-4.3 *	-8.5, -0.2	-4.5 *	-8.7, -0.4
Husband Age	0.5 *	0.1, 1.0	0.5 *	0.1, 0.9
Wife Age	-0.6 **	-1.1, -0.2	-0.7 **	-1.1, -0.2
Wife Race/Ethnicity (0= African American; 1= European American)	11.8 ***	7.9, 15.7	11.4 ***	7.5, 15.2
Husband education (0=high school or less; 1=more than high school)	7.5 ***	3.6, 11.5	6.6 **	2.6, 10.5
Wife total yearly income	2.5 **	0.9, 4.0	2.5 **	1.0, 4.0

*
p<.05**
p<.01***
p<.001.

Covariates that were not significant were removed from the models

Table 3**Husbands' Marital Satisfaction**

	Model 1		Model 2	
	Regression Coefficient	95% Confidence Interval	Regression Coefficient	95% Confidence Interval
Lagged Smoking Discrepancy	-7.6***	-11.8, -3.5	-2.4	-7.1, 2.3
Lagged Alcohol Discrepancy	-4.0*	-7.6, -0.5	-3.0 ⁺	-6.5, 0.6
Interaction Between Discrepancy Variables			-12.2***	-17.6, -6.8
Husband Age	0.3*	0.1, 0.6	0.3 ⁺	-0.1, 0.6
Wife total yearly income	3.1**	1.7, 4.4	3.0***	1.7, 4.4

⁺
p<.1*
p<.05**
p<.01***
p<.001.

Covariates that were not significant were removed from the models