



Abstract

During the past half decade there has been data indicating that college students are using prescription stimulants such as Ritalin or Adderall without a prescription. However, there is a paucity of literature reporting research on this substance use problem among college students. The current study reports on risk and protective factors associated with Ritalin/Adderall use among a college sample in the Southwestern United States. Our findings indicate that over 11% of students reported past year and slightly more than 4% reported past 30-day use of Ritalin/Adderall without a prescription. Results of a multiple logistic regression analysis showed that students reporting a lower GPA, living in a fraternity/sorority, being in a fraternity/sorority, not being in a committed relationship, being an experimental or regular smoker, drinks per occasion, using illicit drugs, and using other prescription drugs were all more likely to report past year Ritalin/Adderall use without a prescription. In a second logistic regression analysis, past 30-day use without a prescription was reported more by students reporting a lower GPA, being a fraternity/sorority member, not in a committed relationship, experimental smokers, illicit drug users and users of other prescription drugs. Implications of these findings are discussed.

Introduction

Background

- An individual's college years have historically been marked by the use of alcohol and heavy drinking behaviors.
- Alcohol and other drug use are among the top threats to college student health and a leading cause of death in the U.S. (Hingson, et al., 2002).
- Recent evidence suggests that college students are also using prescription drugs such as Ritalin (methylphenidate), Adderall (mixed-salts amphetamine) and Dexedrine (D-amphetamine).

Prevalence of College Student Use

- 12-month and 30-day prevalence of use varies by study.
- National sample: Monitoring the Future showed between 4.7% – 5.7% of college students have reported past year Ritalin use without a prescription (Johnston, et al., 2005).
- National sample of 4-year colleges: 6.9% of college students reported lifetime non-medical use of prescription stimulants with 4.1% reporting past year use and 2.1% reporting past month use (McCabe, et al., 2005).
- Midwestern sample: Almost 1 in 10 (8.1%) reported lifetime use and 5.4% reported past year use without a prescription. (Teter, et al., 2005).

Introduction (cont.)

- Northeast sample: Higher rates have reported by Low and Gendaszek (2002) with 10.3% of college undergraduates surveyed reporting use without a prescription of either Ritalin or Adderall and another 24% report using both.

Predictors of Use

- Males are more likely to report non-medical use of prescription stimulants than females (Teter et al., 2005; McCabe et al., 2005; Low and Gendaszek 2002).
- White students report higher rates of nonprescription stimulant use than Asian or African-American students (McCabe et al., 2005).
- Fraternity or sorority members are also more likely to report non-prescription stimulant use compared to non-members (McCabe, Teter, Boyd, in press; Teter et al., 2005).
- College students with lower GPAs more likely to report non-prescription use of these substances (McCabe et al., 2005).
- College students who use prescription stimulants without a prescription were also significantly more likely to report heavy episodic drinking, marijuana use, as well as ecstasy, cocaine, and opiate use (McCabe, 2005; Teter, et al., 2003).

Study Purpose

- The abuse potential of prescription stimulants by college students poses an important public health problem to college health professionals and administrators.
- Examine predictors of use in a sample of college students from a large Southwestern university.

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Methods

Procedure

- University-wide internet-based survey.
• Random sample of 6,150 undergraduate students emailed invitation to take the survey.
• Email invitation included information about the survey as well as a hyper-link to access the survey directly from the email.
• Three additional reminder emails sent to non-responders followed the initial invitation.
• Incentives: Cash sweepstakes drawing (20 winners).

Survey Participants

- A total of 1,998 students completed the survey (response rate = 32.5%).
• Females were over-represented in the sample; thus a case-weight based upon the actual distribution of undergraduate men and women at the university was created and used in all analyses.
• Nearly 60% of the weighted sample women; 62.5% white; mean age 20.2 years (SD = 1.46); 38% of respondents were freshman.
• Selected undergraduate respondents between the ages of 18 and 24 (n = 1,596) for inclusion in our final analyses.

Survey Measures

- Participant demographics (gender, race/ethnicity, class standing, residence type, fraternity/sorority membership, committed relationship, religious service attendance.
• Alcohol consumption: drinks per occasion (Gruenewald & Nephew, 1994), maximum drinks past 2 weeks.
• Cigarette smoking (past 30 days).
• Illegal drug use: marijuana, cocaine, ecstasy (12-month and 30-day).
• Use of prescription drugs without a prescription: Soma, Oxycontin, Ritalin, Adderall (12-month and 30-day).
• Past year and past 30-day use of marijuana, cocaine, and ecstasy combined into single illegal drug use items (use/no use).
• Past year and past 30-day use of Soma and Oxycontin without a prescription combined into single prescription drug use items (use/no use).
• Past year and past 30-day use of Ritalin/Adderall combined into a single prescription stimulant use items (use/no use).

Methods (cont.)

Data Analysis

- Examined the bivariate association between past 12-month and past 30-day use of Ritalin/Adderall and demographics, alcohol consumption, cigarette smoking, illegal drug use, and the use of other prescription drugs without a prescription.
• Variables with significant bivariate associations entered simultaneously into two separate logistic regression models that examined the predictors of past 12-month and past 30-day use of Ritalin/Adderall.

Results

Table 1

Correlations between undergraduate student characteristics, drinking measures and a) past year Ritalin/Adderall use, and b) past 30-day Ritalin/Adderall use.

Table with 7 columns: Variable, (1), (2), (3), (4), (5), (6). Rows include Age, GPA, DPO, Max Drinks (2 wks), Ritalin (past year), and Ritalin (past 30 days) with correlation coefficients.

*p < 0.05, ** p < 0.01, *** p < 0.001

aPoint-biserial correlation coefficients shown for correlations between dichotomous and continuous variables. Pearson correlation coefficients shown for correlations between continuous measures.



Results

Table 2

Bivariate results examining the associations between undergraduate student characteristics and a) past year Ritalin/Adderall use, and b) past 30-day Ritalin/Adderall use.

Variable	Past Year Ritalin Use			Past 30 day Ritalin Use		
	Percent	95% CI	Chi-Square	Percent	95% CI	Chi-Square
Total	11.20	9.76-12.85		4.15	3.27-5.24	
Gender						
Male	14.39	11.87-17.33		5.97	4.37-8.10	
Female	9.11	7.46-12.47	$X^2 = 10.73^{**}$	2.95	2.06-4.23	$X^2 = 8.68^{**}$
Race						
White	14.50	12.44-16.84		5.32	4.08-6.91	
Non-White	6.05	4.4-9.02	$X^2 = 26.33^{***}$	2.24	1.32-3.78	$X^2 = 8.73^{**}$
Class Standing						
Freshman	12.76	10.35-15.63		5.49	3.94-7.60	
Sophomore	13.00	10.11-16.57		4.52	2.91-6.98	
Junior	10.88	7.66-15.23		3.55	1.89-6.58	
Senior	6.15	3.97-9.43	$X^2 = 10.68^*$	1.55	6.07-7.66	$X^2 = 8.27^*$
Residence Type						
On campus	14.51	11.88-17.61		6.25	4.54-8.54	
Fraternity/Sorority	53.89	39.50-67.65		17.49	9.00-31.26	
Off-Campus Residence	7.35	5.87-10.08	$X^2 = 102.04^{***}$	2.32	1.55-3.48	$X^2 = 33.88^{***}$
Fraternity/Sorority						
No	7.35	6.09-8.85		2.56	1.85-3.54	
Yes	36.63	30.45-43.29	$X^2 = 158.37^{***}$	14.81	10.61-20.29	$X^2 = 67.50^{***}$
Committed Relationship						
No	12.87	10.80-15.26		5.51	4.17-7.25	
Yes	9.04	7.13-11.41	$X^2 = 5.69^*$	2.36	1.46-3.79	$X^2 = 9.63^{**}$
Religious Attendance						
Never Attends	12.47	9.71-15.87		5.78	3.95-8.36	
Attends	10.95	9.50-13.19	$X^2 = 0.77$	3.62	2.68-5.14	$X^2 = 3.61$
Smoker Status						
Never Smoker	3.86	2.69-5.51		0.84	0.39-1.80	
Experimenter	14.78	12.20-17.79		5.73	4.15-7.86	
Smoker	27.64	21.58-34.65	$X^2 = 97.48^{***}$	12.44	8.33-18.17	$X^2 = 54.25^{***}$
Illegal Drug Use (12 mos.)						
None Used	2.36	1.56-3.55		0.94	0.82-1.67	
Used	23.15	20.12-26.46	$X^2 = 170.45^{***}$	12.85	10.00-16.35	$X^2 = 111.63^{***}$



Results (cont.)

Conclusions

Table 3

General Findings

- GPA, fraternity membership, being a smoker, and the use of illegal drugs and prescription drugs without a prescription significantly increased the odds of using Ritalin/Adderall in the past year and in the past 30-days.
- Being in a committed relationship reduced the odds of using these substances.
- Contrary to expectation participant gender and race were not predictive of Ritalin/Adderall use.

Study Limitations/Strengths

- Low survey response rate.
- Replicates findings from previous epidemiological investigations.

References

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Variable	Past Year Ritalin Use (N = 1184)		Past 30 day Ritalin Use (N = 1173)	
	AOR	95% CI	AOR	95% CI
Gender				
Male	1.00		1.00	
Female	0.79	0.48-1.30	1.02	0.48-2.20
Race				
White	1.00		1.00	
Non-White	1.05	0.61-1.80	0.58	0.25-1.32
Age	0.87	0.56-1.35	0.65	0.31-1.35
Last Semester GPA	0.52	0.34-0.81 **	0.51	0.26-0.99 *
Class Standing				
Senior	1.00		1.00	
Junior	1.08	0.37-3.16	0.71	0.11-4.48
Sophomore	1.75	0.45-6.75	0.82	0.09-7.33
Freshman	1.04	0.21-5.22	0.52	0.04-6.64
Residence Type				
On campus	1.00		1.00	
Fraternity/Sorority	4.50	1.60-12.68 **	2.33	0.58-9.37
Off-Campus Residence	0.85	0.47-1.54	0.76	0.30-1.94
Fraternity/Sorority				
No	1.00		1.00	
Yes	6.98	4.04-12.05 ***	5.75	2.58-12.79 ***
Committed Relationship				
No	1.00		1.00	
Yes	0.59	0.36-0.95 *	0.36	0.16-0.83 *