YouthTruth
STUDENT SURVEY
A NATIONAL NONPROFIT

Design & Methodology

Student Survey

2022

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Background

YouthTruth is a national nonprofit that harnesses student and stakeholder perceptions to help educators accelerate improvements. Through validated survey instruments and tailored advisory services, YouthTruth partners with schools, districts, states, and educational funders to enhance learning for all students. Founded in 2008 by the Center for Effective Philanthropy (CEP), YouthTruth began as a tool for gathering feedback from students. YouthTruth also offers family and staff surveys. Further information about the YouthTruth Family Survey and YouthTruth Staff Survey is detailed here.

After gathering candid student feedback, we rigorously analyze and report on the resulting quantitative and qualitative data in a robust, interactive online reporting platform. Through these services, YouthTruth surveys provide a cost-effective, rigorous, and meaningful way to inform data-driven practices, school improvement plans, and targeted professional development.

In partnering with YouthTruth, partners can survey students in grades 3-12 using the YouthTruth Student Survey:

- The YouthTruth Student Survey is primarily used as a climate and culture instrument, as it gathers feedback from students about their overall experiences at their schools. The middle and high school versions of the survey focus on: Engagement, Academic Challenge, Culture, Belonging & Peer Collaboration (including bullying), Relationships, and, for high school surveys only, College and Career Readiness. The elementary version of the survey focuses on: Engagement, Academic Challenge, Instructional Methods, Culture, Belonging (including bullying), and Relationships. Results are reported at the school and district level.

YouthTruth partners may also customize the surveys with Additional Topics:

- Distance Learning*
- Diversity, Equity & Inclusion (DEI)
- Drugs & Alcohol
- Emotional & Mental Health*
- Health & Well-being*
- Nutrition & Exercise
- Project-Based Learning*
- School Safety*
- STEM Education*
- Student Learning Styles
- Student Motivation*
- Student Voice & Leadership

All topics are available for secondary, and the asterisked topics are also available in an elementary version. Please see “Survey History & Development” for more information about the development of these Additional Topics.

This document provides an overview of YouthTruth’s student surveys and reporting products, and technical documentation regarding:

- Survey development, design, and administration,
- Data processing and analysis procedures,
- Data reliability and validity, and
- Findings from existing survey data.

This document is designed for district and school leaders, researchers, program evaluators, and other

parties interested in using validated student survey instruments to help districts, schools, and teachers improve or to evaluate the effects of programs, professional development, or interventions.

Finally, this document shares large portions of YouthTruth's survey instruments but does not represent the full survey instrument. Please note that survey content cannot be used without the expressed permission of YouthTruth.

Value of Student Surveys

The perceptions of stakeholders are critical factors in evaluating the effectiveness of systems, programs, and interventions. Recently, there has been growing interest in making better use of stakeholder perceptions in program improvement.[1] The use of stakeholder perception data – from students, in this case – leads to a more nuanced understanding of organizational effectiveness, is a reliable predictor of teacher performance, and is a leading indicator that allows for mid-course adjustments before it is too late to achieve desired impact.[2]

Recent evidence suggests that student feedback should be a complementary component of school improvement and teacher evaluation initiatives alongside student test performance and classroom observations. The *Measures of Effective Teaching* (MET) study empirically links student perceptions to academic performance, finding that student perceptions predict teacher quality better than classroom observations do.[3] Another study appearing in the Journal of Educational Psychology found that students who perceived stronger connections between their schoolwork and their later life success had higher grades and lower absenteeism.[4]

While test scores and teacher value-added measures can be useful in measuring overall performance, it can be difficult to act on these measures because they are often reported after the student has left the classroom and because educators may find their meaning unclear. Student feedback can serve as an actionable, real-time barometer of both school and teacher factors that influence academic success.

The 15-year research synthesis from the American Educational Research Association (AERA), "Research Synthesis of the Associations Between Socioeconomic Background, Inequality, School Climate, and Academic Achievement," suggests that by promoting a positive climate, schools can allow greater equality in educational opportunities, decrease socioeconomic inequalities, and enable more social mobility for students.[5] Student surveys are an effective and powerful way to measure school climate.

Feedback from student surveys can provide detailed, contextual, and targeted data on a number of important markers school performance. Student surveys are not necessarily summative in nature, so they can be administered at any point in the year. Additionally, student surveys can be used to understand

[1] Twersky, Fay, Phil Buchanan, and Valerie Threlfall. "Listening to those who matter most, the beneficiaries." *Stanford Social Innovation Review* 11, no. 2 (2013): 40-45.
[2] Kane, Thomas J., Daniel F. McCaffrey, Douglas O. Staiger, and J.R. Lockwood. "Ensuring Fair and Reliable Measures of Effective Teaching: Culminating Findings from the MET Project's Three-Year Study." *Bill and Melinda Gates Foundation* (2013).
[3] Kane, Thomas J., Daniel F. McCaffrey, Douglas O. Staiger, and J.R. Lockwood. "Ensuring Fair and Reliable Measures of Effective Teaching: Culminating Findings from the MET Project's Three-Year Study." *Bill and Melinda Gates Foundation* (2013).
[4] Church, Marcy A., Andrew J. Elliot, and Shelly L. Gable. "Perceptions of classroom environment, achievement goals, and achievement outcomes." *Journal of educational psychology* 93, no. 1 (2001): 43.
[5] Berkowitz, Ruth, Hadass Moore, Ron Avi Astor, and Rami Benbenishty. "A research synthesis of the associations between socioeconomic background, inequality, school climate, and academic achievement." Review of Educational Research 87, no. 2 (2017): 425-469.

student perceptions within any classroom and subjects or grade levels. Student surveys, moreover, can serve as tools for evaluating the effectiveness of school-based interventions. Finally, in comparison to academic assessments or classroom observations, student surveys are cost-effective and easy to implement. For instance, some districts have found that student surveys cost one-sixth as much to implement per pupil as classroom observations or value-added estimates.[6]

Survey History & Development

Survey Development and Refinement

YouthTruth surveys ask questions that focus on critical areas of school experience. We carefully developed and refined our surveys in deliberate stages. In developing our pilot survey instrument in 2008, we completed a comprehensive review of the field of student surveys including more than 15 existing survey instruments. We drew many of the questions for the YouthTruth pilot, with permission, from other survey instruments that have been well-validated in the field, including the Chicago Consortium on School Research's *My School, My Voice* survey and the *Survey of Engagement* led by Indiana University's School of Education. Other pilot YouthTruth survey questions represented adaptations of existing survey questions that explored constructs related to school quality and teacher effectiveness. In this way, we paid careful attention to the content validity of our instrument. Additionally, we convened an advisory group that contributed substantial expertise to the design of the survey. This advisory group was made up of survey design experts, educators, district administrators, school leaders, university researchers, students, public officials, foundation staff, and non-profit leaders.

In 2009, with the support of the Bill & Melinda Gates Foundation, we piloted the Student Survey (formerly Overall School Experience Survey) with more than 5,300 students in 20 high schools from Georgia, North Carolina, Washington, D.C., and Washington State. The Gates Foundation was interested in assessing the student experience in the schools they were supporting with funds for specific initiatives. The Gates Foundation asked the Center for Effective Philanthropy (CEP) to lead and execute the pilot because of CEP's deep experience in collecting and analyzing perceptual survey data for foundations.

Given the success of the pilot, we expanded YouthTruth during the 2009-2010 school year, surveying more than 15,000 students from 72 high schools spanning eight districts and networks in Arizona, Colorado, Florida, Georgia, North Carolina, Ohio, and Texas. Six of the 20 schools that participated in the YouthTruth pilot repeated the survey in 2009-2010 and three other pilot schools repeated the survey in subsequent years.

A formative evaluation of YouthTruth's progress conducted by researchers at Brandeis University in 2010 reported that, "high school leaders overwhelmingly believe that YouthTruth has been valuable for their schools." Among school and district leaders that participated in the first two years, 94 percent who responded to a follow-up survey stated that the survey generated valuable information for schools. One school leader commented that YouthTruth "was a powerful vehicle for student voice." Although the evaluation identified several challenges facing YouthTruth, the report concluded that there was "a high potential of going to scale with YouthTruth."[7]

To date, YouthTruth's Student Surveys have been administered in approximately 2000 unique schools, many of whom have repeated the survey over time, with over 1,900,000 student responses.

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[6] Education First (2014). "Student Surveys: Measuring Students' Perceptions of Teacher Effectiveness." http://www.education-first.com/files/Strategies_for_Success_Student_Surveys.pdf

[7] Bailis, L., et al. "Formative Evaluation of YouthTruth – Final Report." (2010). Prepared for The Bill and Melinda Gates Foundation.

Developing Surveys for Different Age Groups

YouthTruth developed our first survey instrument for students in grades 9-12. In response to increasing demand from school and district leaders, we subsequently developed survey instruments designed for younger students in 2012 (middle school) and 2013 (upper elementary school). The middle school survey targets many of the same concepts as the high school survey. However, through extensive research, including literature reviews, focus groups and field tests with middle school students, we refined the survey to ensure that the questions were age-appropriate and relevant for grades 6-8. In developing our survey instrument for grades 3-5, we conducted an extensive review of: 1) research about teaching practice that supports positive student learning outcomes, 2) existing well-validated survey instruments, and 3) best practices for surveying young children. We also conducted field tests and focus groups to ensure understanding of the survey items.

Early research from the Measures of Effective Teaching (MET) study points to specific constructs, namely challenge and control, which were associated with high-quality teaching and student achievement.[8] Informed by this research, we incorporated specific publicly available question items from the elementary version of the MET survey, which were identified in the MET study as being most strongly associated with effective teaching. As we selected concepts to include in the instrument, we also referenced research by the John W. Gardner Center at Stanford University that suggests that students' motivational beliefs are closely related to their achievement, and that classroom practices that encourage effort and understanding and create a caring learning environment will improve student motivation.[9, 10] Furthermore, studies published in the *Journal of Educational Psychology Education* and studies by the Chicago Consortium on School Research have repeatedly demonstrated the influence of student perceptions on goal adoption and consequently on achievement – particularly students' perceptions of their own engagement and motivation and the quality of their relationships with their teachers.[11] In response to the MET research and to the broader literature surrounding the perceptual predictors of student achievement, we structured our instrument's content to assess the referenced predictors of these achievement outcomes.

In developing our survey instruments, YouthTruth has paid close attention to constructing age-appropriate surveys and using evidence-based best practices for surveying children and adolescents. Our philosophy is that the questions asked should match with children's cognitive development and accommodate their expected reading abilities.

Our approach to developing survey instruments and additional topics appropriate for each age group has included:

Conducting research including literature reviews of relevant studies, focus groups and field tests with students of the given age group, and consultation with teachers and administrators. This in-depth process ensures that the questions developed are age-appropriate and relevant for students, asking them only about concepts they observe and experience firsthand. Importantly, this attention to age-appropriate instruments lends credibility and "face validity" to ensure the data gathered is believable to the adults receiving the feedback.

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[8] Kane, Thomas J., Daniel F. McCaffrey, Douglas O. Staiger, and J.R. Lockwood. "Ensuring Fair and Reliable Measures of Effective Teaching: Culminating Findings from the MET Project's Three-Year Study." *Bill and Melinda Gates Foundation* (2013).

[9] Strobel, Karen, and Graciela Borsato. "Caring and Motivating Middle School Classrooms. Issue Brief." *John W. Gardner Center for Youth and Their Communities* (2012).

[10] Strobel, Karen. "Practices that promote Middle School students' motivation and achievement." *John W Garden Centre for Youth and Their Communities* (2010).

[11] Allensworth, Elaine M., and John Q. Easton. "What Matters for Staying On-Track and Graduating in Chicago Public Highs Schools: A Close Look at Course Grades, Failures, and Attendance in the Freshman Year." *Consortium on Chicago School Research* (2007).

Recommending appropriate survey administration protocols for each age group and including recommended survey administration instructions and best practices recommendations.

Ensuring appropriate survey design for the age group. Our design process includes considerations of reading level, survey length, and structure of survey questions.

- **Lexile Level:** Unlike some surveys, YouthTruth ensures that the reading level is *below* the lowest grade level of students reading the survey questions. For all of our surveys, we test the reading difficulty of each question and of the overall survey using Flesch-Kincaid readability tests. Evidence suggests that the reading level should be lower (up to 50% lower) than the survey taker's ability. YouthTruth surveys take this into consideration. Our elementary school (3-5) surveys have an average reading grade level of **2.4**, meaning that students reading at a mid-year 2nd grade level would be able to comprehend the questions. Our middle school (6-8) survey has an average reading grade level of **4.2** and our high school (9-12) survey has an average reading grade level of **5.0**. As one example of the inconsistent reading difficulty across other student surveys, the Tripod 3rd-5th grade survey used in the MET study had an average reading grade level of **4.4**, with several individual questions registering at a high school reading level.
- **Survey Length:** Our survey instruments are relatively short, with 71 questions in the high school survey (which takes an average of 18 minutes to complete), 57 questions in the middle school survey (which takes an average of 23 minutes to complete), and 40 questions in the elementary survey (which takes an average of 18 minutes to complete). We strive to strike a balance between asking enough questions to have reliable and valid feedback on each topic and also keeping our surveys brief enough to address the risk of survey fatigue.
- **Response Options:** In accordance with research-based best practices for surveying young respondents, the anchor scale for YouthTruth's elementary survey includes only 3 points, rather than the 5-point scale used in our secondary surveys. This is consistent with best practices suggesting that, because young children have comparatively less sophisticated linguistic and cognitive processing skills than adults, they are better able to map their perceptions to specific response options when there are fewer response options available – ideally, "not more than two or three response categories."[12]
- **Structure of Survey Questions—Avoid Negatively Worded Questions, and Use Neutral Questions:**
    - **Focus on Individual Experience** Our survey design process results in questions tailored to surveying children and teenagers. Whereas some surveys frequently ask children to report on what others in the class are doing and thinking, YouthTruth personalizes questions so each student responds *primarily about his or her own experience*. This approach also reduces question ambiguity and directly solicits each student's perspective.
    - **Avoid Negatively Worded Questions:** YouthTruth surveys *avoid negatively worded questions* wherever possible, based on the research that "reverse-coded items diminish scale reliability."[13] Reversed Likert scales can be confusing for children; they "force the

[12] de Leeuw, Edith D. "Improving data quality when surveying children and adolescents: Cognitive and social development and its role in questionnaire construction and pretesting." In *Report prepared for the Annual Meeting of the Academy of Finland: Research Programs Public Health Challenges and Health and Welfare of Children and Young People*, May, pp. 10-12. (2011).
[13] Gehlbach, Hunter, and Maureen E. Brinkworth. "Measure twice, cut down error: A process for enhancing the validity of survey scales." *Review of General Psychology,* 15 (2011): 315-387.

respondent to (a) notice the altered direction of wording and (b) use the opposite end of the rating scale to produce a response that is consistent with the prior items."[14]

- **Use Neutral Question Framing:** Survey questions are worded carefully to *minimize social desirability biases*, which is especially important when surveying younger children who may be hesitant to provide critical feedback to adults. For example, in our elementary survey, rather than asking students to report on how strongly they agree with a statement that could be somewhat leading ("I like coming to class."), we reframe into more a more neutral question ("Do you like coming to your class?").

Appendix Tables 1-3 list the Likert questions included in each survey.

Supplemental Survey Content

In addition to the core survey themes listed on page 3 and referenced throughout this report, the following survey content is also available.

Additional Questions Addressed in the YouthTruth Student Survey

In addition to the Likert scale questions and factors referenced throughout this report, supplemental questions that address other elements of the student experience appear in the middle and high school Student Survey. These additional questions collect critical student perceptions by asking students to indicate:

- Their school's greatest strength and greatest area for improvement, along with the option to comment about both selections. Modified age-appropriate questions about their school's strength and area for improvement are also asked of elementary school students.
- Whether they have participated in college and career readiness services, such as college entrance exam preparation or career counseling, along with a rating of the helpfulness of such services.
- Whether the student believes that there is at least one adult in his or her school who he or she could ask for a job, scholarship, or college recommendation.
- Whether the student believes that there is at least one adult in their school who they could approach for help with a personal problem.
- Whether the student wants to go to college and what the student expects to do after finishing high school.
- Whether the student has ever considered dropping out of school and, if yes, the reason for considering dropping out (including falling behind in school and feeling unable to catch up, feeling like no one cared whether the student stayed in school, feeling unsafe at school, and other options).
- Whether the student is involved in any extracurricular activities at or outside of school (clubs, teams, etc.).
- Indicators of obstacles to a student's optimal performance in school, such as, mental health challenges, family responsibilities, crime and violence, or extracurricular commitments.
- Indicators of whether the student has been physically, verbally, socially, or electronically bullied during school and, if the student has been bullied in these ways, the causes of such bullying, as the student perceives them (with response options including items such as the student's gender, sexual

[14] Carlson, Mike, Rand Wilcox, Chih-Ping Chou, Megan Chang, Frances Yang, Jeanine Blanchard, Abbey Marterella, Ann Kuo, and Florence Clark. "Psychometric properties of reverse-scored items on the CES-D in a sample of ethnically diverse older adults." *Psychological assessment* 23, no. 2 (2011): 558.

orientation, and race, among other student characteristics). Modified age-appropriate questions about bullying are also asked of elementary school students.
- The extent to which the COVID-19 pandemic has affected them. A modified age-appropriate question about COVID-19's effect is also asked of elementary school students.
- Any comments about how the pandemic-related changes in schooling have affected them and, if applicable, how their school can help.

Additional Topics and Customization

YouthTruth also offers clients the opportunity to customize their surveys by adding questions about areas of particular interest. In 2012, we reviewed custom questions previously developed for specific clients, identified themes that garnered broad interest from schools and districts, and developed supplemental content related to these themes. In doing so, we consulted many existing instruments, such as the California Healthy Kids Survey, the Learning Styles Inventory, and the New York City School Survey, as well as a variety of external advisors with content-specific expertise. For instance, our work with the research staff at the Stupski Foundation in 2011 informed the development of our supplemental Student Motivation topic, with questions drawn or adapted from several validated inventories of student motivation, ownership, and engagement developed by researchers at Stanford University, the University of Pennsylvania, and other institutions. In summer 2013, we further refined supplemental questions by examining survey data we had collected from these question modules using quantitative analysis and by engaging with clients about the utility of individual questions.

To date, additional survey topics for grades 6-12 include: Distance Learning, Diversity, Equity & Inclusion (DEI), Drugs & Alcohol, Emotional & Mental Health, Health & Well-being, Nutrition & Exercise, Project-Based Learning, School Safety, STEM Education, Student Learning Styles, Student Motivation, and Student Voice & Leadership. Additional topics for the elementary school level include Distance Learning, Emotional & Mental Health, Health & Well-being, Project-Based Learning, School Safety, STEM Education, and Student Motivation.

To ensure questions in our Additional Topics are sufficiently thematically related, we measure the internal consistency of our additional topic questions using a test of reliability known as Cronbach's alpha. More about Cronbach's alpha as it applies to YouthTruth's core survey questions and themes is located in the Survey Constructs, Validity, and Reliability section of this report.

We also assist school and district leaders in developing high-quality, customized survey questions to address other specific topics of interest.

Survey Administration

YouthTruth uses a survey administration process that places the utmost emphasis on data accuracy and ease of administration. Because critical school improvement and professional development decisions are made based on YouthTruth survey data, it is important that we gather student feedback in a valid manner and accurately link that feedback to the appropriate schools.

We offer standard four-week survey windows each month throughout the academic year, in which YouthTruth partners may participate. YouthTruth partners also have the option of creating their own custom survey window. During the administration window, administrators can closely monitor their response rates – how many students have completed the survey overall and disaggregated by grade – in a dashboard updated daily. All surveys are offered in English, Spanish, and Russian, and students can toggle

between languages. Surveys can also be translated and programmed in other languages as a custom element of a client's survey upon request. We encourage schools to meet a minimum response rate of 75 percent. Average response rates range from 74 percent to 90 percent across student survey instruments.

YouthTruth surveys are administered online, and can be taken on computers, tablets, or even smart phones. YouthTruth prepares unique survey URLs that the school distributes to each survey population. Schools plan a survey administration schedule to cycle students through computer labs, use classroom-based laptops, or mobile or tablet devices.

YouthTruth surveys can also be administered with the use of student demographic linked login codes. Using school- or district-provided student demographic data, YouthTruth generates a set of six-digit randomized assortment of letters and numbers that are linked to individual students using their student IDs. This process ensures the district-provided demographic information is automatically associated with that student's survey responses. Survey responses collected using linked login codes are confidential but not anonymous.

Post-Survey Data Processing and Quality Control

When the school-based survey administration is complete, we run collected survey data through a rigorous and standardized cleaning, checking, and aggregation process. Newly collected survey data is cleaned and aggregated in our data management system and then folded into the larger comparative dataset.[15] A survey response is defined as the respondent having progressed through at least 25 percent of the survey questions. All questions are optional a do not require a response.

Participating Schools

As a national nonprofit, YouthTruth operates with grant support and fee-for-service revenue. As a result, YouthTruth does not administer surveys among a random or fully nationally representative sample of schools or students and, therefore, the comparative data should not be interpreted as representative of all U.S. schools and students. Nonetheless, the comparative data include a diverse representation of schools and students. Table 1 describes a range of school-level sample statistics from the Student Survey sample, alongside a comparison of these indicators across the U.S. population of public schools.

YouthTruth's comparative dataset includes only the most recent survey data from all school's YouthTruth has worked with to ensure that all schools are equally represented. This means that schools that repeat the survey over time are still only represented once in the comparative dataset. To ensure the comparative dataset contains only the most relevant data, survey results in the comparison group are limited to data collected within the last ten years.

Given that the middle school and elementary school Student Survey products were introduced only in the 2012-2013 and 2013-2014 school years, respectively, responses from high school students represent the largest of YouthTruth's comparative datasets. Approximately 300,000 high school students from 575 schools, 180,000 middle school students from 501 schools and 150,000 elementary school students from 715 schools make up the Student Survey comparative dataset.

The Student Survey's sample represents a range of U.S. geographies. Approximately 33 percent of the

[15] The data cleaning process includes a number of tasks, including recoding data, summarizing factor variables, and determining which missing data should be excluded from analysis.

sample is evenly divided between large cities and rural areas, with another 14 percent of the schools drawn from small cities and 39 percent drawn from suburbs. Compared to the U.S. population of schools, the Student Survey sample represents a higher proportion of small city and suburban schools, a smaller proportion of rural schools, and an equal proportion of large city schools.[16]

Distribution by school size is somewhat inconsistent between the YouthTruth Student Survey and the national samples, with both an over representation small sized schools and an under representation of large sized schools. The percentage of medium sized schools is comparable to national samples. The YouthTruth sample includes a larger percentage of high poverty schools (defined by the National Center for Education Statistics as a school in which at least 70 percent of students qualify for free or reduced-price lunch). A larger proportion of YouthTruth schools subscribe to non-traditional models, such as early college, charter, or vocational models. The Student Survey sample represents a smaller proportion of alternative and virtual schools than national samples. Though national sample information is not readily available, a portion of YouthTruth schools also have curricula focused on science, technology, engineering, and math (STEM); or project-based learning.

Table 1. Student Survey School-Level Sample Statistics

		% of U.S. schools	% of sample	n*
Geography	*Rural*	28%	18%	342
	Suburban	31%	39%	750
	Small city	7%	14%	265
	Large city	15%	15%	278
School Size	*Small*	16%	27%	512
	Medium	60%	60%	1142
	Large	23%	13%	251
School Type	*High Poverty*	22%	32%	601
	Early College	<1%	1%	27
	STEM	n/a	6%	113
	Project-Based Learning	n/a	8%	156
	Charter	5%	10%	198
	Alternative	6%	1%	21
	Virtual	7%	1%	22

[16] The geographical designations are drawn from the National Center for Education Statistics locale codes and are as follows (for more information, please see: https://nces.ed.gov/programs/edge/geographicLocale.aspx):

- Large city schools: school located in urbanized area and in a principal city with a population of >=250K,
- Small city schools: school located in urbanized area and in a principal city with a population of <250K,
- Suburban schools: school located in an urbanized area, but outside a principal city,
- Rural schools: school located more than 10 miles from an urbanized area.

*"*n*" is shorthand for "sample size" and will be used throughout this report. In this table it refers to the number of schools in each category of the YouthTruth sample.

Survey Constructs, Validity, and Reliability

Factor analysis is a data reduction technique for examining the underlying structure of a dataset to understand how variables relate to one another.[17] We regularly perform factor analysis on student data to: (1) better understand the structure of these data, (2) organize our survey instruments, analysis, and reporting in a way that is analytically rigorous, and (3) group survey questions in a way that helps clients construct meaning from the data.

The factors identified through this analysis represent a way to understand summary-level data about students' school experience that would be difficult to assess by asking students about the summary themes directly. For example, it would not be advisable to ask a student to rate a school's overall culture. However, by capturing student perceptions about the core elements of culture—through specific, age-appropriate questions about concepts students are in a position to observe—we can accurately aggregate these results into a measure summarizing culture.

Tables 2 and 3 list the constructs identified through factor analysis for YouthTruth's secondary (High School and Middle School) and Elementary student survey instruments and include the conceptual definition for each construct.

Appendix Tables 1 through 3 list the likert questions included in each factor in each survey. Appendix Table 4 describes the reliability of factors, and Appendix Tables 5 and 8 describe each question's correlation to the overall factor, known as the factor loading, for secondary surveys. Appendix Tables 6, 9, and 11 describe the model fit for each Student Survey. As a result of the elementary survey's 3-point scale, the response data were treated as categorical. To estimate the fit of a CFA model using categorical response data, the Mean- and Variance-adjusted Weighted Least Square (WLSMV) estimator was used, as described in Appendix Table 11. Appendix Tables 7, 10, and 12 provide discriminant validity evidence for each survey.

Table 2. Middle and High Student Survey Factors

Engagement:	Describes the degree to which students perceive themselves as engaged with their school and their education.
Academic Challenge:	Describes the degree to which students feel they are challenged by their coursework and teachers.

[17] Specifically, we use principal factor analysis with oblique rotation to analyze variation in the data and identify a set of latent factors. We retained only factors that explained a substantial amount of variation in the data and grouped variables into a factor only if they were highly correlated with the overall factor itself. We retain only factors with Eigen values greater than 0.4 and include variables within factors only if the factor loadings are greater than 0.3. However, the majority of variables within a factor load at 0.5 or higher, with 30% of the factors loading at 0.7 or higher.

Relationships:	Describes the degree to which students feel they receive support and personal attention from their teachers.
Belonging & Peer Collaboration:	This summary measure describes the degree to which students feel welcome at their school and have collaborative relationships with their classmates.
Culture:	Describes the degree to which students believe that their school fosters a culture of respect and fairness.
College & Career Readiness:*	Describes the degree to which students feel equipped to pursue college and careers

*Only appears in High School level surveys

Table 3. Elementary School Student Survey Factors

Engagement:	Describes the degree to which students perceive high expectations and feel engaged with their school and their education.
Academic Challenge:	Describes the degree to which students feel their learning is challenging and relevant.
Instructional Methods:	Describes the strategies and approaches students report their teachers using in class.
Relationships:	Describes the degree to which students have strong, supportive relationships with their teachers.
Culture:	Describes the degree to which students experience an orderly, respectful classroom environment.
Belonging:	Describes the degree to which students feel welcome at their school.

To ensure that these results were not simply a product of the data we collected in a given year, but were consistent with other samples, the most recent factor analysis of the Student Survey was compared to annual factor analyses conducted since 2009. These analyses indicated that results were consistent over time.

This consistency indicates that we have identified the underlying factors of this student perception data in the Student Survey, and not simply factors produced by a particular sample.

Reliability Testing

In addition to factor analysis, we measure the internal consistency of our survey instruments' factors using a test of reliability known as Cronbach's alpha. Alpha is expressed as a number between 0 and 1, with a higher alpha indicating that the set of items in a factor are measuring the same construct.[18]

[18] The following rule of thumb applies when interpreting the quality of constructs and their alphas. Excellent: >0.9; Good: 0.8-

Cronbach's alpha is a statistic used widely throughout education research to understand if test questions or survey questions intended to measure a given construct are indeed measuring that construct.
We use this measure to confirm that the questions within each factor are adequately related to the underlying factor. Appendix Table 4 displays the alphas for each factor across survey instruments. With Cronbach's alphas ranging between 0.74 – 0.88 in the High School Student Survey, 0.66 – 0.83 in the Middle Student Survey, and 0.52-0.76 in the Elementary School Student Survey. These results indicate that the questions grouped within each factor are correlated with the factor and truly measure the constructs we intend to measure with them.

We have replicated these analyses on historical YouthTruth Student Survey data within a variety of samples. In all instances, we have found measures of reliability consistent with the results described in this paper. Independent third-party validation has confirmed the reliability and validity of YouthTruth surveys.[19] In analyzing the Elementary school data, the data were treated as continuous and therefore, the Mean- and Variance-adjusted Weighted Least Square (WLSMV) estimator was used. For additional details refer to Appendix Table 11.

Reporting and Comparative Data

Overall Sample, Comparison Groups, and Subgroup Reporting

One of the primary values of using the YouthTruth surveys is that we present student feedback within a comprehensive comparative context, including comparisons to the overall YouthTruth sample, a school's district, both standard and custom comparison groups, and a variety of student subgroups. Comparative data allows clients to better understand the relative position of their ratings both within and beyond their school and district context. YouthTruth's comparative dataset is updated annually and contains the most recent decade's worth of data.

National Comparison

Although we do not claim to have a nationally representative sample of schools and students, we do have a large and robust dataset representing the experiences and perceptions of students from a wide range of environments, geographies, and school contexts. This comparative context informs participants' interpretation of their results, aiding educators and administrators to make improvements that are based on sound data. Within reports, results are displayed along a percentile scale in addition to absolute ratings, so that clients can compare their own ratings to those of other participating schools.

District and School Type Comparisons

To make comparisons more contextually meaningful, we provide clients with the opportunity to compare their data to that of smaller subsets of participants with similar characteristics as the client. For example, because most schools participate in the YouthTruth surveys alongside other schools within their local school district or network, most schools can compare their students' feedback to that of students from other schools in their districts.

0.9; Acceptable: 0.7-0.8; Questionable: 0.6-0.7; Poor: 0.5-0.6; Unacceptable: <0.5 [Kline, P. (1999). The handbook of psychological testing (2nd ed.). London: Routledge].

[19] Third party validation has been conducted by John Madura of Connecticut College; a summary of findings is available upon request.

We also offer a standard set of comparison groups that allow all clients to view the range of results received by subsets of schools meeting certain criteria related to poverty, school size, school type, and geography. These standard cohorts are listed in Table 4.

Table 4. Standard Cohorts

Alternative schools	Schools that (1) address needs of students that typically cannot be met in a regular school, (2) provide nontraditional education, (3) serve as adjuncts to regular school, or (4) fall outside the categories of regular, special education, or vocational education.
Charter schools	Publicly funded, independently managed schools established under the terms of a charter with a local or national authority.
COVID-19 schools	Schools that fielded surveys in the time of COVID-19 (after March 2020).
High poverty schools	Greater than or equal to 70% of a district or school's students receiving free or reduced-price lunch.
International schools	Schools that are not administered by governmental entities and are funded privately.
Large city schools	Schools located in an urbanized area and in a principal city with a population greater than or equal to 250,000.
Large size schools	For elementary schools: Greater than or equal to 600 students. For middle schools: Greater than or equal to 800 students. For high schools: Greater than or equal to 1,200 students.
PBL schools	Schools utilizing project-based-learning models as part of curriculum.
Rural schools	Schools not located in an urbanized area.
Small city schools	Schools located in an urbanized area and in a principal city with a population of less than 250,000.
Small size schools	For elementary schools: Less than or equal to 150 students. For middle schools: Less than or equal to 200 students. For high schools: Less than or equal to 300 students.
STEM schools	Schools utilizing a curriculum focusing primarily on science, technology, engineering, and math.
Suburban schools	Schools located in an urbanized area, but outside a principal city.
Virtual schools	Schools that offer most or all of their courses online.
2020-21 Distance learning schools	Schools that fielded surveys in the 20-21 school year while operating under a distance learning model.
2020-21 Hybrid learning schools	Schools that fielded surveys in the 20-21 school year while operating under a hybrid learning model (with students engaged in both distance learning and in-person learning).

2020-21 In-person learning schools	Schools that fielded surveys in the 20-21 school year while operating under an in-person learning model.

Additionally, if enough schools and districts have surveyed with YouthTruth from a given state, YouthTruth will automatically provide a cohort that includes all schools located in that state. The threshold for a state cohort is survey data from ten unique schools across five unique districts. Other custom cohorts are available upon request.

Demographic Questions and Student Subgroup Analysis
Finally, all YouthTruth surveys ask students a variety of demographic questions that allow for subgroup analyses. Secondary students can report the following information about themselves: grade level, gender, race/ethnicity, person of color identity, English language learner status, special education status, and average academic grades. Elementary school students receive only three demographic questions: grade level, gender, and race/ethnicity. In response to 2020 emergency distance learning, YouthTruth added a demographic question allowing both elementary and secondary students to identify whether they were primarily learning in a virtual, in-person, or hybrid environment. Students are not required to answer any questions they do not wish to answer.

Youthtruth offers additional demographic questions that clients can opt into for secondary student surveys only. These optional questions are: receipt of free or reduced-price lunch, transgender identity, and a pair of demographic questions regarding sexual orientation and LGBTQ+ membership status.

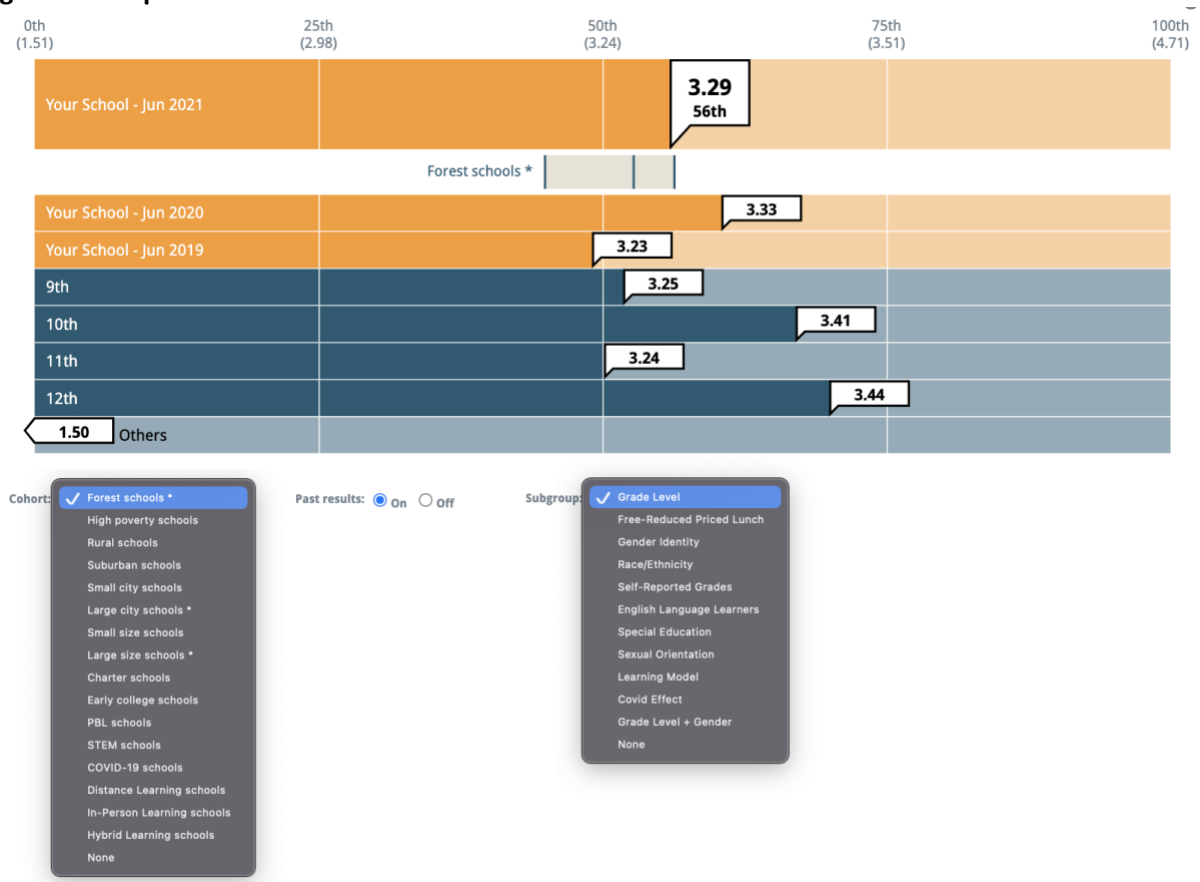
These demographic questions enable clients to view comparisons of differences in student perceptions across different student subgroups in their reports. Additionally, starting in the 2021-22 school year, all Student Survey reports contain a cross-section subgroup combining student grade levels and gender identities for further disaggregation of survey results. Subgroups containing fewer than five respondents are suppressed in reports to protect student confidentiality.

Custom Comparisons and Subgroups
Custom comparison groups and custom subgroup analysis can also be requested to facilitate clients' understanding of the student experience across different school types, programs, or student characteristics.

Report Products
YouthTruth reports are delivered to clients through an interactive, online reporting system, which is password-protected and uses bank-grade security and the option to enable two-factor authentication for all accounts. Different reports can be produced for different audiences: district or network leaders, school leaders, and community members. Regional or state "roll-up" reports that combine data from across districts can also be produced.

Figure 1 contains a sample of a key chart found in a YouthTruth report (Note: the brackets and associated text are for illustrative purposes only).

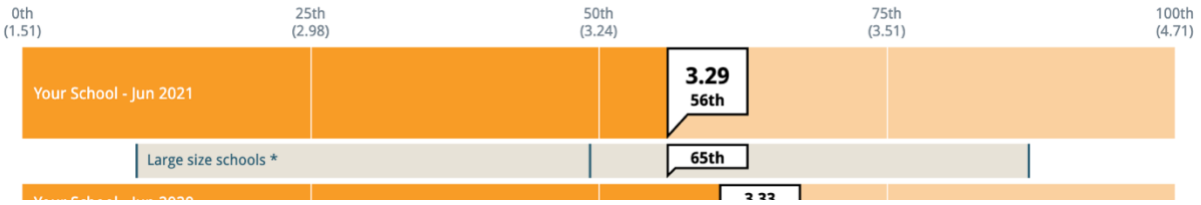
Figure 1. Sample YouthTruth Chart



School Rating and National Comparison

The orange bar at the top of the chart sets this school's rating in a comparative context: compared to all schools of the same grade levels that have participated in the Student Survey, this school's average student rating of 3.29 places it in the 56th percentile—that is, the school received an average rating higher than that of 56 percent of other participating schools. At the top of the chart, the numerical values appearing in parentheses beneath quartile labels indicate the average student rating, on a 1-5 scale, associated with each quartile. In this sample chart, for example, the 25th percentile is associated with an average student rating of 2.98.

Cohort Comparisons: The beige bar below the top bar provides a second level of comparison. For most clients, this bar will enable a comparison between a school and the district overall, assuming that other schools from the district are also participating. The tick in the beige bar represents the "typical" or median school in that cohort, while the left and right-most ends of the line represent the lowest and highest-rated schools in the cohort respectively. The user can also toggle the other comparison groups identified in the previous section using the "Cohort" drop-down menu. The asterisk next to cohort names in the drop-down menu, indicates that school's membership in the cohort. For clients comparing their data to data from cohorts that they are also members of, their school's percentile within the cohort is displayed when the user hovers over the beige bar. For example, this sample school is a member of the large size schools cohort, and their current data is in the 65th percentile when compared to other large size schools.



Trend Data: The second and third orange bars in this example (labeled "Jun 2019" and "Jun 2020") allow clients to compare their current average rating to the average ratings they received when they previously participated in the YouthTruth survey unless they are participating for the first time.

Subgroup Analysis: The remainder of the chart enables clients to make further comparisons with their data alone. The blue section at the bottom of the chart contains a range of subgroup data described in the previous section, which the user may change using the drop-down menus.

District reports: Districts with more than one school at a given level will receive a District Report to help give an overview of all the schools' survey results. The calculations in these reports are similar to school reports but include every response from each school in the district. The average rating in a District Report is the mean of all respondents' responses in the district at that level. Individual schools show up as subgroups. Importantly, these calculations are not the same as the calculations for district cohorts in school reports which, like all other cohorts, display the "typical" or median school in the district.

Other Features: The online reports contain numerous other features, including a key ratings chart, executive summary, narratives of results related to each summary measure, interactive charts for each summary measure and each survey question, students' perceptions of their school's strengths and areas for improvement, and a file containing indexed students' qualitative comments. Through the Online Reporting System (ORS), clients can create PowerPoint presentations based on their reports using an embedded presentations feature. The report can be easily downloaded as a PDF. Clients are also able to share current percent positive results for individual questions directly to Twitter (or anywhere else with the copy function) using our integrated Data Bites feature.

General Results: YouthTruth Aggregate Analysis and Descriptive Statistics

This section of the report describes respondent sample statistics and general findings for the high school, middle school and elementary school Overall School Experience and Feedback for Teachers surveys. General findings stem from analyses of comparative data[20] associated with particular YouthTruth surveys. The Student Survey data come from over 330,000 students at 601 high schools, over 200,000 students at 550 middle schools, and over 175,000 students at 744 elementary schools.

Sample Statistics

Table 6 provides respondent sample statistics for the students who have participated in an Overall School Experience Survey, and who are included in YouthTruth's comparative data set. All three surveys have average response rates above 74%.

[20] Many districts have collaborated with YouthTruth over a number of years, meaning that the total number of surveyed students and schools is greater than the numbers displayed in this section. The comparative data includes only the most recent responses from repeat clients.

Although representation from grade level to grade level varies slightly across all surveys, the distribution of grades within each survey is close to normal. The high school data includes responses from a slightly lower proportion of twelfth graders, most likely due to higher cumulative dropout rates and other forms of attrition. The middle school data contains greater representation of seventh-graders and eighth-graders than sixth-graders, likely because the grade levels in middle schools can vary. Specifically, 6th grade is sometimes located in elementary schools.

Table 6. Overall School Experience Survey Student-Level Sample Statistics

		High School Sample	Middle School Sample	Elementary School Sample
n		330,381	207,508	176,242
Avg. Response Rate		74%	88%	90%
Grade Level	*3rd*	--	--	27%
	4th	--	--	30%
	5th	--	--	31%
	6th	--	26%	--
	7th	--	35%	--
	8th	--	35%	--
	9th	28%	--	--
	10th	26%	--	--
	11th	24%	--	--
	12th	21%	--	--
	Other	1%	4%	2%
Gender	*Girl/Woman*	47%	44%	46%
	Boy/Man	46%	47%	47%
	Identifies in another way	4%	5%	--
	Prefers not to say	3%	4%	7%
Race/ethnicity	*American Indian, Alaska Native, or Indigenous*	1%	2%	3%
	Asian or Asian American	6%	7%	4%
	Black or African-American	12%	10%	9%
	Hispanic or Latina/o/x	28%	26%	15%
	Middle Eastern or North African	<1%	<1%	<1%
	Multiracial and/or Multi-ethnic	8%	8%	9%
	Native Hawaiian or Pacific Islander	1%	1%	1%
	White	36%	31%	31%
	Other race/ethnicity	4%	8%	6%

	Prefers not to say	4%	8%	19%

Racial and Ethnic Background of YouthTruth Survey Respondents

The racial and ethnic background of respondents differs somewhat from that of public-school students nationally. More than 30 percent of the students in Elementary, Middle, and High School samples self-identify as White, comprising the largest ethnic group that has participated in YouthTruth surveys. Hispanic or Latinx students make up the second largest racial group in the YouthTruth samples, with over a quarter of secondary students and 15 percent of Elementary students identifying a Hispanic or Latinx. The next largest racial group is Black or African American students with 9, 10, and 12 percent of elementary, middle, and high school respondents identifying as Black, respectively. Remaining racial and ethnic groups each comprise less than 10 percent of the sample.

In comparison to students nationally, respondents to YouthTruth surveys are disproportionately non-White: 46 percent, 28 percent, and 15 percent of students nationally are White, Hispanic, and African American, respectively. The proportion of YouthTruth respondents identifying as Asian American, Native American, and Pacific Islander is consistent with the national population. A larger proportion of students in the YouthTruth sample identify as two or more races compared to students nationally. [21]

Findings

The tables remaining in this section highlight factor-level findings across the Student Survey, as well as results disaggregated by grade, gender, and race and ethnicity.

High School Student Survey: Summary of Findings

Table 8 contains descriptive statistics for the survey's six factors: Engagement, Academic Challenge, Relationships, Belonging & Peer Collaboration, Culture, and College and Career Readiness. The first column contains the proportion of students who rated the factor positively. There is substantial variation in favorability across these areas, with 60 percent of students in the comparative dataset rating Academic Challenge favorably and 30 percent of students rating Culture favorably.[22] The following columns include both student- and school-level averages, standard deviations, and counts for each factor. Average student and school ratings are all above the scale's mid-point of three, especially among the factors rated most favorably, indicating a somewhat non-normal distribution among students.

[21] U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," Enrollment and percentage distribution of enrollment in public elementary and secondary schools, by race/ethnicity and region: Selected years, fall 1995 through fall 2030.

[22] Calculating the percent of 4s and 5s for factors is less straightforward than calculating the percent of 4s and 5s for a specific question. Factors are calculated by averaging the responses to the questions in a given factor for respondents who answered every question; respondents with missing data in any factor's question (amounting, on average, to 3% of respondents for a given factor) are excluded. For factor favorability ratings, we use rounding to determine the percent of 4s and 5s: any non-missing respondent with an average factor rating greater than 3.5 is counted as rating favorably.

Table 7. High School Student Survey: Student & School Ratings

	Proportion of Positive Ratings[23]	Average Rating (Standard Deviation)		n	
		Students	Schools	Students	Schools
Engagement	52%	3.48 (0.77)	3.57 (0.24)	301,667	601
Academic Challenge	60%	3.71 (0.75)	3.78 (0.22)	301,938	601
Relationships	38%	3.32 (0.82)	3.48 (0.32)	292,814	601
Belonging & Peer Collaboration	43%	3.33 (0.77)	3.35 (0.28)	259,743	536
Culture	30%	3.21 (0.79)	3.37 (0.38)	291,741	601
College & Career Readiness	33%	3.16 (0.96)	3.30 (0.34)	289,976	601

High School Overall School Experience Survey: Findings by Grade, Gender, and Race/Ethnicity

Grade Level

A general grade level trend emerges, with students in lower grades rating higher than students in higher grades. This is most consistent for Engagement and Academic Challenge. Twelfth graders are relatively consistent with tenth and eleventh graders, although they indicate more positive perceptions of their Engagement, Relationships, and College and career readiness than eleventh graders do, on average. A possible explanation for this difference is that some level of attrition has occurred prior to and during the 12th grade, leaving behind the more satisfied and successful students.

Gender

There are differences between girls and boys in measures of engagement and academic challenge, with ratings from girls exceeding ratings from boys. Boys' average rating are higher than girls' for all other factors. Students identifying outside of the gender binary, comprising less than five percent of the high school student sample, rate much lower than girls and boys across all themes.

Race/Ethnicity

There are a variety of differences between the three racial and ethnic groups with the greatest representation – Black, Hispanic, and White. In the measures that are most similar to traditional educational outcome measures – Engagement, Academic Challenge, and College and Career Readiness – Black students rate higher than do students in other groups, followed by Hispanic students, and then White students. However, the trend changes when measuring indicators of more relational dimensions, including Relationships and Culture. On Relationships, White students rate the highest of the three groups and on Culture, Hispanic students rate the highest of the three groups. Rating across those groups for Belonging & Peer Collaboration are similar.

[23] The proportion of positive ratings includes the proportion of students whose average rating across the related questions was greater than 3.5 out of 5.

Other racial groups with smaller surveyed populations exhibit differences, as well. Students identifying as American Indian, Alaska Native, or Indigenous rate lower on many survey themes, while students identifying as Asian rate higher in many areas. Students identifying as Native Hawaiian or Other Pacific Islander, as well as those identifying as Middle Eastern or North African, comprise a very small number of respondents relative to other surveyed racial or ethnic groups.

Table 8. High School Overall School Experience Survey: Average Student Ratings by Subgroup
n = 330,381

		Engagement	Academic Challenge	Relationships	Belonging & Peer Collaboration	Culture	College & Career Readiness
Grade	*9th*	3.54	3.79	3.35	3.34	3.25	3.22
	10th	3.47	3.72	3.29	3.33	3.19	3.11
	11th	3.47	3.71	3.31	3.33	3.19	3.10
	12th	3.51	3.68	3.37	3.34	3.21	3.23
Gender	*Girl/Woman*	3.58	3.78	3.31	3.32	3.19	3.16
	Boy/Man	3.46	3.72	3.37	3.40	3.26	3.22
	Identifies in another way†	3.14	3.41	3.09	2.97	2.95	2.82
	Prefers not to say	3.18	3.44	3.08	3.00	2.96	2.88
Race/ ethnicity	*American Indian, Alaska Native, or Indigenous*	3.38	3.60	3.21	3.23	3.09	3.12
	Asian or Asian American	3.59	3.83	3.46	3.47	3.43	3.22
	Black or African American	3.62	3.82	3.29	3.33	3.09	3.37
	Hispanic or Latina/o/x	3.55	3.78	3.31	3.33	3.29	3.30
	Middle Eastern or North African	3.44	3.60	3.22	3.39	3.29	3.06
	Multiracial	3.40	3.64	3.31	3.30	3.09	3.04
	Native Hawaiian or Pacific Islander	3.46	3.67	3.29	3.36	3.21	3.19
	White	3.46	3.69	3.37	3.35	3.20	3.04
	Other race/ ethnicity	3.37	3.60	3.18	3.23	3.08	3.05
	Prefers not to say	3.32	3.54	3.17	3.13	3.08	3.01

†Includes Non-binary or gender non-conforming.

Middle School Overall School Experience Survey: Summary of Findings

The themes highlighted in this survey include Engagement, Academic Challenge, Relationships, Belonging & Peer Collaboration, and Culture.

Academic challenge is the highest-rated theme by a significant margin, with 61 percent of students responding positively.[24] Middle school students respond less favorably with regard to their culture. Overall, however, middle schools rate their overall school experience quite high. The lowest rated summary measure is Culture, with an average student rating of 3.30, while the highest is Academic Challenge with an average student rating of 3.71.

Table 9. Middle School Overall School Experience Survey: Student & School Ratings

	Proportion of Positive Ratings	**Average Rating (Standard Deviation)**		**n**	
		Students	Schools	Students	Schools
Engagement	49%	3.41 (0.84)	3.46 (0.21)	164,566	536
Academic Challenge	61%	3.71 (0.72)	3.74 (0.21)	170,608	550
Relationships	47%	3.48 (0.87)	3.53 (0.26)	169,325	550
Belonging & Peer Collaboration	48%	3.41 (0.74)	3.42 (0.20)	163,897	536
Culture	35%	3.30 (0.80)	3.35 (0.31)	171,337	550

Middle School Overall School Experience Survey: Findings by Grade, Gender, and Race/Ethnicity

Grade Level

Middle school data reveals a pattern of younger students rating their school experience higher than older students. This pattern is more consistent among middle school students than it is among high school students. Across all themes sixth graders have more positive views on average than eighth graders.

Gender

Similar to ratings in the high school Student Survey, girls' ratings of Engagement exceed ratings from boys. Boys' average rating are higher than girls' for all other factors. Students identifying outside of the gender binary, comprising five percent of the middle school student sample, rate much lower than girls and boys across all themes.

Race/Ethnicity

Differences between White and Hispanic students are relatively small, but White students do rate Relationships, Belonging & Peer Collaboration, and Culture more positively than do Hispanic students. As we find in the high school survey, Black or African-American students rate these three measures lower than do White and Hispanic students.

[24] The proportion of positive ratings were calculated the same way as for high school students in Table 8.

Table 10. Middle School Overall School Experience Survey: Average Student Ratings by Subgroup

n = 207,508

		Engagement	Academic Challenge	Relationships	Belonging & Peer Collaboration	Culture
Grade	*6th*	3.58	3.84	3.58	3.43	3.45
	7th	3.41	3.69	3.46	3.40	3.28
	8th	3.31	3.63	3.42	3.41	3.20
Gender	*Girl/Woman*	3.51	3.74	3.48	3.41	3.29
	Boy/Man	3.41	3.76	3.53	3.48	3.36
	Identifies in another way†	3.00	3.32	3.19	3.04	2.95
	Prefers not to say	3.17	3.46	3.24	3.11	3.09
Race/ ethnicity	*American Indian or Alaska Native*	3.43	3.70	3.45	3.39	3.33
	Asian	3.52	3.75	3.59	3.54	3.48
	Black or African-American	3.49	3.81	3.42	3.40	3.15
	Hispanic or Latina/o/x	3.47	3.76	3.47	3.43	3.34
	Middle Eastern or North African	3.41	3.63	3.49	3.51	3.32
	Multiracial	3.33	3.62	3.36	3.34	3.12
	Native Hawaiian or Other Pacific Islander	3.41	3.66	3.48	3.45	3.26
	White	3.39	3.70	3.57	3.45	3.35
	Other race/ ethnicity	3.35	3.63	3.36	3.35	3.21
	Prefers not to say	3.38	3.65	3.40	3.27	3.31

†Includes Non-binary or gender non-conforming.

Elementary School Overall School Experience School Survey: Summary of Findings

Please note that unlike other surveys included in this report, the Elementary School Survey is administered on a scale of 1 to 3, rather than a scale of 1 to 5. This is consistent with best practices suggesting that, because young children have comparatively less sophisticated linguistic and cognitive processing skills than adults, they are better able to map their perceptions to specific response options when there are fewer response options available – ideally, "not more than two or three response categories."[25]

[25] de Leeuw, E. D. (2001). Improving data quality when surveying children and adolescents: Cognitive and social development

Like secondary Student Surveys, there is substantial variation in favorability across elementary survey themes, with 89 percent of students in the comparative dataset rating Engagement favorably and 23 percent of students rating Culture favorably. The Culture theme is consistently rated lower than all other themes and show a significantly smaller proportion of positive ratings.

Table 11. Elementary School Overall School Experience Survey: Student & School Ratings

	Proportion of positive ratings	Average Rating (Standard Deviation)		n	
		Students	Schools	Students	Schools
Engagement	89%	2.82 (0.30)	2.82 (0.05)	113,944	637
Academic Challenge	45%	2.51 (0.42)	2.51 (0.09)	134,816	744
Instructional Methods	51%	2.57 (0.40)	2.57 (0.08)	134,217	744
Relationships	80%	2.70 (0.36)	2.70 (0.08)	132,357	744
Culture	23%	2.20 (0.43)	2.20 (0.15)	135,349	744
Belonging	55%	2.48 (0.50)	2.48 (0.11)	84,135	489

Elementary School Overall School Experience Survey: Findings by Grade, Gender, and Race/Ethnicity

Grade Level

As with middle and high school Student Surveys, students in lower grade levels rate higher on most survey factors, though differences are minimal.

Gender

Girls give higher ratings than boys for each of the summary measures except for Culture and Belonging.

Race/Ethnicity

There are some differences between Black, Hispanic, and White respondents, the three largest race/ethnicities by proportion in the elementary sample. Hispanic students rate higher than White or Black students in Academic Challenge, Instructional Methods, and Relationships. White students have higher average ratings than Black or Hispanic students in Engagement, Culture, and Belonging.

and its role in questionnaire construction and pretesting. In Annual Meeting of the Academy of Finland: Research Programs, Public Health Challenges, and Health and Welfare of Children and Young People. See also Borgers, N., & Hox, J. J. (2000, October). Reliability of responses in questionnaire research with children. In Fifth international conference on logic and methodology, Cologne, Germany.

Table 12. Elementary School Overall School Experience Survey: Average Student Ratings by Subgroup
n = 38,555

		Engagement	Academic Challenge	Instructional Methods	Relation-ships	Culture	Belonging
Grade	3rd	2.81	2.57	2.55	2.72	2.25	2.54
	4th	2.83	2.54	2.57	2.71	2.20	2.49
	5th	2.83	2.47	2.58	2.69	2.17	2.45
Gender	Girl	2.83	2.54	2.59	2.73	2.19	2.47
	Boy	2.81	2.49	2.56	2.69	2.22	2.51
	Prefers not to say	2.78	2.35	2.46	2.60	2.12	2.26
Race	*American Indian, Alaska Native, or Indigenous*	2.79	2.49	2.55	2.68	2.25	2.48
	Asian or Asian American	2.81	2.48	2.59	2.74	2.29	2.53
	Black or African-American	2.81	2.51	2.56	2.64	2.14	2.42
	Hispanic or Latina/o/x	2.81	2.53	2.62	2.73	2.24	2.48
	Middle Eastern or North African	2.76	2.46	2.50	2.63	2.20	2.40
	Multiracial and/or Multi-ethnic	2.82	2.45	2.56	2.68	2.18	2.42
	Native Hawaiian or Pacific Islander	2.75	2.48	2.51	2.66	2.18	2.43
	White	2.84	2.48	2.56	2.72	2.25	2.52
	Other race/ethnicity	2.79	2.47	2.53	2.68	2.21	2.42
	Prefers not to say	2.80	2.48	2.53	2.68	2.23	2.45

Appendix

Appendix Table 1. High School Student Survey Likert-Scale Questions in Factors

Engagement
I take pride in my school work
I try to do my best in school
I enjoy coming to school most of the time
My teachers' expectations make me want to do my best
What I learn in class helps me outside of school

Academic Challenge
In order to receive a good grade, I have to work hard in my classes
The work that I do for my classes makes me really think
I can tell that my teachers understand the subjects that they are teaching
My teachers give me assignments that help me to better understand the subject

Relationships
How many of your teachers are willing to give extra help on school work if you need it?
How many of your teachers try to be fair?
How many of your teachers believe that you can get a good grade if you try?
How many of your teachers are not just satisfied if you pass, they care if you're really learning?
How many of your teachers connect what you're learning in class with your life outside of school?
How many of your teachers make an effort to understand what your life is like outside of school?

Belonging & Peer Collaboration
I really feel like part of my school's community
I can usually be myself around other students at this school
Most students at this school are friendly to me
How often do you work with other students for your classes because your teachers ask or tell you to?
How often do you work with other students for your classes, even when your teacher doesn't ask or tell you to?

Culture
Most students in this school treat adults with respect
Most adults in this school treat students with respect
Most students in this school want to do well in class
Discipline in this school is fair

College & Career Readiness
My school has helped me develop the skills and knowledge I will need for college-level classes
My school has helped me understand the steps I need to take in order to apply to college
My school has helped me figure out which careers match my interests and abilities
My school has helped me understand the steps I need to take in order to have the career that I want

Appendix Table 2. Middle School Student Survey Likert-Scale Questions in Factors

Academic Challenge
In order to get a good grade, I have to work hard in my classes
The work that I do for my classes makes me really think
My teachers explain things in a way that I understand
My teachers give me assignments that really help me learn

Relationships
How many of your teachers are willing to give extra help on school work if you need it?
How many of your teachers try to be fair?
How many of your teachers believe that you can get a good grade if you try?
How many of your teachers are not just satisfied if you pass, they care if you're really learning?
How many of your teachers connect what you're learning in class with your life outside of school?
How many of your teachers try to understand what your life is like outside of school?

Belonging & Peer Collaboration
I really feel like a part of my school's community
I can usually be myself around other students at this school
Most students at this school are friendly to me
How often do you work with other students for your classes because your teachers ask or tell you to?
How often do you work with other students for your classes, even when your teacher doesn't ask or tell you to?

Culture
I think my classmates want to do well in class
Most students in this school treat adults with respect
Most adults in this school treat students with respect
Discipline in this school is fair

Engagement
I enjoy coming to school most of the time
I take pride in my school work
What I learn in class helps me outside of school

Appendix Table 3. Elementary School Student Survey Likert-Scale Questions in Factors

Academic Challenge
Do you learn a lot in your class every day?
Does the work you do in class make you really think?
Do you learn interesting things in class?
Does what you learn in class help you outside of school?

Instructional Methods
Does your teacher ask you if you understand what you are learning?
Does your teacher explain things in ways you can understand?

Does your teacher let you explain your ideas?
When you make a mistake, does your teacher help you correct it?

Relationships
Is your teacher fair to you?
Does your teacher give you extra help if you need it?
Does your teacher treat you with respect?
Do you like the way your teacher treats you when you need help?
Do you think your teacher cares about you?

Culture
Do students behave well in your class?
Do students in your class treat the teacher with respect?
Does your class stay busy and not waste time?

Engagement
Does your teacher want you to do your best?
Do you think your teacher wants you to work your hardest?
Does your teacher ask you to keep trying when the work gets hard?

Belonging
Can you be yourself with other students?
Are students friendly to you?
Do you feel like a real part of your school community?

Appendix Table 4. Reliability of Factor Variables

	Factors	Cronbach's Alpha
High School Student Survey	Engagement	0.77
	Academic Challenge	0.75
	Relationships	0.84
	Belonging & Peer Collaboration	0.74
	Culture	0.75
	College & Career Readiness	0.88
Middle School Student Survey	Engagement	0.66
	Academic Challenge	0.82
	Relationships	0.83
	Belonging & Peer Collaboration	0.68
	Culture	0.72
Elementary Student Survey	Engagement	0.52
	Academic Challenge	0.67
	Belonging	0.69
	Instructional Methods	0.63
	Relationships	0.75
	Culture	0.66

Appendix Table 5. Overview of Factor Loadings: High School Student Survey

Questions	Factor Loading
Engagement	
I take pride in my schoolwork.	0.64
I enjoy coming to school most of the time.	0.68
My teachers' expectations make me want to do my best.	0.74
I try to do my best in school.	0.50
What I learn in class helps me outside of school.	0.68
Academic Challenge	
In order to receive a good grade, I have to work hard in my classes.	0.52
The work that I do for my classes makes me really think.	0.62
I can tell that my teachers understand the subjects that they are teaching.	0.63
My teachers give me assignments that help me to better understand the subject.	0.70
Relationships	
How many of your teachers are willing to give extra help on schoolwork if you need it?	0.76
How many of your teachers try to be fair?	0.78
How many of your teachers believe you can get a good grade if you try?	0.64
How many of your teachers are not just satisfied if you pass, they care if you're really learning?	0.79
How many of your teachers connect what you're learning in class to life outside of the classroom?	0.71
How many of your teachers make an effort to understand what your life is like outside of school?	0.70
Belonging & Peer Collaboration	
I really feel like part of my school's community.	0.84
I can usually be myself around other students at this school.	0.77
Most students at this school are friendly to me.	0.65
How often do you work with other students for your classes because your teachers ask or tell you to?	0.48
How often do you work with other students for your classes, even when your teacher doesn't ask or tell you?	0.51
Culture	
Most students in this school treat adults with respect.	0.63
Most adults in this school treat students with respect.	0.74
Most students in this school want to do well in class.	0.55
Discipline in this school is fair.	0.72
College & Career Readiness	
My school has helped me develop the skills and knowledge I will need for college level classes.	0.72
My school has helped me understand the steps I need to take in order to apply to college.	0.91
My school has helped me figure out which careers match my interests and abilities.	0.93
My school has helped me understand the steps I need to take in order to have the career that I want.	1.00

Appendix Table 6: High School Student Survey Model Fit

Fit Index	6 factor model
Chi-square	393187.747, df = 335, p < 0.001
RMSEA	0.071
CFI	0.862
SRMR	0.059

Appendix Table 7. High School Student Survey Factor Correlation Matrix

Factor	Engagement	College & Career Readiness	Relationships	Culture	Academic Challenge	Belonging & Peer Collaboration
Engagement	1.00					
College & Career Readiness	0.65	1.00				
Relationships	0.70	0.58	1.00			
Culture	0.69	0.59	0.74	1.00		
Academic Challenge	0.88	0.63	0.76	0.75	1.00	
Belonging & Peer Collaboration	0.65	0.50	0.57	0.68	0.58	1.00

Appendix Table 8. Overview of Factor Loadings: Middle School Student Survey

Questions	Factor Loading
Engagement	
I enjoy coming to school most of the time.	0.70
I take pride in my school work.	0.61
What I learn in class helps me outside of school.	0.72
Academic Challenge	
In order to get a good grade, I have to work hard in my classes.	0.48
The work that I do for my classes makes me really think.	0.61
My teachers explain things in a way that I understand.	0.67
My teachers give me assignments that really help me learn.	0.80
Relationships	
How many of your teachers are willing to give extra help on school work if you need it?	0.78
How many of your teachers try to be fair?	0.85
How many of your teachers believe that you can get a good grade if you try?	0.66
How many of your teachers are not just satisfied if you pass, they care if you're really learning?	0.81
How many of your teachers connect what you're learning in class with your life outside of school?	0.81
How many of your teachers try to understand what your life is like outside of school?	0.80
Belonging & Peer Collaboration	
I really feel like a part of my school's community.	0.89
I can usually be myself around other students at this school.	0.73
Most students at this school are friendly to me.	0.69
How often do you work with other students for your classes because your teachers ask or tell you to?	0.35
How often do you work with other students for your classes, even when your teacher doesn't ask or tell you to?	0.36
Culture	
I think my classmates want to do well in class.	0.55
Most students in this school treat adults with respect.	0.59
Most adults in this school treat students with respect.	0.78
Discipline in this school is fair.	0.74

Appendix Table 9: Middle School Student Survey Model Fit

Fit Index	5 factor model
Chi-square	118039.075, df = 199, $p < 0.001$
RMSEA	0.061
CFI	0.905
SRMR	0.061

Appendix Table 10. Middle School Student Survey Factor Correlation Matrix

Factor	Engagement	Academic Challenge	Relationships	Culture	Belonging & Peer Collaboration
Engagement	1.00				
Belonging & Peer Collaboration	0.938	1.00			
Engagement	0.687	0.716	1.00		
Relationships	0.783	0.795	0.771	1.00	
Culture	0.713	0.634	0.592	0.718	1.00

Appendix Table 11: Elementary School Student Survey Model Fit

Fit Index	6 factor model
Chi-square	10678.313, df = 194, p < 0.001
RMSEA	0.036
CFI	0.987
SRMR	0.029

Appendix Table 12. Elementary School Student Survey Factor Correlation Matrix

Factor	Academic Challenge	Instructional Methods	Relationships	Culture	Engagement	Belonging
Academic Challenge	1.00					
Instructional Methods	0.76	1.00				
Relationships	0.69	0.88	1.00			
Culture	0.49	0.47	0.45	1.00		
Engagement	0.55	0.71	0.77	0.32	1.00	
Belonging	0.58	0.61	0.56	0.60	0.37	1.00