

## **Student Perceptions of Instruction and Climate and 9<sup>th</sup> Grade On-Track Rates**

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### **Key Findings:**

In 2017-2018, there were strong positive correlations between school-level student Climate and Instruction construct scores, the percent of 9<sup>th</sup> grade students On-Track to graduate (9<sup>th</sup> grade On-Track rate), and school-level four-year graduation rates.

When accounting for school-level student demographics, responses to climate and instruction questions on the student survey were not significantly predictive of the 9<sup>th</sup> Grade On-Track rate.

However, the models that included climate and instruction scores accounted for more variance in the 9<sup>th</sup> Grade On-Track rate compared to the models that did not include survey scores.

Research shows that ninth grade is a critical year in students' academic trajectory and that school climate and instruction are key components of a successful ninth-grade year.<sup>1</sup> To examine this relationship specifically in the context of the School District of Philadelphia (SDP), the Office of Research and Evaluation (ORE) looked at the relationship between high school student perceptions of school climate and instruction and the percentage of 9<sup>th</sup> grade students "On-Track" for graduation.

### **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.

In particular, our research questions were:

1. At the school level, what is the relationship between high school student perceptions of school climate and instruction, the percentage of 9<sup>th</sup> grade students On-Track for graduation, and four-year graduation rates?
2. To what degree are these relationships mitigated by school-level student demographic characteristics?

To answer these questions, we used data from the 2017-2018 student survey aligned to the Instruction and Climate topics, as well as the percentage of 9<sup>th</sup> grade students On-Track for graduation.

### **SDP 9<sup>th</sup> Grade On-Track Definition**

A first-time 9<sup>th</sup> grader in SDP is considered On-Track if he or she earns at least one credit in each of four core areas (English, math, science and social studies), plus one additional credit from any source.

**What's a Construct Score?**

A *construct score* is the combination of responses on multiple questions that ask about 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.

**Schools with high Climate and Instruction scores also had high On-Track rates**

Correlational analyses show statistically significant positive correlations between the percentage of 9th grade students On-Track and the school-level Climate (N=45; r=.662, p<.01) and Instruction (N=45, r=.566, p<.01) scores (see Table 1).

We then used multiple regression to control—or account for—race/ethnicity, economic disadvantage, the percent of students with IEPs, the percent of students who are English learners, and the total school enrollment.<sup>1</sup> When accounting for these school characteristics, neither student Climate nor student Instruction scores were significantly predictive of 9<sup>th</sup>-grade On-Track rate ( $\beta$ =.166,  $p$ =ns and  $\beta$ =.129,  $p$ =ns, respectively). However, the models that included the Climate and Instruction scores were more predictive of the 9<sup>th</sup> grade On-Track rate compared to the models that just included school-level characteristics (see Table 2). This means that there are mixed indications of how strong the relationship is.

Table 1: Correlation results between Climate and Instruction construct scores, percent of 9th graders on-track, and graduation rate, 2017-2018 (N=45)

	<b>Climate Score</b>	<b>Instruction Score</b>	<b>Percent On-Track</b>	<b>4-Year Graduation Rate</b>
Climate Score		.712**	.662**	.721**
Instruction Score	.712*		.566**	.485**
Percent On-Track	.662**	.566**		.789**
4-Year Graduation Rate	.721**	.485**	.789**	

\*\*p<.01

<sup>a</sup> School-level average responses were included according to the student response rate threshold of 25% or a minimum of 25.

**How to read this table:** The correlation coefficients in each cell represent the strength and direction of the relationship between the two variables in the corresponding row and column.

Table 2: Regression coefficients for the models predicting 9<sup>th</sup> grade On-Track rates

<b>Model</b>	<b>R<sup>2</sup></b>
Included Climate Construct Score	.789
Included Instruction Construct Score	.793
Did not include either score	.708

**How to read this table:** The regression coefficient (R<sup>2</sup>) represents the amount of variation in the dependent variable that the model accounts for. Comparing the R<sup>2</sup> values shows that the model that includes the Instruction Construct Score and the model that includes the Climate Construct score accounts for more variance than the model that does not include either (the fourth row).

<sup>1</sup> Source: October 1, 2017 School-level enrollment snapshot, SDP [Open Data](#).

## Why are these findings important?

The regression model that predicts 9<sup>th</sup> grade On-Track improves, or accounts for more variation, when District-wide survey data is included, indicating that there is an important relationship between how students feel about climate and instruction at their schools and whether or not they end 9<sup>th</sup> grade On-Track. 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 can serve as a useful tool for identifying areas of improvement and actionable next steps.

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<sup>1</sup> Allensworth, E. M, and Easton, J. Q. (2005). The On-Track Indicator as a Predictor of High School Graduation. Chicago: Consortium on Chicago School Research.

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