Influence of School Level Socioeconomic Status and Racial Diversity on Schoolwide Positive Behavior Support Implementation

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Evaluation Brief

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Effective Schoolwide Interventions

Research Statement

This evaluation brief examines the capacity of schools of varying levels of socioeconomic and racial diversity to implement Tier I (Universal) of schoolwide positive behavior support (SWPBS) with integrity. The three main evaluation questions addressed are:

a. "What percentage of schools are able to achieve 80%-80% implementation status on the School-wide Evaluation Tool (SET) within 1 year?"

b. "Is school socioeconomic status associated with implementation effectiveness?" and

c. "Is school racial diversity associated with implementation outcomes?"

Method

The data sources for this evaluation brief are:

a. School-wide Evaluation Tool (Sugai, Lewis-Palmer, Todd & Horner, 2001) data submitted through the **http://www.pbssurveys.org** website

b. The Common Core of Data provided by the U.S. Department of Education's National Center for Education Statistics (NCES).

For the purpose of this analysis, we examined the first post-implementation SET schools' submitted to PBS Surveys between 2005-06 and 2007-08. Preschools, private schools, and alternative schools were excluded from analyses.

Sample

A total of 890 schools nested within 299 districts in 20 states across the United States and were included in the analysis . A majority of schools were elementary level schools (n = 606), followed by middle (n = 205) and high school levels (n = 73). An additional six schools served non-traditional grade level spans (e.g., 6-10 or K-12).

Approximately 33% of schools were located an urban locale (n = 296), 28% were suburban (n = 250), and 39% were located in a rural locale (n = 344).

Average student enrollment for elementary schools was 452.95 (SD=195.59), average middle school enrolment was 651 students (SD=271.68), and average high school enrollment was 1120.05 students (SD=808.17).

The average number of full-time classroom teachers was 30.52 (SD=14.48) at the elementary level, 43.37 (SD=19.26) at the middle school level, and 67.98 (SD=51.31) at the high school level.

Results

What is the Probability a School will Achieve 80%-80% on the SET within 1 Year?

Results from this sample indicate that, on average, approximately 61% of schools who receive training in Tier I of SWPBS will achieve 80%-80% implementation status on the SET within one year. While additional schools achieved the implementation criteria after one year, we focused this analysis only on the SET scores after one year of implementation.

Socioeconomic Status of Student Population

The socioeconomic status (SES) of the student population, as measured by the percentage of students qualifying for free or reduced price lunch (FRL), was not significantly associated with 80%-80% attainment within 1 year ($\chi 2$ (4) = 8.18, p =0.09).

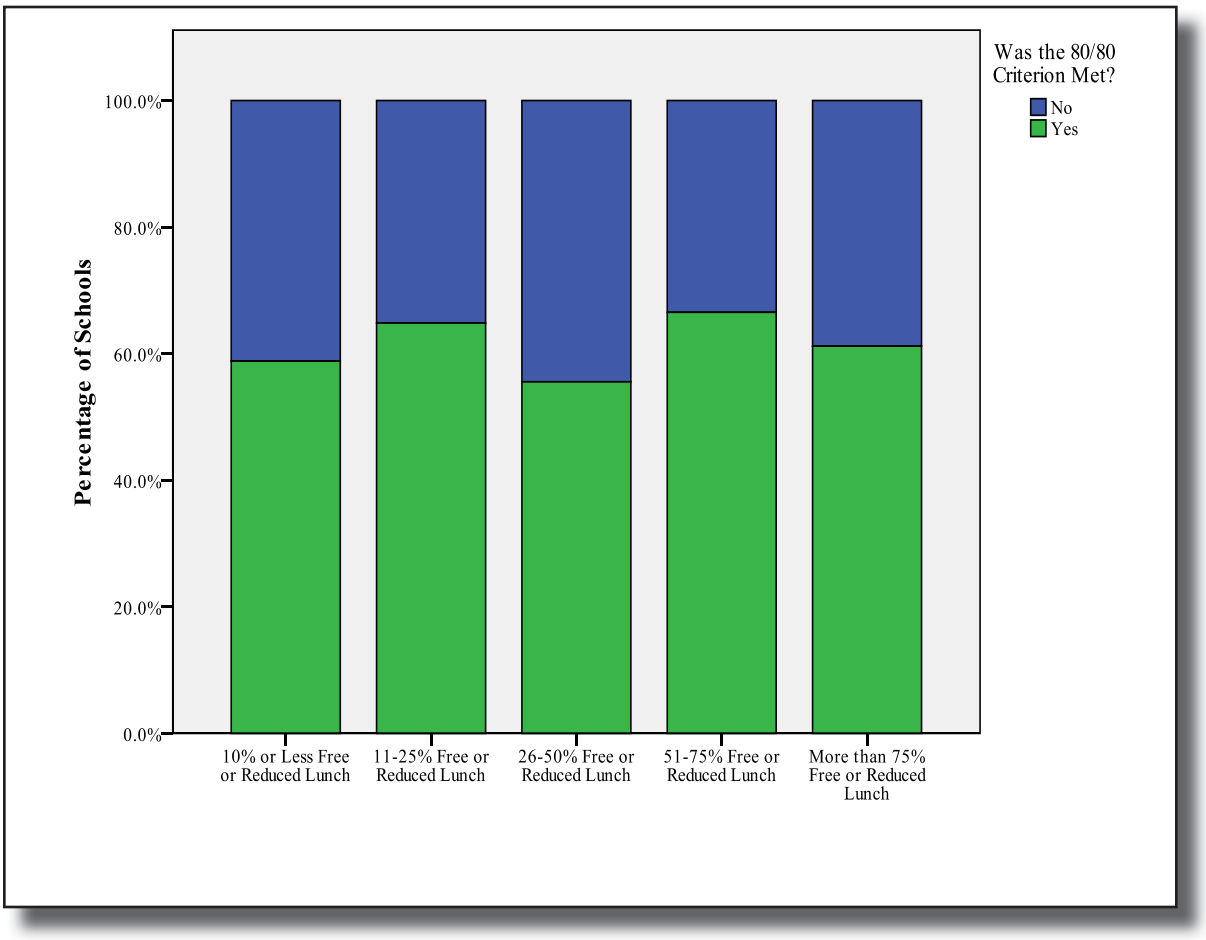
Table 1. *Frequencies of 80-80 Attainment by Student Socioeconomic Status*

	Was the 80%-80% Criterion Met?		
	Yes	No	Total
10% or Less Free or Reduced Lunch	30	21	51
11-25% Free or Reduced Lunch	83	45	128
26-50% Free or Reduced Lunch	170	136	306
More than 75% Free or Reduced Lunch	179	90	269
Total	544	344	888

Note. Two schools were excluded from analyses due to missing data.

As figure 1 illustrates, there was very little difference between very high (less than 10% FRL) and very low (more than 75% FRL) SES schools with regards to implementation status at the end of one year. In fact, approximately 59% of very high SES and 61% of very low SES schools attained 80%-80% status within one year. Examining the pattern of implementation data across schools did not reveal noteworthy trends. Sixty-five percent of schools with 11-25% FRL, 56% of schools with 26-50% FRL, and 67% of schools with 51-75% FRL all attained 80%-80% within one year.

Figure 1. *Number and Proportion of Schools Attaining 80%-80% Status within One Year*



Racial Diversity of Student Population

The diversity of student population, as measured by the percentage of racial minority students enrolled, was significantly associated with 80%-80% attainment within 1 year ($\chi 2$ (2) = 8.53, $p < .05$). However, the relation between student racial diversity and probability of attaining 80%-80% status was not linear, and schools with higher levels of student racial diversity did not differ substantially from their low diversity counterparts.

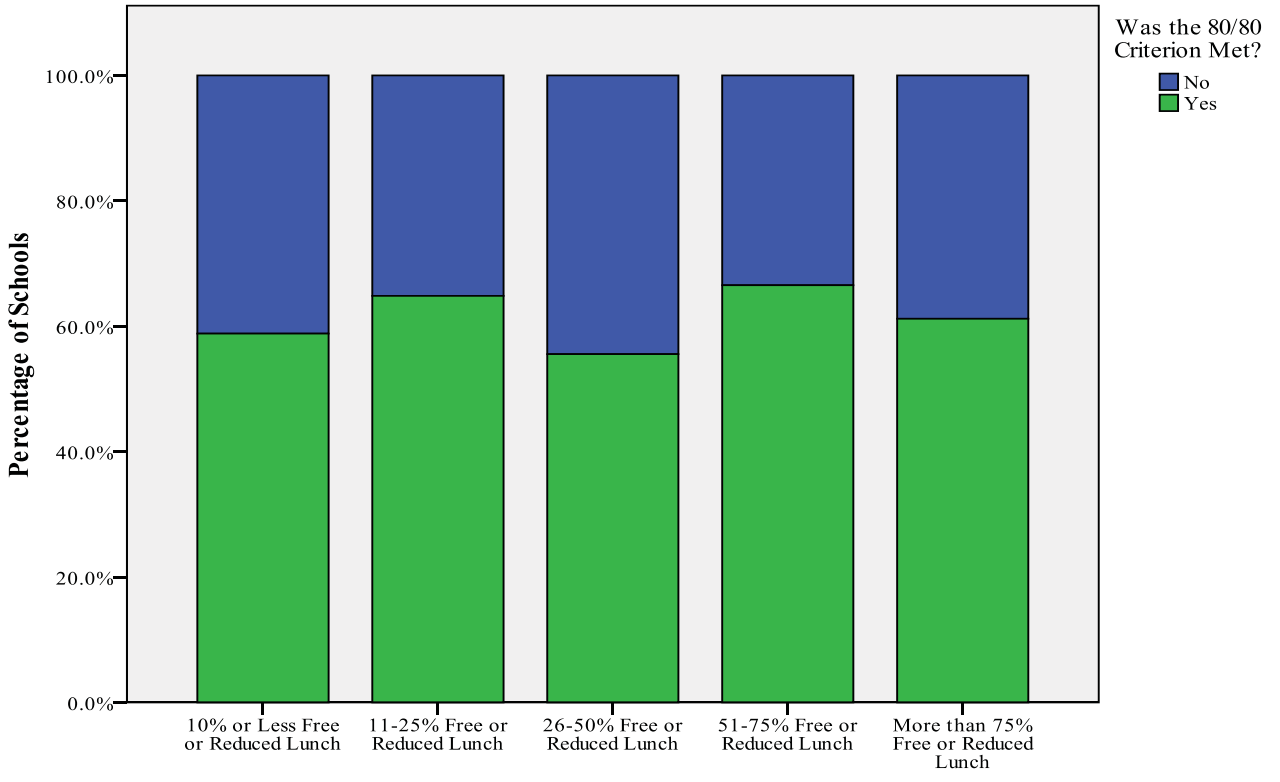
Table 2. *Frequencies of 80%-80% Attainment by Student Racial Diversity*

	What the 80%-80% Criterion Met?		
	Yes	No	Total
Low Diversity	180	129	309
Medium Diversity	151	66	217
High Diversity	213	150	363
Total	345	577	889

Note: Low Diversity = less than 25% minority enrollment, Medium Diversity = 25-50% enrollment, and High Diversity =50% or more minority enrollment. One school was excluded from analyses due to missing data.

As figure 2 illustrates, Medium Diversity schools with minority enrollments between 25-50% had the highest percentage of schools attaining 80%-80% status within 1 year (70%). In comparison, 57% of Low Diversity and 59% of High Diversity schools attained 80%-80% status within 1 year.

Figure 2. *Proportion of Schools Attaining 80%-80% Status by Level of Student Racial Diversity*



Summary of Findings

Results from these preliminary analyses suggest that a majority of schools (>60%) initiating implementation of SWPBS will successfully attain 80%-80% on the SET within 1 year. Although, a sizeable minority (40%) may require a longer period of time to meet this benchmark, this finding provides further evidence of the feasibility of SWPBS implementation in a very large and diverse array of public school settings.

A second noteworthy finding was that the socioeconomic status of the student population was not significantly associated first year implementation outcomes. In fact, very low SES schools were almost as equally likely to attain 80%-80% status within one year as their very high SES counterparts. Although very low SES schools were somewhat under-represented in this sample, the hypothesis that socioeconomic status significantly advantages (or disadvantages) schools' implementation efforts was not supported.

Finally, although the level of racial diversity among the student population was significantly associated with first year implementation outcomes, the relation between diversity and SWPBS implementation is complex. The overall pattern in the data observed suggested that medium diversity schools were most likely to attain 80%-80% in one year. The reason why medium diversity schools would outperform their low or high diversity counterparts is an interesting question worthy of further consideration. Although this finding may be an artifact of this particular sample, higher-order interactions (e.g., diversity x locale), or unknown differences within the school or community of medium diversity schools may explain these effects. However, the hypothesis that the level of racial diversity among the student population significantly advantages (or disadvantages) schools' implementation efforts in a linear way was not supported.

Limitations

Several plausible threats to the validity of inferences and generalizability of findings are worth noting. First, because schools comprising this sample self-selected to submit their data to PBS Surveys, selection bias is possible. The results obtained from this sample may or may not be consistent with similar studies utilizing a prospective random sampling frame. Second, SET data collection occurred under uncontrolled (presumably) naturalistic conditions. Error related to inappropriate SET administration or scoring is possible. Although the sample size for this study was large, not all demographic groups were equally represented. In particular, very affluent schools (less than 10% FRL) were under-represented, and elementary schools were over represented within this particular sample. Categorical binning schemes used to create SES and diversity levels are consistent with those employed by the National Center on Education Statistics Digest of Education Statistics series (see Snyder, Dillow & Hoffman, 2009), however, studies utilizing different cut-points for creating these groups may obtain different results. Finally, the results of this study pertain to implementation outcomes at the end of one year utilizing a single implementation outcome measure. Results of studies examining implementation outcomes for longer durations of time or using different SWPBS implementation measures may vary.

Future Directions

Implementation of comprehensive Schoolwide interventions such as SWPBS is a complex multi-stage process, often requiring the coordination multiple systems and supports. A considerable amount of research to date has focused on processes predictive of implementation success (see Fixsen, Naoom, Blase, Friedman and Wallace, 2005), however, examination of the ways in which fixed school level variables such as SES and diversity interact with implementation demands is an important area for future research. Future research may wish to examine how other fixed variables such as grade level, school locale, or enrollment size may (or may not) influence the probability of implementation success. In all likelihood, these variables can (and probably do) interact, and the implementation challenges faced by schools with low levels of diversity and high levels of poverty, as is common in many rural schools, may be quite different from those faced by highly diverse urban schools with similar levels of poverty. Future exploration of these potential interactions may greatly enhance our understanding of the nature and intensity of support different schools require to achieve implementation success. Finally, this particular analysis was limited to the examination of implementation outcomes within a relatively short duration of time. A more extended longitudinal study examining the predictors of implementation success and sustainability among schools with varying levels of SES and student diversity may help to clarify whether the pattern of implementation results observed in this study are maintained over time.

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