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Substance Use in a Rural High School: Perception and Reality

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INTRODUCTION

Parents and educators have been pleased that overall, adolescent substance abuse has been in decline in recent decades. Large-scale surveys conducted by Parents' Resource Institute for Drug Education (PRIDE), the Department of Health and Human Services (DHHS), National Survey on Drug Use and Health (NSDUH), Monitoring the Future (MTF), and the Centers for Disease Control and Prevention (CDCP) indicate that alcohol and drug use has declined (CDCP 2011; DHHS 2008; Johnston, O'Malley & Schulenberg 2011; PRIDE 2008).

Despite these downward trends, alcohol and drug use among youth remains a serious social problem in the United States. For example, in a national survey, 21.9% of high school students stated that they had consumed five or more drinks of alcohol in a row within a couple of hours on at least one occasion in the past 30 days (CDCP 2011). Another 23.1% stated that they had used marijuana one or more times in the past 30 days. In another national survey, 15.0 % of high-school seniors used a prescription drug, such as Ritalin, Adderall, Vicodin, or Dextromethorphan, non-medically in the past year (Johnston et. al., 2011). These data indicate that much work needs to be done in order to curb adolescent alcohol and drug use.

Because of the significant amount of time children spend there, schools have become primary sites for anti-drug intervention programs. Schools across the country have implemented numerous anti-drug programs with varying degrees of success. Some of the components of these interventions include teaching students life skills, developing peer refusal techniques, role-playing, strengthening positive peer relationships, provision of accurate data for alcohol and other drug use, and support to improve the adolescents' emotional regulation. Unfortunately, many of these programs have little or no effect. Spoth and colleagues (Spoth, Greenburg & Turrisi, 2009) found that out of more than 400 alcohol and drug intervention studies, only 127 could be evaluated for efficacy, and only 41 showed some evidence of effects.

We argue that one problem with many of these interventions is that they are "blanket" approaches that disregard geographic location, grade-level, and gender. This analysis provides a more nuanced understanding of students' alcohol and drug use and abuse as it occurs in a rural high school. Additionally, we compare students' alcohol and drug use and abuse to students', teachers', and administrators' perceptions of alcohol and drug use and abuse. With these data, educators and program directors can provide a more targeted approach to curbing alcohol and drug use and abuse among adolescents.

SOCIAL NORMS THEORY

H. Wesley Perkins has shed much light on the reasons many young people use drugs. Along with Berkowitz (1986) he developed Social Norms Theory to understand the effects that social norms have on group members. According to the theory, much of people's behavior is influenced by their perception of how others in their social group behave. Because we evaluate ourselves by whether or not we are meeting others' expectations, we feel continual pressure to align our behaviors with those of our peers. If healthy behavior is perceived to be the standard among peers, the social urge to conform will compel group members to participate in healthy behavior. If unhealthy behavior is perceived to be the standard, however, group members are at greater risk of partaking in these behaviors.

A key aspect of the theory is that *perception*, rather than *reality*, is the primary determinant of people's behavior. An individual with the belief that fellow group members are using drugs is more likely to use drugs – even if no members actually use drugs. It may also be the case that the individual increases their drug use based on exaggerated perceptions of the group's level of drug use. Invariably, these types of misconceptions are common because people lack complete information about their peers. Consequently, people often speculate about peers' behaviors and attitudes. While these speculations may occasionally be correct, much of the time they are not.

Perkins and colleagues (Perkins 1997; Perkins, Haines, & Rice 2005) argue that students are at high risk for drug use because of the strong pressures to conform to peer norms. The importance of peer judgments is elevated for adolescents because peer influence is so strong in determining personal behavior at this age (Kandel 1980; 1985). Furthermore, misperceptions of peer norms can be especially harmful if students believe that various forms of heavy drug use are widespread. Indeed, research by Perkins and colleagues (Perkins and Wechsler 1996; Perkins et al., 2005), as well as others (Borsari and Carey 2001; Carey, Borsari and Maisto 2006), demonstrates that students consistently exaggerate their levels of drug use among their peers. Perkins (1997) argues that this “reign of error” pushes more students into high risk drug use than would otherwise be the case. Furthermore, students who already use drugs at a high level are likely to think that this high-risk behavior is common among their peers.

Much research lends support to Social Norms Theory since its development 25 years ago. For example, Goe, Napier, and Bachtel (1985) found that the primary reason for drug use among rural youth from two counties in Southern Georgia was “because friends do.” Aas and Klepp (1992) found that opinions attributed to both friends and parents about adolescents' alcohol use were significantly related to the students' own alcohol use. Estimated behavior norms and attributed opinion norms explained 46% of the observed variance in students' self-reported frequency of drinking. Connell and colleagues (Connell et al., 2010)

conducted a study of non-metropolitan 9th and 10th grade students in New England and found that youth report of peer substance use had large effects on various forms of substance use.

In perhaps the most comprehensive assessment of Social Norms Theory, Perkins and colleagues (Perkins et al., 2005) conducted a nationwide study of student drinking based on more than 76,000 students attending 130 colleges and universities. They found that students' perception of how much other students drank at parties and bars was the strongest predictor of personal quantities of alcohol consumed in these situations in simultaneous comparison with the predictive value of all demographic variables including gender, age, year in school, race, fraternity/sorority membership, school region, and amount of time the student spent working for pay or volunteering. Furthermore, the study demonstrated that the perceived peer drinking norm was far more powerful in predicting personal drinking behavior than was the actual norm on the local campus in simultaneous multivariate comparisons. In other words, whatever the individual perceived to be the norm for amount consumed at the local college or university accounted for much more of the variation in students' personal drinking than did the actual normative amounts being consumed locally. The contextual effect of being in a relatively low-drinking or high-drinking campus environment was small compared to the effect of whether the student thought peers on their campus were drinking more moderately or more heavily.

In the next part of this paper we discuss how the data were collected, the survey questions asked of participants, and demographic information about the participants. After outlining our methodology, we provide the results focusing on 1) the overall reality and perception of student alcohol and drug use, 2) grade-based differences in the reality and perception of student alcohol and drug use, 3) gender differences in the reality and perception of student alcohol and drug use, and 4) teacher and administrator perceptions of student alcohol and drug use. In the discussion section, we outline some possible intervention strategies in light of our findings.

METHODS

PARTICIPANTS AND PROCEDURES

This study consisted of 636 (valid cases) rural high school students and 61 teachers and administrators in the southeastern region of Georgia. Because the survey was completed during the first week of school, these students comprised almost the entire student population (793). The students were placed at computers and assured confidentiality before beginning the survey. Then, they were asked a variety of questions, including demographics, reporting their own alcohol and drug use and abuse, the percentage of friends and classmates they believed used

and abused alcohol and drugs. No alcohol or drug intervention programs were being utilized at the school at the time of this study. Additionally, 61 teachers and administrators were asked to estimate the alcohol and drug use and abuse of the student body.

DEMOGRAPHICS

Of the 636 students, 348 (54.7%) were male and 288 (45.3%) were female. The ethnic make-up of the high school was 492 (77.4%) Caucasian, 95 (14.9%) Black, and 49 (7.7%) Pacific Islanders, Asians and others. There were 196 (31%) students in the freshman class, 130 (20%) students in the sophomore class, 157 (25%) students in the junior class, and 153 (24%) were seniors.

RESULTS

This section includes descriptive statistics and analyses pertaining to students' overall self-reported alcohol and drug use and abuse, students' overall perceptions of peer alcohol and drug use and abuse, grade-based differences in alcohol and drug use and abuse, and their perceptions of peer alcohol and drug use and abuse. We also look at gender differences in alcohol and drug use and abuse and perceptions of peer alcohol and drug use and abuse and teachers and administrators' perceptions of student alcohol and drug use and abuse in the past 30 days.

STUDENTS' REALITY

In Table 1 we provide data for actual student alcohol and drug use and abuse as well as students' perceptions of their peers' alcohol and drug use and abuse. The percentages will not add up to 100% because of student abstinence from drug and/or alcohol use. In terms of actual alcohol and drug use, over one-third (33.9%) of the 636 students reported using alcohol in the past thirty days. This percentage is slightly lower than the national high school average of 41.8% (CDCP 2011). While the national average for marijuana use in the past 30 days is 20.8%, only 17.9% of our rural students reported the same usage. Unfortunately, studies using different measures of "pharmaceutical drugs" make it problematic to compare the national average to our rural school. However, the percentage of students in our study who reported using prescription drugs that had not been prescribed to them in the past 30 days is 9.6%.

STUDENTS' PERCEPTIONS

In terms of students' perceptions of peer alcohol and drug use and abuse, Table 1 shows that the perception of student alcohol use was 62.3%, which is a 28.4% difference from actual student use of 33.9% within the last thirty days. Student

perception of marijuana use was 57.7%, which is a 39.8% difference from actual student use of 17.9% within the last thirty days. Student perception of prescription drugs was 49.8%, which is a 40.1% difference from the actual student use of 9.7% in the last thirty days. Overall, student perception of substance use among their peers was consistently greater than actual use reported.

Table 1. Students' Perception and Reality of Use (Past 30 Days)

<u>Alcohol</u>		<u>Marijuana</u>		<u>Prescription Drugs</u>	
Reality	Perception	Reality	Perception	Reality	Perception
33.9%	62.3%	17.9%	57.7%	9.7%	49.8%
(216)	(396)	(114)	(367)	(62)	(317)

GRADE-BASED DIFFERENCES

Freshmen. Table 2 shows alcohol, marijuana and prescription drug use in the past thirty days among 196 freshmen. Actual alcohol use was 21.9%. This differed from perception of overall student use (63.8%) and perception of friends' use (20.9%). Actual marijuana use was 11.7% and also differed from perception of overall student use (59.7%) and perception of friends' use (18.9%). Actual prescription drug use was 6.6% and differed from perception of overall student use (53.6%) and perception of friends' use (12.2%). The figures indicate that freshmen were therefore more likely to overestimate the overall student population's use of alcohol, marijuana and prescription drugs than they were to overestimate their friends' use. Because this survey was completed on the first week of class, freshmen had little information on which to base their assessments. Consequently, they were more likely to rely on stereotypes of high school students as heavy-drinkers.

Sophomores. More sophomores than freshmen reported using alcohol. Of the 130 sophomores, 33.8% reported using alcohol during the past thirty days. This differed from the perception of overall student use (50%) and perception of friends' use (26.9%). Actual marijuana use was 17.7% and also differed from perception of overall student use (51.5%) and perception of friends' use (23.1%). Actual prescription drug use was 12% and differed from perception of overall student use (44.6%) and perception of friends' use (13.1%). The sophomore class was the only class where friend perception of alcohol use was less than the actual reported use. In all other categories sophomores were also more likely to overestimate overall student marijuana and prescription drug use than they were to overestimate their friends' use.

Juniors. Of the four grade levels, alcohol and marijuana use was highest among the junior class. Of the 157 juniors, 43.9% used alcohol in the past thirty days. This differed from perception of overall student use (61.1%) and perception

of friends' use (45.9%). Actual marijuana use was 22.9% and also differed from perception of overall student use (59.2%) and perception of friends' use (37.6%). Actual prescription drug use (i.e. prescription drugs that had not been prescribed to them) is 10% and differed from perception of overall student use (52.2%) and perception of friends' use (17.8%). Consistent with freshmen and sophomores, juniors also were more likely to overestimate the overall student population's use of alcohol, marijuana and prescription drugs than they were to overestimate friends' use.

Seniors. Of the 153 seniors 39% used alcohol in the past thirty days. This differed from overall student perception of use (67.3%) and friends' perception of use (39.9%). Actual marijuana use was 21% and also differed from perception of overall student use (56.9%) and perception of friends' use (29.1%). Actual prescription drug use was 11.1% and differed from perception of overall student use (45.1%) and perception of friends' use (19.6%).

Of all four grades, prescription drug use was highest among seniors at 11.1%. Again, consistent with all other classes, seniors were as likely to overestimate overall student use of alcohol, marijuana and prescription drugs while less likely to overestimate friends' use.

Because students are more familiar with friends than the overall student population, it comes as no surprise that students were twice as likely to misjudge the drinking behavior of the entire student body. While student estimations about friends' prescription drug use was about half of their estimations for alcohol and marijuana, students were three times as likely to overestimate the prescription drug use of the student population.

Table 2. Perceptions of Friends' (F) and Students' (S) Use of Alcohol/Drugs and the Reality of Students' Use by Grade (Past 30 Days)

Grade	Alcohol			Marijuana			Prescription Drugs		
	Reality	Perception (S)	Perception (F)	Reality	Perception (S)	Perception (F)	Reality	Perception (S)	Perception (F)
9th	21.9% (43)	63.8% (125)	20.9% (41)	11.7% (23)	59.7% (117)	18.9% (37)	6.6% (13)	53.6% (105)	12.2% (24)
10th	33.8% (44)	50.0% (65)	26.9% (35)	17.7% (23)	51.5% (67)	23.1% (30)	12.0% (16)	44.6% (58)	13.1% (17)
11th	43.9% (69)	61.1% (96)	45.9% (72)	22.9% (36)	59.2% (93)	37.6% (59)	10.0% (16)	52.2% (82)	17.8% (28)
12th	39.0% (60)	67.3% (103)	39.9% (61)	21.0% (32)	56.9% (87)	29.1% (45)	11.1% (17)	45.1% (69)	19.6% (30)

GENDER DIFFERENCES

Females. Of the 636 total students, 45.3% were female. Table 3 indicates that 29.2% used alcohol in the last thirty days. This differed from perception of overall student use (69.8%) and perception of friends' use (31.3%). 14.2% of the female population indicated marijuana use during the past thirty days. This again differed from the perception of overall student use (68.4%) and perception of friends' use (24.3%). Prescription drug use is 9% and differed from perception of overall student use (57.3%) and perception of friends' use (17.4%). Females were much more likely to inflate the use of alcohol and drugs by the student body.

Males. Males comprised 54.7% of the student population. 37.9% had used alcohol in the last thirty days. This differed from perception of overall student use (56%) and perception of friends' use (33%). Actual marijuana use was 21% and differed from perception of overall student use (48.9%) and perception of friends' use (37.6%). Actual prescription drug use was 10.3% and differed from perception of overall student use (43.7%) and perception of friends' use (15.2%). Though males were less likely than females to inflate student body use of alcohol, marijuana and prescription drugs they still overestimated drug use both among their friends and in the overall student body.

Table 3. Perceptions of Friends' (F) and Students' (S) Use of Alcohol/Drugs and the Reality of Students' Use by Gender (Past 30 Days)

Gender	Alcohol			Marijuana			Prescription Drugs		
	Reality	Perception (S)	Perception (F)	Reality	Perception (S)	Perception (F)	Reality	Perception (S)	Perception (F)
Male	37.9% (132)	56% (195)	33% (115)	21% (73)	48.9% (170)	37.6% (131)	10.3% (36)	43.7% (152)	15.2% (53)
Female	29.2% (84)	69.8% (201)	31.3% (90)	14.2% (41)	68.4% (197)	24.3% (70)	9% (26)	57.3% (165)	17.4% (50)

TEACHER AND ADMINISTRATORS' PERCEPTIONS

Teacher and administrator perceptions of student alcohol and drug use are of paramount importance because these school officials can introduce school initiatives to reduce consumption, and can bring discussions about alcohol and drugs into the classroom. Additionally, these perceptions may affect interactions with students and impinge upon pedagogical effectiveness. There were 61 teacher and administrator responses, and, when compared with Table 1: Alcohol use was perceived at 47.5%, an overestimation of 13.6% when compared to actual reported use. Similarly, among administrators and teachers, marijuana use was perceived at 34.4%, also an overestimation of 16.5% when compared to actual reported use. Prescription drug use was perceived at 37.7%, an overestimation of

28% when compared to actual reported figures. These overestimations of substance abuse in rural schools are an indication that teachers and administrators are disconnected from their students. But it should be pointed out that teachers' estimates are closer to reality than student estimates. Questions that can be raised are why a detachment between students and officials is present, and how that connection can be mended.

	<u>Perception</u>
Alcohol	47.5% (29)
Marijuana	34.4% (21)
Prescription Drugs	37.7% (23)

DISCUSSION

An enormous amount of effort, money, and time have been spent in the United States implementing alcohol and drug prevention programs in schools. Unfortunately, many of these programs have resulted in minimal or no long-term effects (Spoth et al., 2009). One reason that many of these programs have been ineffectual is that they focus on the general student populations, and take a one-size-fits-all “blanket” approach. Few institutions employ a grade-specific or gender-specific approach to preventing substance abuse (Stigler et al., 2011).

Grade-specific approaches are likely to be more successful because students in different grades experience unique pressures, and are at different social and psychological stages of development. Additionally, students are at greater risk for particular drugs depending on the grade they are in. For example, intervention programs that focus on abstaining from alcohol and drugs may benefit freshmen and sophomores, whereas programs emphasizing reduction of alcohol and drug use may be more likely to benefit juniors and seniors.

Similarly, gender-specific approaches are likely to be more effective because that high school boys and girls in the same grade are at different social and psychological stages of development. High school boys and girls experience different pressures, and these pressures need to be addressed in gender-specific intervention programs. Additionally, boys and girls are at greater risk for particular drugs as they pass each grade in high school. For example, our analysis reveals that high school boys are at greater risk for marijuana use than high school girls. Intervention programs that take this data into account are likely to be more effective.

Of primary importance when implementing grade- and gender-specific approaches is promoting awareness about peer alcohol and drug use (or lack

thereof). As research demonstrates that students consistently overestimate peer drug use (Aas and Klepp 1992; Perkins et al., 2005), it is imperative that they are provided accurate information so that their future behaviors are not guided by misperceptions about the overuse of peers' alcohol and drug use. Research assessing social norms theory indicates that if students overestimate their peers' alcohol and drug use, these students are at greater risk of using alcohol and drugs themselves. Conversely, students who are made aware of the large number of students who do not use alcohol and drugs may be less likely to use.

Additionally, it is important that teachers and administrators are made aware of student alcohol and drug use, as well as students' perceptions about alcohol and drug use. Because of the large amount of time spent with students and the intensity of interaction, teachers and administrators are ideally situated to educate students about the risks associated with alcohol and drug use. Teachers and administrators who overestimate student substance use may become depressed, cynical, or angry at the notion that a vast proportion of the student body are substance abusers. These feelings could lead to self-fulfilling prophecy effects whereby teachers and administrators expect deviant behavior from students, and act in ways that elicit deviant behavior. Future research should address whether teacher and administrator overestimates of student substance use elicits deviant behavior.

Finally, we recommend the use of a prevention approaches that utilize primary, secondary and tertiary interventions (Lewis, Dana and Blevins, 2015). Primary interventions involve preventative programs aimed at averting initial use. Secondary interventions involve early identification of users, and aim at prevention of more serious alcohol and drug use and abuse. Tertiary programs target current users, and involve treatment options including relapse prevention for those who are identified by others or self-identify as having a problem with alcohol or drugs. Each one of these prevention strategies should be driven by the data. For example, our data indicate that the junior class self-reported the highest percentage of alcohol and marijuana use. Additionally, males self-reported the highest percentage of alcohol and marijuana use. Thus, in both cases it would likely be beneficial to include secondary and tertiary prevention with these two groups. This methodology moves us away from a "blanket" approach to targeted prevention and intervention strategies.

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