THE HAMILTON PROJECT

Chronic Absence: School and Community Factors

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TECHNICAL APPENDIX – INTERACTIVE

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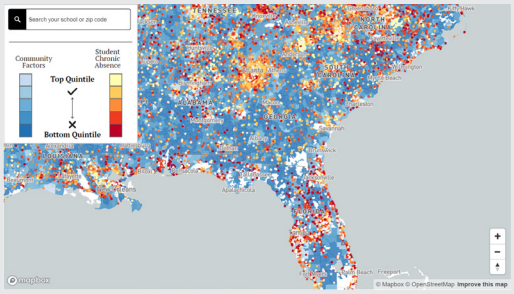
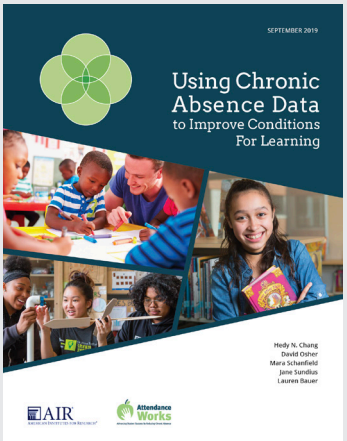


Chronic Absence: School and Community Factors

This interactive map shows rates of chronic absence along with relevant school and community factors for every school in the country. You can search by zip code or school name; click on schools to discover more information. By gradespan, schools with lower rates of chronic absence are shown in yellow and schools with the highest rates of chronic absence are shown in red.



Using Chronic Absence Data to Improve Conditions for Learning

Co-authored by Hedy N. Chang, David Osher, Mara Schanfield, Jane Sundius, and Lauren Bauer, this report underscores how education leaders, community partners and policymakers can use chronic absence data to create positive conditions for learning for students and teachers, and at the same time address educational inequities. This report describes four conditions for learning that help create a conducive learning environment and positively affect attendance, achievement, and student well-being. These conditions – physical and emotional health and safety; belonging, connectedness and support; academic challenge and engagement; and adult and student social and emotional competence – can each be improved though educational leadership and policy reform.

BROOKINGS

Data Sources

The U.S. Department of Education Office for Civil Rights 2015-16 Civil Rights Data Collection provided the data for school rates of chronic absence, rates of exclusionary discipline, student-teacher ratios, student-support staff ratios, and teacher attendance.

The U.S. Department of Education National Center for Education Statistics The Common Core of Data as well as the Stanford Education Data Archive provide information used to geographically place schools and to identify gradespans.

State report cards provided student achievement data for the 2017-18 school year. Each state education agency website was search or scraped for school-level information on the share of students proficient on state-wide standardized exams of English/Language Arts and Math. These data are employed in the interactive for the following states: Alabama, California, Delaware, District of Columbia, Florida, Georgia, Hawaii, Idaho, Indiana, Louisiana, Maine, Maryland, Massachusetts, Michigan, Mississippi, Missouri, Nebraska, Nevada, New Hampshire, New Mexico, New York, Ohio, Oklahoma, South Carolina, South Dakota, Tennessee, Vermont, Virginia, Washington, Wyoming, and Wisconsin. For additional detail, please contact Lauren Bauer.

EDFacts provides student achievement data for the 2016-17 school year for those states whose 2017-18 achievement data were not available or not available in a form that could be used. These data are employed in the interactive for the following states: Alaska, Arkansas, Colorado, Connecticut, Kansas, Kentucky, Minnesota, Illinois, Iowa, North Carolina, Montana, New Jersey, North Dakota, Rhode Island, Texas, and Utah. For those schools in the states for which 2017-18 data are available but not for a particular school, the 2016-17 data are used.

The University of Minnesota IPUMS version of the U.S. Census Bureau American Community Survey 2013-17 five-year file provides zip code tabulation area level data for the share of the adult population who are high school dropouts, the adult employment-to-population ratio, the share of children living in poverty, the share of children without health insurance, the share of children living in the same home as the previous year, and household median income for the community conditions of learning index.

The Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute County Health Rankings provide county-level information on the extent of residential racial segregation, life expectancy, and average daily air quality for the community factors index.

Definitions and Data Analysis

Below are definitions and the method of construction for each data point on the interactive. The underlying data were not audited. Each data point was arrayed into quintiles by either the county (Community Factors) or by gradespan (School Factors). Quintiles of the Community Factors Index are displayed by zip code tabulation area on the map in blue; quintiles of school rates of chronic absence are shown for each school in red. When a school is in the top quintile for a given School Factor (like having low levels of chronic absence), there is a checkmark; when a school is in the bottom quintile for a School Factor (like having high rates of exclusionary discipline), there is an "X."

Community Factors Index

The community factors index was produced using confirmatory factor analysis at the zip code level. The variables that compose the index include the share of the adult population who are high school dropouts, the adult employment-to-population ratio, the share of children living in poverty, the share of children without health insurance, the share of children living in the same home as the previous year, and household median income. Three community conditions – the extent of residential racial segregation, life expectancy, and average daily air quality – are applied to all zip codes within a county and are from the County Health Rankings.

The index was created in a fashion similar to The Hamilton Project's county-level vitality index. Measurable factors that match the model of community conditions for learning were selected based on their availability at the zip code level (or conceptually important factors only available at the county

Acknowledgments

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level) and for their conceptual relevance. Values for the three factors measured at the county level were applied to each of the zip code tabulation areas within the county. When zip codes were missing information, the county average for the county in which the zip code was located was used. Confirmatory factor analysis was employed to construct a single latent factor score for each zip code tabulation area based on the estimation of factor loadings through a set of simultaneous equations.

Chronic absence

In the 2015–16 wave of the Civil Rights Data Collection, chronic absenteeism is defined as a student missing 15 or more days of school in a school year. The number of students chronically absent were totaled by school and divided by the total number of students enrolled in the school.

Discipline per week

In the 2015–16 wave of the Civil Rights Data Collection, the total number of in-school and out-of-school suspension for the school year were totaled to calculate the number of exclusionary discipline incidents at each school. When divided by 36, the rate of exclusionary discipline incident per week is produced. This data are not weighted to school size, because we cannot account for repeat exposure to infractions among particular students.

English/Language Arts and Math percent proficient

This data point shows the share of students at a school who were met the proficiency threshold in English/Language Arts or Math in either 2016-17 or 2017-18 (italicized). To reconcile across differences in reporting by state, school-level proficiency rates were aggregated into five percentage point bins. The proficiency levels are set by the state and have not been normalized to a national standard; this is due to prioritizing providing the most recent year of data.

Student-teacher and student-support staff ratios

In the 2015–16 wave of the Civil Rights Data Collection, the number of full-time equivalent classroom teachers, nurses, psychologists, social workers, and counselors were provided. The number of enrolled students per full-time equivalent classroom teachers produces the student-teacher ratio. The number of enrolled students per the sum of full-time equivalent nurses, psychologists, social workers, and counselors produces the student-support staff ratios.

Teacher attendance rate

In the 2015–16 wave of the Civil Rights Data Collection, teacher attendance rate is calculated at the number of full-time equivalent teachers who were absent for more than 10 days (this is five fewer days than student chronic absence). The teacher attendance rate is calculated by dividing the number of chronically absent teachers by the number of teachers.

School gradespan

Primary schools are defined as schools in which the lowest grade is not higher than grade 3 and the highest grade is not higher than grade 8 or those that serve elementary school students. Middle schools are defined as schools in which the lowest grade is not lower than grade 4 and the highest grade is not higher than grade 9 or those that serve middle school students. High schools are defined as schools in which the lowest grade is not lower than grade 9 and the highest grade is not higher than grade 12 or those that serve high school students. Other schools include all other combinations of grades, including K–12 schools as well as other configurations.

Missing information

Only regular public schools and charter schools are eligible for inclusion. Schools are identified by their National Center for Education Statistics (NCES) identification number. Schools that lack the correct NCES identification number, were missing a name in the data, or that could not be linked to a zip code tabulation area were dropped. Schools were not dropped from the sample due to incomplete data on school-level factors unless all data were missing. Missing information on individual factors is represented by "NA" in the interactive.

Interactive map

This interactive map was built using Mapbox GL JS. The county-level shapefile is from the US Census Bureau and school location data is from the National Center for Education Statistics.

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BROOKINGS

The Hamilton Project seeks to advance America's promise of opportunity, prosperity, and growth. We believe that today's increasingly competitive global economy demands public policy ideas commensurate with the challenges of the 21st Century. The Project's economic strategy reflects a judgment that long-term prosperity is best achieved by fostering economic growth and broad participation in that growth, by enhancing individual economic security, and by embracing a role for effective government in making needed public investments.

Our strategy calls for combining public investment, a secure social safety net, and fiscal discipline. In that framework, the Project puts forward innovative proposals from leading economic thinkers — based on credible evidence and experience, not ideology or doctrine — to introduce new and effective policy options into the national debate.

The Project is named after Alexander Hamilton, the nation's first Treasury Secretary, who laid the foundation for the modern American economy. Hamilton stood for sound fiscal policy, believed that broad-based opportunity for advancement would drive American economic growth, and recognized that "prudent aids and encouragements on the part of government" are necessary to enhance and guide market forces. The guiding principles of the Project remain consistent with these views.

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