

School Climate and PSSA Performance in Philadelphia, 2016-

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Key Findings:

In 2016-2017, there were strong positive correlations between school-level climate responses and school-level PSSA-Math and PSSA-ELA in grades K-8.

These strong positive correlations were present in the student, parent/guardian, and teacher survey responses.

When accounting for school-level student demographics, responses to climate questions on the student survey, parent/guardian survey, and teacher survey were all significantly predictive of school-level PSSA-math and ELA scores.

The District-wide Survey Program in Philadelphia

In Spring 2014, the Office of Research and Evaluation (ORE) began administering a comprehensive annual survey to students, teachers, parents/guardians, and principals of District and Charter schools. The majority of the questions on all four surveys (one for each stakeholder group) relate to five topics or “essential supports” for school improvement. Research has shown that positive responses to survey questions related to Climate, Instruction, Leadership, Professional Capacity, and Parent/Guardian Community ties are related to school achievement and improvement.¹

In the 2016-2017 school year, 16% of parents/guardians, 50% of students in grades 3-12, and 56% of teachers completed the surveys in Philadelphia.²

Climate Responses on the Survey are Related to Grade 3-8 PSSA Performance

For each of the three surveys (teacher, student, and parent/guardian), we looked at whether school-level responses to climate questions were related to school-level PSSA scores for ELA and math in grades 3-8. Survey results were only included for schools if they met the response rate threshold.³

Does Climate Mean Hot or Cold?

Not in this case! When we use the term “climate,” we aren’t talking about the temperature in the school. Climate refers to the things that affect how school community members feel about their school, like school mission and vision, respectful relationships, student safety and support, and challenges to student learning.

What's a "Construct Score"?

A construct score is the combination of responses on multiple questions that ask about the school climate. We use construct scores rather than responses to individual questions when talking about trends and relationships because asking multiple questions about the same topic is a better way to find out what people really think rather than just relying on one question.

There were strong positive correlations between the Climate construct scores (from the teacher, parent/guardian, and student surveys) and the school's average student score for both math and ELA PSSA scores (see Table 1).

We then used multiple regression to control – or account for – race/ethnicity, economic disadvantage, the percent of students with IEPs, and the percent of students who are English learners. Even after accounting for these differences, student Climate scores were still significantly predictive of both ELA PSSA scores ($\beta=.333, p<.001$) and math PSSA scores ($\beta=.310, p<.001$). This held true for teacher and parent/guardian Climate scores for ELA and math PSSA scores. Please see our longer report for a complete description of the methods, analysis, and findings.⁴

Table 1: Correlation results between Survey Climate construct scores and PSSA scores, 2016-17

School Average Climate Responses	Correlation with School Average PSSA Scores	
	PSSA-ELA	PSSA-Math
Student Survey (N=138 schools) ^a	.721***	.733***
Parent/Guardian Survey (N=101 schools)	.508***	.470***
Teacher Survey (N=146 schools)	.699***	.690***

*** $p<.001$

^a School level average responses were included according to response rate thresholds (Student = 25% or a minimum of 25; Parent/guardian = 5% and a minimum of 25; teacher = 25% or a minimum of 25)

Why are these findings important?

The strong relationship between Philadelphia's District-wide Survey climate measures and student standardized test scores is consistent with the research that has been done in Chicago (Bryk et al., 2010). Similar to Chicago, when Philadelphia students, parent/guardians, and teachers report high levels of school climate, the average school performance on standardized tests also tends to be high levels. As SDP continues to work toward its goal of ensuring that all children have access to a great school, close to where they live, the District-wide survey program, and the Climate construct in particular, can serve as useful tools for identifying areas of improvement and actionable next steps.

¹ Bryk, Sebring, Allensworth, Easton & Luppescu (2010) identified five essential supports for school improvement: school leadership, parent/guardian-community ties, professional capacity, school climate, and instruction. Schools that are strong in all of the essential supports (as measured by stakeholder survey responses) saw the greatest improvements in achievement. In contrast, schools that had a low score on one or more of the essential supports had a less than ten percent probability of improving. SDP surveys were modeled after the surveys developed in Chicago and administered in the Chicago Public Schools since the 1990s.

² For more information about the survey, instruments, including validity and reliability information, see our Technical Report: <https://www.philasd.org/research/wp-content/uploads/sites/90/2018/03/DWS-technical-report-with-2016-2017-updates.pdf>.

³ Response rate thresholds: Student = 25% or a minimum of 25; Parent/guardian = 5% and a minimum of 25; teacher = 25% or a minimum of 25. Principal surveys were not included in this analysis.

⁴ Available at: https://www.philasd.org/research/wp-content/uploads/sites/90/2018/03/Relationship-of-DWS-and-St-Ach-in-2016-17-SDP_March-2018.pdf