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## ABSTRACT

This study examined the relation of conduct problems and depressed mood to tobacco, alcohol, marijuana, and other drug use in 6th through 11th grades. A total of 200 at-risk 6th-grade boys completed an extensive assessment that involved interviews, home observations, questionnaires, test data, telephone interviews, court records, and school questionnaires and records. The boys' levels of depression and substance use were self-reported. Based on the assessments, subjects were categorized into four groups: (1) conduct problems only; (2) depressed mood only; (3) both depression and conduct problems; and (4) neither problem. Levels of substance abuse were plotted each year. Results showed that boys with conduct problems in sixth grade showed elevated substance use at adolescence, particularly for tobacco, marijuana, and other drugs. Boys who were only depressed did not show increased risk for substance use through adolescence. Conduct problems in 6th grade were predictive of substance use through 11th grade. Of the various forms of substance use, alcohol use was least associated with conduct problems. One table and eight figures are attached. (MM)

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# The relation of conduct problems and depressive symptoms to growth in substance use in adolescent boys.

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## Abstract

An at-risk sample of 200 boys in Grade 6 was classified into four groups: Conduct problems only, depressed mood only, co-occurring problems, and neither problem. It was hypothesized that the group with co-occurring problems would show the highest levels of substance use, whereas the depressed mood only group would not show elevated use. Subsequent growth in substance use, namely tobacco, alcohol, marijuana, and other drugs was plotted each year from Grade 6 to Grade 11. This predictive analysis was compared with concurrent plots where the four groups were redefined each year. Grade 6 conduct problems were very predictive of subsequent growth in substance use.

## Introduction

It is commonly accepted, based on clinical impressions, that there is a relationship between depression and substance use (Braucht, Brakarsh, Follingstad, & Berry, 1973). It has been hypothesized that substances may be used to self-medicate the symptoms of depression (e.g., unhappiness and dysphoria). Findings relating substance use to depression, however, have been mixed.

In contrast, a very strong relationship has been established between conduct problems and substance use. Furthermore, an association has been found between conduct problems and depression for children and adolescents in both clinical (e.g., Kovacs, Paulauskas, Gatsonis, & Richards, 1988) and community (e.g., Block & Gjerde, 1990) samples. Capaldi (1991) found that antisocial behavior and depressed mood were significantly correlated for the Oregon Youth Study (OYS) sample of 6th-grade boys. Therefore, to establish whether there is an association between substance use and depressed mood at adolescence, analyses must control for the overlap between depression and conduct problems.

There has been some suggestion that the co-occurrence of conduct problems and

depressed mood predicts higher substance use than either problem alone. Capaldi (1991, 1992) found that boys with co-occurring conduct problems and depressed mood showed elevated substance use at Grade 6, but not at Grade 8. Boys with depressed mood only did not show elevated use.

The purpose of the current study was to examine the relation of conduct problems and depressed mood to tobacco, alcohol, marijuana, and other drug use from Grade 6 through Grade 11 (a period of rapid growth in substance use). The substances were examined separately as there is some evidence for differential relations. Mayfield (1985) found evidence for an association between alcoholism and affective disorder, but no evidence for an association between other drugs and affective disorder. It was hypothesized there would be an interactive effect for conduct problems and depressed mood such that the boys with co-occurring problems would show the highest level of substance use and conduct-problem boys the next highest. It was further hypothesized that boys showing only depressed mood would show no higher use of substances than the boys who were not elevated for either behavior.

#### Methods and Subjects

The hypotheses were tested on the OYS sample of two cohorts (total  $N = 206$ ) of boys at risk for conduct problems (Grade 11  $N = 200$ , 97%). The sample is predominantly white and lower or working class. The sample was selected from schools in neighborhoods with higher than usual rates of delinquency for the medium-sized metropolitan area. Seventy-four percent of 4th-grade boys and their families agreed to participate. Subjects completed an extensive multimethod/multiagent assessment that included interviews, home observations, questionnaires, test data, telephone interviews, court records, and school questionnaires and records.

The sample was divided into four groups at Grade 6 as follows:

1. LO-LO: below the 70th percentile for conduct problems and depressive symptoms.
2. C-P: above the 70th percentile for conduct problems only.
3. D-M: above the 70th percentile for depressive symptoms only.
4. CO-OCCUR: above the 70th percentile for conduct problems and depressive symptoms.

### Measures

Table 1 describes measures and gives reliability data for the Conduct Problems construct, and the self-report child depression measure. The boys' substance use was also assessed by self-report. Boys were classified as Abstainers, or Experimental; Patterned or Daily users for alcohol and tobacco based on use in the past year as follows: Abstainer--no use; Experimenter--frequency of use up to once every 2 to 3 months; Patterned user--use once a month to 2 to 3 times a week; Daily user--use at least once a day. Marijuana and other drug use was simply classified as yes or no for the past year.

### Results

Selection of groupings by the criteria described resulted in the following group sizes at Grade 6:

1. Low on conduct problems and depressive symptoms (LO-LO):  $n = 113$ .
2. High conduct problems only (C-P):  $n = 34$ .
3. High depressed mood only (D-M):  $n = 30$ .
4. High conduct problems and depressed mood (CO-OCCUR):  $n = 26$ .

Conduct problems and depressed mood co-occurred for a substantial number of the boys who were elevated on either behavior (approximately 45%). Group membership was based on elevated rather than clinical levels of the problems. Eight percent of the boys at Grade 6 scored above the clinical cut-off  $t$  score of 70 (the 98th percentile) on the Teacher CBC-L aggressions scale (four times as many as might be expected in a normal sample) (Achenbach & Edelbrock, 1983). Fifteen percent of the boys were above the clinical cut-off score of 13 on the CDRS (self-report depression) questionnaire.

#### Prediction from Grade 6 antisocial behavior and depressed mood

Figures 1 to 4 show graphs for tobacco, alcohol, marijuana, and other drug use by Grade 6 grouping. To eliminate the large numbers of boys who had experimented to a very minor degree with tobacco or alcohol, the graphs depict Patterned plus Daily users for these substances. For the less common substances of marijuana and other drugs, any use in the past year was depicted on the graph. As expected, substance use increased dramatically over the adolescent years. For example, 5% of the total sample were patterned or daily smokers at Grade 6, compared with 42% at Grade 11.

Conduct problems at Grade 6 were associated with rapid growth in substance use across the adolescent years. Both the C-P and CO-OCCUR groups were considerably elevated in substance use at Grade 11 compared with the D-M and LO-LO groups with use of tobacco, marijuana, and other drugs being about twice as high in the two conduct problem groups. Differences in alcohol use were less pronounced.

#### Prediction from concurrent antisocial behavior and depressed mood

In a second set of analyses, the four groups were redefined at each wave, so that the assessment of antisocial behavior and depression was concurrent with that of the substance use. For these analyses, to maximize comparability of measures across grades, only the teacher and parent CBC-L measures of conduct problems were used. The Self-report Depression Questionnaire was the CDRS at Grade 6, and a short version of the BDI (Kovacs & Beck, 1977) at Grade 7 through Grade 11. The graphs in Figures 5 to 8 show that the concurrent relation between the four groups and substance use across the adolescent years was very similar to the predictive association based on Grade 6 groupings.

#### Conclusions

- As hypothesized, boys with conduct-problems at Grade 6 showed elevated substance use at adolescence, particularly for tobacco, marijuana, and other drugs.
- Boys showing only depressed mood at Grade 6 through Grade 11 did not show increased risk for substance use through adolescence.
- Boys with co-occurring conduct problems and depressed mood did not show higher risk for substance use at adolescence than boys with only conduct problems.
- Conduct problems at Grade 6 were as predictive of substance use through Grade 11 as were concurrent measures of conduct problems.
- Alcohol use was least associated with conduct problems and, therefore, seems to be more normative in adolescence.

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# Table 1

## Grade 6 Constructs and Indicators

Construct	Measure	No. Items				Sample Item	Cohort I (Cohort II)			
		Mother	Father	Child	Teacher		(Values are Cronbach's alpha unless otherwise noted)			
						Mother	Father	Teacher	Child	
<b>Conduct Problems</b>										
1. Teacher Report	CBC-L (Achenbach & Edelbrock, 1983) Peers and Social Skills				10	Physically attacks people.				Overt .87 (.79) Covert .93 (.91)
					1	How often does he exert a negative influence on his friends?				
2. Parent Report	CBC-L (Achenbach & Edelbrock, 1983) Overt/Covert Antisocial Behavior Questionnaire	15	14			Skips school.	.71 (.62)	Overt .76 (.76)		
	Parent Telephone Interview	30	36			Disobeys.	.82 (.77)	Covert .79 (.82)		
	Peer Questionnaire	—	7	—		In the last 24 hours, has your son talked back to an adult?	.85 (.80)	Overt .84 (.85)		
		1	1			How often does your son get into conflicts with other kids around the home?	.87 (.86)	Covert .86 (.92)		
							—	.74 (.82)	—	
							—	r = .35 (.28)	—	
3. Child Report	Interview				32	How often do you steal things worth \$5 or less?				Overt .78 (.88) Covert .87 (.90)
	Child Telephone Interview				8	In the last 24 hours, did you get into a fight?				.88 (.90)
	Child Interviewer Impressions				1	Is it likely that this boy will do things in later life that will get him in trouble with the police?				
1. Child Depression Rating scale (Birnbaum, 1981)	Child Depressed Mood				13	I think life isn't worth living				.78 (.74)

Figure 1  
Levels of Substance Use by Antisocial Behavior and  
Depressive Symptoms at Grade 6: Tobacco Use

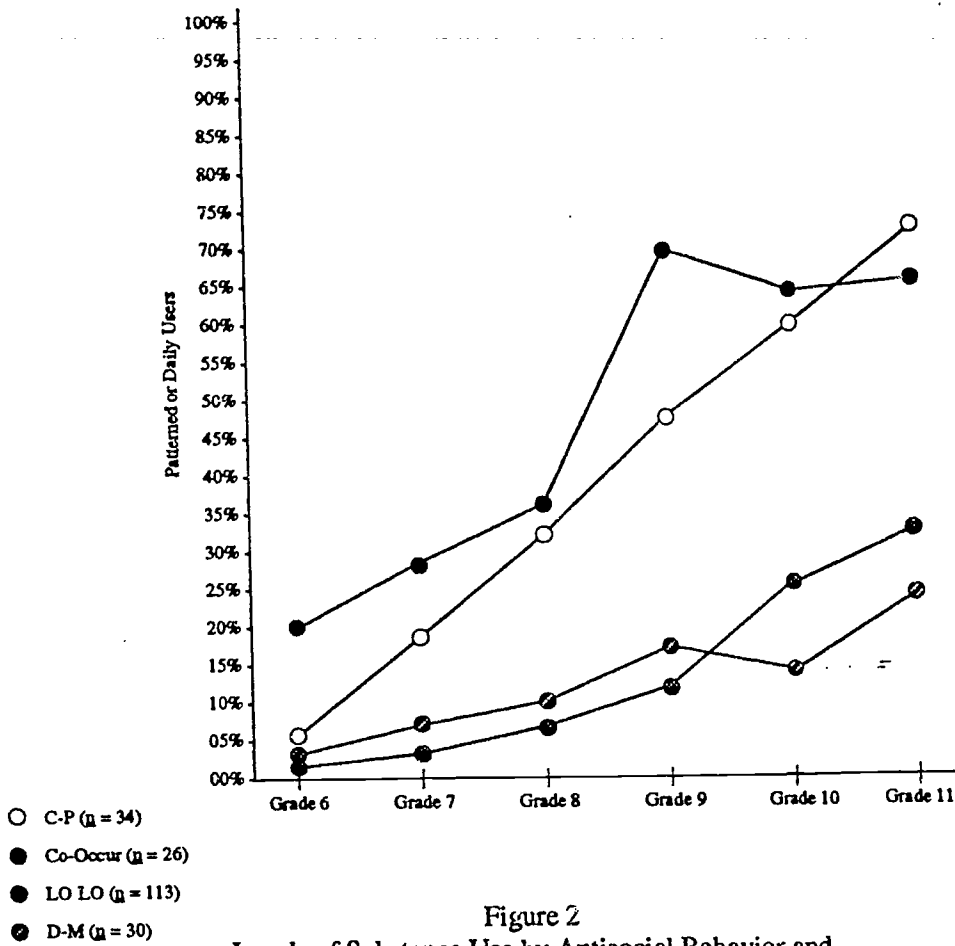


Figure 2  
Levels of Substance Use by Antisocial Behavior and  
Depressive Symptoms: Alcohol Use

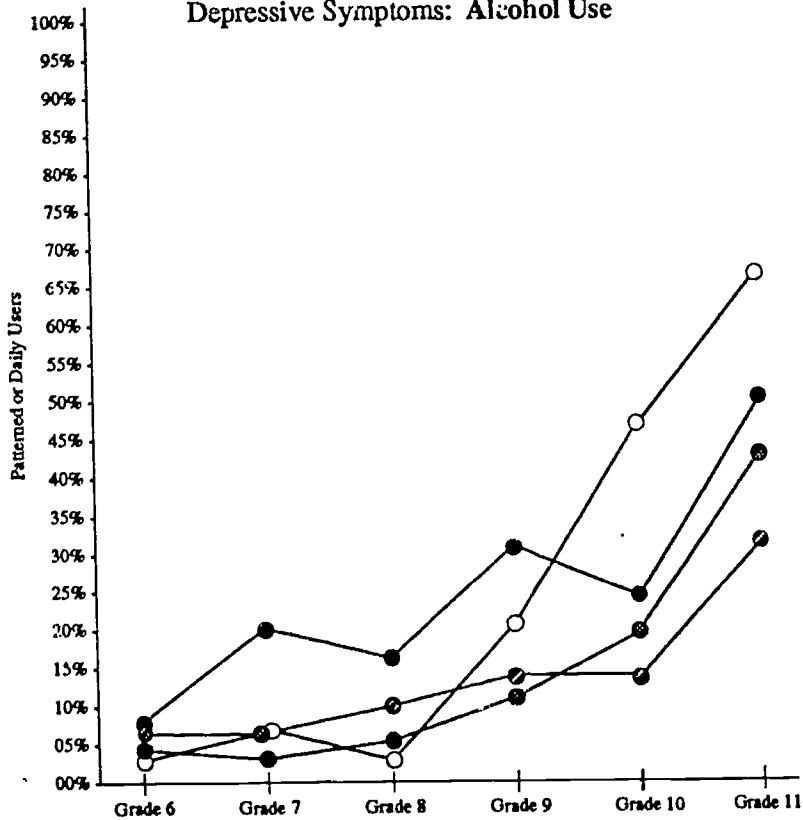




Figure 3  
Levels of Substance Use by Antisocial Behavior and  
Depressive Symptoms: Marijuana Use

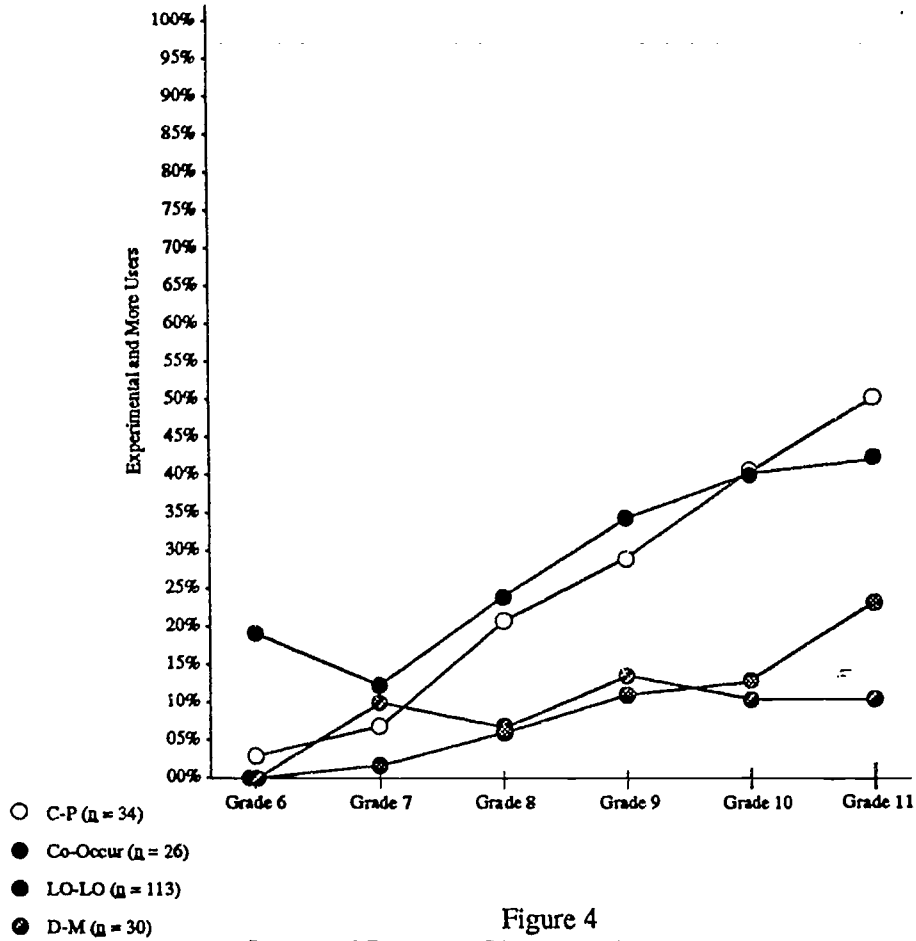


Figure 4  
Levels of Substance Use by Antisocial Behavior and  
Depressive Symptoms: Other Drugs

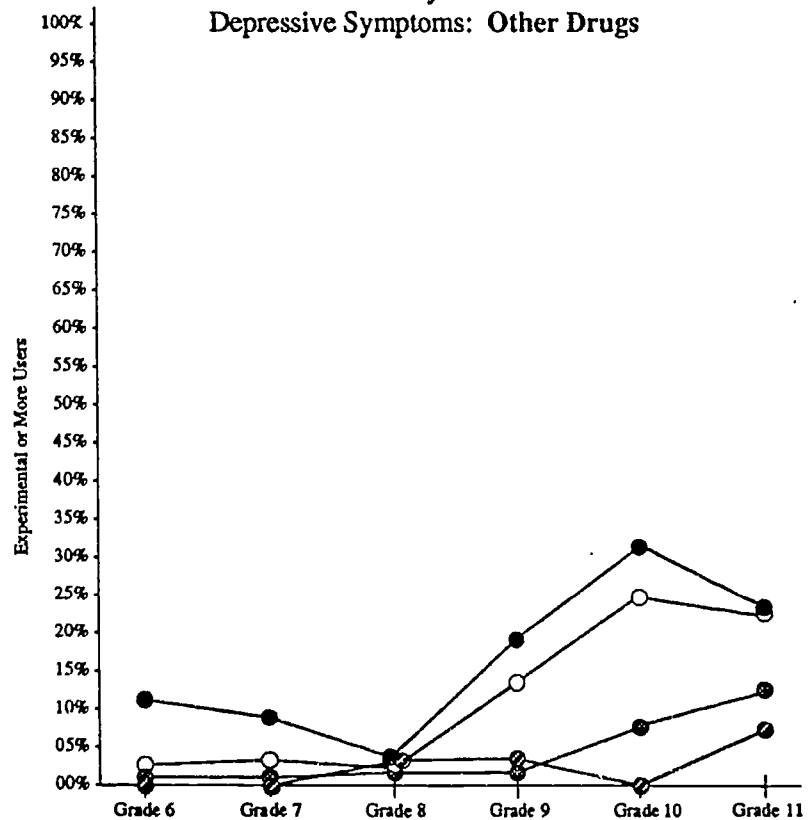


Figure 5  
Levels of Substance Use by Concurrent Antisocial Behavior and Depressive Symptoms: Tobacco Use

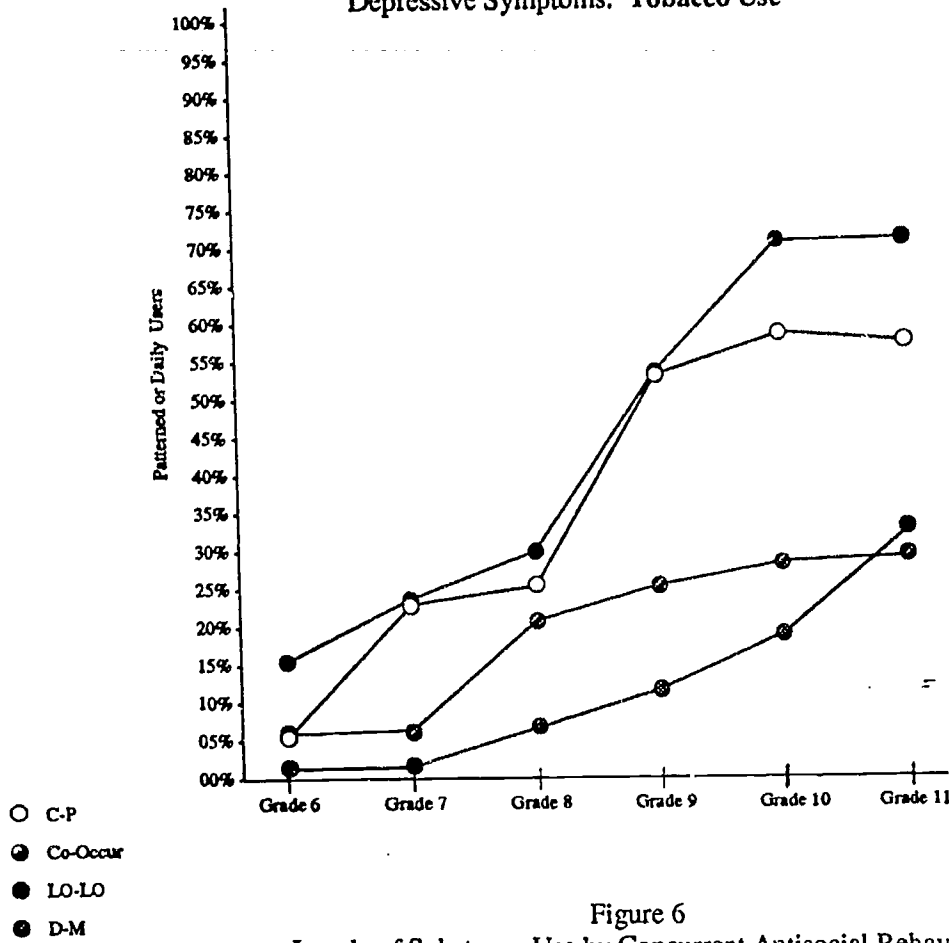


Figure 6  
Levels of Substance Use by Concurrent Antisocial Behavior and Depressive Symptoms: Alcohol Use

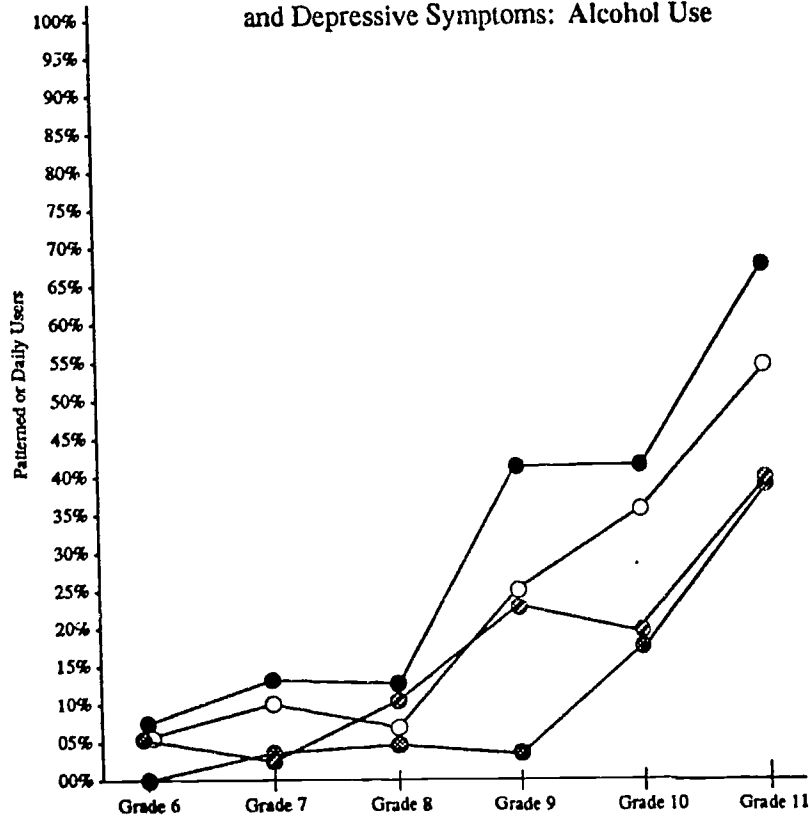


Figure 7  
Levels of Substance Use by Concurrent Antisocial Behavior  
and Depressive Symptoms: Marijuana Use

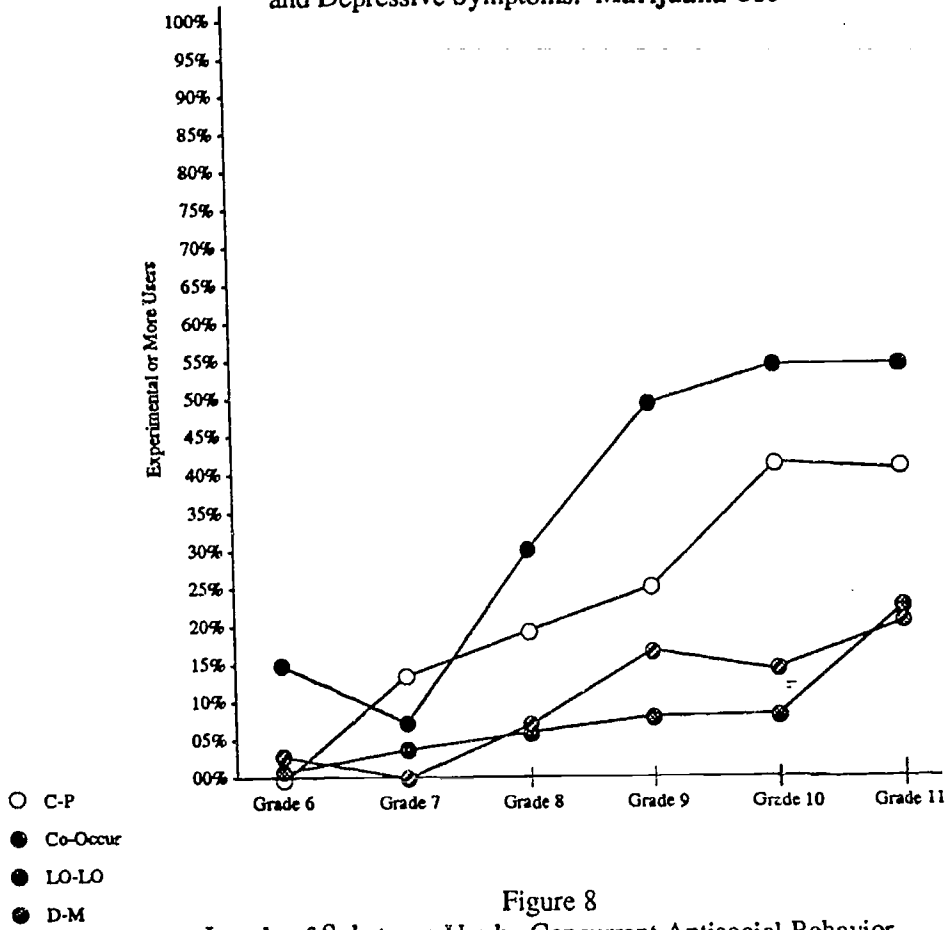


Figure 8  
Levels of Substance Use by Concurrent Antisocial Behavior  
and Depressive Symptoms: Other Drug Use

