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Individual, partner, and relationship factors associated with nonmedical use of prescription drugs

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Abstract

Introduction—The nonmedical use of prescription drugs (NMUPD) has become increasingly problematic in the United States. A variety of individual-level risk factors have been investigated for their role in prescription drug misuse; however, much less work has considered other factors that may relate to increased risk for the nonmedical use of prescription drugs.

Aims—The objective of the current report was to examine individual, partner, and relationship factors (e.g., relationship satisfaction) associated with the NMUPD in a community sample of married adults.

Methods—The current report used two waves of data from an ongoing study of couples who were recruited at the time they applied for their marriage license and are now in the 10th year of follow-up. Logistic regression models examined the relation between individual, partner, and relationship factors and NMUPD.

Results—Among wives, there was evidence that a partner's prescription drug use and relationship factors were associated with increased risk for nonmedical use of prescription drugs. There was some evidence that suggested that it was the increased **access or** availability, and not the partner's use per se, that was related to the nonmedical use of prescription drugs. These results persisted after controlling for other illicit drug use, heavy drinking, depressive symptomatology, and sociodemographic factors. Among men, neither partner use nor relationship factors were associated with nonmedical use of prescription drugs after considering the impact of individual-level risk factors.

Discussion—In addition to individual-level risk factors, intervention and prevention efforts should also consider the potential influence of partner and relationship factors.

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Keywords

nonmedical use of prescription drugs; NMUPD; marriage; relationship satisfaction

The nonmedical use of prescription drugs is now one of the most common drug problems facing individuals in the United States. Using data from two US National Surveys, there is evidence of an increase in prescription drug abuse from 1991–1992 to 2001–2002 [1]. In 2004, approximately 6.0 million individuals (2.5%) reported past-month nonmedical use of prescription drugs and 14.6 million reported past-year use (6.1%)[2]. In terms of the prevalence of illicit drug use, nonmedical use of prescription drugs (NMUPD) is now second only to marijuana [3] . Additionally, there is evidence to suggest that initiation of NMUPD has increased among adults (age 26 and over) from 2002–2004 [2]. The rate of hospital admissions from NMUPD is also increasing. For example, 5% of all hospital admissions in 2007 were related to the misuse of prescription pain killers compared to only 1% of admissions in 1997 [4].

When examining types of NMUPD, the misuse of pain relievers is the most common, followed by tranquilizers, stimulants, methamphetamine and sedatives; however, prevalence of NMUPD tends to differ based on the user's sex. The nature of the sex difference, however, is quite complicated. For example, although the *lifetime* prevalence of the each major category is larger for males vs. females [5], there is evidence that that *past-year* prevalence rates for stimulants, tranquilizers and sedatives did not differ on the basis of sex [6]. Further complicating the role of sex in rates of NMUPD, is the definition of NMUPD. For instance, there are sex differences for NMUPD for pain relievers as an entire category of prescription drug use, but when considering subgroups of pain relievers different trends emerged with sex differences noted for 3 of 4 major subcategories of pain relievers :Codeine Products or Propoxyphene such as Darvon, Darvocet, Tylenol with Codeine; Oxycodone Products such as Percocet, Percodan or OxyContin; Hydrocodone Products such as Lortab, Lorcet or hydrocodone. No differences on the basis of sex were noted within the fourth subcategory of pain reliever (Tramadol Products such as Ultram or tramadol) [2]. Using data from the US National Survey on Drug Use and Health, lifetime NMUPD for sedatives was more prevalent for men vs. women; however, when age was factored into the model, there was no differences on the basis of sex in nonmedical use of prescription sedatives [2]. Taken together, the role of sex in NMUPD is complicated by many factors.

A variety of individual risk factors have been associated with an increased risk of NMUPD. Using data from the US National Epidemiologic Survey on Alcohol and Related Conditions, Huang and colleagues [5] found a significant association with NMUPD and several Axis I psychiatric diagnoses, including major depressive disorder and dysthymia. Others have found a direct association between the number of psychiatric symptoms and the severity of problems with prescription opioids [7].

Tetrault and colleagues [6] examined the relation between illicit substance use and past-year nonmedical use of prescription opioids and found a significant association between marijuana use, cocaine, and hallucinogen use and past-year NMUPD. Further, the nonmedical use of one prescription drug also increased the likelihood of other NMUPD. These findings persisted after controlling for sociodemographic covariates. There is also strong evidence for the relation between alcohol use and alcohol problems and NMUPD with greater use and more problematic use having a greater impact on the likelihood of NMUPD. For example, after adjusting for age, **sex**, and race/ethnicity, the odds ratio of any past-year NMUPD was 1.7 ($p < .01$) for non-binge drinkers (with no alcohol use disorder); however, the OR increased to 3.0 ($p < .01$) for binge drinkers [1]. When considering the

impact of alcohol dependence, the OR was 18.2 ($p < .01$). Thus, although alcohol use appears to increase the risk for NMUPD, heavier, more problematic alcohol use appears to impart the greatest level of risk.

Despite the strong associations between these individual-level variables, there are other factors that could increase the risk of NMUPD. For example, there is increasing evidence that adults involved in romantic relationships are strongly influenced by not only their partners' behaviors but also their relationships (e.g., relationship satisfaction). Using data from two separate longitudinal studies of married couples [8, 9], one partner's alcohol use was longitudinally predictive of his/her partner's alcohol use one year later. There is also evidence that changes in one partner's cigarette smoking are associated with changes in a partner's smoking [10, 11]. This influence also appears to hold for illicit drug use; however, less research has been conducted regarding partner influence and illicit substance use. Homish, Leonard, and Cornelius [12] found that one person's marijuana use was longitudinally predictive of a partner's marijuana use. Despite the evidence that one person's substance use relates to an intimate partner's substance use, the mechanism of this action is not clear. For example, it is not clear if the apparent influence comes about because the substance use is a shared activity between partners, if it is related to one partner modeling the other's behaviors, or if it is simply the result of an increased access or availability of a substance. Most likely, some combination of these factors relates to increased likelihood of use.

To date, studies examining factors associated with the nonmedical use of prescription drug use have benefited from the availability of large, national represented samples, however, these reports have tended to rely solely on cross sectional data. Additionally, these large epidemiologic data sets focus on individual-level factors (e.g., substance use, psychological functioning, etc.); however, they are generally not designed to consider other factors such as the influence of a an intimate partner. The objective of this work was to use a 10-year community sample of married adults to examine how individual, partner's behaviors, and relationship factors (e.g., relationship satisfaction) longitudinally predict the NMUPD.

Methods

Participants

Participants for this report were involved in a longitudinal study of marriage and substance use. 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 [13–15], 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 at the City Hall in Buffalo, New York, US, 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 **(7.2%, N= 70)** to participate in the brief recruitment interview. We interviewed 970 eligible couples.

Complete details of the recruitment process can be found elsewhere [9, 16]. 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 $40 for his or her participation. Only 7% of eligible couples refused to participate in the longitudinal study (N= 900). Those who agreed to participate, compared to those who did not, had lower incomes ($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 eligible who did not marry), data were collected from both spouses for 634 couples (71.4%). 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, seventh, and ninth wedding anniversaries (Waves 2, 3, 4, 5, & 6), they were mailed questionnaires similar to those they received at the first assessment. As with the first assessment, they were asked to complete the questionnaires and return them in the postage paid envelopes. In order to minimize attrition, several steps were utilized. For example, regular newsletters were sent to participants as well as retainment incentives such as key chains, notepads, or magnets with the study name printed on them. Finally, participant who failed to return their questionnaires were given several reminder phone calls. Each spouse received $40 for his or her participation for assessments 2 and 3 and $50 for the fourth through sixth assessments. Because of the availability of information about prescription drug use and misuse at the final two assessments, the focus of the current report is on the final two assessments (fifth and sixth). At the fifth assessment, 79.7% (N= 505) of women completed the questionnaire; 121 women were lost to follow-up at the sixth assessment (N= 384). Wives who did not complete the final (sixth) assessment did not differ from others wives in terms of Wave 5 frequency of heavy drinking, depressive symptoms, marital satisfaction, illicit drug use, age, or education. Wives who completed the Wave 6 Assessment were more likely to be European American (66.9% vs. 56.0%, $p < .01$). At the fifth assessment, 68.1% (N= 432) of the original sample of husbands completed the questionnaires; 117 husbands were lost to follow-up at the sixth assessment (N= 315). Husbands who did not participate in the final (sixth) assessment did not differ from other husbands on the basis of Wave 5 frequency of heavy drinking, depressive symptoms, marital satisfaction, illicit drug use, age, or education. Husbands who completed the Wave 6 Assessment were more likely to be European American (64.3% vs. 53.0%, $p < .01$). Because the current report focuses on partner and relationship factors, only complete couples at the Final Assessment (Wave 6) are included in this report (N= 273 couples). Intact couples,

compared to couples who did not remain intact, did not differ on their rates of nonmedical use of prescription drug at Wave 6.

Measures: Outcome Variable

Non-Medical Use of Prescription Drugs (NMUPD)—The outcome at Wave 6 is the Nonmedical Use of Prescription Drugs. Consistent with other work [5], NMUPD was defined as use without a prescription, in greater frequencies than prescribed, or for a reason other than ordered by a physician. Participants reported on past-year prescription misuse across 4 drug classes (pain reliever, tranquilizers, stimulant, sedatives). For each major class, participants were given several examples of medications that fit within that category. For the pain reliever category, participants were provided with the following examples of medications that fit within this category (Codeine, Darvon, Demerol, Percocet, and Oxycontin). For the tranquilizers/antianxiety/muscle relaxant group, participants were told that “these are usually prescribed to relax people, to calm people down, to relieve anxiety, or to relax muscles spasms” and examples included Valium and Librium. The stimulant category was described as medications that are “prescribed to lose weight, to stay awake or for attention deficit disorders” and examples included uppers, speed, Ritalin, amphetamines. The final category was sedatives/barbiturates and participants were told that these are prescribed to “help people relax or to help them sleep” with the following examples provided: Seconal, Phenobarbitol, downers and sleeping pills. The outcome was coded as any past year NMUPD vs. no past year NMUPD.

Measures: Predictor Variables

Heavy Drinking—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 [16], 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 $p < .01$).

Depressive Symptomatology—Depressive symptomatology was assessed 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 baseline and five follow-up assessments were 0.88 for husbands and 0.90 for wives.

Other Illicit Drug Use—Each spouse was asked to report how often he or she used illicit drugs in the past-year. Drug use categories included frequency of using marijuana, hallucinogens, cocaine, heroin, sedatives, and stimulants. Responses were recorded on 6-point scale that ranged from "not at all" to "once a week or more."

Partner's Prescription Drug Use—Prescription drug use was assessed as described in the Outcome Variable Section. As described below, the main predictor was *any* prescription drug use (i.e., medically, or non-medically), but upon significant findings, the variable was subdivided into medical and nonmedical prescription drug use.

Marital Satisfaction—Overall marital quality was assessed with the 15-item Marital Adjustment Test (MAT) [17]. Higher scores indicated greater relationship quality (range: 2–158). The MAT had an adequate reliability for the study (average coefficient alphas across the baseline and five follow-up assessments: alpha= .81 for husbands; .80 for wives).

Demographic Factors—Age, race/ethnicity, and education were used as covariates in the regression model.

Analysis Plan

Point-biserial correlations were used to characterize the association between individual, partner, and relationship variables and the outcome variables (nonmedical use of prescription medications (NMUPD)) for husbands and wives. Logistic regression models were used to examine Wave 5 predictors of Wave 6 NMUPD for husbands and wives. Two binary logistic regression models were used (the first predicting husbands' NMUPD and the second predicting wives' NMUPD). These models considered individual (illicit drug use, heavy drinking, and depressive symptomatology), partner (heavy drinking and *any* use of prescription drugs), and relationship factors (marital satisfaction) associated NMUPD. Upon significant evidence that a partner's prescription drug use was associated with an increased likelihood of NMUPD, a post-hoc exploratory logistic regression model was used to determine if the *nature* (i.e., prescription drug use as directed by a physician vs. non-medical use of a prescription drug) of a partner's prescription drug use was an important consideration.

Results

Husbands reported lower levels of past-year NMUPD compared to wives (5.0%, n=33 vs. 9.2%, n= 60, respectively). In terms of prescription use that was in accord with medical recommendations, the rates of past-year use were 14.0% (n= 52) for husbands and 28.8% (n= 107) for wives. Husbands average level of depressive symptomatology at Wave 5 was 9.6 (SD= 9.0) and wives' average level of depressive symptomatology was 11.8 (SD= 10.5). Husbands' average marital satisfaction was 104.7 (SD= 30.3) and wives' average marital satisfaction was 103.1 (SD= 31.4). In terms of heavy drinking, 40.2% (n = 110) of husbands reported no past year heavy drinking and 56.6% (n =154) of wives reported no past-year heavy drinking. Among husbands, 18.6% (n= 51) reported any past year illicit drug use and slightly fewer wives' reported any past year illicit drug use (17.&%, n = 48). The correlations between the individual, partner, and relationship factors associated with NMUPD are presented in Table 1.

The first regression model considered factors associated with husbands' NMUPD (Table 2). Among husbands, partner factors and relationship functioning were not related to NMUPD. Two individual factors were associated with an increased likelihood of NMUPD. Husbands with other illicit drug use at Wave 5 were significantly more likely to report NMUPD at the

next assessment (Odds Ratio [OR] = 4.52, 95% Confidence Interval [95% CI]: 1.79, 11.43; $p < .01$; Table 2). Additionally, husbands with higher levels of depressive symptomatology at Wave 5 were more likely to report NMUPD at the next assessment (OR = 2.62, 95% CI: 1.22, 5.62; $p < .05$). Husbands' heavy drinking was not related to NMUPD. Neither of the partner factors nor relationship satisfaction was associated with greater likelihood of NMUPD among husbands.

The second set of models considered individual, partner, and relationship factors associated with wives' NMUPD (Table 3). Wives' Wave 5 illicit drug use was associated with an increased likelihood of NMUPD at Wave 6 (OR = 2.50, 95% CI: 1.01, 6.26; $p < .05$; Model 1, Table 3). In terms of partner factors, there was evidence that husbands prescription drug use (any use of prescription drugs) was associated with an increased likelihood of NMUPD (OR = 2.99, 95% CI: 1.36, 6.59; $p < .01$). Lower levels of marital satisfaction at Wave 5 predicted an increased likelihood of NMUPD at Wave 6 (OR = 0.65, 95% CI: 0.45, 0.94; $p < .05$).

To explore if the nature of husbands' use of prescription drugs (non medical use vs. simply any use of prescription drug use) was differentially associated with wives' NMUPD, a second logistic regression model was used with partner's prescription drug use entered in two ways: Husbands' use of prescription medication in accordance with prescription vs. husbands' NMUPD. In this model, husbands' use of prescription drugs as prescribed was significantly associated with an increased likelihood of NMUPD (OR = 3.28, 95% CI: 1.39, 7.77; $p < .05$; model 2, Table 3); however, husbands' NMUPD was not associated with an increased likelihood of wives' NMUPD. Lower marital satisfaction (OR = 0.64, 95% CI: 0.45, 0.92; $p < .05$) and wives' illicit drug use (OR = 2.93, 95% CI: 1.15, 7.45; $p < .05$) at Wave 5 were significantly associated with an increased likelihood of wives' NMUPD at Wave 6.

Discussion

Despite the prevalence of NMUPD, research examining factors related to NMUPD has tended to focus on only individual-level risk factors. Although these factors are important for understanding NMUPD, it is unlikely that they will explain all of the potential risk. Given a growing body of literature that suggests that intimate partners' health behaviors can impact changes in each other's behaviors, the goal of this work was to examine individual, partner and relationship factors associated with NMUPD within a community sample of married adults.

Consistent with national estimates, the prescription drug use (overall) in the current sample is higher for women compared to men [18]. Similarly, when considering NMUPD, we found a difference on the basis of sex in past-year prevalence of NMUPD, with wives reporting more past-year prevalence compared to husbands (9.2% and 5.0% for husbands and wives respectively). This finding, however, is contrary to data from the US National Survey on Drug Use and Health (NSDUH)[2] data that found a past-year prevalence of NMUPD higher for men (6.3%) compared to women (5.5%). However, Simoni-Wastila and colleagues [19] found that women were more likely to have past-year NMUPD compared to men after controlling for daily alcohol use and other past-year illicit drug. It is also possible that higher prevalence of certain subtypes of medications is the reason for the discrepancy in findings based on **sex**. For example, Tetrault and colleagues [6] found no difference **on the basis of sex** for past-year stimulant use or past-year tranquilizer or sedative use while Green and colleagues [20] found that women were more likely to abuse prescription opioids compared to men. Given sample size issues with the current report, however, we were unable to reliably examine each subtype of drug use separately.

Among women, there was significant evidence that higher levels of relationship satisfaction were protective against NMUPD; however, among men, there was only minimal evidence of this association. In the correlation analysis, higher levels of marital satisfaction were protective against NMUPD for both men and women. This finding, however, only persisted for women in the regression models. Other work has found that marital satisfaction was protective against alcohol problems for both men and women[21]; however, consistent with the current findings, marital satisfaction was protective against heavy drinking only for women. There is evidence that women are more responsive to the emotional climate of a marriage than are men [22]. Consequently, marital satisfaction may influence both severe and less severe substance use among women, while its effect in men may only be observed in more severe substance use problems. There was also evidence for partner influence with respect to wives' NMUPD. However, unlike our work with alcohol [9, 23], tobacco [10], and marijuana [12], in which there was evidence to suggest that one partner's substance use was directly related to his/her partner's use, the current report suggests that *access* to a partner's prescription medication relates to increased risk for NMUPD among women. Thus, husbands' pattern of use does not increase the likelihood of women's NMUPD, but the availability of prescription drugs from the husband increases the risk for nonmedical use among women. Petersen and colleagues [24] examined prescription medication borrow or sharing among adults and found that 27.4% of married couples reported borrowing or sharing prescription medications. It is possible that initial sharing of prescription medications may lead to nonmedical use. The current findings provide some early evidence to suggest that pathway.

There was evidence that suggested that greater levels of depressive symptomatology were associated with an increased risk for NMUPD. Interestingly, the relation between depression and NMUPD was stronger for wives compared to husbands in the bivariable analysis; however, in the regression models, the relation was stronger between depression and NMUPD was stronger for husbands compared to wives. This could suggest that, in the full models, the powerful influence of wives' illicit substance use and husbands' prescription drugs on wives NMUPD use reduced the influence of depressive symptoms. Using two US national samples, Blanco and colleagues [25] found evidence for the association between lifetime depression and NMUPD in one of the two studies. Although they controlled for sex, they did not examine differences based on sex. There have been a number of studies, particularly among general population samples, that have found that men are more likely than women to use drinking as a coping mechanism for dealing with distress or to relieve depression [26]. In addition, some studies have found that the relationship between depression and alcohol use is stronger for males than females, which would be consistent with the findings regarding drinking to cope. However, there have also been reports of the opposite findings, and data are noticeably scarce with respect to other substances.

For both men and women, past-year illicit drug use was one of the strongest predictors of NMUPD. This finding is consistent with other studies. For example, using data from the US National Epidemiologic Survey on Alcohol and Related Conditions, Huang et al. [5] found that a lifetime diagnosis of illicit drug use disorder was significantly associated with a lifetime diagnosis of nonmedical use of prescription sedatives, tranquilizers, opioids, and amphetamines. When focusing solely on past-year use, marijuana, cocaine, or hallucinogen use were each significantly associated with NMUPD [6]. Although our finding is consistent with other, larger studies, it is not entirely clear why illicit drug use emerged as one of the strongest predictors of NMUPD. It is possible that individuals who use illegal drugs were more likely to non-medically use prescription drugs to simulate effects found from other, harder to obtain, illegal substances. We cannot, however, empirically test this notion in our data as we did not assess motives for NMUPD.

Although there was some correlational evidence to suggest a relation between wives' heavy drinking and wives' NMUPD, this finding was not confirmed in the regression models and there was no evidence of relation between husbands' heavy drinking and husbands' NMUPD. This is in contrast to some other work that has found an association between alcohol and NMUPD [27]; however, that work found a stronger relation between alcohol use and NMUPD at heavier levels of alcohol use. For example, when considering non-binge drinking, there was a significant association between non-binge drinking and nonmedical opioid and tranquilizer use but not between non-binge drinking and nonmedical sedative or stimulant use. When considering heavier drinking levels (e.g., binge drinking, alcohol abuse, or alcohol dependence), there was a significant relation between heavy drinking and all types on nonmedical use of prescription drugs. This work, however, did not control for other drug use. Despite previous research that found an association between heavy drinking and NMUPD, our report found only minimal evidence (i.e., correlational) of this association. It is possible that our inclusion of illegal drug use mitigated the impact of alcohol use on NMUPD.

Several limitations must be considered when evaluating the current report. First, the sample size for past-year NMUPD was small for both husbands and wives; therefore, it was not possible to examine different categories of NMUPD (e.g., painkillers vs. sedatives) or sex differences. We also do not have detailed information on the frequency of use, thus individuals with only one or two occasions of past-year NMUPD would be counted as positive for NMUPD. However, this would suggest that our findings of partner and relationship factors should considered conservative. We used Wave 5 behaviors (e.g., marital satisfaction) to predict NMUPD two years later. It is possible that changes in these constructs occurred during this period and the impact of these changes on NMUPD would not be accurately captured in the current report. Finally, this sample was restricted to individuals who were involved in their first marriage and remained married through the first 10 years. Despite these limitations, this work adds to the literature on NMUPD by expanding the examination of risk beyond only individual-level factors. Importantly, we have found evidence to suggest that, among women at least, both partner and relationship factors influence the likelihood of NMUPD. The partner influence, however, appeared to be driven largely by providing greater access or availability to prescription drugs. This suggests the prevention efforts should consider ways to limit or control access to the availability of prescription drugs.

Future work should examine the separate components of non-medical use of prescription drugs. For instance, the current report, as well as previous work on NMUPD, considered either taking a medication in greater quantities or taking a prescription drug solely for the feeling it caused as affirmative answers to the question about past-year NMUPD. However, factors associated with each of these conditions may not be the same. Future work should also consider differences between men and women in the NMUPD. Further, it would be important to have a complete physical health assessment of the individuals and to examine onset information. It is possible, and in fact likely, that some of these individuals started taking medications as ordered and then progressed into NMUPD. Understanding the differences between these individuals is a critical component for the prevention and intervention of NMUPD.

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Table 1

Point-Biserial correlations between individual, partner, and relationship factors associated with Nonmedical Use of Prescription Drugs (NMUPD)

	H NMUPD	W NMUPD
H Illicit Drug Use	**0.25*****	0.17**
W Illicit Drug Use	0.20**	0.31***
H Heavy Drinking	0.02	**0.09**
W Heavy Drinking	**0.01**	0.18*
H Depressive Symptoms	**0.20****	**0.15***
W Depressive Symptoms	**0.10**$^{+}$	**0.30*****
H Marital Satisfaction	**−0.14***	−0.17**
W Marital Satisfaction	−0.09	**−0.25*****
H Age	−0.03	**0.00**
W Age	**−0.02**	**0.00**
H Race/Ethnicity	−0.02	**−0.14***
W Race/Ethnicity	−0.03	−0.10
H Education	−0.02	−0.18**
W Education	−0.04	−0.06

NMUPD: nonmedical use of prescription drugs. H: Husband; W: Wife;

$^{+}$< .10;

*p<.05,

**p<.01,

***p<.001; Race/Ethnicity coded 1: European American vs. 0 not European American; Education coded 1=more than high school vs. 0=high school or less

Table 2

Factors predicting husbands' Nonmedical Use of Prescription Drugs (NMUPD)

	Model 1			Model 2	
	Odds Ratio	95% Confidence Interval		Odds Ratio	95% Confidence Interval
Individual Factors					
H Illicit Drug Use	4.52**	1.79	11.43		
H Heavy Drinking	0.88	0.68	1.15		
H Depression	2.62*	1.22	5.62		
H Age	0.98	0.91	1.05		
H Race	0.89	0.37	2.16		
H Education	1.29	0.51	3.29		
Partner Factors					
W Any Rx Drug Use	1.17	0.49	2.82		
W Heavy Drinking	1.02	0.75	1.38		
Relationship Factor					
Marital Satisfaction	0.87	0.60	1.28		

Notes: H: Husband; W: Wife; Rx: Prescription

* p<.05,

** p<.01,

*** p<.001

N= 272

Race/Ethnicity coded 1: European American vs. 0 not European American; Education coded 1=more than high school vs. 0=high school or less

Addiction. Author manuscript; available in PMC 2013 June 03.

Table 3

Factors predicting wives' Nonmedical Use of Prescription Drugs (NMUPD)

	Model 1			Model 2		
	Odds Ratio	**95% Confidence Interval**		**Odds Ratio**	**95% Confidence Interval**	
Individual Factors						
W Illicit Drug Use	2.50 *	1.01	6.26	2.93 *	1.15	7.45
W Heavy Drinking	1.01	0.77	1.34	0.99	0.74	1.31
W Depression	1.87 +	0.90	3.85	1.86 +	0.90	3.84
W Age	0.98	0.92	1.06	0.98	0.91	1.05
W Race	0.80	0.36	1.76	0.75	0.33	1.69
W Education	1.01	0.42	2.40	1.07	0.45	2.56
Partner Factors						
H Any Rx Drug Use	2.99 **	1.36	6.59			
H Rx Drug Use with Rx				3.28 **	1.39	7.73
H Rx Drug use without Rx				0.85	0.26	2.75
H Heavy Drinking	1.08	0.87	1.35	1.08	0.87	1.35
Relationship Factors						
Marital Satisfaction	0.65 *	0.45	0.94	0.64 *	0.45	0.92

Notes: H: Husband; W: Wife; Rx: Prescription

+ p<.10,

* p<.05,

** p<.01,

*** p<.001

N=273

Race/Ethnicity coded 1: European American vs. 0 not European American; Education coded 1=more than high school vs. 0=high school or less