

# Schools as Organizations:

Examining School Climate, Teacher Turnover, and  
Student Achievement in NYC



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## SCHOOLS AS ORGANIZATIONS: EXAMINING SCHOOL CLIMATE, TEACHER TURNOVER, AND STUDENT ACHIEVEMENT IN NYC

Recent scholarship and federal education policy have generated considerable momentum behind efforts to remake teacher evaluation systems and place an effective teacher in every classroom. However, teachers do not work in a vacuum. A teacher's productivity is shaped by both individual and organizational factors.<sup>1</sup> And when aspects of the school's climate—for example, a principal who is an ineffective instructional leader, or a school that lacks a consistent disciplinary code—are largely, or even partly, to blame for an educator's poor performance, efforts to measure and strengthen individual teacher effectiveness are unlikely to produce desired results.<sup>2</sup>

Emerging evidence suggests that school climate affects student achievement through a variety of channels. For example, studies consistently find chronic teacher turnover in schools with dysfunctional environments.<sup>3</sup> High rates of teacher turnover impose large financial costs on schools<sup>4</sup> and reduce student achievement,<sup>5</sup> probably in part by undercutting efforts to build capacity and coordinate instruction among a staff. Studies also repeatedly find that novice teachers are less effective, on average, than the more experienced teachers they often replace.<sup>6</sup>

Schools with supportive environments are not only more likely to retain teachers; evidence suggests they also maximize teachers' and students' learning opportunities. Over time, teachers improve their ability to raise student achievement more when they work in schools characterized by meaningful opportunities for feedback, productive peer collaboration, responsive administrators, and an orderly and

This brief contributes to a growing body of empirical literature examining the organizational contexts in which teachers work and students learn. The brief highlights results from a longer working paper, available [here](#), which provides more details about the study's methodology and findings. In addition, the Research Alliance website features information about:

- Our studies of [contexts that support effective teaching](#);
- Our partnership with the NYC DOE to [improve the NYC School Survey](#); and
- Our work with the NYC DOE to better measure and support key [organizational capacities in schools](#).

disciplined environment.<sup>7</sup> For students, there is a strong association between measures of school safety and average achievement, suggesting—not surprisingly—that when students fear for their physical wellbeing, it is difficult to concentrate on academics.<sup>8</sup> Furthermore, studies show that students’ motivation, effort, perseverance, and beliefs about their potential for academic success are all shaped by the academic expectations schools set for students.<sup>9</sup> In short, the school climate constitutes both teachers’ working conditions and the conditions under which students are asked to learn and grow.

In recent years, the proliferation of surveys administered to teachers, students, and parents has provided new opportunities to quantify various dimensions of school climate and examine their relationship with teacher turnover and student achievement. Scholars have explored these relationships using data from schools in California, Chicago, Massachusetts, New York City, and North Carolina.<sup>10</sup> Taken together, this growing body of work has established that organizational environments are stronger in schools with lower teacher turnover and higher student achievement.

However, these previous studies, which mostly analyzed conditions at a specific point in time, have left two central questions unanswered: Would strengthening a school’s climate actually decrease teacher turnover and increase student achievement? And which dimensions of school climate should we focus on to improve outcomes?

## Our Study

In this study, we provide the first direct evidence to help inform these critical questions by leveraging multiple years of data from the New York City Department of Education’s (NYC DOE) School Survey. Starting in 2007, the NYC DOE has administered an annual school survey to teachers, parents, and students—one of the largest survey efforts in the United States outside of the national census.

Using teachers’ responses to the survey between 2008 and 2012, we identified distinct, malleable dimensions of NYC middle schools’ organizational environments and examined the relationship between these measures, teacher turnover, and student achievement. Using multiple years of annual school survey data allowed us to examine, for the first time, how changes in the quality of individual schools’ climates were related to corresponding changes in teacher turnover and student achievement over time.

We focused our analyses on NYC's middle schools for several reasons.<sup>11</sup> The middle grade years are crucial in students' academic and social-emotional development and play a critical role in influencing students' high school and post-secondary outcomes.<sup>12</sup> Despite this, evidence suggests that middle schools may be particularly troubled. Middle schools have uncommonly high rates of teacher turnover,<sup>13</sup> teachers often consider middle school assignments less desirable than comparable elementary or high school assignments,<sup>14</sup> and middle school teachers receive less tailored preparation than elementary and high school teachers,<sup>15</sup> all of which may compromise their effectiveness in the classroom.

## Findings

### What Distinct Aspects of School Climate Did We Identify?

Previous analyses by the Research Alliance showed that, during the years of this study, publicly reported indicators based on the NYC School Survey did not actually capture distinct aspects of the school environment, nor were they particularly good at distinguishing between schools.<sup>16</sup> Thus, instead of relying on those existing measures, we conducted analyses to construct new and better measures of school climate based on teachers' survey responses.<sup>17</sup> Focusing on areas that practitioners might have the ability to directly influence, we found that the Survey captured four distinct, potentially malleable dimensions of middle schools' environments:

- *Leadership & professional development*, which includes teachers' perceptions of the quality of school leadership, feedback they receive, and professional development opportunities;
- *High academic expectations*, which captures the extent to which schools set high expectations for all students, have clear measures of student progress, help students develop challenging learning goals, and support students toward achieving these goals;
- *Teacher relationships & collaboration*, which captures the extent to which teachers feel supported by their colleagues, work together to improve their instructional practice, and trust and respect one another; and
- *School safety & order*, which reflects perceptions of crime, violence, threatening or bullying behavior, and disrespect toward adults; whether order and discipline are maintained; and whether teachers feel safe at their school.

### **Do Improvements in School Climate Predict Lower Teacher Turnover?**

We found robust relationships between these four dimensions of school climate and teacher turnover. Improvements in leadership & professional development, academic expectations, teacher relationships & collaboration, and safety & order within a school over time were all independently associated with decreases in teacher turnover. Our findings suggest that if a school at the 50<sup>th</sup> percentile of the distribution in leadership, expectations, relationships, and safety were able to improve each of these dimensions by one standard deviation (i.e., move up to the 84<sup>th</sup> percentile), this could reduce turnover by 3.8 percentage points, a 25 percent reduction in the average annual turnover rate among NYC middle schools.

### **Do Improvements in School Climate Predict Student Test Score Gains?**

We also found compelling evidence that improvements in schools' safety & order and increases in academic expectations for students predict corresponding improvements in students' mathematics achievement, based on standardized state test scores. The magnitudes of these within-school relationships are small but meaningful when placed in context.<sup>18</sup> Our results suggest that schools able to improve these two dimensions simultaneously by one standard deviation (again, equivalent to moving from the 50<sup>th</sup> to the 84<sup>th</sup> percentile) could increase student achievement growth by 0.053 standard deviations in mathematics. This translates to about one and half months of additional learning time for middle school students. Improvements in school context also were predictive of small improvements in English Language Arts (ELA) test scores, but these changes were not statistically significant.

### **Implications for Policy, Practice, and Research**

Our analyses show that when schools strengthen the organizational contexts in which teachers work, teachers are more likely to remain in these schools, and student achievement on standardized tests increases at a faster rate. These findings, combined with other recent evidence, suggest that closing achievement gaps and turning around chronically under-performing schools will demand both individual *and* organizational solutions. To complement the education sector's focus on individual teacher effectiveness, there should be a commensurate body of research and policy reform aimed at measuring and strengthening school climate. Similarly, school and district leaders should have reliable data about the strengths and weaknesses of both individual

teachers and schools as whole organizations, to inform systematic efforts to improve student performance.

This approach is consistent with the direction that New York City is currently taking. During the 2014-2015 school year, the Research Alliance helped the NYC DOE develop a “[Framework for Great Schools](#),” which taps existing research to outline specific organizational capacities that are important for school improvement. The Research Alliance also helped the DOE overhaul its School Survey to capture better, more consistent information about these core capacities, which—in keeping with the results presented in this brief—include leadership, collaboration, and a safe, supportive learning environment.

While these efforts are promising, there is a great deal that we don’t know yet about how to help schools strengthen key aspects of the learning environment and how best to align these efforts with other school improvement and accountability initiatives. The current study suggests several areas of focus for NYC and other districts that want to support schools in building healthy, well-functioning organizations that better meet the needs of teachers and students:

- **Gather High-Quality Data about School Climate**

Encouragingly, there are strong instruments available to assess school climate, and schools and districts are increasingly adopting them. While New York City developed and subsequently revised its own School Survey, this is not the only option. The New Teacher Center’s [Teaching, Empowering, Leading, and Learning Survey \(TELLS\)](#) and the University of Chicago Consortium on School Research’s [5 Essential Supports Survey](#) are two examples of widely used instruments designed to capture rich data on school climate. Many local and state education agencies now administer student surveys as part of teachers’ evaluations; these surveys could also be used to gather important information about aspects of the school environment, such as the level of safety or schools’ academic expectations for students. It is worth noting that the process of developing a comprehensive set of reliable school climate measures is still in its initial stages. Researchers and practitioners should continue working together to enhance the precision and conceptual clarity of these measures.

- **Use Data to Inform Schools’ Organizational Development**

A major challenge for researchers and policymakers is developing effective ways to *use* school climate data as part of larger school improvement efforts. One promising approach might entail districts producing customized school reports that describe

average levels and trends in teachers', students', and parents' perceptions of their school environment, as well as relative comparisons with similar schools. It is not yet clear how useful this information will be in practice, but several districts are experimenting with the approach. In New York City, the DOE has developed this type of customized school environment report to inform school leaders' improvement plans. Ultimately, the district hopes to incorporate these reports into system-wide improvement efforts that would involve pairing schools that have strong environments with those that are struggling.

- **Train and Support Principals**

Prior research has found that principals can strengthen a school's environment by developing opportunities for teachers to collaborate and share meaningful feedback, establishing school-wide policies and systems for behavior and student discipline, and articulating high expectations for students while offering a range of support services.<sup>19</sup> Districts may be able to help principals (e.g., through trainings, technical support, etc.) as they work to identify and improve specific organizational weaknesses in their school. Some districts may even consider incorporating data on school climate into principal evaluation systems and/or offering incentives to principals who are able to promote and sustain the types of environments that are associated with teacher retention and student achievement.

- **Take Stock of the Magnitude of These Results and Continue to Build Evidence about Effective Practices**

Our study suggests that relatively large improvements in school climate would be required to produce small—albeit meaningful—increases in standardized test scores. Importantly, there remain many unanswered questions about *how* to help schools foster these improved environments. Changing the culture and collective practices of a teaching staff is a complex process. How do successful school leaders strengthen organizational practices? Can it be done without changing the composition of the staff? Conversely, what obstacles block collective action in schools with persistent organizational problems? Our findings highlight the need for more in-depth qualitative research that illuminates how and why some efforts to strengthen school climate are successful while others are not. Such research is vitally important to inform the specific improvement strategies that schools and districts undertake. Equally important are partnerships between researchers and practitioners to rigorously evaluate the impact of the initiatives that schools and districts implement.

## Conclusion

Given the moderate magnitude of our results, it is clear that improving school climate—as a singular reform strategy—will not be sufficient to close achievement gaps or turn around failing schools. However, such initiatives can and should be a meaningful part of larger reform efforts to increase teacher retention and student achievement. Advancing our understanding of the potential for organizational reforms to drive student learning gains will require ongoing collaboration among researchers and practitioners to test the efficacy of interventions that target specific dimensions of the school environment. Combining this work with efforts to strengthen teacher effectiveness holds real promise for creating schools where all students have a chance to reach their potential.

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## Notes

- <sup>1</sup> Hackman & Oldham, 1980; Johnson, 1990; Kanter, 1983.
- <sup>2</sup> Bryk et al., 2010.
- <sup>3</sup> Simon & Johnson, 2015.
- <sup>4</sup> Barnes, Crowe, & Schaefer, 2007; Birkeland & Curtis, 2006; Milanowski & Odden, 2007.
- <sup>5</sup> Ronfeldt, Loeb, & Wyckoff, 2013.
- <sup>6</sup> Rockoff, 2004; Harris & Sass, 2011; Papay & Kraft, 2015.
- <sup>7</sup> Kraft & Papay, 2014.
- <sup>8</sup> Steinberg, Allensworth, & Johnson, 2011.
- <sup>9</sup> Wentzel, 2002; Jussim & Harber, 2005.
- <sup>10</sup> Allensworth, Ponisciak, & Mazzeo, 2009; Johnson, Kraft, & Papay, 2012; Marinell & Coca, 2013; Boyd et al., 2011; Bryk et al., 2010; Ladd, 2011; Loeb, Hammond, & Luczak, 2005.
- <sup>11</sup> Our sample includes students and teachers in NYC public middle schools with traditional grade 6-8 configurations, excluding schools with additional grades, such as K-8 or 6-12. We also excluded schools in years when they were new (and still phasing-in to full grade 6-8 enrollment), expanding to include additional grades, or in the process of phasing out grades toward closure. This results in an analytic sample of 278 unique middle schools.
- <sup>12</sup> Balfanz, 2009; Balfanz, Herzog, & Mac Iver, 2007; Murdock, Anderman, & Hodge, 2000; Neild & Balfanz, 2006; Roderick, 1994.
- <sup>13</sup> Marinell & Coca, 2013; NCTAF, 2007.
- <sup>14</sup> Neild, Useem, & Farley, 2005.
- <sup>15</sup> Neild, Farley-Ripple, & Byrnes, 2009.
- <sup>16</sup> Nathanson et al., 2013.  
[http://steinhardt.nyu.edu/research\\_alliance/publications/nyc\\_school\\_survey](http://steinhardt.nyu.edu/research_alliance/publications/nyc_school_survey)
- <sup>17</sup> In the 2014-2015 school year, the Research Alliance helped the NYC DOE overhaul the annual School Survey to better reflect emerging research on the organizational capacities that are needed for school improvement. The analyses conducted for the current study are based on earlier iterations of the survey. Interestingly, these analyses point to the importance of several of the general areas of school capacity that are prioritized in the new Survey (safety, leadership, etc.). We are hopeful that the new survey will provide even better measures of organizational contexts in NYC public schools, allowing us to build on and deepen the current analyses.
- <sup>18</sup> See Hill, et al., 2008.
- <sup>19</sup> Kraft et al., 2015.

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