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ABSTRACT

This study examined psychosocial correlates of substance abuse during late adolescence. Older adolescents' (N=276) aged 17-22, self-reported use of marijuana, cocaine, and other illicit drugs was examined in relation to several psychosocial variables, including sensation seeking, aggression, self-esteem, depression, and perceived peer prevalence and dangerousness of risk-taking activities. Initial multivariate and univariate multiple regression analyses indicated a significant relation between each type of substance use and psychosocial variables found in previous research to be related to substance use (e.g. sensation seeking, perceived negative outcome). Subsequent multivariate and univariate multiple regression analyses examined patterns of association for each sex. In general, relations were somewhat stronger and broader for males. Canonical correlation analysis revealed that among males, high experience seeking and low perceived dangerousness of risk-taking activities were predictive of marijuana use, and low boredom susceptibility and high perceived dangerousness of risk taking activities were negatively correlated with cocaine use. Among females, high experience seeking and high disinhibition were associated with marijuana use. (Data tables are included.) (Author/ABL)

PSYCHOSOCIAL CORRELATES OF ADOLESCENT SUBSTANCE USE

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ABSTRACT

Older adolescents (n=276, ages 17 to 22) self-reported use of marijuana, cocaine, and other illicit drugs was examined in relation to several psychosocial variables, including sensation seeking, aggression, self-esteem, depression, and perceived peer prevalence and dangerousness of risk-taking activities. Initial multivariate and univariate multiple regression analyses indicated a significant relation between each type of substance use and psychosocial variables found in previous research to be related to substance use (e.g., sensation seeking, perceived negative outcome). Subsequent multivariate and univariate multiple regression analyses examined patterns of association for each sex. In general, relations were somewhat stronger and broader for males. Canonical correlation analysis revealed that among males, high experience seeking and low perceived dangerousness of risk-taking activities were predictive of marijuana use, and low boredom susceptibility and high perceived dangerousness of risk-taking activities were negatively correlated with cocaine use. Among females, high experience seeking and high disinhibition were associated with marijuana use.

AIMS

1. To examine the psychosocial correlates of illicit substance use during late adolescence from a multifactorial perspective.

2. To investigate whether the use of different substance types (i.e., marijuana vs. cocaine vs. other illicit drugs) is differentially related to psychosocial factors.

3. To explore the influence of gender on the relations between psychosocial factors and adolescent substance use.

METHOD

1,396 undergraduate Introductory Psychology students at the University of Pittsburgh were administered a brief questionnaire concerning risk-taking behavior. Marijuana use, cocaine use, and other illicit drug use (i.e., *not* marijuana or cocaine) were among those behaviors examined. Follow-up assessment was conducted on 277 of these subjects (146 males, 131 females; ages 17 to 22 years), 38 of whom were selected based on risk-taking questionnaire scores $\leq$ 1.5 standard deviations above the mean for their gender. The remaining 239 subjects were selected randomly from the pool of subjects who completed the initial risk-taking questionnaire. Of follow-up subjects, 93.9% were White, 89.9% were college freshmen or sophomores, and mean family income was $30,000-45,000. Subjects who participated in the follow-up received experimental credit, a requirement of the Introductory Psychology course. Follow-up assessment consisted of the administration of the battery of self-report psychosocial measures described in Table 1.

RESULTS

1. Preliminary regression analyses (Table 2).
   - A. Multivariate multiple regression analyses.
     - i. The set of psychosocial variables hypothesized to be associated with adolescent substance use (i.e., sensation seeking subscales, self-esteem, aggression, perceptions of negative outcome and peer prevalence, and depression) was significantly related to substance use.
     - ii. The set psychosocial variables hypothesized to be unrelated to adolescent substance use (i.e., defendence, social desirability, and lability of self-worth) did not predict substance use.
   - B. Univariate multiple regression analyses.
     - i. Equations derived from the psychosocial variables hypothesized to be associated with adolescent substance use were significant for all three substances.

2. Gender-specific regression analyses (Table 3).
   - A. Females.
     - i. Multivariate multiple regression analysis was significant.
     - ii. Univariate multiple regression analyses were significant for marijuana and other illicit drug use.
   - B. Males
     - i. Multivariate multiple regression analysis was significant.
     - ii. Univariate multiple regression analyses were significant for all three substance types.

3. Gender-specific canonical correlation analyses (Table 4).
   - A. Females.
     - i. High experience seeking and high disinhibition predicted marijuana use.
   - B. Males.
     - i. High experience seeking and low perceived dangerousness of risk-taking activities predicted marijuana use.
     - ii. Low boredom susceptibility and high perceived dangerousness of risk-taking activities predicted cocaine non-use.

CONCLUSIONS

1. The group of psychosocial factors selected for study was able to account for a significant proportion of the variance in each of three substance use types.

2. These relations were strongest for marijuana use and weakest for cocaine use.

3. Psychosocial factors were better able to account for substance use among males than among females, partly because a broader range of factors was related to male drug use.

4. Certain factors were more important than others, particularly when substance type and/or gender is considered.
   - A. Experience seeking was consistently found to be related to substance use regardless of drug type or gender.
   - B. Perceived dangerousness of risk-taking appears to be related to male substance use.
   - C. Disinhibition appears to play a greater role in female drug use.
   - D. Boredom susceptibility may be specifically associated with male cocaine use.

TABLE 1
Self-report Measures Administered at Follow-up Assessment

INSTRUMENT	SOURCE	CONSTRUCT	HYPOTHESIZED RELATION TO SUBSTANCE USE
The Beck Depression Inventory (BDI)	Beck (1961)	Depressive cognitions and affect	Positive correlation
The Jackson Personality Research Form (PRF)	Jackson (1967)		
(a) Aggression		Aggressivity	Positive correlation
(b) Defendence		Interpersonal suspiciousness	None
(c) Social Desirability		Self-report bias	None
The Probability Reasoning Scale (PRS)	Arnett (1989)		
(a) Perceived Negative Outcome		Belief that "risk-taking" activities will produce negative consequences	Negative correlation
(b) Perceived Peer Prevalence		Estimate of percentage of peers who engage in "risk-taking" activities	Positive correlation
The Rosenberg Self-Esteem Scale (RSE)	Rosenberg (1965)	Self-worth in adolescence	Negative correlation
The Stability of Self-Esteem Scale (SSE)	Rosenberg (1979)	Self-perceived lability of self-worth	None
The Zuckerman Sensation Seeking Scale-V (SSS)	Zuckerman (1979)		
(a) Boredom Susceptibility		Aversion to repetitive experiences	Positive correlation
(d) Disinhibition		Need to disinhibit social experiences	Positive correlation
(c) Experience Seeking		Desire for novel experiences	Positive correlation
(d) Thrill and Adventure Seeking		Desire to engage in sports or physically dangerous pursuits	Positive correlation

TABLE 2
Summary of Multivariate and Univariate Multiple Regression Analyses for Psychosocial Measures with Measures of Drug Use

ALL SUBJECTS

Multivariate analysis:

Pillai's Trace = .475, $F(27,666) = 4.64^{**}$

Univariate analyses:

Criterion variable	$F(9,222)$	R	R^2	Raw regression coefficients DIS	BS	TAS	ES	RSE	AGG	NEG	NORM	BDI
Marijuana Use	13.57^{**}	.596	.355	$.169^{*}$	-.050	-.014	$.444^{**}$	.056	.034	$-.163^{*}$	-.088	.078
Cocaine Use	4.91^{**}	.407	.166	-.077	.152	-.002	$.215^{*}$	.118	-.038	$-.237^{**}$	-.043	.050
Other Illicit Drug Use	6.48^{**}	.456	.208	-.027	.060	.004	$.365^{**}$	.081	-.001	$-.178^{*}$	-.009	-.018

$^{**}p \leq .001$; $^{*}p \leq .01$

Note: DIS = Sensation Seeking Scale: Disinhibition; BS = Sensation Seeking Scale: Boredom Susceptibility; TAS = Sensation Seeking Scale: Thrill and Adventure Seeking; ES = Sensation Seeking Scale: Experience Seeking; RSE = Rosenberg Self Esteem Scale; AGG = Personality Research Form: Aggression; NEG = Probability Reasoning Scale: Perceived Negative Outcome; NORM: Perceived Peer Prevalence; BDI = Beck Depression Inventory.

TABLE 3
Summary of Multivariate and Univariate Multiple Regression Analyses for Psychosocial Measures with Measures of Drug Use for Each Sex

MALES

Multivariate analysis:

Pillai's Trace = .701, $F(27,330) = 3.72^{***}$

Univariate analyses:

Criterion variable	$F(9,110)$	R	R^2	Raw regression coefficients DIS	BS	TAS	ES	RSE	AGG	NEG	NORM	BDI
Marijuana Use	10.05^{***}	.672	.451	$.187^{*}$	-.047	-.119	$.536^{***}$	.068	-.017	$-.207^{*}$	-.117	.020
Cocaine Use	5.27^{***}	.549	.301	-.018	.177	-.045	$.255^{**}$	.166	-.054	$-.328^{***}$	-.053	.030
Other Illicit Drug Use	5.43^{***}	.554	.307	.081	-.019	.025	$.418^{***}$	.120	-.131	-.165	-.150	-.149

FEMALES

Multivariate analysis:

Pillai's Trace = .447, $F(27,306) = 1.99^{**}$

Univariate analyses:

Criterion variable	$F(9,222)$	R	R^2	Raw regression coefficients DIS	BS	TAS	ES	RSE	AGG	NEG	NORM	BDI
Marijuana Use	4.88^{***}	.549	.301	.175	-.099	.113	$.350^{***}$	.005	.080	-.083	-.101	.148
Cocaine Use	.52	.210	.044	-.093	.075	.041	.151	.057	.007	-.064	-.030	.018
Other Illicit Drug Use	2.55^{**}	.429	.184	-.162	.116	.000	$.363^{***}$	.026	.058	-.172	.059	.058

$^{***}p \leq .001$; $^{**}p \leq .01$; $^{*}p \leq .05$

Note: DIS = Sensation Seeking Scale: Disinhibition; BS = Sensation Seeking Scale: Boredom Susceptibility; TAS = Sensation Seeking Scale: Thrill and Adventure Seeking; ES = Sensation Seeking Scale: Experience Seeking; RSE = Rosenberg Self Esteem Scale; AGG = Personality Research Form: Aggression; NEG = Probability Reasoning Scale: Perceived Negative Outcome; NORM: Perceived Peer Prevalence; BDI = Beck Depression Inventory.

TABLE 4
Canonical Analysis of Psychosocial Variables Versus Substance Use Variables

MALES

	Canonical Correlations		
	1	2	3[a]
R^2:	.482	.138	.081
R:	.694**	.371*	.285
Predictor variables			
Disinhibition (SSS)	.516	.143	
Boredom Susceptibility (SSS)	.389	-.576	
Thrill and Adventure Seeking (SSS)	.266	.120	
Experience Seeking (SSS)	.854	.211	
Self-Esteem (RSE)	.012	-.026	
Aggression (PRF)	.138	-.117	
Perceived Negative Outcome (PRS)	-.658	.447	
Perceived Peer Prevalence (PRS)	-.249	.077	
Depression (BDI)	.074	-.413	
Criterion variables			
Marijuana Use	.960	.162	
Cocaine Use	.708	-.585	
Other Illicit Drug Use	.745	.275	

FEMALES

	1	2[a]	3[a]
R^2:	.315	.119	.013
R:	.562**	.344	.115
Predictor variables			
Disinhibition (SSS)	.616		
Boredom Susceptibility (SSS)	.350		
Thrill and Adventure Seeking (SSS)	.435		
Experience Seeking (SSS)	.853		
Self-Esteem (RSE)	-.141		
Aggression (PRF)	.391		
Perceived Negative Outcome (PRS)	-.340		
Perceived Peer Prevalence (PRS)	-.292		
Depression (BDI)	.251		
Criterion variables			
Marijuana Use	.972		
Cocaine Use	.258		
Other Illicit Drug Use	.578		

**$p \leq .001$; *$p \leq .05$
[a]Coefficients have been omitted since R^2 is nonsignificant.