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Predictors of Aggression at School: The Effect of School-Related Alcohol Use

Kristin V. Finn and Michael R. Frone

School-related alcohol use is a large but understudied problem in American schools. This investigation examined factors related to aggression at school, particularly the role of alcohol use. School aggression was higher among students who were male, rebellious, had a weak sense of school identification, low academic achievement, and engaged in alcohol use during the school day. General alcohol use was not related to school aggression beyond the effect of school-related alcohol use. Schools that encourage school involvement and alcohol resistance may help prevent problems of student aggression.

Recent awareness of substance use and violence among our nations' students has led to heightened concern over the issue of safe and drug-free schools. The seventh goal of the National Education Goals states that by the year 2000, "all schools in America will be free of drugs and violence and the unauthorized presence of firearms and alcohol, and offer a disciplined environment that is conducive to learning" (U.S. Department of Education, 1993, p.1). This goal has not been attained.

Adolescent substance use is widespread, but reports of substance use in school settings may alarm many school administrators. National surveys demonstrate that schools are places where alcohol and other drugs are both present and accessible. For example, one-third of students in grades 9 through 12 recently reported that drugs were made available to them at school (Kaufman et al., 2001). The National Household Education Survey (NHES) found that one-half of all high school students had observed their fellow classmates under the influence of alcohol or marijuana during school hours (Nolin, Vaden-Kiernan, Feibus, & Chandler, 1997). Furthermore, 36% of students who were 12 to 19 years old reported that marijuana was easy to obtain in the school building, on school grounds, or on a school bus (Chandler, Chapman, Rand, & Taylor, 1998).

School personnel may be unaware of the full extent to which these substances are available. For example, in 1997 the National Center on Addiction

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and Substance Abuse reported a startling difference in the witnessing of drug sales on school grounds: 12% of the teachers versus 41% of the students (Califano & Booth, 1997). More recently, the Center reported differences in the degree to which teachers and students viewed their schools as being drug free: 65% of teachers said their schools were drug free, compared to 34% of the students (Califano, 2001). Despite the ambitious rhetoric of *Goals 2000*, the drug culture is alive and well in schools. Unfortunately, little research has been conducted on how school-related substance use is related to school behavior.

Although most schools in America are safe, many students and teachers experience aggression and violence, and many students are fearful of attending school. The most recent School Crime Supplement to the National Crime Victimization Survey showed that 12% of students ages 12 to 18 experienced violent or property victimization at school, 5% had been recently bullied at school, and 5% expressed fear of being attacked or harmed while at school (Addington, Ruddy, Miller, & DeVoe, 2002). Teachers are also targets of aggression at school. Between 1995 and 1999, teachers were victims of 342,000 nonfatal crimes per year. In 1994, 12% of all elementary and secondary school teachers were threatened with injury by a student from their school (Kaufman et al., 2001).

Many factors are related to aggressive behavior. It is widely known that men are more overtly aggressive than women, and individuals with defiant personality traits have higher rates of antisocial behaviors. Also, aggressive and disruptive behavior in school is associated with low grades, nonparticipation in the classroom, and truancy (Voelkl, Welte, & Wieczorek, 1999; Warner, Weist, & Krulak, 1999). According to Finn's (1989) participation-identification model, students who fail to participate in school, even at a basic level, are likely to withdraw from school emotionally and physically, and perhaps turn to delinquency. Finally, aggressive behavior is more common when alcohol is present (Fagan, 1990; Room & Rossow, 2001).

The goal of the present study was to examine factors related to interpersonal aggression and vandalism in school. In particular, we were interested in how alcohol use contributes to aggressive behavior at school. We hypothesized that students' alcohol use during school hours may be quite different from drinking during nonschool hours such as at neighborhood parties or on weekends. These two types of drinking may stem from different motives and have distinct types of outcomes. That is, school aggression may be related to drinking that occurs during the school day but may not be associated with drinking outside of school. Because school aggression likely results from a combination of factors, we also examined the role of demographics, personality traits, and academic orientation.

Alcohol Use and Aggression in School

The research literature is replete with studies of general (i.e., nonschool-related) violence and aggression. Many factors have been found to contribute to the perpetration of aggressive acts including demographic characteristics, personality attributes, and attitude conventionality. In addition, there is pervasive evidence that aggression is related to alcohol use.

"Among contemporary explanations of violence and aggression, few have been more enduring than the presumed effects of intoxication from drugs or alcohol" (Fagan, 1990, p. 241). Although there is continual debate over whether alcohol consumption causes violent acts (e.g., Bushman & Cooper, 1990; Fagan, 1990; Lipsey, Wilson, Cohen, & Derzon, 1997; Room & Rossow, 2001; White, 1997), there is little question that incidents of aggression and violence are frequently accompanied by alcohol consumption. In a review of studies of the relationship between adolescent substance use and violence, Wagner (1996) reported a two- to four-fold increase in the odds of committing violent acts among adolescents who are involved with drugs. A national study of high school students showed that adolescents who use alcohol were at least twice as likely to be involved in physical fighting and to carry a weapon compared to nonusers (Dukarm, Byrd, Auinger, & Weitzman, 1996).

Few studies have examined the relationship of alcohol use to aggression in the specific context of school. Among them, Page and Hammermeister (1997) showed that overall substance use is associated with weapon possession on school property, which may heighten the threat of aggression and violence. DuRant, Krowchuk, Kreiter, Sinal, and Woods (1999) showed that middle school students who used alcohol were about five times more likely to carry a gun on school property. In these studies, aggression was school related but substance use was not.

In a search of the literature, we found only two published studies that examined the relationship between school-related substance use and school-related aggression. One study found that students who endorse pro-aggressive attitudes were more likely to engage in high-risk behavior such as substance use at school, physical fighting, and carrying weapons to school (Cornell & Loper, 1998). Although suggestive, these results do not directly indicate an association between school substance use and aggression at school. A second study showed that substance use at school was positively associated with school violence (Furlong, Casas, Corral, Chung, & Bates, 1997). However, the effects of nonschool and school-related alcohol use were analyzed separately, so their effects could not be compared.

Other Factors Related to Aggression in School

In addition to alcohol use, other factors must be considered. Research has shown that adolescent aggression is associated with individual characteristics

such as gender, race, personality, and academic orientation. All of these factors are considered in this study.

Gender and race. Men are more likely than women to engage in all forms of aggressive behavior (Sampson & Lauritsen, 1994) including overt bullying (Goldstein, 1999) and predatory forms of aggression (Ellickson, Saner, & McGuigan, 1997). Boys are more likely than girls to engage in physical fighting both on and off school grounds and to be injured in a fight (Snyder & Sickmund, 1999). Although the relation of race to school-related aggression has not received as much attention, results from a national study of youth show that Black and Hispanic students report higher levels of fighting at school than White students (Snyder & Sickmund, 1999). Gender and race were included as control variables in this study.

Personality characteristics. Defiant personality traits may increase the likelihood of engaging in verbal and physical acts of aggression at school. In particular, behavioral undercontrol has been found to be linked to deviant behavior and violent crime. Behavioral undercontrol is an inability or unwillingness to inhibit behavioral responses to cues of impending or possible punishment. Students with behavioral undercontrol act impulsively, are rebellious, and prone to risk-taking behaviors. This has been associated with adolescent aggression in both general settings (Farrington, 1989; Hays & Ellickson, 1996; White & Labovvie, 1994; Zhang, Wieczorek, & Welte, 1997) and in school settings (Dykeman, Daehlin, Doyle, & Flamer, 1996). Behavioral undercontrol has been positively associated with substance use (Cox, 1987; Hawkins, Catalano, & Miller, 1992). Consistent with past research, we hypothesized that impulsiveness, rebelliousness, and risk-taking behaviors will be positively related to aggression at school.

Academic orientation. Some research suggests that adolescents who have weak bonds with school are more likely to engage in delinquent acts. In one study of students in grade 12, interpersonal violence was associated with low academic orientation and dropping out of school (Ellickson et al., 1997). In a large-scale study of high school boys, Felson, Liska, South, and McNulty (1994) showed that students who resent school and devalue academic achievement may be more likely to engage in interpersonal violence and damage school property. Other studies found that students with low school grades were more likely to be delinquent than students with high academic achievement (e.g., Gottfredson, 1988; Hawkins & Lam, 1987). Likewise, having little confidence in one's ability to succeed in school may be associated with aggression among adolescents (Sankey & Huon, 1999). On the basis of these findings, we hypothesized that negative school orientations and experiences (low school identification, low academic self-efficacy, and low school grades) are associated with increased aggression at school.

Method

Participants and Procedures

Participants were 208 adolescents who volunteered to participate in a broad investigation of health-related behaviors and outcomes among adolescents in work and school settings. Students were recruited through advertisements at 37 high schools in Erie County, New York. To be eligible to participate in the study, an adolescent had to be between 16 and 19 years old, currently working for pay in a formal organization at least 5 hours per week, and a full-time student. Participants completed a self-report and an anonymous questionnaire, and they were compensated \$25 for their time.

A description of the sample is given in Table 1. The majority of the students attended public schools, and 93% of students were in grades 11 and 12. About half (54%) of the students attended schools in urban settings; 58% of students were enrolled in academic programs, and 15% and 20% were in general and vocational programs, respectively.

Because the sample was self-selected, we felt it was important to compare our sample to other large-scale databases. We compared students' reports of parental education level in our sample to 1997 U.S. census data on educational attainment levels for people 25 years or older. For students in the present study, about 31% of parents were high school graduates, 14% graduated from college, and 10% earned advanced degrees. Data from the 1997 Current Population Survey show that about 34% of adults were high school graduates, 16% were college graduates, and about 8% achieved advanced degrees. Reports of parental education level in this study are also comparable to those given by 10th grade students who participated in the U.S. Department of Education's National Education Longitudinal Study (NELS:88; see Ingels, Scott, Lindmark, Frankel, & Myers, 1992).

Regarding alcohol use and aggression, reports from students in the present sample were compared to self-reports from a representative sample of high school students in New York State who participated in the 1999 National Youth Risk Behavior Surveillance (YRBS; Kann et al., 2000). About 76% of students in the present study reported general alcohol use compared to 80% of students in the YRBS who reported some experience drinking alcohol. Furthermore, 25% of students in this study reported alcohol use during school hours, and 26% of students in the YRBS reported they had been offered, sold, or given an illegal drug on school property. Regarding aggression, 27% of students in the present study reported physical fighting with other students. About 15% of students (20% of male students) in the YRBS indicated they had been in a physical fight on school property. In general, there were no pronounced differences between the sample in the present study and other samples of adolescents.

Table 1. Demographic Characteristics of the Study Sample (N = 208)

Characteristic	%	Characteristic	%
Gender		Mother's Educational Attainment (con't.)	
Male	37	Graduated college	14
Female	63	Some graduate school	6
Race/Ethnicity		Graduate degree	11
White	65	Father's Educational Attainment	
Black	27	Less than high school	15
Hispanic	3	High school/GED	28
Other	5	Some college	28
Academic Year		Graduated college	15
Grade 9	1	Some graduate school	4
Grade 10	6	Graduate degree	10
Grade 11	34	Residence	
Grade 12	59	Both biological parents	50
Academic Program		Mother and male guardian	13
Academic	58	Father and female guardian	3
General	15	Mother only	25
Vocational	20	Father only	2
Other	7	Other	7
School Type		Alcohol Use	
Public	89	General	76
Private	11	School	25
Urbanicity^a		Interpersonal Violence	
Urban	54	Physical fight/teacher	6
Urban fringe	24	Verbal fight/teacher	45
Suburban	22	Physical fight/student	27
Mother's Educational Attainment		Verbal fight/student	63
Less than high school	8	Vandalism	
High school/GED	34	Damage school property	26
Some college	27	Stole school property	25

^aNumber of schools.

Measures

A summary of the measures in the study is given in Table 2, together with sample items. All scales were scored so that higher scores represent higher levels of the construct. All measures had adequate to high reliability indicating good internal consistency. A reliability coefficient greater than .70 is considered to be adequate for research purposes.

Table 2. Scale Reliability and Sample Items

Scale	Number of items	Reliability coefficient	Sample item	Range
Gender ^a	1	N/A	Male/female	0–1
Race ^b	1	N/A	White/minority	0–1
Rebelliousness	11	.86	Advice and recommendations make me want to do the opposite.	1–5
Risk taking	6	.84	I would like to try skydiving.	1–6
Impulsivity	6	.72	I often act without thinking.	1–6
School identification	16	.82	I feel proud of being part of my school; School is one of the most important things in my life.	1–6
Grades	1	N/A	Average grades across all classes last year.	1–12
Self-efficacy	8	.75	I have all the skills needed to do very well in school.	1–6
General	4	.92	How often do you drink alcohol?	0–7.50
School alcohol use	4	.86	How often do you drink alcohol before coming to school?	0–4
Interpersonal aggression	4	.74	How often do you get in physical fights with other students at school?	0–6
Vandalism	2	.83	How often do you damage school property?	0–6

Note. N/A = not applicable.

^a0 = male; 1 = female.

^b0 = White; 1 = minority.

Three measures of personality characteristics were assessed. Rebelliousness is the extent to which individuals are defiant and frustrated when they are exposed to regulations, cannot freely govern their behavior, or cannot initiate independent decisions. Risk taking is the extent to which individuals regard risky situations and behaviors as exciting and pleasurable. Impulsivity is the extent to which individuals behave on the spur-of-the-moment with little forethought for the consequences of their behavior.

The study included two measures of academic attitudes that indicated the degree to which students valued outcomes that schools provide and the degree to which students believed they had the ability to achieve those outcomes. School identification is the extent to which students feel a sense of belonging and valuing in school; it was assessed with the 16-item Identification with School Questionnaire (Voelkl, 1996). High scores on this scale represent strong bonds with school and positive feelings about the importance of school.

Academic self-efficacy is the extent to which students believe they are able to successfully perform in school.

The study included two measures of alcohol use, one reflecting general (i.e., nonschool) use and the other reflecting school-related use. General alcohol use is the extent to which students report they used or were impaired by alcohol during the past school year. It comprised four items that measured the use of alcohol on a typical day: the quantity of drinking, the frequency of overall drinking, the frequency of heavy drinking, and the frequency of getting very drunk. School alcohol use is the extent to which, during the past school year, students report they used or were impaired by alcohol during the school day. The measure assessed the frequency of drinking alcohol before coming to school, on school grounds between classes, off school grounds between classes, and being high or under the influence of alcohol during regular school hours.

The study included two outcome measures of aggression in the school context. Interpersonal aggression is the extent to which students reported they engaged in aggressive acts against students or teachers at school during the past school year. The measure assessed four types of interpersonal aggression: physical fighting at school with teachers, serious arguments at school with teachers, physical fighting at school with other students, and serious arguments at school with other students. Vandalism of school property is the degree to which students reported they damaged or stole school property during the past school year.

Finally, race (i.e., White or minority), gender, and students' average grade across all courses for the past school year were recorded for all participants.

Data Analysis

This investigation used a special form of regression analysis (tobit regression) to study aggression in school. Tobit regression was developed by economists to model dependent variables that are highly skewed (Greene, 1993; Long, 1997; see Frone, Cooper, & Russell, 1994 for an application). In this study, the aggression variables were skewed because they had a lower limit value of zero and have a large proportion of the sample at that limit. The proportion of respondents having scores of zero on interpersonal aggression and vandalism were 29% and 65%, respectively. These data met the assumptions of tobit regression better than those of ordinary least squares regression which assumes normally distributed dependent variables.

Four sets of predictor variables were entered into the regression model in the following order: The two demographic variables were entered at step 1, followed by the three personality variables in step 2, then the three academic predictors in step 3, and lastly the two alcohol use predictors in step 4. The order of predictor variables placed in the regression equation was

selected so that variables of primary interest were entered last. Both types of alcohol use (general and school) were entered in the same step to test whether one type of alcohol use had a predominant effect over the other. The outcomes in this study were the two types of aggression at school—interpersonal aggression and vandalism of school property—and were tested in separate regression models.

Results

The correlations among the measures are given in Table 3. The relationship between interpersonal aggression and vandalism was fairly strong ($r = .63$) indicating that students engage in multiple forms of aggression at school. Higher levels of aggression were reported by male students, but race was unrelated to aggression. Rebelliousness, risk taking, and impulsivity were positively related to both forms of aggression. Students with stronger bonds with school and who had higher grades were similarly less likely to engage in aggressive behaviors at school (r 's = $-.45$ to $-.49$). Most important, students who reported higher levels of alcohol use both on and off school grounds were more likely to be aggressive at school than students who reported lower levels of alcohol use.

The tobit regression results and effect sizes are summarized in Table 4. Overall, the results for the two types of school aggression were similar. Gender was significantly related to both outcomes but race was not. Male students were more likely to engage in interpersonal aggression and damage school property than were female students. About 88% of male participants reported verbal and physical fights at school compared to 61% of female participants. Similarly, 58% of male students engaged in acts of vandalism at school compared to 22% of female students.

The overall tests of significance for the three personality factors were significant for both aggression outcomes ($\chi^2 = 11.17$, $p < .05$; $\chi^2 = 20.51$, $p < .01$). Students who have rebellious personality characteristics were more likely to engage in interpersonal aggression and vandalism at school than students who have lower levels of rebelliousness. The sizes of the effects were .18 and .23 standard deviations, respectively, which indicated weak to moderate, but statistically reliable, relationships.

The addition of academic predictors contributed significantly to explaining both forms of aggression. Both interpersonal aggression and vandalism at school were more likely to occur among students with low levels of school identification and poor school achievement. Stated another way, students who had strong attachments to school and who had higher achievement were less likely to behave aggressively in school than those with little regard for school and low grades. Of these two predictor variables, school identification had a stronger relationship with aggression than did school

Table 3. Correlations Among Study Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Interpersonal	—											
2. Vandalism	.63*	—										
3. Gender ^a	-.44*	-.43*	—									
4. Race ^b	.07	-.05	-.04	—								
5. Rebelliousness	.17*	.23*	-.01	-.09	—							
6. Risk taking	.15*	.29*	-.15*	-.35*	.25*	—						
7. Impulsivity	.15*	.21*	-.13*	-.07	.31*	.32*	—					
8. Identification	-.44*	-.49*	.24*	.12	-.30*	-.22*	-.24*	—				
9. Grades	-.45*	-.45*	.37*	-.12	-.14*	.01	-.16*	.44*	—			
10. Self-efficacy	-.26*	-.13	.06	.04	-.08	-.03	-.16*	.35*	.34*	—		
11. General use	-.38*	.35*	-.23*	-.28*	.15*	.30*	.18*	-.31*	-.22*	-.14*	—	
12. School use	.49*	.50*	-.26*	.01	.19*	.17*	.14*	-.31*	-.23*	-.04	.48*	—

^a0 = male; 1 = female.

^b0 = White; 1 = minority.

* $p \leq .05$.

grades. This suggests that creating a positive school climate that promotes students' attachment to school can decrease negative school behaviors. Students' belief in their academic ability was not significantly related to either form of aggression.

Finally, the overall test was also significant for alcohol use ($\chi^2 = 23.19$, $p < .01$; $\chi^2 = 10.51$, $p < .01$). Alcohol use was positively associated with both forms of aggression above and beyond all other variables. The results for the individual predictors revealed that school-related alcohol use was positively related to both interpersonal aggression at school and to vandalism of school property. The size of the effect was modest for both outcomes (.23 and .17 standard deviations, respectively). Conversely, general alcohol use was not significantly related to either form of aggression at school. Although the correlations showed that both general and school-related alcohol use were significantly related to interpersonal aggression and vandalism (see Table 3), the regression results showed that general alcohol use was not related to school aggression after controlling for the effects of school-related alcohol use. These results point to the importance of considering the context (i.e., school) for alcohol use when examining the relationship between alcohol use and aggression.

Discussion

The relationship between alcohol use and aggression may be different in school and nonschool settings. The school, like the workplace, is an "achievement

Table 4. Tobit Regression Results

Predictor	$\Delta\chi^2$	Aggression	$\Delta\chi^2$	Interpersonal vandalism
Step 1: Demographic	45.36**		41.67**	
Gender ^a		-.45**		-.48**
Race ^b		.07		-.06
Step 2: Personality	11.17*		20.51**	
Rebelliousness		.18**		.23**
Risk taking		.02		.15
Impulsivity		.06		.07
Step 3: Academic	39.50**		34.50**	
Identification		-.27**		-.32**
Grades		-.15*		-.19**
Self-efficacy		-.10		.04
Step 4: Alcohol use	23.19**		10.51**	
General use		.10		.04
School use		.23**		.17**

Note. Standardized tobit regression coefficients are reported.

^a0 = male; 1 = female.

^b0 = White; 1 = minority.

* $p \leq .05$.

** $p \leq .01$.

setting," a structured environment where personal performance and achievement are continually monitored and evaluated. In achievement settings there are clear expectations for performance, a preestablished authority structure, and clear rules for behavior and consequences for not following rules.

Perhaps the most surprising findings from this study were that (a) interpersonal aggression and vandalism at school were related to alcohol use during school hours even after controlling for general alcohol use, and (b) school aggression was not significantly associated with alcohol use in non-school settings. Thus, aggressive acts at school are related to alcohol use specifically when drinking occurs in school settings. This research does not suggest that drinking outside of school is unrelated to other school behavior and learning. However, it does suggest that alcohol use may not have a "blanket effect" on all adolescent behavior.

Alcohol use in achievement settings may be related to aspects of the environment. For example, drinking at work is more likely when drinking is tolerated by coworkers, when work is boring or stressful, when there is low social control at work, and when illicit substances are physically and socially available (Ames & Janes, 1992; Frone, 1999). In school, alcohol is more likely to be

used by adolescents when the school environment affords students the opportunity to drink without detection by school officials (Voelkl & Frone, 2000).

This study raises several important issues for school administrators. First is the need for administrators to be increasingly aware of substance use problems at school. The problem of adolescent substance use is widely recognized. Results from the Phi Delta Kappa/Gallup poll of the public's attitudes toward public schooling showed that discipline problems and substance use were regarded as two of the top four problems in American schools (Rose & Gallup, 2002). However, school personnel may not be fully aware of the extent to which students use alcohol and drugs on school property (Califano & Booth, 1997). It has been shown in other research that alcohol and drug use are more likely to occur in suburban schools and in schools serving non-minority populations (Skager & Fisher, 1989). Administrators' awareness of the problem may be especially important in schools where the presence of alcohol and drugs is likely but not apparent.

Second, school administrators must be consistent and fair when dealing with students who use alcohol and other drugs in school. Discipline policies that are perceived as fair are more likely to promote positive student behavior. For example, one national survey found that students perceived their schools as safer from violence and substance use when they believed the school rules were fair and effective (Kimweli & Anderman, 1997). It is important that school administrators have a defined approach to discipline, convey clearly their expectations to students, and foster open communication between teachers and administrators.

The use of zero-tolerance policies in schools is widespread because they are firm and appear to be fair to all. However, the effectiveness of these policies has been questioned. Researchers argue that strict adherence to these policies increases student suspensions without providing rehabilitation, and that there is little evidence to show that zero-tolerance strategies improve student behavior and school safety (Ayers, Dohrn, & Ayers, 2001; Holloway, 2002; Skiba, 2000). Indeed, zero-tolerance policies isolate the individual student but do not have a remedial component. The most effective disciplinary policies, besides being fair and consistent, should also be instructive.

General drug and alcohol prevention programs are widespread in schools, but they have limited impact (Gottfredson, Gottfredson, & Czeh, 2000). Most are aimed at overall substance use rather than substance use in school settings. Prevention efforts could be enhanced by integrating them into the normal school operations through improved staff training and better standardization of prevention methods. In addition, more comprehensive school-based approaches to substance use and violence prevention are needed. For example, programs that teach students resistance skills are likely to have a greater effect on reducing substance use in school than traditional antidrug rhetoric.

The key to keeping schools safe and free of illicit substances may be to create positive school climates characterized by positive relations between students and staff members and clear disciplinary policies (Cantor et al., 2002). That study found that students who disidentify from school are at greater risk for alcohol problems and aggression. Programs that reconnect students to school and strengthen their coping skills have been successful in helping students resist substance abuse, for example, the Life Skills Training, Project ALERT, and Second Step: A violence prevention curriculum (see www.ed.gov/offices/OSDFS). Characteristics of the programs include teaching self-management and drug-resistance skills, identifying pressures to use alcohol and drugs, and teaching impulse control and anger management. Effective programs may also encourage school connectedness by teaching prosocial skills and respect for others. Many of these programs begin in the elementary and middle school years to prevent adolescents from beginning drug use or becoming regular users, and to buffer risk factors that have been shown to predict problem behavior.

School-related drug and alcohol use present a unique problem for educators, and one that may not be receiving adequate attention. Substance use in school may be a larger problem than many school administrators think. Increasingly, reports from students and school administrators confirm that schools are places where drugs and alcohol are present. However, further research is needed to answer questions that remain. For example, what school characteristics are associated with substance use in school? What school sanctions are needed to effectively increase school safety? What individual factors lead to students' defiance of school rules regarding substance use? The early detection of alcohol and other drugs on school property in addition to fostering student's emotional and behavioral attachment to school may serve as preventive factors for school aggression. 🐼

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