

# Do High Schools Implementing SWPBIS Have Lower Rates of Illegal Drug and Alcohol Use?

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School-wide positive behavioral interventions and supports (SWPBIS) is a systems-level framework for improving social and academic outcomes for students in schools through the use of integrated evidence-based practices (Sugai & Horner, 2009). Although the effects of SWPBIS are well-documented in elementary schools (Horner, Sugai, & Anderson, 2010), there is increasing interest in implementing SWPBIS in high schools (Bohanon et al., 2006; Flannery, Sugai, & Anderson, 2009). SWPBIS has been shown to significantly reduce problem behaviors in high schools (Flannery, Fenning, Kato, & McIntosh, 2014), but administrators, staff, and families in high schools often have a broader set of desired outcomes.

As an example, stakeholders in high schools are often interested in preventing drug and alcohol abuse. According to a survey conducted by the Centers for Disease Control and Prevention (2011), over 25% of high school students reported that illegal drugs were being offered or sold on school property. To assist high schools in decreasing these increasingly complex problem behaviors, it is encouraged that schools focus on effective, school-wide approaches to preventing substance abuse (Biglan, Hinds, & Cody, 2010).

To that aim, it is worthwhile examining whether existing frameworks used in high schools may have effects on these outcomes.

This evaluation brief investigated the effects of SWPBIS implementation on reported illegal drug and alcohol use in high schools. The specific question examined for this evaluation brief was: to what extent do high schools implementing SWPBIS have lower reported use of illegal drugs and alcohol?

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## Method

### Sample

The sample included 48 public high schools from 11 U.S. states and one U.S. territory, (Guam) during the 2013-14 school year. Individuals in all of the schools completed the School Safety Survey (Sprague, Colvin, & Irvin, 2002). Across the 48 high schools, 1210 surveys were completed, with an average of 24 responses per school. Of schools with complete data from the National Center for Educational Statistics (NCES), the average enrollment was 691, and the mean percent of students by racial/ethnic group

was as follows: 1% American Indian/Alaska Native/Native American, 2% Asian, 14% Black/African American, 14% Hispanic/Latino, 3% multi-racial, 2% Pacific Islander and 64% White/Caucasian. Across the schools, 7.9% were located in a city, 26.3% were suburban, 28.9% were in towns, and 36.8% were located in rural areas. Additionally, the average proportion of students receiving free or reduced-price meals was 43%. In the sample, 68.4% were Title I eligible.

**Table 1**  
*Descriptive Statistics for Schools by Level of SWPBIS Implementation*

School Demographics	At or Above Implementation Criteria		Below Implementation Criteria	
	<i>M or %</i>	<i>SD</i>	<i>M or %</i>	<i>SD</i>
<b>Enrollment</b>	722	596	666	462
<b>Percent of Students Receiving Free or Reduced Lunch</b>	41%	20%	40%	20%
<b>% of Non-White Students</b>	37%	34%	40%	34%
	<b>Urbanicity</b>			
<b>City</b>	29%		8%	
<b>Suburb</b>	16%		13%	
<b>Town</b>	13%		13%	
<b>Rural</b>	5%		4%	

*Note. School demographic data were available from NCES for between 77% and 100% of the sample, depending on the variable.*

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## Measures

### Substance Use

The Oregon School Safety Survey version 2.0 is an instrument for measuring perceived school safety from school staff (e.g., teachers, administrators, and classified staff) (Sprague et al., 2002). This survey provides a summary of risk and protective factors related to school safety and violence prevention. The first part of the survey asks school staff to rate risk levels for 17 items (e.g., illegal drug and alcohol use, truancy, gang activity) on a scale from 0 to 3 (0 = “not at all,” 1 = “minimally,” 2 = “moderately,” 3 = “extensively”). This study focused on the responses for item #14 – “Illegal drug and alcohol use.” The overall School Safety Survey has strong internal consistency ( $\alpha = .90$ ) and has been used as an index of school safety (Laxton & Sprague, 2005).

### PBIS Fidelity of Implementation

Each school in the sample was identified as either at or below SWPBIS implementation criteria using a procedure based on descending order of evidence of reliability and validity (McIntosh et al., 2013). If schools reported School-wide Evaluation (SET; Sugai, Lewis-Palmer, Todd, & Horner, 2001) data, the SET criteria (80% teaching and 80% overall implementation or higher) were used. If schools did not report SET data, the School-wide Benchmarks of Quality (Kincaid, Childs, & George, 2005) and its criterion (70% or higher) was used. If schools did not report SET or Benchmarks of Quality scores, the Self-Assessment Survey (Sugai, Horner, & Todd, 2000) and its criterion (80% or higher) was used. If schools did not report scores from the previous three measures, the Team Implementation Checklist (Sugai, Horner, & Lewis-Palmer, 2001) and its criterion (80% or higher) was used.

## Analyses

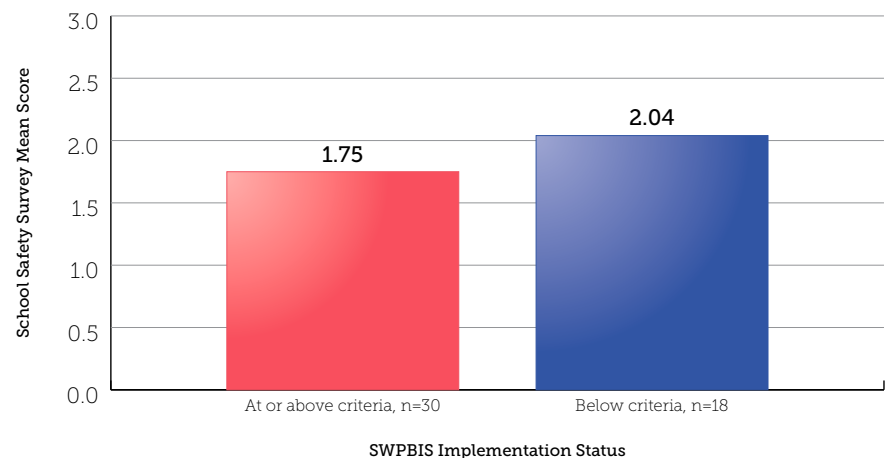
To evaluate differences in illegal drug and alcohol use in schools implementing versus not implementing SWPBIS, we compared scores on the School Safety Survey. To assess substance abuse, we used an independent samples t-test for responses reported on item 14. For the analysis, we computed Cohen’s  $d$  (Cohen, 1988) as a measure of effect size, or the strength of the difference.

## Results

Results of the t-test are shown in Figure 1. The analysis showed a statistically significantly lower reported use of illegal drugs and alcohol in high schools implementing SWPBIS at or above criterion (average score = 1.75; between minimal and moderate risk) as compared to below criterion (average score = 2.04; moderate risk),  $t(41) = -2.35$ ,  $p = .023$ ,  $d = 0.61$  (between a medium and large difference).

Figure 1

*Reported Prevalence of “Illegal Drug and Alcohol Use” in High Schools by SWPBIS Implementation Status*



*Note: Lower scores indicate lower perceived substance abuse.*

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## Discussion

This evaluation brief investigated the effects of SWPBIS on substance abuse as measured by an item on the School Safety Survey (Sprague et al., 2002). Schools implementing at or above criteria for SWPBIS implementation reported significantly lower illegal drug and alcohol use than schools below criteria. To our knowledge, these are the first reported results regarding substance abuse differences in high schools implementing SWPBIS.

It is important to note that this study was a cross-sectional, quasi-experimental evaluation of effects of SWPBIS. As such, there are a number of other possible explanations for the results found, including pre-existing differences among schools or differences in schools that influenced both SWPBIS implementation and school safety. Further, the analysis included a single item, and a stronger test would include a scale of substance use with more items. Future research, including experimental research, is needed to confirm these initial findings, and these findings should be considered tentative until they can be replicated.

Despite these limitations, this brief provides some initial indications that SWPBIS is associated with decreased illegal drug and alcohol use in high schools. It appears that this school-wide approach to behavior may provide some preventive effects in these areas. However, if data indicate the need for more intervention to prevent substance abuse, school teams may wish to incorporate additional universal (Tier I) substance abuse prevention interventions within their existing SWPBIS frameworks.

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