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Predicting Young Adults' Risk for Engaging in Prescription Drug Misuse in Daily Life from Individual, Partner, and Relationship Factors

Lauren M. Papp, Ph.D. and
University of Wisconsin-Madison

Chrystyna D. Kouros, Ph.D.
Southern Methodist University

Abstract

Background: Mounting evidence based on retrospective and global assessments has established associations between prescription drug misuse and illicit drug use, alcohol abuse, mental health problems, risky sexual behaviors, and overdose deaths. However, there is a notable absence of identified risk and protective factors for an individual's likelihood of engaging in misuse in real-world environments.

Methods: Using an experience sampling approach, we collected repeated moments of young adults' ($n = 95$ participants drawn from 49 romantic couples) prescription drug misuse instances in daily life, and tested multiple factors associated with the misuse.

Results: When examined in separate multilevel models, individual and relationship factors (but not partner factors) reliably predicted the likelihood of females' and males' prescription drug misuse in daily life. Specifically, females' elevated dysphoria symptoms, alcohol problems, and relationship closeness were linked with an increased likelihood of misuse, whereas cohabiting decreased the likelihood of their misuse. Males' higher levels of illicit drug use and relationship closeness were associated with increased likelihood of misuse, whereas their dysphoria symptoms related to a lower likelihood of misuse. When examined in models that considered the predictors simultaneously, females' misuse was associated with individual, partner, and relationship factors, whereas males' misuse was not reliably associated with any of the factors.

Conclusions: An experience sampling approach was effective for the near real-time assessment of young adults' prescription drug misuse in daily environments, and the likelihood of misuse was associated with risk and protective factors from multiple levels of influence. Education and treatment efforts designed to reduce prescription drug misuse may need to be tailored to accommodate males' and females' distinct predictors of misuse.

Corresponding Author: Lauren M. Papp, Ph.D., University of Wisconsin-Madison, Department of Human Development and Family Studies, 1300 Linden Drive, Madison, WI 53706 USA, papp@wisc.edu, Phone: 608-262-8611.
Author Contributions

Dr. Papp designed the study and obtained funding. Dr. Papp conducted literature searches and summarized previous studies and conducted the statistical analysis. Dr. Papp wrote the first draft of the manuscript, and Drs. Papp and Kouros contributed to and have approved the final manuscript.

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Keywords

Prescription drug misuse; risk and protective factors; young adult

Introduction

The public health significance of the prescription drug misuse epidemic in the United States and countries worldwide has been well established.^{1–4} Young adults comprise a particularly high-risk group for this behavior, with recent prevalence rates ranging from 5 to 35%.⁵ Prescription drug misuse poses costs to individuals and society on the basis of its established associations with illicit drug use, alcohol abuse, mental health problems, risky sexual behaviors, and overdose deaths.^{6–9}

In light of knowledge gained from assessments of other substance behaviors in naturally-occurring environments in daily life, including alcohol use¹⁰ and smoking,¹¹ researchers have recently recognized the need to go beyond retrospective questionnaire designs to understand how and why young adults engage in prescription drug misuse in contexts. For example, using a novel time-space sampling approach, Kelly and colleagues^{12–13} identified demographic and situational correlates of prescription drug misuse in a person's lifetime or recent months. Although their findings have provided important information about prescription drug misuse reported in various social venues (e.g., females were less likely to report recent misuse compared to males, sexual identity was not reliably associated with misuse)¹³, the extent to which patterns in these settings reflect young adults' typical experiences in daily life remains unclear. In another recent example, Papp and Blumenstock¹⁴ tested momentary correlates of prescription drug misuse in daily life, including affect, sexual experiences, and alcohol and other drug use. Their analysis found that females' misuse behavior was associated with their relatively higher concurrent levels of negative affect and sexual regret, whereas males' momentary misuse was not related to these concurrent correlates. However, that analysis focused solely on identifying in-the-moment correlates of individuals' prescription drug misuse behavior and did not examine broader social ecological characteristics (i.e., risk and protective factors) of either the individual or their romantic relationship or partner. Identifying the role of such factors offers the potential to inform critically-needed future research as well as prevention and intervention efforts in this area.^{15–16}

In addition to improving the assessment of prescription drug misuse, researchers have called for a conceptual shift in recognizing the importance of multiple ecological predictors of this behavior. In a comprehensive review, Nargiso, Ballard, and Skeer¹⁷ applied a social ecological systems analysis to the literature and identified factors from individual (e.g., alcohol or illicit drug use), interpersonal (e.g., family history of substance use), and community/school (e.g., greater availability of prescription drugs) domains as predictors of youths' (14–24 years) prescription drug misuse. Yet, most studies included in their review were based on retrospective and global misuse assessments and included only one level of risk (typically, at the individual level). Additional research is needed to align with the social ecological framework as a means of advancing prevention and treatment efforts.¹⁷

The extant literature identifies several robust individual-level factors associated with prescription drug misuse. Individuals reporting elevated feelings of hopelessness, sadness, and depression (i.e., dysphoria symptoms) have been found in previous survey-based research to be more likely to engage in prescription drug misuse.^{18–19} Relatedly, although personality characteristics have been less commonly studied than other factors in relation to prescription drug misuse, some work has identified positive links between concurrent neuroticism and drinking / drug use in this age group.²⁰ The consistent co-occurrence of other substance behaviors with prescription drug misuse aligns with problem behavior theory,²¹ which would postulate that individuals who generally engage in problematic alcohol use and illicit drug use also are prone to prescription drug misuse. At the same time, prescription drugs are fundamentally different from other abusable substances; namely, they are designed for specific purposes, have obvious health benefits, and may be viewed as safer than other drugs and alcohol.²² Thus, it remains important to explicitly test the relations between prescription drug misuse and other substance use behaviors to understand the unique precipitating factors of the misuse.

While most research has focused on these individual-level variables, conceptual and empirical bases encourage consideration of romantic relationship factors (i.e., partner and relationship characteristics) as predictors of young adults' substance behaviors.^{23–25} In a notable example of research that considered multiple levels of influence, Homish, Leonard, and Cornelius²⁵ examined characteristics of the individual (i.e., their own heavy drinking, depression symptoms, other illicit drug use), their partner (i.e., spousal medical and non-medical use of prescription drugs, heavy drinking), and the marital relationship (i.e., overall satisfaction) as simultaneous predictors of past-year prescription drug misuse in a sample of married couples. In models testing predictors from multiple levels, husbands' prescription drug misuse was associated only with their own illicit drug use in the past year and elevated depression symptoms, whereas wives' misuse was predicted by indicators from multiple levels (i.e., their own past-year illicit drug use, their husbands' use of any prescription drugs, lower marital satisfaction).²⁵

Moreover, among young adult romantic relationships that vary widely in nature, the partners' cohabitation status, relationship length, or feelings of closeness may be associated with the likelihood of prescription drug misuse in daily environments. Cohabiting and longer relationship length may reflect greater time spent together, and thus suggest that one person's substance behaviors (i.e., prescription drug misuse, illicit drug use, or alcohol problems) would put the partner at elevated risk for prescription drug misuse. The limited research on prescription drug misuse conducted with romantic couples has been based on global, retrospective surveys, and documents negative associations between relationship satisfaction and prescription drug misuse.^{23,25} Therefore, it was tentatively expected that there would be an inverse linkage between relationship closeness and likelihood of misuse in daily life.

The current study extended the existing research by collecting momentary instances of prescription drug misuse reported by young adults in their daily lives and considering multiple risk and protective factors of the misuse. At the individual level, a person's higher levels of dysphoria symptoms, neuroticism, alcohol problems, and illicit drug use were

hypothesized to predict their greater likelihood of prescription drug misuse. The current analyses also controlled for demographic covariates of prescription drug misuse, including age²⁶ and college enrollment.²⁷ Characteristics of the romantic partner (i.e., their engaging in prescription drug misuse and higher levels of alcohol problems and illicit drug use) and relationship (i.e., cohabiting, longer relationship length, and less closeness) were also posited as predictors of prescription drug misuse. Based on the available literature,^{17,23,28} we further hypothesized that individual-level factors would be more consistently associated than partner- or relationship-level characteristics with the occurrence of prescription drug misuse in daily life, and that multiple levels of influence would be more relevant for predicting the likelihood of females' misuse than males' misuse.

Method

Participants

Young adults aged 18–25 in romantic relationships were recruited from a medium-sized town in the Midwestern U.S. using multiple passive strategies in the community (e.g., newspaper and email advertisements, flyers posted in health centers and coffee shops). Advertisements sought young adults who were dating exclusively for a study on “the connections between close relationships and daily feelings and behaviors.” The ads also stated, “This research is particularly focused on capturing how people use prescription medication.” Between September 2013 and October 2014, participants were recruited as couples into the study following their private phone screens. The research assistant asked the participant about behaviors that might occur in daily life, and assured the participant that their responses would remain confidential. Participants were prompted to think back over the past three months and indicate (*Yes/No*) whether they had used any of four standard medication classes investigated in previous literature,²⁹ either for a different reason than intended, or more frequently or in a greater amount than prescribed to them, or without a physician's order: sleeping (e.g., Ambien, Halcion), sedative or anxiety (e.g., Ativan, Xanax), stimulant (e.g., Ritalin), and pain (i.e., opioids such as Vicodin, OxyContin, Tylenol 3 with codeine, etc.). To increase the likelihood that the experience sampling design would capture the behavior of interest,³⁰ one or both partners needed to self-report recent misuse of one or more medications. Phone screening responses from non-participants were not retained. Phone screen procedures with 605 contacts identified 73 eligible couples; 49 couples enrolled in the study.

Procedures

Prior to the study, university Institutional Review Board approval and a National Institute of Health Certificate of Confidentiality were obtained. Participants attended two lab sessions that were scheduled an average of 16 days apart, and were trained to complete 10 days of momentary reporting between the sessions. During their first session, participants completed survey measures and were trained to use an iPod Touch application designed specifically for the present research; they selected a private password to access the application, and completed a sample report in the lab (not included in the analysis). All other device features were disabled. Each assessment included questions about behaviors and feelings experienced since their last report; this study focused on prescription drug misuse behavior.

For 10 scheduled days, participants were prompted by an alarm to complete a momentary report once during three epochs: morning (8:00–11:00 a.m.), afternoon (1:00–4:00 p.m.), and evening (7:00–11:00 p.m.). Participants could also initiate the completion of a report if they missed reporting at the alarm; however, reporting was limited to one report within a two-hour window. Date and time of completion were generated automatically. Completed reports could not be accessed. Participants typically had their devices for a period longer than their 10 scheduled reporting days, and the alarm signals remained active for the entire period. Therefore, some participants provided more than the intended number of reports (described under Preliminary Analyses). All reports (whether obtained during the scheduled reporting period or afterwards) were completed consistently, based on the participant's experience in the current momentary epoch. During their second session, participants completed additional surveys, returned their devices, and received compensation. A research assistant downloaded the momentary reports and reset the devices.

Measures: outcome variable

Prescription drug misuse in daily life.—We adapted McCabe's²⁹ measure of prescription drug misuse during the past year and lifetime to assess misuse of prescriptions in natural environments. Participants responded to the following question (*Yes/No*) for sleeping, sedative or anxiety, stimulant, and pain medication classes: "Sometimes people use prescription drugs that were meant for other people or in ways that do not follow their own doctor's orders. Since your last report, have you used the following medications, either without a physician's order (prescribed to someone else), in greater frequency or amount than prescribed to you, or for a different reason than intended for you?" The four medication classes were sampled at each momentary report; responses were summed and recoded to reflect the occurrence of *any* prescription drug misuse in that moment (0 = *did not occur*, 1 = *did occur*).

Measures: predictor variables

Neuroticism.—The neuroticism scale was drawn from Goldberg's³¹ Big Five personality measure.³² During the first lab visit, participants rated how much each of 10 adjectives describe how they usually feel, from 0 (*not at all*) to 3 (*very much*). Sample items included unstable, nervous, and irritable. Scores across the 10 ratings were averaged ($\alpha_{\text{female}} = .82$, $\alpha_{\text{male}} = .83$).

Dysphoria symptoms.—The Inventory of Depression and Anxiety Symptoms (IDAS; Watson et al.)³³ is a 64-item self-report measure of major depression and related anxiety disorders. During the second lab visit, respondents rated the extent to which they have experienced symptoms in the past 2 weeks, scored on a 5-point Likert-type scale (1 = *not at all*, 5 = *extremely*). This study used the dysphoria subscale (sum of 10 items) to capture broad depression symptomatology (e.g., depressed mood, guilt, anhedonia). The IDAS demonstrates strong psychometric properties, including internal consistency, test-retest reliability, and convergent and discriminant validity.³³ In the current study, internal consistency for the dysphoria subscale was high for females ($\alpha = .85$) and males ($\alpha = .88$).

Illicit drug use.—On a survey adapted from Corliss et al.³⁴ and administered during the second lab visit, participants responded *yes* (coded 1) or *no* (coded 0) to questions about use of the following within the past year: marijuana, ecstasy (MDMA), cocaine, heroin, amphetamines (methamphetamine and speed), and LSD / mushrooms. Responses to the items were summed.

Alcohol problems.—During the second lab session, participants reported their recent alcohol use, alcohol dependence symptoms, and alcohol-related problems using the Alcohol Use Disorders Identification Test (AUDIT; Babor et al.).³⁵ The AUDIT was developed by the World Health Organization and has been used widely by practitioners to assess alcohol consumption and problems. Each of 10 items is rated on a scale of 0 to 4, and the items are summed to determine the level of risk for problems related to the respondent's alcohol consumption. Internal consistency of the AUDIT was satisfactory for females ($\alpha = .74$) and males ($\alpha = .71$).

Relationship closeness.—Participants provided evaluations of their closeness in their romantic relationship using the Unidimensional Relationship Closeness Scale during the first lab visit.³⁶ The measure includes 12 items, rated on a scale of 1 (*strongly disagree*) to 7 (*strongly agree*). A sample item is, "My romantic partner and I do a lot of things together." Item responses were averaged. The measure has demonstrated strong psychometric properties,³⁶ and internal consistency was high for females ($\alpha = .89$) and males ($\alpha = .91$) in the current study.

Partner prescription drug misuse, illicit drug, and alcohol problems.—Each participant's misuse of the four medication classes across the ecologically-based reporting period was summed and recoded to create a person-level variable indicating whether they engaged in *any* prescription drug misuse (0 = *did not occur*, 1 = *did occur*). This dichotomous misuse indicator was used to predict the likelihood of their partner engaging in prescription drug misuse in daily life. Scores on the illicit drug use and AUDIT survey measures were also included as partner risk factors.

Demographic characteristics.—A background information form was administered during the first lab visit to collect information on participants' age and enrollment in school. Participants also reported whether they were cohabiting with their partner and the length of their relationship.

Data Analytic Approach

We relied on a multilevel modeling strategy that accounted for the nested structure of the data, given that moments were nested within days that were nested within individuals.^{37–39} To maximize statistical power for the prediction of prescription drug misuse, we retained as much data as possible for each model. Adopting a dyadic analysis approach would have required that we only include the matched momentary reports (i.e., those completed by male and female partners during the same moments on the same dates) and thus would have required that we exclude 13.7% of female reports and 14.3% of male reports. Therefore, we elected to analyze males' and females' data separately. One gay couple participated in the

study, and we randomly chose one male from this dyad to be included. Incorporating partner factors as predictors in the models allows partner effects to be tested, and aligns with other approaches²⁵ to handling prescription drug misuse from romantic dyads.

We utilized multilevel modeling³⁷ and HLM 7.0³⁹ to examine the associations between the predictor factors and prescription drug misuse. The approach accounted for the repeated assessments of the occurrence of prescription drug misuse across multiple moments and multiple days for the sample of individuals. Multilevel modeling was ideally-suited for this analysis given that it accommodates participants providing unequal numbers of momentary reports and gives greater statistical weight to those with more reliable estimates; further, it is appropriate for use in research on low-frequency substance use behaviors.⁴⁰ Importantly, the analysis relied on data obtained from *all participants* to generate the estimates, including those not who did not endorse the occurrence of prescription drug misuse. Hierarchical generalized linear modeling (HGLM) was used to estimate the binary outcome of interest.

We tested a three-level model with random variation at each level. At Level 1, the within-person outcome of prescription drug misuse occurrence (0 = *did not occur*, 1 = *did occur*) was predicted by intercepts. Level 2 accounted for the design's collection of multiple momentary reports across multiple days. Level 3 represented between-person variability and included the person's risk / protective factors. Here, continuous predictors were grand-mean centered at their respective averages, and dichotomous variables were entered without centering. We included strategies for a more conservative interpretation of the results⁴¹ by applying the false discovery rate⁴² set at $\alpha = .05$ to control for conducting multiple model tests. Corrected results are reported under Central Analyses and shown in tables.

Results

Preliminary Analyses

The 48 female participants provided 1,330 reports. On average, females returned 27.71 ($SD = 7.84$) reports; one female participant returned 0, and those who returned reports had a range of 2 to 37. The majority of reports (88.6%) were obtained from days 1–10 following the first lab session, with the remainder (11.4%) collected by day 27. The 49 male participants provided 1,340 reports. On average, they returned 27.35 ($SD = 6.87$) reports; one male returned 0, and those who returned reports had a range of 6 to 38. Most (89.6%) obtained reports were from days 1–10 following first lab session. Nearly all (99.6%) were collected by day 21, and 5 reports (< 1%) were collected on days 41–49. The momentary reports were evenly distributed across morning, afternoon, and evening epochs.

Table 1 shows prescription drug misuse frequencies collected across participants' reporting periods. A total of 11 females reported misuse in daily life; these females averaged 3.36 instances ($SD = 2.69$, range: 1–10). The 13 males who reported misuse averaged 1.77 instances ($SD = 1.01$, range: 1–4). Only 3 couples (6%) included partners who both engaged in misuse during the reporting period, providing further support for separate analysis of females' and males' momentary data. Descriptive statistics of the predictor variables are shown in Table 2.

Central Analyses

As shown in Table 3 (model 1), females' prescription drug misuse was predicted by their individual-level risk factors of elevated dysphoria symptoms ($b = 0.18$, $SE = 0.55$, $p = 0.002$) and alcohol problems ($b = 0.20$, $SE = 0.04$, $p < .001$). Females' prescription drug misuse was also associated with relationship factors (model 3); cohabiting with their partner predicted females' lower likelihood of misuse ($b = -1.09$, $SE = 0.45$, $p = 0.019$), whereas higher levels of relationship closeness predicted the increased likelihood of their misuse ($b = 0.96$, $SE = 0.28$, $p = 0.001$). Partner factors of males' prescription drug misuse, illicit drug use, or alcohol problems were not associated with females' prescription drug misuse in daily environments (all p -values $> .10$, Table 3, model 2). In a model that included individual, partner, and relationship factors as simultaneous predictors (model 4), higher levels of females' dysphoria symptoms ($b = 0.18$, $SE = 0.05$, $p = 0.001$), alcohol problems ($b = 0.22$, $SE = 0.05$, $p < 0.001$), and relationship closeness ($b = 1.95$, $SE = 0.45$, $p < 0.001$), along with a longer relationship ($b = 0.05$, $SE = 0.02$, $p = 0.002$), predicted an increased likelihood of their prescription drug misuse, whereas a decreased likelihood of misuse was associated with females' enrollment in school ($b = -3.53$, $SE = 0.75$, $p < 0.001$) and cohabitation ($b = -2.86$, $SE = 0.63$, $p < 0.001$) and their male partners engaging in prescription drug misuse ($b = -1.41$, $SE = 0.50$, $p = 0.008$).

As shown in Table 4 (model 1), males' elevated dysphoria predicted lower likelihood of misuse ($b = -0.11$, $SE = 0.04$, $p = 0.012$), whereas higher levels of illicit drug use predicted the increased likelihood of their misuse ($b = 0.57$, $SE = 0.15$, $p < 0.001$). The relationship factor (model 3) of higher levels of closeness also predicted an increased likelihood of males' misuse in daily environments ($b = 0.96$, $SE = 0.32$, $p = 0.005$). Partner factors were not associated with males' prescription drug misuse (all p -values $> .10$, Table 4, model 2). In a model that included individual, partner, and relationship factors as simultaneous predictors (model 4), no single risk or protective factor emerged as a reliable predictor of males' prescription drug misuse in daily life after appropriate controls for conducting multiple statistical tests were applied.

Conclusion

In line with calls to incorporate multiple levels of influence on substance behavior,^{17,25} the goal of the present study was to identify individual, partner, and relationship characteristics that serve as risk or protective factors for prescription drug misuse that occurred in young adults' daily lives. Prescription drug misuse was assessed using ecologically-based reports, consistent with a growing effort to understand highly sensitive behaviors (e.g., cannabis, smoking), with minimal reliance on participant memory, near the time of their occurrence, and in natural environments.^{43–45} By simultaneously testing variables in multiple levels, we were able to elucidate factors that emerged as the most robust predictors of misuse in daily life, after taking into account the levels or presence of the others. Our results showed that individual characteristics (dysphoria symptoms, alcohol problems, illicit drug use) were associated with the occurrence of females' and males' misuse in daily life.

The finding that males' and females' dysphoria levels were differentially linked to the occurrence of prescription drug misuse in daily life suggests potentially disparate

motivations for misuse and awaits additional investigation. For example, previous research by Boyd and colleagues^{46–47} suggests that some youth are motivated to misuse prescription medications to self-medicate, whereas others engage in misuse in order to experiment, get high, or improve academic performance. Longitudinal designs are needed to determine whether dysphoria symptoms lead to prescription misuse, misuse predicts depression and other symptoms over time, or a dynamic interplay between the two exists. Longitudinal studies also should incorporate motives for prescription drug misuse, which could potentially help explain any differing patterns of results for males and females.

The complex findings concerning prescription drug misuse and relationship functioning may have resulted from our recruitment of couples reflecting a range of commitment stages. In particular, among females, closer and longer romantic relationships were associated with an *increased* likelihood of prescription drug misuse in daily life, while living with their partners and their partner's reported misuse were linked with a person's *decreased* likelihood of misuse. Rhule-Louie and McMahon⁴⁸ posited that romantic relationships during early adulthood are characterized by a range of relationship qualities, which may differentially relate to individuals' problem behaviors, such as substance misuse. Partners may show more or less similarity in problem behaviors, as well as a greater or lesser tendency toward problem behaviors, as they navigate the many personal and relationship transitions that occur during this developmental period. On the one hand, our findings align with larger-scale work showing cohabitation to serve as a protective factor against some risky behaviors.^{49–50} On the other hand, the positive link identified herein between females' relationship closeness and prescription drug misuse was *inconsistent* with previous dyadic research in the field.^{23,25} A key distinction is that the previous work involving couples was based on global, retrospective surveys, whereas the current study documented prescription drug misuse as it occurred in daily life. It is possible that the different methods capture relationship correlates of prescription drug misuse that vary over time (i.e., adaptive in the short-term, while problematic in the long-term). Clearly, these interpretative speculations await future longitudinal testing.

The simultaneous tests based on multiple levels provide quite different results for females and males: While females' misuse was associated with individual, partner, and relationship factors, males' misuse in daily life was not reliably associated with *any* risk factor. Females' misuse appears be linked to both personal and relational sources of variation. It may be that males' misuse depends on an interaction between multiple levels that we did not have statistical power to test (e.g., personal tendency toward substance abuse interacting with certain relationship factors). The results encourage future work based on more powerful designs to explore the possibility that multiple levels of factors interact to predict occurrence of misuse. In addition, although the present work does not offer direct insights into intervention or education targets, the differing pattern of results suggests that future treatment efforts to reduce prescription drug misuse may need to be tailored to accommodate males' and females' distinct risk and protective factors.

Several limitations should be considered. Primarily, participants were recruited into the present study as part of a romantic dyad, yet prescription drug misuse did not co-occur within romantic partners. Although we initially planned to extend Papp's²³ investigation of

the relational context of prescription drug misuse, our focus on romantic couples may have oversampled individuals who were relatively protected from engaging in risky behaviors.⁵¹ Future studies of individuals, rather than couples, also would likely yield a higher participation rate. We also acknowledge that our background measures considered predictor characteristics over a range of timeframes (e.g., alcohol problems in the past year, dysphoria symptoms in the past two weeks); implications of these differing timeframes should be examined in future ecologically-based work. Relatedly, our evaluation of potential risk and protective factors did not include those at the community level; future investigations could readily improve measurement at this level by obtaining samples with more variability in educational attainment levels and by including assessments of young adults' Greek status or grade point average.¹⁷ Notwithstanding these shortcomings, the current findings provide a foundation for future investigations of the longitudinal interplay of prescription drug misuse, individual characteristics, and relationship dynamics over time to better understand the pathways linking substance use and important outcomes during young adulthood.

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Table 1

Frequencies of Momentary Prescription Drug Misuse by Medication Class

	Medication Class				Total Instances
	Sleeping	Sedative or anxiety	Stimulant	Pain	
Females	2	15	12	8	37
Males	1	1	17	4	23

Note. Momentary instances of prescription drug misuse were endorsed by 11 females and 13 males.

Table 2

Descriptive Statistics

	Females (<i>n</i> = 47)	Males (<i>n</i> = 48)
Age, in years	20.76 (2.33)	22.09 (2.73)
Enrolled in school	89.1%	82.6%
Neuroticism ^a	0.89 (0.49)	0.79 (0.50)
Dysphoria symptoms ^b	22.84 (6.85)	18.47 (6.93)
Illicit drug use ^c	1.25 (1.08)	1.53 (1.31)
Alcohol problems ^d	7.23 (4.22)	9.07 (4.46)
Partner engaged in Rx misuse	26.1%	23.9%
Cohabiting	21.3%	19.1%
Relationship length, in months	17.00 (17.11)	16.93 (16.84)
Closeness ^e	6.41 (0.53)	6.07 (0.71)

Note. Rx = prescription drug. Mean values are displayed with standard deviations in parentheses; percentages are displayed for dichotomous variables.

^aNeuroticism score could range from 0–3.

^bDysphoria symptoms score could range from 10 to 50.

^cIllicit drug use score could range from 0 to 6.

^dAlcohol problems score could range from 0 to 40.

^eCloseness scores could range from 1 to 7.

Table 3

Factors Predicting Females' Prescription Drug Misuse in Daily Life

Parameter	Model 1 ^a		Model 2 ^b		Model 3 ^c		Model 4 ^d	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Individual factors								
F Age	0.88	0.69, 1.13					0.79	0.54, 1.15
F Enrolled in school	0.27	0.07, 1.11					0.03 ^{**}	0.01, 0.14
F Neuroticism	0.44	0.11, 1.78					0.72	0.17, 3.10
F Dysphoria symptoms	1.19 ^{**}	1.07, 1.33					1.20 ^{**}	1.08, 1.33
F Illicit drug use	1.32	0.81, 2.15					1.66	0.84, 3.29
F Alcohol problems	1.22 ^{**}	1.12, 1.32					1.24 ^{**}	1.12, 1.38
Partner factors								
M Rx drug misuse			1.05	0.49, 2.28			0.24 ^{**}	0.09, 0.68
M Illicit drug use			1.02	0.73, 1.42			0.78	0.52, 1.18
M Alcohol problems			1.05	0.96, 1.13			0.98	0.87, 1.11
Relationship factors								
Cohabiting					0.34 [*]	0.14, 0.83	0.06 ^{**}	0.02, 0.21
Relationship length					1.02	0.99, 1.05	1.05 ^{**}	1.02, 1.09
Closeness					2.60 ^{**}	1.49, 4.53	7.03 ^{**}	2.84, 17.39

Note. F = female; M = male; OR = odds ratio; CI = confidence interval. Rx = prescription drug. Bolded OR value indicates the parameter remained significant after correcting for multiple tests. Enrolled in school (0 = no, 1 = yes). Partner Rx drug misuse (0 = partner did not report prescription drug misuse, 1 = partner reported one or more instances of prescription drug misuse). Cohabiting (0 = not living together, 1 = living together).

^{a,c}
n = 47.

^{b,d}
n = 46.

^{*}
p < .05.

^{**}
p < .01.

Table 4

Factors Predicting Males' Prescription Drug Misuse in Daily Life

Parameter	Model 1 ^a		Model 2 ^b		Model 3 ^c		Model 4 ^d	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Individual factors								
M Age	0.95	0.80, 1.13					0.99	0.80, 1.22
M Enrolled in school	4.39 [*]	1.09, 17.72					4.00	0.59, 27.24
M Neuroticism	3.36 [*]	1.02, 11.05					4.97	0.93, 26.53
M Dysphoria symptoms	0.90[*]	1.07, 1.33					0.89 [*]	0.81, 0.98
M Illicit drug use	1.77^{**}	0.83, 0.98					1.94 [*]	1.18, 3.20
M Alcohol problems	0.91	0.77, 1.06					0.93	0.80, 1.08
Partner factors								
F Rx drug misuse			0.80	0.33, 1.92			1.19	0.30, 4.68
F Illicit drug use			1.32	0.77, 2.26			0.81	0.51, 1.30
F Alcohol problems			0.94	0.84, 1.06			0.99	0.84, 1.16
Relationship factors								
Cohabiting					0.46	0.18, 1.18	0.87	0.12, 6.18
Relationship length					0.99	0.96, 1.02	1.01	0.96, 1.06
Closeness					2.61^{**}	1.36, 5.00	3.11	0.88, 11.05

Note. F = female; M = male; OR = odds ratio; CI = confidence interval. Rx = prescription drug. Bolded *p*-value indicates the parameter remained significant after correcting for multiple tests. Enrolled in school (0 = no, 1 = yes). Partner Rx drug misuse (0 = partner did not report prescription drug misuse, 1 = partner reported one or more instances of prescription drug misuse). Cohabiting (0 = not living together, 1 = living together).

^{a,c}
n = 48.

^{b,d}
n = 46.

^{*}
p < .05.

^{**}
p < .01.