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Predictors of Marijuana Use Among Married Couples: The Influence of One's Spouse

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Abstract

With the transition into marriage, marijuana and other substance use tends to decline; however, this is not true for all individuals. The objective of this work was to examine the impact of premarital individual and partner psychological health and substance use behaviors on the likelihood of using marijuana over the first four years of marriage. Couples' (N = 634) marijuana use, other substance use, and psychological variables were assessed at the time they applied for their marriage license and then again at the first, second and fourth anniversaries. Generalized Estimating Equation models were used to estimate the risk for using marijuana over the first four years of marriage after controlling for the natural decrease in risk associated with time and other relevant sociodemographic variables. Smoking prior to marriage and heavy alcohol use was associated with an increased risk for using marijuana over the first four years of marriage for both husbands and wives. After considering the impact of time and individual risk factors, a spouse's use of marijuana prior to marriage was a strong predictor of increased risk for marijuana use during the first four years of marriage.

Keywords

Marijuana; marriage; young adults

1.0 Introduction

Substance use tends to decline towards the end of young adulthood. This decline is true for alcohol as well as illicit drug use (Bachman, Wadsworth, O'Malley, Johnston, & Schulenberg, 1997). Chen and Kandel (1995) investigated the patterns of initiation, cessation, and continuation of drug use in a US general population study of individuals in their late 20's to mid 30's and found that most illicit drug use ended by age 29. For marijuana, they reported

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that peak use occurred at about age 19, remained stable for the next four to five years, and then declined. Using data from the Canadian Tobacco Use Monitoring Survey, Leatherdale and Colleagues (2007) also found that past year marijuana use peaked in early adulthood. Despite the fact that marijuana use tends to decline by the late 20's, a significant number of men and women still reported marijuana use into their mid 30's. About a quarter of men aged 30–31 reported past year marijuana use and 14% of women in the same age group reported past year marijuana use (Bachman, et al., 1997). Similarly, Leonard and Homish (2005) examined marijuana use among newly married couples in their 20's and 30's and found that rates of past year marijuana use were very comparable with 26% of men and 20% of women acknowledging use in the past year.

The processes underlying these developmental declines, or in some cases, maintenance of drug use are not well understood. Labouvie (1996) suggested that declines in substance use are related to a process of psychosocial maturation that was a result of selection and self-correction. He suggested that, over time, individuals develop an increased sense of responsibility about their future, which results in engaging in behaviors that are less risky or excessive. Further, during this maturation process, substance use may be seen as a behavior that will impede progress towards one's goals or it may be seen as a behavior that is no longer consistent with one's behavioral norms. To test this process of psychosocial maturation, he assessed substance use in a sample of young adults over a seven-year period (from individuals' early 20's through their late 20's) and found declines in substance use for both men and women as well as lower levels of substance use among these individuals' peers.

The acquisition of adult roles (first full time job, marriage, becoming a parent, etc.) can be seen as a series of developmental milestones in this maturation process. Because substance use, particularly illicit substance use, may be incompatible with more conventional adult roles such as marriage or parenthood, the transition into these events should result in the decline of substance use (Bachman, Wadsworth, O'Malley, Johnston et al., 1997). In a 20-year longitudinal study of marijuana use and adult roles, not being married at time 4 (early 20's) was significantly associated with marijuana use at time 5 (late 20's) (Brook, Richter, Whiteman, & Cohen, 1999). Time 4 employment status and living arrangement, however, were not associated with greater likelihood of marijuana use at time 5. Yamaguchi and Kandel (1985) examined the acquisition of family roles (marriage and parenthood) on the patterns of marijuana use and found that men are more likely to stop using marijuana in the year preceding marriage and after becoming a parent while married. Among women, cessation of marijuana was found in the year before marriage and in the year following marriage. In the year prior to the birth of a child, the likelihood of cessation was even greater. Chen and Kandel (1998) explored the relation between social roles and marijuana use and also found evidence for reductions in use associated with these adult roles. The transitions into family roles were more strongly predictive of changes in drug use compared to current marital or employment status.

Although many individuals reduce their substance use during the transition to marriage, a significant proportion of individuals continue to use marijuana after this transition (Leonard & Homish, 2005). The reason why some individuals maintain their drug use, or in some cases, exhibit slower declines in illicit drug use during the transition to marriage is not clear. It is possible that the addition of a new adult role (i.e., spouse) provides more stress to the individual, resulting in substance use. For example, role conflict or role overload theory suggests that the more roles one has (e.g., spouse, parent, worker, etc.) the more likely it would be to become over-extended thus resulting in increased stress (Goode, 1960). This stress can lead to decreased psychological well-being or increases in substance use.

Influence from an intimate partner can also impact drug use behaviors. From the adolescent literature, it is clear that peer substance use is a strong predictor in the initiation of substance

use (Musher-Eizenman, Holub, & Arnett, 2003; Prinstein, Boergers, & Spirito, 2001). Using a nationally representative sample of adults in the Netherlands, Kalmijn (2003) found that the size of peer networks decreases when individuals begin a dating or cohabiting relationship. This change may result in a reduction of the effects of peer influence, thus promoting the influence of an intimate partner. This partner influence can be a powerful source of change that promotes positive or negative behaviors. Kandel (1984) assessed factors related to marijuana use in a study of over 1300 young adults and found that having a spouse or intimate partner who used marijuana was a significant predictor of one's own use. Leonard and Homish (2005) examined marijuana use and partner influences over the transition to marriage and found evidence of significant influence processes. However, husbands and wives did not exert the same influence. Husbands were more likely to start using marijuana (or return to use) if their partners used marijuana and were more likely to stop using if their partners did not use. Wives' marijuana use was not influenced by their partners' use. This work, however, only examined initiation or cessation of use. Further, those analyses did not consider whether these influence patterns remained after considering the impact of other individual and partner factors such as alcohol, cigarette smoking or psychological functioning.

The role of other substance use has been found to be important in predicting marijuana use. In a study of the health, development, and behavior of New Zealanders, McGee and colleagues (2000) found that, after controlling for previous marijuana use, alcohol and smoking were significantly associated with marijuana use 3 years later. In a 10-year nationally representative sample of young adults, heavy alcohol use and cigarette smoking were significantly related to be the incidence of marijuana use at follow-up (Aitken, DeSantis, Harford, & Cases, 2000). Further, heavy alcohol use and cigarette smoking were also significantly associated with the persistence of marijuana use over the 10-year period (Aitken, DeSantis, Harford, & Cases, 2000).

Several studies have explored the relation between marijuana use and psychological well-being. Kashdan and colleagues (2005) found that negative affect (defined in terms of neuroticism and depression) was related to greater illicit drug use in adults. In a review of depression and marijuana use, Gruber (1996) found evidence to suggest that marijuana had anti-depressant effects on individuals and suggested that individuals use marijuana to treat the symptoms of their depression. However, Chen and Kandel (1998) found that depressive symptoms predicted cessation of marijuana use. Although an association between psychological functioning is evident, the nature of this relation is not completely clear.

Psychosocial maturation suggests that during the transition into conventional adult roles, substance use should decline. However, based on rates of past year marijuana use among married couples, not all individuals completely end their illicit substance use. The objective of this work was to extend our previous work by examining the impact of premarital individual and partner substance use behaviors and psychological health on the risk of using marijuana over the first four years of marriage. Because so few individuals initiate marijuana use after their mid twenties, the factors identified in this work can be considered premarital risk factors associated with an increased likelihood of maintaining illicit drug use or, alternatively, factors related to slowing the decline in drug use associated with maturational processes.

2.0 Methods

2.1 Participants

Participants for this report were involved in a longitudinal study of marriage and alcohol involvement. All participants were at least 18 years old, spoke English, and were literate. Couples were ineligible for the study if they had been previously married. These analyses are based on 634 couples. 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. 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 (e.g. Chadiha, Veroff, & Leber, 1998; Crohan & Veroff, 1989; Orbuch & Veroff, 2002; Tallman, Burke, & Gecas, 1998), 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.

2.2 Procedures

After applying for a marriage license, couples were recruited for a 5–10 minute paid (\$10) interview. The interview covered demographic factors (e.g. race, education, age), family and relationship factors (e.g. number of children, length of engagement), and substance use questions (e.g. marijuana use, tobacco use, average alcohol consumption, frequency of heavy drinking). Recruitment occurred over a 3-year period from 1996–1999. 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. We interviewed 970 eligible couples.

Complete details of the recruitment process can be found elsewhere (Homish & Leonard, 2006; Leonard & Mudar, 2000), but briefly, couples who agreed to participate 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. Those who agreed to participate, compared to those who did not, were more likely to have 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 in the Wave 1 assessment (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 prior to marriage compared to couples who did not return the questionnaires (70% vs. 62%; $p < .05$) and were more likely to be European American (husbands: 59% vs. 52%, $p < .05$; wives: 62% vs. 53%, $p < .05$). No other sociodemographic differences were observed 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 and fourth wedding anniversaries (Waves 2, 3 and 4), they were mailed questionnaires similar to those they received at the first assessments. Waves 5 (7th anniversary) and 6 (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 the first 3 assessments and \$50 each for the fourth assessment. We maintained 91%, 85%, and 81% of wives and 86%, 79%, and 71% of husbands at Waves 2, 3, and 4, respectively. Husbands who participated in the fourth assessment compared to those who did not participate were not different from other husbands on the basis of Wave 1 marijuana use (percent of use for those who completed Wave 4 compared to those who did not: 27% vs. 32%, NS). There were also no differences among the sociodemographic covariates. Wives who participated in the fourth assessment compared

to those who did not participate were not different from other wives on the basis of Wave 1 marijuana use (percent of use for those who completed Wave 4 compared to those who did not: 22% vs. 25%, NS). Wives who did not complete the fourth assessment did not differ on any other variables compared to wives who did complete the fourth assessment.

2.3 Measures

2.3.1 Demographic Factors—Each spouse reported his/her age, race/ethnicity, highest level of education obtained, employment status, number of children as well as if the wife was pregnant in the past year, and the number of months cohabitating prior to marriage.

2.3.2 Marijuana Use—At each assessment, each spouse was asked to report how often he or she used marijuana in the past year. Responses were recorded on 6-point scale that ranged from “not at all” to “once a week or more.” This variable was dichotomized into any past year use or no past year use.

2.3.3 Cigarette Smoking—Each spouse was asked to report whether he or she currently smokes cigarettes. For those who responded that they did currently smoke, the number of cigarettes smoked per day was assessed. The daily number of cigarettes smoked was recorded on an 8-point scale from “just a few” to “2 or more packs per day.” For the current report, this variable was recoded to any smoking in the past year versus no smoking in the past year.

2.3.4 Alcohol Involvement—Two measures of alcohol involvement were used in the current report. Average daily volume of alcohol was computed by averaging participants’ responses to beverage-specific questions using standard quantity/frequency questions (Cahalan, Cisin, & Crossley, 1969). The second item, 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. Heavy drinking was defined as the maximum of these two responses.

2.3.5 Depressive Symptomatology—Depressive symptomatology was assessed at each interview using the Center for Epidemiologic Studies-Depression Scale (CES-D, Radloff, 1977). The CES-D is a 20-item self-report questionnaire. Each item was scored 0 to 3 with a possible total score ranging from 0 to 60. A higher score indicates a greater level of depressive symptomatology. This instrument does not provide a diagnosis of depression, however, in this report the term depression will also be used to indicate depressive symptomatology. The average coefficient alphas across the assessments were 0.88 for husbands and 0.90 for wives.

2.3.6 Anxiety—Ten items based on DSM-IV criteria for anxiety disorders were used to assess symptoms of anxiety. Each item was scored on a 4-point scale ranging from 0 to 3 with a possible total score ranging from 0 to 30. A higher score indicates a greater level of anxious symptomatology. Coefficient alphas were high for this scale (0.84).

2.4 Analytic Approach

Descriptive statistics were used to characterize the outcome variables for husbands and wives at each wave. To identify premarital factors that were associated with increased or decreased risk for marijuana use over the first four years of marriage, we used Generalized Estimating Equations (GEE; Zeger & Liang, 1986; Zeger, Liang, & Albert, 1988). GEE models are used to analyze data from longitudinal designs with binary or continuous outcomes (Homish & Leonard, 2007; Zeger, Liang, & Albert, 1988). Because longitudinal datasets contain repeated observations of the same participants over time, the data is often correlated; thus requiring more specialized analytic tools. GEE models can be used to assess the longitudinal relationship

between several time-varying and time-invariant predictors and the outcome variable (Twisk, 2004). In addition to appropriately handling correlated data structures, GEE models are also useful for dealing with cases with missing observations. For many other analyses, participants who do not provide data for each assessment are considered missing; however, GEE modeling allows participants with only information from one assessment to be included in the analyses (Twisk, 2004). The nature of the missing data, however, should be missing at random.

For the current report, two sets of GEE models were analyzed. For the first set of models (the unconditional models), only the effect of time on marijuana use was estimated. Time was estimated with both linear and quadratic terms. One model focused on husbands' marijuana use over time and the second model focused on wives' marijuana use. In the second set of models (the conditional models), the impact of an individual's substance use and psychological variables as well as partner's substance use and psychological variables was estimated. Relevant sociodemographic variables were used as covariates in these models. Again, two models were specified, one for husbands and the other for wives. All models were analyzed with Stata (Version 8, StataCorp, 2003). Because the outcome variables are binary outcomes (past year marijuana use, yes or no), a Binomial Family and Logit Link can be specified within the GEE models. This family/link specification results in logistic regression model that is able to appropriately model the correlation that results from the repeated assessments over time (Diggle, Liang, & Zeger, 1994). However, when the prevalence of an outcome variable is greater than about 10%, the odds ratio that is generated from a logistic model will overstate the true risk and, therefore, relative risk ratios are preferred (McNutt, Wu, Xue, & Hafner, 2003; Zhang & Yu, 1998). Risk ratios can be derived within a GEE model with Poisson Family and Log Link. For the current work, this later specification was employed with our GEE models. An unstructured correlation was specified along with robust standard errors. The robust standard errors are used so that if the nature of the correlation structure is not correctly specified, the standard errors will still be valid (Diggle, Liang, & Zeger, 1994). Risk Ratios that are greater than 1 are interpreted as increasing the likelihood of an outcome (i.e., increasing risk) whereas ratios less than 1 are interpreted as decreasing the likelihood of an outcome (i.e., protective). Risk Ratios that are equal to 1 are not significantly associated with either increased or decreased risk.

3.0 Results

At Wave 1, 29% of husbands and 23% of wives reported any past year marijuana use. These numbers decreased to 23% and 16%, 19% and 13%, and 20% and 15% for husbands and wives, respectively, at Waves 2, 3 and 4. In terms of frequency of use, husbands reported a greater frequency of past year use compared to wives (Table 1). Concordance for husband and wife marijuana use was high at each assessment. Among husbands who reported any past year marijuana use at Wave 1, 54% of the wives also reported past year marijuana use. This proportion decreased to 45% at Wave 2, 37% at Wave 3, and 32% at Wave 4. Among wives who reported past year marijuana use at Wave 1, 67% of husbands also reported past year use. This proportion decreased to 66% at Wave 2, 56% at Wave 3, and 48% at Wave 4. Husband and wife marijuana use was significantly correlated at each assessment (average correlation = .40, $p < .001$). The correlations of Wave 1 marijuana use with Wave 1 other substance use (cigarette smoking, heavy drinking, average quantify/frequency of alcohol consumption) and psychological variables (depression and anxiety) were examined. Both within spouse (e.g., husband's alcohol use and husband's marijuana use) and cross-spouse (e.g., husband's alcohol use and wife's marijuana use) correlations were examined. Among husbands, all of the husband and wife variables were significantly correlated with husband's marijuana use (all p 's $< .05$); however, the within spouse correlations were stronger compared to the cross-spouse correlations. Additionally, the correlations between husband's other substance use and husband's marijuana use were stronger compared to husband's psychological variables and

husband's marijuana use. Among wives, all of the within spouse correlations were significant and all of the cross-spouse correlations were significant (all p 's < .05) except for the correlation between husband's depression and wife's marijuana use. Similar to the findings for men, the within spouse correlations were stronger compared to the cross-spouse correlations and the correlations between wife's other substance use and wife's marijuana were stronger compared to wife's psychological variables and wife's marijuana use.¹

3.1 Husbands' Marijuana Use over Time

Prior to fitting a multiple variable GEE model, an unconditional model was examined to determine the impact of time on the likelihood of marijuana use over time. The unconditional model includes only a factor for time, none of the other predictor variables or covariates are present in the unconditional models. Time was modeled in two ways, a linear term and a quadratic term. For husbands' marijuana use, each year represented a 23% reduction in the risk for marijuana use over time (Risk Ratio for linear time term [RR]: 0.77; 95% Confidence Interval [CI]: 0.68–0.86; p < .001). The quadratic time term was also significant (RR=1.05; 95% CI: 1.02–1.08; p < .01). A linear time trend that is less than one coupled with a quadratic time trend that is greater than one means that the decrease in risk for marijuana use was initially steeper and then began to level off over time. To investigate the influence of individuals' premarital other drug use (cigarette smoking, quantity/frequency of alcohol use, frequency of heavy drinking), premarital psychosocial functioning (depressive and anxious symptomatology) and partners' premarital substance use and psychological variables, a multiple variable GEE model was estimated. The goal of this conditional model was to examine how premarital factors are related to the risk for using marijuana over the first four years of marriage after controlling for the effect of time and other sociodemographic factors (age, being a parent prior to marriage, past year pregnancy, months of cohabitation prior to marriage, employment, education, and race/ethnicity).

In the conditional model, the effects of both the linear and quadratic time terms remained significant and were very similar to the unconditional model (linear term RR: 0.76; 95% CI: 0.67–0.86; p < .001; quadratic term RR: 1.06; 95% CI: 1.02, 1.09; p < .01; Table 2). Husbands who were smokers (RR: 1.54; 95% CI: 1.19–2.00; p < .01) and heavier drinkers (RR: 1.11; 95% CI: 1.02–1.21; p < .05) prior to marriage were at a greater risk for using marijuana over the first four years of marriage. Higher levels of depressive symptoms prior to marriage were also associated with an increased risk of marijuana use over the first four years of marriage (RR: 1.02; 95% CI: 1.01–1.04; p < .01). The only partner variable related to husbands' marijuana use over time was wives' premarital marijuana use. The risk for husbands to use marijuana over the first four years of marriages was almost 3 times higher for those whose partners used marijuana prior to marriage compared to husbands with partners who did not use marijuana in the year prior to marriage (RR: 2.94; 95% CI: 2.31–3.74; p < .001). None of the covariates were significant in the final model.

3.2 Wives' Marijuana Use over Time

Similar to the models examining husbands' marijuana use over time, an unconditional model was first estimated to determine the change in marijuana use over time for wives. Among wives, each year represented at 35% reduction in risk for using marijuana over time (RR: 0.65; 95% CI: 0.56–0.76; p < .001). The quadratic time term was also significant in the unconditional model (RR: 1.08; 95% CI: 1.04–1.12, p < .001) meaning that, as with husbands, the decrease in risk was larger immediately and then the decline became less sharp over time. After entering individual level risk factors (substance use and psychological functioning), partner variables,

¹The complete Wave 1 correlation matrix was a 12 X 12 matrix; due to its size it was not included in the current report. Interested readers can contact the authors for the complete correlation matrix.

and sociodemographic covariates, the effects of the linear and quadratic time terms remained significant (linear term RR: 0.64; 95% CI: 0.54–0.75; $p < .001$; quadratic term RR: 1.09; 95% CI: 1.05–1.13; $p < .001$; Table 2). Wives who smoked cigarettes prior to marriage (RR: 1.27; 95% CI: 0.98–1.66; $p < .08$; trend level) and drank alcohol heavily (RR: 1.19; 95% CI: 1.07–1.32; $p < .01$) in the year prior to marriage were at a greater risk for using marijuana during the first four years of marriage. Wives whose partners used marijuana prior to marriage were also at an elevated risk for using marijuana during the first four years of marriage (RR: 3.67; 95% CI: 2.69–5.00; $p < .001$). At a trend level, wives whose partners smoked cigarettes were also at an elevated risk for using marijuana during the first four years of marriage (RR: 1.30; 95% CI: 0.98–1.72; $p < .08$). None of the other partner risk factors or sociodemographic covariates was significantly associated with an increased risk for marijuana use.

4.0 Discussion

For most individuals, marijuana use peaks in the early 20's and then declines. Although use tends to decrease, for many, it does not end completely. The purpose of this work was to identify premarital individual and partner substance use and psychological functioning variables associated with an increased risk for using marijuana over the first four years of marriage. Although there was evidence of significant reductions in marijuana use over time, a large number of both husbands and wives continued to use marijuana over time. In the year prior to marriage, 29% of husbands reported marijuana use and 23% of wives. The numbers of marijuana users reduced to 23% of husbands and 16% of wives at the first anniversary and at the second wedding anniversary these numbers were 19% and 13%, respectively. By the fourth wedding anniversary, these rates decreased to 20% for husbands and 15% for wives. It is important to note, however, that between the second and fourth wedding anniversary, the rates of use were very similar. These rates are similar to other reports of past year marijuana use among young adults (e.g., Chen & Kandel, 1995). The decline is consistent with a psychosocial maturation process that suggests that as individuals assume adult roles and responsibilities, substance use declines (Bachman, Wadsworth, O'Malley, Schulenberg, & Johnston, 1997). Consistent with other work (e.g., Yamaguchi & Kandel, 1993), concordance for marijuana use was also high with 54% of wives married to marijuana users also using themselves.

Several individual premarital factors were associated with an increased risk for using marijuana during the early years of marriage. Among both husbands and wives, other substance use prior to marriage was associated with an increased risk for using marijuana over the first four years of marriage. Heavy drinking, but not lower levels of drinking, prior to marriage was associated with increased risk for marijuana use. Others have also found that heavy drinking was associated with an increase risk for marijuana use among adults (e.g., Aitken, DeSantis, Harford, & Cases, 2000). There was also strong evidence that cigarette smoking prior to marriage was related to an increased risk for marijuana use. These findings are consistent with other work in the US (e.g., Aitken, DeSantis, Harford, & Cases, 2000) as well as other countries such as Canada (Leatherdale, Hammond, Kaiserman, Ahmed, 2007) and New Zealand (e.g., McGee, Williams, Poulton, Moffitt, 2000) that has found that cigarette smoking was associated with increased risk for marijuana use.

Evidence for the association between the individual psychological variables and marijuana use group was limited. Bivariately, there was a strong, statistically significant relationship between both depressive symptoms and anxiety and marijuana use (data not presented). These findings were true for both husbands and wives. Further, there was evidence that an individual's marijuana use was associated with his/her partners' psychological well being. In the adjusted models, the relationship was greatly reduced and become gender specific. Among wives, premarital depressive and anxiety symptoms did not independently predict changes in risk for marijuana use over time after controlling for other variables. Among husbands, however, there

was some evidence to suggest an association. Higher levels of depressive symptoms prior to marriage were associated with a slightly greater risk for marijuana use. Past work on marijuana use and psychological variables has been somewhat inconsistent. McGee and colleagues (2000) found that later level of marijuana use was not predicted by earlier internalizing or externalizing disorders. In another longitudinal study, depressive symptoms were found to be one of the strongest predictors of stopping marijuana use (Chen & Kandel, 1998). In a review of studies conducted in Australia, Europe, New Zealand, and the US on the association between marijuana use and depressive symptoms there was more support for the hypothesis that marijuana use may increase depressive symptoms, but less evidence of the reverse (Degenhardt, Hall, & Lynskey, 2003). Further, the frequency of use was important when considering the association with little evidence to support an association between infrequent marijuana use and depression. The relation between psychological health and marijuana use will need to be further examined.

Much of the previous work on substance use among adults has tended to focus on individual level risk factors; therefore, one of the major goals of the current report was to extend the examination of factors related to substance use by including the influence of one's partner. Husbands whose wives' used marijuana in the year prior to marriage were more likely to use marijuana over the early years of marriage. Wives whose husbands used marijuana in the year prior to marriage were also more likely to use marijuana during the early years of marriage. Kandel (1984) also found that living with a partner who uses marijuana was associated with a greater likelihood of marijuana use. In the bivariate analyses, there was also evidence that a partner's other substance use (alcohol and tobacco) were significantly associated with one's own use; however, in the full models, these effects were reduced with only husbands' premarital smoking related to wives' marijuana use at a trend level. Taken together, there is evidence to support the hypothesis that intimate partner's substance use influences each other's substance use patterns; however, the mechanism for this association is not clear.

It is also possible that other factors are related to the patterns of use identified in this work. Although the acquisition of adult roles such as becoming married are associated with declines in substance use, especially illicit substance use, we found that the prevalence of use for both husbands and wives is still quite high through the first four years of marriage. Some of these individuals may continue to use in attempt to relieve stress that is associated with the acquisition of adult roles such as first marriage or the birth of a child. This notion would be consistent with role overload or role conflict theories (e.g., Goode, 1960). Other factors could also explain the continued use of marijuana among these newlywed couples. For example, in a study of personality and substance use in young adults, Kashdan and colleagues (2005) found that higher levels of conscientiousness were related to less use of marijuana. It is also possible that one partner maintained their drug use in order to remain consistent with their partner's behaviors. In one study of drug use in young adulthood, one of the most important reasons for using marijuana was "to go along with what my spouse was doing" (p. 110; Kandel & Raveis, 1989). In other work, couples whose drug use was dissimilar were more negatively impacted compared to couples whose drug use patterns were similar (e.g., Fals-Stewart, Birchler, & O'Farrell, 1999; Homish & Leonard, 2007; Mudar, Leonard, & Soltysinski, 2001); therefore, it is possible that some individuals maintained their use to be consistent with their partner even if their own intention was to end their use.

There are several limitations that must be considered when interpreting our findings. Our sample consisted of couples in the early years of marriage so we cannot generalize our findings to relationships of longer duration or to cohabiting, non-married couples. Additionally, the sample selection procedures excluded participants who were previously married. It is possible that individuals with higher levels of marijuana use were thus excluded due to our sampling selection. Also, we assessed usual past year amounts and thus could not determine if individuals

had periods of higher than usual or lower than usual marijuana use. Despite these limitations, we used a large community sample to assess patterns of marijuana use over the first two year of marriage. Importantly, we found evidence that not all individuals decreased their marijuana use equally over this period and found individual and partner factors prior to marriage that predicted these trajectories over time. Future work will need to examine the mechanism for this influence process and determine if partner influence factors are involved in other adult intimate relationships such as non-married, cohabiting couples. Additionally, it will be important to examine the patterns of marijuana use among married couples past the first few years and to determine how this illicit drug use impacts the overall relationship.

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Table 1

Frequency of Past Year Marijuana Use

	Husband Marijuana Use				Wife Marijuana Use			
	Wave 1	Wave 2	Wave 3	Wave 4	Wave 1	Wave 2	Wave 3	Wave 4
Frequency of Marijuana Use								
Monthly or more	12.0%	10.6%	8.8%	8.0%	6.5%	6.6%	4.1%	4.9%
Few times past year	11.6%	9.4%	8.2%	8.2%	11.1%	7.0%	5.8%	6.9%
Once in past year	4.9%	2.8	2.4%	2.0%	5.2%	2.6%	2.8%	2.9%
None in the past year	71.5%	77.2%	80.8%	79.6%	77.2%	83.8%	87.3%	85.3%

Note: Totals may not add to 100% because of rounding.

Table 2

Risk Ratios for the Association Between Premarital Factors and Marijuana Use Over the First Four Years of Marriage

	Husbands		Wives	
	Risk Ratio	95% Confidence Interval	Risk Ratio	95% Confidence Interval
Time-linear	0.76***	0.67,0.86	0.64***	0.54,0.75
Time-quadratic	1.06**	1.02,1.09	1.09***	1.05,1.13
Substance Use				
Cigarette Smoking	1.54**	1.19,2.00	1.27 ⁺	0.98,1.66
Alcohol: QFI	1.08	0.95,1.23	1.15	0.81,1.63
Alcohol Heavy Drinking	1.11*	1.02,1.20	1.19**	1.07,1.32
Psychological				
Depression	1.02*	1.01,1.04	1.00	0.98,1.02
Anxiety	0.90	0.67,1.19	1.20	0.91,1.59
Partner Variables				
Marijuana Use	2.94***	2.31,3.74	3.67***	2.69,5.00
Cigarette Smoking	0.95	0.76,1.20	1.30 ⁺	0.98,1.72
Alcohol: QFI	0.84	0.60,1.16	1.00	0.82,1.21
Alcohol: Heavy Drinking	1.08	0.98,1.20	1.01	0.91,1.13
Depression	0.99	0.98,1.01	0.98	0.96,1.00
Anxiety	1.05	0.79,1.41	1.32	0.93,1.88
Covariates				
Age	0.99	0.98,1.01	1.02	1.00,1.03
Parent prior to marriage	1.20	0.92,1.54	0.89	0.66,1.19
Wife pregnant in the past year	1.13	0.99,1.29	0.96	0.81,1.13
Months of cohabitation	1.00	1.00,1.00	1.00	0.99,1.00
Employment	1.01	0.88,1.15	1.03	0.88,1.21
Education	1.07	0.87,1.33	1.09	0.80,1.49
Race/Ethnicity	0.94	0.74, 1.19	0.92	0.70,1.20

⁺ p<.08,

* p<.05,

** p<.01,

*** p<.001