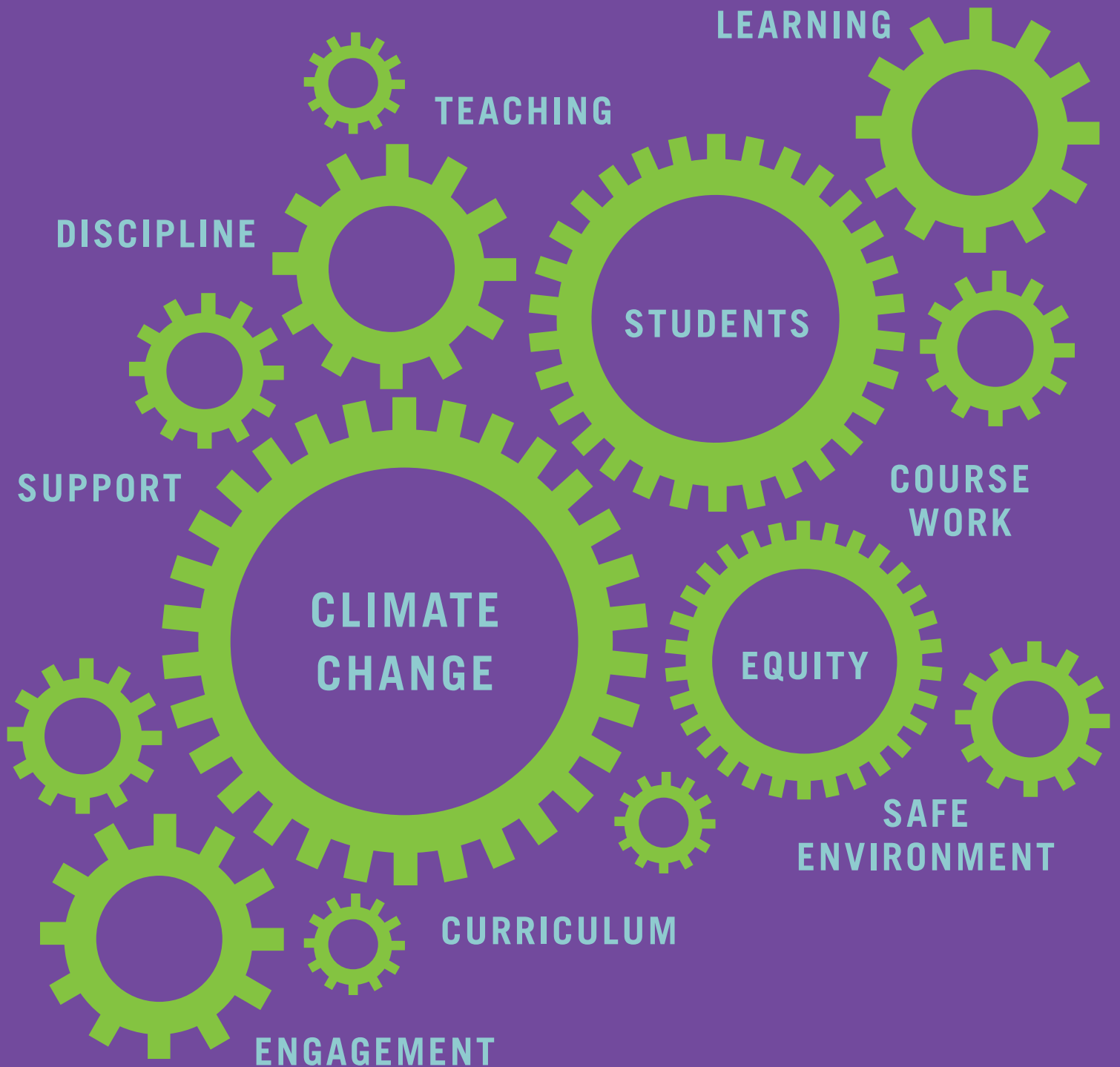


CLIMATE CHANGE:

Creating an Integrated Framework for Improving School Climate

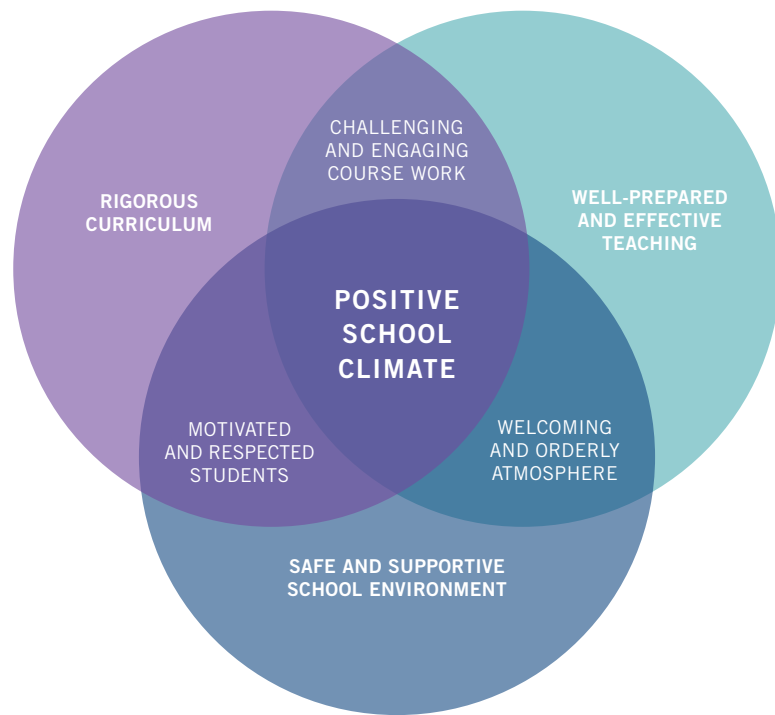
AUGUST 2013



INTRODUCTION: CREATING A HOLISTIC FRAMEWORK FOR EDUCATION REFORM

Education reform too frequently takes a siloed view that focuses on an individual issue instead of taking a broader and more comprehensive perspective. For example, students’ lack of access to challenging and rigorous course work and their lack of access to experienced, engaging, and effective teachers are often discussed as separate issues; nor are they discussed within the wider context of school climate. School climate—the totality of factors that affect a learning environment—is talked about much less often than any of these individual factors, despite research showing that a school’s climate, whether positive, negative, or somewhere in between, is connected to the level of students’ engagement in their course work and, consequently, to student success.

Instead of responding to issues in isolation, school administrators, policymakers, and legislators should examine how these multiple issues fit together and affect schools and districts, as well as the broader education system. Failing to take a more comprehensive approach toward the goals of reforming education and improving



school climate will result in limited, if any, success in achieving these goals.

The schools that struggle most with providing a positive school climate—one free from inequitable discipline practices and disparities in access to rigorous course work and effective teaching—more often than not have student bodies consisting primarily of students of color and students from low-income families. In an effort to focus on effective and comprehensive secondary school reform and the creation of a positive school climate, the Alliance for Excellent Education (the Alliance) is releasing a series of papers on the issues of school discipline, rigorous course work, and effective teaching and how the interdependence of these three issues determines the degree of their success. These papers will document the inequities mentioned above and provide recommendations for addressing them. This paper is the first in a series that will analyze data from the U.S. Department of Education’s Office for Civil Right’s Civil Rights Data Collection to determine how this data can be used to support effective secondary school reform, with a particular focus on the nation’s lowest-performing secondary schools.

“WHEN WE WALK INTO THAT DOOR, INTO THE SCHOOLS WE GO TO, WE EXPECT TO BE TAUGHT WHAT WE NEED TO SUCCEED.”¹
— JAY ARZU, STUDENT

PREPARING ALL STUDENTS TO SUCCEED

“When we walk into that door, into the schools we go to, we expect to be taught what we need to succeed.”¹

— Jay Arzu, student

Is every student who walks through the school door acquiring the knowledge and skills they need to succeed in life? The answer to that question may be the best overall measure of whether a school is functioning the way it should be. At the 1,400 lowest-performing high schools in America—where at best 60 percent or less of ninth graders make it to their senior year three years later—the answer is a clear no.² Students of color, who historically have been most underserved by the public education system, are nearly six times more likely to attend one of these low-performing high schools than their white peers.³ Tragically, however, the dropout crisis is not limited to these schools: nationwide, 25 percent of all students fail to graduate from high school and an astounding 40 percent of students of color⁴ fail to do so.⁵

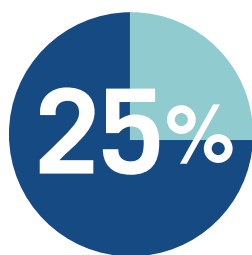
Preparing all students to succeed in life is both a moral and economic imperative. High school graduates earn more, have better health and longer life expectancy,⁶

are less likely to engage in criminal activity or require social services,⁷ and are more likely to be engaged in their communities, including higher rates of voting and volunteering, than those who do not graduate from high school.⁸ Further, the Alliance estimates that if every dropout from the Class of 2012 had graduated from high school, the lifetime earnings for that class would likely have increased by as much as \$263.2 billion.⁹ High-quality schools strengthen the nation’s economy and can lift students, families, and communities out of poverty. The nation’s public education system must be committed to providing all students with an education that prepares them for life and a meaningful career.

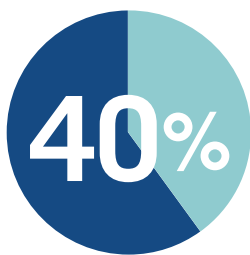
Although low graduation and achievement rates are obvious indicators that schools are failing to prepare their students, they do not shed light on *why* these schools have such alarming outcomes. One source of data that provides insight is the Civil Rights Data Collection (CRDC). The Office for Civil Rights (OCR) collects significant and fairly extensive education access and equity data from the nation’s public schools on a biannual basis, and then issues a public report. The most recent data collected is from School Year (SY) 2009–10, and represents around 85 percent of the nation’s students, attending approximately 7,000 school districts and more than 72,000 schools. The CRDC includes, among other data, information about the inequities in

- students’ access to and success in rigorous/advanced courses;
- distribution of experienced and licensed/certified teachers; and
- application of school discipline policies.

The data is disaggregated by race/ethnicity, English learner status, gender, and disability status (under the Individuals with Disabilities Education Act and Section 504 statutes).



of all students fail to graduate from high school.



of students of color fail to do so.

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KEY FINDINGS BASED ON THE CRDC

School Discipline

- Throughout their education career, African American students are more than three and a half times more likely to be suspended or expelled than their white peers. One in five African American boys and more than one in ten African American girls receive an out-of-school suspension.¹⁰
- Students who are suspended three or more times by the end of their sophomore year of high school are five times more likely to drop out than students who have not been suspended.¹¹
- Throughout their education career, one out of every four African American students with a disability is suspended at least once.
- African American and Latino students comprise 16 percent and 24 percent of the nation's student population, respectively; however, more than 70 percent of students who are involved in school-related arrests or referred to law enforcement by the school are African American or Latino.

FAILING TO TAKE A MORE
COMPREHENSIVE APPROACH
TOWARD THE GOALS OF
REFORMING EDUCATION AND
IMPROVING SCHOOL CLIMATE
WILL RESULT IN LIMITED, IF
ANY, SUCCESS IN ACHIEVING
THESE GOALS.

Rigorous Course Work

- Eighty-two percent of the schools in districts serving the fewest African American and Latino students offer algebra II, yet only 65 percent of the schools serving the most African American and Latino students offer the course. For physics, this statistic is 66 percent compared to 40 percent; for calculus, it is 55 percent compared to 29 percent.
- African American and Latino students make up 44 percent of the students in the CRDC, yet are only 26 percent of the students in gifted and talented programs.

Students who are **suspended** three or more times by the end of their sophomore year are

5x 

more likely to **drop out** than students who have not been suspended.

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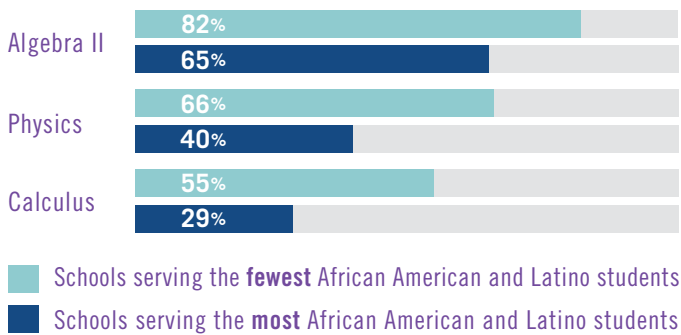
1 in 5



African American boys receive an out-of-school suspension.

 Share this stat: #HSClimate

Percentage of schools in districts offering the course



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Schools with the highest enrollments of African American and Latino students are nearly

2x

as likely as schools with the lowest enrollments of these students to employ teachers who have **only one to two years of experience.**

[Share this stat: #HSClimate](#)

Teaching and Non-instructional Support Staff

- Schools with the highest African American and Latino enrollment are nearly twice as likely as schools with the lowest enrollment to employ teachers who have only one to two years of experience.¹²
- Fifteen percent of the high schools sampled have no guidance counselors.

In the schools that reflect the worst of what this data shows, not only are students not being given what they need to succeed when they walk through the school door, but they are also often met with academic and discipline practices that in effect make them turn around and walk back out.

This data paints a disheartening picture of what is happening in many of the nation's schools, and in particular the nation's high schools. Although reviewing the individual CRDC indicators, such as those related to school discipline, is important to understanding what students are likely to experience, in order to fully understand how all of the indicators of positive school climate interact to adversely impact students in the nation's lowest-performing high schools, one must examine the data as a whole. For the purposes of this work, the Alliance defines "positive school climate" as an environment that reflects a commitment to meeting and developing the academic, social, and emotional needs of every student. A discussion of the Alliance's analysis of several key school climate indicators using CRDC data follows.

FOR THE PURPOSES OF THIS WORK, THE ALLIANCE DEFINES "POSITIVE SCHOOL CLIMATE" AS AN ENVIRONMENT THAT REFLECTS A COMMITMENT TO MEETING AND DEVELOPING THE ACADEMIC, SOCIAL, AND EMOTIONAL NEEDS OF EVERY STUDENT.

THE ALLIANCE'S ANALYSIS OF THE CRDC

The Alliance found correlations between access to rigorous course work, the presence of experienced and certified teachers, and rates of school discipline. In general, the higher a school's percentage of students receiving free or reduced-price lunch (this indicator is a proxy for low-income status) or percentage of students of color, the lower the school's percentage of students taking or passing Advanced Placement (AP) exams or being taught by experienced or certified teachers. Higher rates of school discipline were statistically significant and positively correlated with having more poor students or students of color.¹³

Table 1 shows the correlations between students of color and students participating in free or reduced-price lunch programs and the indicator variables in question. Although correlation does not equal causation, the apparent relationships between these variables supports the Alliance's hypothesis regarding how each of these indicators affect school climate. This hypothesis will be further discussed in the next section.

Overall, schools with (1) a greater percentage of students participating in free or reduced-price lunch programs and/or (2) a greater percentage of students of color experience, on average, a lower percentage of students taking and passing AP exams, a lower percentage of experienced or certified teachers, and higher rates of incidents requiring discipline. More information regarding these correlations and the methodology used can be found in Appendix A.

Further, the Alliance's analyses examined differences in these school climate indicators between "dropout factories," high schools where 60 percent or less of ninth graders are promoted to the twelfth grade three years later, and non-dropout factories. For this analysis, the schools considered were limited to Johns Hopkins

Table 1. Correlations Between Low-Income Students and Students of Color and School Climate Indicators from the CRDC, SY 2009–10

School Climate Indicator	School's % of students of color	School's % of students in free or reduced-price lunch programs
% of first- and second-year teachers	0.265* (8,743)	0.066* (8,725)
% of certified teachers	-0.142* (2,629)	-0.018 (2,655)
% of students taking at least one AP course	-0.036* (6,560)	-0.284* (6,554)
% of students passing at least one AP exam	0.019 (8,826)	-0.157* (8,810)
Out-of-school suspensions per 100 students	0.358* (8,819)	0.276* (8,803)
In-school suspensions per 100 students	0.213* (8,811)	0.141* (8,796)
<p>* Significant at 0.01 level, N in parentheses (N is the number of cases, i.e., the sample size)</p> <p>Analysis includes only schools in Johns Hopkins University's Everyone Graduates Center's promoting power universe. Bivariate correlations.</p>		

University's Everyone Graduates Center's (EGC) promoting power school data set. (See Appendix for additional information.) The Alliance compared the dropout factories included in the CRDC sample (approximately 1,100 high schools) to all of the other high schools in the CRDC sample that are also included in the EGC promoting power data set (about 7,800 high schools).¹⁴ This analysis found statistically significant differences in rigorous course taking, teacher experience, and school discipline patterns between dropout factories and non-dropout factories.

The disparity in rates of school discipline is particularly glaring between dropout factories and non-dropout factories:

- On average, dropout factories had more than seven out-of-school suspensions (15.7 suspensions to 8.3 suspensions) and nearly five more in-school suspensions (14.6 to 9.9 suspensions) per 100 students than their non-dropout factory counterparts.
- Dropout factories were also less likely to have students taking and passing AP courses.¹⁵
- Dropout factories were more likely to have less experienced teachers and fewer certified teachers.

The Alliance’s analysis is consistent with other evidence and testimony of disparities in access to a positive school climate facing students of color and students from low-income families in America’s schools.¹⁶ Similarly, although the average difference between dropout factories and non-dropout factories is not large in some cases, the differences are statistically significant, which indicates that students in these struggling schools are less likely to receive the same

THIS ANALYSIS FOUND STATISTICALLY SIGNIFICANT DIFFERENCES IN RIGOROUS COURSE TAKING, TEACHER EXPERIENCE, AND SCHOOL DISCIPLINE PATTERNS BETWEEN DROPOUT FACTORIES AND NON-DROPOUT FACTORIES.

academic, social, and emotional experience as students in non-dropout factories. With so many students of color and students from low-income families in dropout factories across the country, important equity issues are raised, which requires a comprehensive response.

Upcoming “Climate Change” Publications

Secondary school reform efforts will be limited unless they take a holistic approach that examines every aspect of the school experience for students, teachers, and leaders. In the same way that one recognizes the importance of meeting the needs of the whole child, so too must the needs of the whole school be met. The Alliance will be releasing a series of papers that examine the implications of the CRDC, and providing a framework for an effective and sustainable response, as they relate to:

- **Equitable Practices in School Discipline: Creating a Positive School Climate**
- **Equitable Access to Rigorous Course Work: Preparing All Students for College and a Career**
- **Equitable Access to Effective Teaching: Preparing, Supporting, and Developing Effective Instructional Practices**

APPENDIX: METHODOLOGY, LIMITATIONS, DATA OMISSIONS, AND DATA HANDLING

Methodology

The Alliance for Excellent Education (the Alliance) conducted a statistical analysis using data from the Office for Civil Rights (OCR) Civil Rights Data Collection (CRDC) and the National Center for Education Statistics (NCES) Common Core of Data (CCD). This analysis consists of two parts: first, an examination of correlations between CRDC indicators related to access to rigorous course work, experienced and certified teachers, and rates of school discipline; second, a difference of means analysis between dropout factories¹⁷ and non-dropout factories. The difference of means analysis for this work involved looking at the average values for dropout factories and non-dropout factories and seeing if the difference between them was significantly different. Although the CRDC does not cover all of the schools in the United States, it does cover 85 percent of students in public schools and has been used by education researchers as a statistically representative sample.

The Alliance's analysis began by first examining the correlations between indicators related to access to rigorous course work, experienced and certified teachers, and rates of school discipline. Although there are schools with a wide variety of grade spans included in the CRDC, the Alliance, an organization interested in secondary school improvement, chose to focus on middle and high schools, recognizing that school climate issues that arise in middle schools can impact high school outcomes.

To confirm that the size and direction of the correlations obtained would be found across schools with different grade spans, the Alliance examined different subsets of schools drawn from within the CRDC. At the high school

level, two subsets of schools were considered: schools with only grades 9–12, excluding alternative schools; and the set of schools in Johns Hopkins University's Everyone Graduates Center's (EGC) promoting power universe. This latter set was also included in order for this set of schools to be used in the second part of the analysis regarding dropout factories. At the middle school level, three grade-span subsets were considered: schools with grades 6–8 only, schools with grades 7–8 only, and schools with grades 7–9 only.

Variables for this paper were comprised of student-level totals. The variable for the percentage of students of color was calculated by adding the number of African American and Latino students in a school and dividing it by the school's total enrollment. Data for the variable for the percentage of students participating in free and reduced-price lunch programs came from the NCES's CCD from SY 2009–10; the variable was calculated as the number of students in free and reduced-price lunch programs divided by the school's total enrollment. The Alliance used both the percentage of students in a school taking at least one AP exam and the percentage of students passing at least one AP exam as proxies for access to rigorous course work.

For access to experienced teachers, two variables were used: the percentage of teachers who were in their first or second year and the percentage of teachers meeting all state licensing and certification requirements. For school discipline, rates of discipline per 100 students were calculated for the following variables: students receiving at least one in-school suspension; students receiving at least one out-of-school suspension; expulsions based

on zero-tolerance policies; and student referrals to law enforcement. The Alliance augmented the CRDC's data with data from the NCES's CCD, including information on student participation in free and reduced-price lunch programs and school eligibility for Title I funds, data most often used as proxies for student and school poverty.

Bivariate correlations with cases omitted pairwise in instances of missing data. Six subsets of schools were examined:

- (1) high schools in the promoting power universe mentioned above (N=8,902)
- (2) all non-alternative schools containing grades 9–12 (N=12,488)
- (3) all schools with only grades 9–12 (N=10,444)
- (4) all schools with only grades 6–8 (N=8,035)
- (5) all schools with only grades 7–8 (N=1,996)
- (6) all schools with only grades 7–9 (N=304)

Tests were conducted at the 95 percent significance level. Correlations appear with Pearson's *r*.

T-tests were conducted with an independent samples t-test. Tests were conducted at the 95 percent significance level. 1,081 dropout factories were compared to 7,821 non-dropout factories for a total subsample of 8,902. Non-equal variances were used.

Limitations Within the CRDC

Despite the usefulness of the CRDC, it does have some limitations that otherwise might reveal even greater disparities. For example, individual districts may not track particular requested data and therefore report a zero in response to a question. A zero could represent that there are no instances of that indicator, but it might also mean that the district does not collect that particular data, or they do collect it but define it differently and therefore report a

zero. The Alliance's analysis did not specially treat zeros in any way. Data from public schools run by education management organizations is not provided. In regards to juvenile justice facilities, only one-third are run by a local education agency and provide data.¹⁸ While data on whether teachers are in their first or second year of teaching is provided, data is not requested by the CRDC on their pathway into the classroom—that is, whether they participated in a residency program, whether they are teaching in a subject area that they are licensed to teach, and rates of teacher retention.

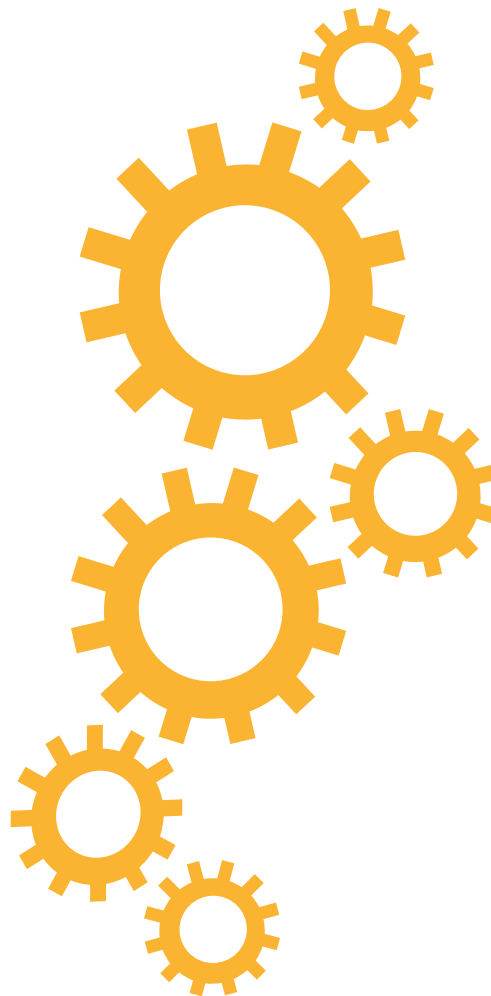
Data Omissions and Data Handling

The Alliance's analysis used data from the OCR's CRDC for SY 2009–10. For school discipline variables, data comes from CRDC data on students without disabilities only. For in-school suspensions, the variables regarding students who received exactly one in-school suspension (ISS) and more than one ISS were combined to give the total number of students with one or more in-school suspensions. The use of the EGC's promoting power universe as a subset of the CRDC sample omitted juvenile justice facilities, alternative schools, special education schools, schools with fewer than 300 students, and schools without enough longitudinal data to calculate the promoting power statistic. Also, it is important to note that the EGC's universe of schools comes from SY 2010–11, whereas the CRDC is taken from SY 2009–10.

In their 2012 data summary, the OCR excludes cases from their analysis with more than 250 full-time educators (FTEs) because of a likelihood that these cases resulted from reporting errors; in the analysis conducted by the Alliance, 561 schools reporting more than 500 FTEs had their data related to teacher and experience variables dropped because of a suspicion of misreporting. 1,429 schools (2 percent of the CRDC sample) with variables

representing percentages of total enrollment had one or more of their values for these variables dropped on a case-by-case basis if the values were over 100 percent. Of these 1,429 schools, thirty-seven were in the promoting power universe (representing 2.5 percent of schools in that universe in the CRDC sample) and nine were dropout factories (representing less than 1 percent of dropout factories in the CRDC sample).

For 281 schools, school discipline rates dropped in part or as a whole because the number of incidents exceeded the total enrollment of the school; the CRDC calls for reporting this data by number of students, not number of incidents. Consequently, any school with more incidents than students misreported data for these variables. Of schools with school discipline rates affected, nine were in the promoting power universe and three were dropout factories.



This paper was prepared by members of the Alliance for Excellent Education's federal advocacy and policy staff.

The **Alliance for Excellent Education** is a Washington, DC–based national policy and advocacy organization that works to improve national and federal education policy so that all students can achieve at high academic levels and graduate from high school ready for success in college, work, and citizenship in the twenty-first century. www.all4ed.org

Support for this paper was provided in part by Carnegie Corporation of New York. Opinions expressed are those of the Alliance and do not necessarily represent the views of Carnegie Corporation of New York.

ENDNOTES

- ¹ See <http://www.dignityinschools.org/our-work/school-pushout-story-bank> (accessed July 15, 2013).
- ² R. Balfanz, J. M. Bridgeland, M. Bruce, and J. H. Fox, *Building a Grad Nation: Progress and Challenge in Ending the High School Dropout Epidemic* (Washington, DC: Civic Enterprises, Everyone Graduates Center at Johns Hopkins University, America's Promise Alliance, and Alliance for Excellent Education, 2013).
- ³ Alliance for Excellent Education, "Prioritizing the Nation's Lowest-Performing High Schools: The Need for Targeted Federal Policy" (Washington, DC: Author, 2010).
- ⁴ For the purposes of this policy paper, data on "students of color" is limited to African American and Latino students.
- ⁵ Editorial Projects in Education, "Diplomas Count 2012: Trailing Behind, Moving Forward: Latino Students in U.S. Schools," special issue, *Education Week* 31, no. 34 (2012).
- ⁶ J. R. Pleis, J. W. Lucas, and B. W. Ward, "Summary Health Statistics for U.S. Adults: National Health Interview Survey, 2009" (Washington, DC: National Center for Health Statistics, December 2010), http://www.cdc.gov/nchs/data/series/sr_10/sr10_249.pdf (accessed July 15, 2013); R. W. Rumberger, "America Cannot Afford the Stiff Price of a Dropout Nation," January 24, 2012, <http://toped.svefoundation.org/2012/01/24/america-cannot-afford-the-stiff-price-of-a-dropout-nation/> (accessed July 15, 2013); P. Muennig, *The Economic Value of Health Gains Associated with Education Interventions* (New York, NY: Columbia University, 2005), <http://www.schoolfunding.info/news/policy/Muennig%20-%20Health%20and%20Education.pdf> (accessed July 15, 2013).
- ⁷ U.S. Department of Labor, *America's Youth at 23: School Enrollment, Training, and Employment Transitions Between Age 22 and 23* (Washington, DC: Bureau of Labor Statistics, 2010), www.bls.gov/nls/nlsy97 (accessed July 15, 2013); A. Sum et al., *Consequences of Dropping Out of High School: Joblessness and Jailing for High School Dropouts and the High Costs for Taxpayers* (Boston, MA: Center for Labor Market Studies, 2009); L. Lochner and E. Moretti, "The Effect of Education on Crime," NBER Working Paper No. 8605, November 2001, www.nber.org/papers/w8605 (accessed July 15, 2013).
- ⁸ CIRCLE, "Young Voters by Educational Attainment, 2012 Presidential Election," graph in *Young Voters in the 2012 Presidential Election: The Educational Gap Remains*, November 15, 2012, <http://www.civicyouth.org/wp-content/uploads/2012/11/2012-Exit-Poll-by-Educ-Attainment-Final.pdf> (accessed July 15, 2013).
- ⁹ Based on an economic analysis conducted by the Alliance for Excellent Education.
- ¹⁰ Additional data shows that students suspended three or more times by the end of their sophomore year of high school are five times more likely to drop out than students who have not been suspended. See Advancement Project, *Test, Punish, and Push Out: How 'Zero Tolerance' and High-Stakes Testing Funnel Youth Into the School-to-Prison Pipeline*, March 2010, http://b3cdn.net/advancement/d05cb2181a4545db07_r2im6caqe.pdf (accessed July 15, 2013), p. 17.
- ¹¹ Ibid.
- ¹² This analysis by the OCR compares the percentage of teachers in their first or second year of teaching in schools and districts with high and low combined Hispanic and African American enrollment. Specifically, this analysis reports the percentage of novice teachers in the top quintile of schools and districts by enrollment, ranked by percentage of Hispanic and African American enrollment, with the percentage of novice teachers in the lowest quintile.
- ¹³ Although there are schools with a wide variety of grade spans included in the CRDC, the Alliance, an organization interested in secondary school improvement, chose to focus on middle and high schools, recognizing that school climate issues that arise in middle schools can impact high school outcomes.
- ¹⁴ About 80 percent of dropout factories are included in the CRDC sample, while about 70 percent of schools in the promoting power data set are covered in the sample. The Alliance does make an assumption that, because of the random sampling of the CRDC, especially toward large urban school systems (where many dropout factories are located), the dropout factories and data set schools are randomly sampled and statistically representative as well.
- ¹⁵ Although the difference was not particularly meaningful (just 1 percent of students passing in dropout factories versus 2 percent in non-dropout factories), this may be due to the larger number of students included in the denominator of the formula. The CRDC does not break down AP access and pass rates by grade level; therefore, all students in a high school are included in the denominator, which deflates the size of the percentage of students taking exams. The Alliance emphasizes that AP exams are merely a proxy for course work that can be rigorous. Rigorous course work appears in non-AP classrooms around the country, and AP classes do not encompass all that it means to be rigorous.

¹⁶ Equity and Excellence Commission, *For Each and Every Child: A Strategy for Education Equity and Excellence* (Washington, DC: U.S. Department of Education, February 2013), <http://www2.ed.gov/about/bdscomm/list/eec/equity-excellence-commission-report.pdf> (accessed July 17, 2013); Georgetown Law Human Rights Institute, *Kept Out: Barriers to Meaningful Education in the School-to-Prison Pipeline* (Washington, DC: Georgetown University Law Center, April 2012); D. J. Losen and J. Gillespie, *Opportunities Suspended: The Disparate Impact of Disciplinary Exclusion from School* (Los Angeles, CA: Center for Civil Rights Remedies at the Civil Rights Project at the University of California, Los Angeles, August 2012); College Board, "Right to Rigor: The Ninth Annual AP Report to the Nation," 2013, <http://apreport.collegeboard.org/right-to-rigor> (accessed July 17, 2013).

¹⁷ For the purposes of this paper, a dropout factory is defined as a high school where less than 60 percent of entering ninth graders are promoted to their senior year just three years later.

¹⁸ The SY 2011–12 OCR data will expand the data collected on juvenile justice facilities.



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