# 5Essentials

Historically, school improvement efforts have primarily focused on technical factors such as grades and test scores while neglecting the social components of a school's culture, such as trust and commitment. The 5Essentials changes that reality.

## The 5Essentials® System

The 5Essentials® is a research-based school improvement system that defines, measures, and utilizes the most important organizational conditions, including aspects of a school's culture and climate, to improve student outcomes.

Specifically, the 5Essentials is an improvement framework and diagnostic survey with research-tested scoring and interactive reporting that provides insights into schools' organizational strengths and areas of opportunity across the five essential factors for school improvement: Effective Leaders, Collaborative Teachers, Involved Families, Supportive Environment, and Ambitious Instruction. The system also includes professional learning designed to help educators leverage 5Essentials data to inform improvement planning and drive improved school and student outcomes.

> Research shows schools strong on at least three of the five essentials for school improvement were 10 times more likely to show substantial gains in student learning than schools weak on three or more of the five essentials. A low score in even just one of the five essentials reduced the likelihood of improvement to less than 10 percent.

Research has also shown that 5Essentials Survey indicators reliably predict

school success on a variety of outcomes for both high school and elementary schools, including:

| Graduation Rates | Freshman OnTrack | Test Score Gains | Attendance Rates |

In 2020, the University of Chicago Consortium on School Research released a report that reaffirms the effectiveness of the 5Essentials in promoting positive student outcomes. The "Supporting School Improvement: Early Findings from a Reexamination of the 5Essentials Survey" report **provides an updated and expanded validation of the 5Essentials Survey, including high schools and additional student outcomes**. See key findings from the report here.

The 5Essentials Survey has been administered in over **6,000 schools** across 22 states, with over **10 million students, teachers, and parents** completing the survey and contributing to school improvement processes.

# 5Essentials Reporting Site

The 5Essentials Survey is administered to students and teachers, with an optional parent survey, once a year. After in-depth survey scoring, schools receive individualized web-based reports that offer a comprehensive view of their school environment.

## The 5Essentials Reporting Site Allows Educators to:

**See a snapshot of how organized their school is for improvement.** Upon accessing their report, schools see a high-level view of their 5Essentials results, including an overall performance score of Well-Organized,

Organized, Moderately Organized, Partially Organized, or Not Yet Organized for Improvement.

## Sample Primary School

5Essentials Survey



Very Strong    Strong    Neutral
Weak    Very Weak    No Data
Low Response/Not Applicable

### For 2020, Sample Primary School is well-organized for improvement

The overall performance score is comprised of each of the 5Essentials scores. Schools that are at or above benchmark on 3 or more essentials are 10 times more likely to improve than schools that are below the benchmark.

About the Survey

**THE 5ESSENTIALS**

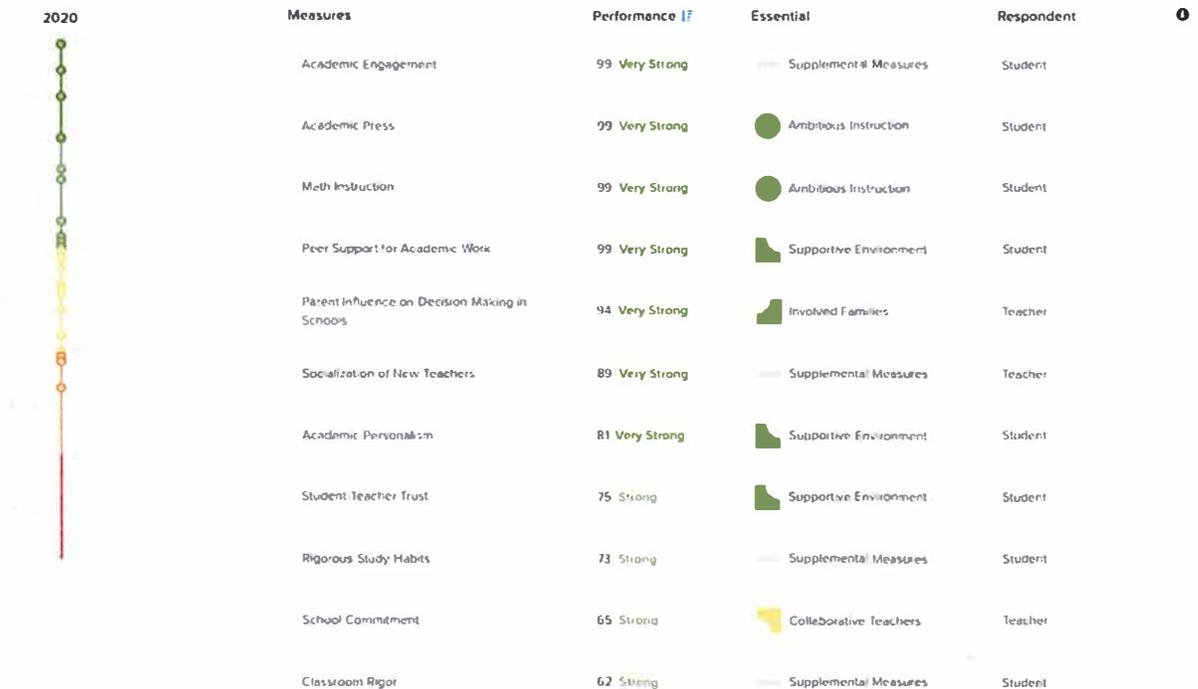**How is Sample Primary School performing on each of the 5Essentials?**

**ALL MEASURES**

**How is Sample Primary School performing across all measures?**

**Compare performance across the 5Essentials that matter most for school improvement.** Educators can see how their school's performance varies across each Essential and drill down to identify the Measures that can be strengthened to improve their overall performance.

| The 5Essentials | Performance ↓≡ |
|---|---|
| Supportive Environment | 79 Strong |
| Ambitious Instruction | 76 Strong |
| Involved Families | 73 Strong |
| Effective Leaders | 53 Neutral |
| Collaborative Teachers | 49 Neutral |

**Examine performance across the multiple Survey Measures that make up the 5Essentials.** Educators can take an even more pointed approach to understanding their school's organizational strengths and opportunities by exploring the research-based Measures that comprise each Essential, as well as optional Supplemental Measures.

How is Sample Primary School performing on all measures?

| 2020 | Measures | Performance ↓ | Essential | Respondent |
|------|----------|---------------|-----------|------------|
| | Academic Engagement | 99 Very Strong | Supplemental Measures | Student |
| | Academic Press | 99 Very Strong | Ambitious Instruction | Student |
| | Math Instruction | 99 Very Strong | Ambitious Instruction | Student |
| | Peer Support for Academic Work | 99 Very Strong | Supportive Environment | Student |
| | Parent Influence on Decision Making in Schools | 94 Very Strong | Involved Families | Teacher |
| | Socialization of New Teachers | 89 Very Strong | Supplemental Measures | Teacher |
| | Academic Personalism | 81 Very Strong | Supportive Environment | Student |
| | Student-Teacher Trust | 75 Strong | Supportive Environment | Student |
| | Rigorous Study Habits | 73 Strong | Supplemental Measures | Student |
| | School Commitment | 65 Strong | Collaborative Teachers | Teacher |
| | Classroom Rigor | 62 Strong | Supplemental Measures | Student |

**Dig deeper into a Measure.** Educators can view the items within each Measure to see the questions respondents were asked on the survey. This provides users with a deeper understanding of the concept represented by the Measure and the role it plays in a school's organizational health.

| Measure | Performance | Essential | Respondent |
|---|---|---|---|
| **Teacher-Principal Trust** | 77 Strong | Effective Leaders | Teacher |

In schools with strong Teacher-Principal Trust, teachers and principals share a high level of mutual trust and respect.

- Based on a comparison to the benchmark, an mScore of **77** means that Example Elementary School is *strong* on this measure.

**Teachers report the following:**
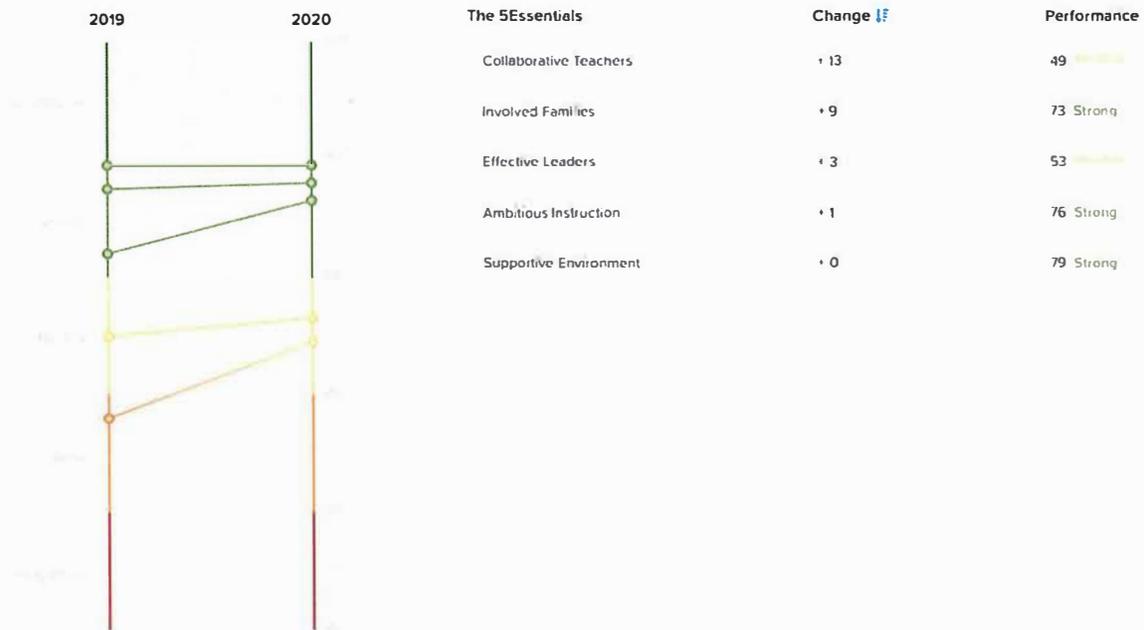
Expand All

ⓘ

The principal has confidence in the expertise of the teachers. ⌄

I trust the principal at his or her word. ⌄

**Identify patterns across student subgroups and compare school performance to the district.** Educators can disaggregate student-based Measures by grade level, gender, race, free and reduced-price lunch status, IEP status, and English language learning status. Educators can also compare their school's performance on the 5Essentials, and specific Measures of each Essential, to their overall district's performance.

| Measure | Performance | Essential |
|---|---|---|
| Student-Teacher Trust | 51 Neutral | Supportive Environment |
| Student-Teacher Trust (FRL) | 52 Neutral | |
| Student-Teacher Trust (Non-FRL) | 51 Neutral | |

**Track changes in the organizational conditions that are necessary for school improvement.** 5Essentials Survey reports show multi-year trends that allow schools to dig into their data, formulate strategic actions, and track their improvement over time.

How has performance changed since the last survey?

| 2019 | 2020 | The 5Essentials | Change ⬇ | Performance |
|------|------|------------------|----------|-------------|
| | | Collaborative Teachers | + 13 | 49 |
| | | Involved Families | + 9 | 73 Strong |
| | | Effective Leaders | + 3 | 53 |
| | | Ambitious Instruction | + 1 | 76 Strong |
| | | Supportive Environment | + 0 | 79 Strong |

# 5Essentials Professional Learning

Districts and schools using the 5Essentials Survey can receive professional learning designed to help leaders leverage 5Essentials insights to create improvement plans that strengthen the organizational conditions linked to long-term school and student success. Standard introductory sessions provide participants with a deeper understanding of the 5Essentials and the survey administration process, the survey scoring process, and features of the 5Essentials reporting site. Subsequent professional learning opportunities focus on building foundational knowledge about the 5Essentials' key themes and how to utilize 5Essentials results in a cycle of improvement:

- **5Essentials Foundations** is a series of professional learning sessions that unpack the 5Essentials Framework and central themes. This includes:
  - Understanding the 5Essentials
  - Building Trust
  - Fostering Supportive Environments

- Leadership and the Creation of Successful Environments
- **5Essentials School Improvement Series** is a series of professional learning sessions spread across two years and designed to help educators analyze their 5Essentials data within a cycle of improvement and apply the data to coherent school improvement plans. This includes:
  - Data and Root Cause Analysis
  - School Improvement and Implementation Planning
  - Evaluate and Adjust
  - Continuing the Improvement Process

Since no two districts or schools are exactly alike, 5Essentials Professional Learning can be customized to meet the needs of the district and school community. Additionally, sessions are offered in both in-person and virtual formats.

> Findings from the University of Chicago Consortium on School Research show that both starting out the year with strength in 5Essentials Survey Measures and improving on Measures during the year predicted improved student outcomes in schools.
>
> Source: Hart, H., Young, C., Chen, A., Zou, A., & Allensworth, E.M. (2020). Supporting school improvement: Early findings from reexamination of the 5Essentials survey. Chicago, IL: University of Chicago Consortium on School Research.

# 5Essentials in Practice

## What Research Tells Us About the Link Between School Organizational Conditions and Improved School and Student Outcomes

Research shows strong school climate has been demonstrated to reduce the negative effects socioeconomic status has on academic achievement* and helps foster higher overall academic achievement and attendance rates**.

Sources: * Berkowitz et al. (2017). ** Cohen, Mccabe, Michelli, & Pickeral (2009)

According to a study that examined chronic absenteeism in Detroit Public Schools, schools strong in the 5Essentials (Effective Leaders, Ambitious Instruction, Collaborative Teachers, Supportive Environment, and Involved Families) had lower rates of chronic absenteeism.

Source: Lenhoff & Pogodzinski (2018)

San Francisco schools that modeled school improvement plans around the 5Essentials Framework experienced narrowed differences in achievement across student demographics, reduced absences, and improved teacher retention.

Source: Sun, Penner, & Loeb (2017)

A study of California CORE districts found social-emotional learning and climate survey scores were predictive of students' academic outcomes.

Source: Hough, Kalogrides, & Loeb (2017)

According to a study of New York City middle schools, improvement in the areas of Leadership, High Academic Expectations, Teacher Relationships and Collaboration, and School Safety and Order were all independently associated with reduced teacher turnover. Increases in High Academic Expectations and School Safety and Order were also associated with improved math scores.

Source: Kraft et al. (2016)

**Impact** **UCHICAGO Consortium** on School Research

# 5Essentials' Reach

The 5Essentials Survey has been administered in over **6,000 schools** across the country, with over **10 million students, teachers, and parents** completing the survey and contributing to school improvement processes. The 5Essentials System is implemented statewide in Illinois and is cited in the state's Every Student Succeeds Act (ESSA) school accountability plan.

# 5Essentials School Leadership Coaching in Chicago

In Chicago, the 5Essentials System has gone even deeper. Through

philanthropic support, UChicago Impact's team of 5Essentials School Leadership Coaches have provided a cohort of Chicago public schools with leadership coaching designed to support school leaders in building the critical skills, knowledge, and capacity to be effective stewards of school improvement. Learn more about [5Essentials School Leadership Coaching](#).

## School Stories

[National Teachers Academy](#)

[Fairfield Elementary Works to Foster Strong Student-Teacher Relationships](#)

[Strengthening Trust Among Adults at Pasteur Elementary](#)

[McPherson Works to Improve Student-Teacher Relationships](#)

**The 5Essentials® is a registered trademark owned by The University of Chicago.**

# What is my school being compared to?

The 5Essentials results are norm-referenced, meaning a school's' survey results are compared to a specific normative group. The original 5Essentials research results also were based on this kind of model, comparing schools that were relatively strong to those that were relatively weak. Because high schools can be substantially different from elementary schools, we compare high schools to the benchmark high school average and so on for all grade-level classifications.

School grade-level classifications are as follows:
- High School: Grades 9-12
- Middle School: Grades 6-8
- Elementary School: Grades K-8 and K-6
- Primary School: Grades K-5

In order to allow schools to see areas of progress, we set the benchmark to a particular point in time. This way, all schools have the ability to improve on the 5Essentials; if the benchmark changed every year, schools would be compared to a moving target.

The categories for the Measure scores consist of standard deviations from the benchmark. The top category is at least 1.5 standard deviations above the benchmark. Each of the middle categories are exactly one standard deviation wide: the second category is between 0.5 and 1.5 standard deviations above the benchmark; the third category is between -0.5 and 0.5 standard deviations away from the benchmark; and the fourth category is 0.5 to 1.5 standard deviations below the benchmark. The bottom category is at least 1.5 standard deviations below the benchmark.

## About the Benchmark

**The Illinois Benchmark**. The State of Illinois (ISBE) in 2013 is the benchmark used for all survey partners, state-level, district-level and school-level partnerships. The State of Illinois is a very diverse, with over 4,00 large, small, public, charter, and other types of schools. The original research that found 5Essentials as a leading indicator for school improvement was conducted using two decades of CPS data.

The benchmark is used to generate meaningful categories for each Measure score:

- "Very strong": at least 1.5 standard deviations above the benchmark.

- "Strong": between 0.5 and 1.5 standard deviations above the benchmark.

- "Neutral": above –0.5 standard deviations and below 0.5 standard deviations above the benchmark.

- "Weak": 0.5 to 1.5 standard deviations below the benchmark.

- "Very weak": at least 1.5 standard deviations below the benchmark.

# What are response rates?

Response rates are an indicator of the proportion of students or teachers who participated, but they should be interpreted with caution. This article addresses the following questions:

This survey is a snapshot of the conditions in your school at the time of survey administration, based on the responses of the individuals who participated. It can give you a good idea of what is going on in your school in order to help you and your community with school improvement. Response rates can help you understand the quality of the data provided by teachers and students at your school.

The response rate is calculated as the total number of responding individuals divided by the total number of **eligible individuals**. Students are eligible to participate if they are enrolled in a school and are able to take the survey. Those eligible to take the teacher survey include:

- Self-contained and subject-specific classroom teachers
- Instructional coaches and subject matter specialists
- Teacher aides, paraprofessionals, and CCTs (cooperating classroom teachers)
- Special education teachers working in a single classroom or across classrooms
- Counselors, librarians, and other staff members who teach students

## Why are response rates important?

For every aspect of school climate in the 5Essentials, the sample size has an effect on the results. For example, if we're trying to measure students' perception of safety, we'll get more reliable information in a large school than in a smaller school—simply because there are more students, and therefore more measurements, in the larger schools. Similarly, when response rates

increase, the number of measurements increases.

# Do low response rates mean the results are wrong?

**Not necessarily.** Low response rates may indicate the potential for bias in the results but they do not necessarily mean that bias exists. When bias occurs, there are substantial differences between the responses coming from those who responded to the survey and the way nonresponders would have responded had they taken the survey. When those differences are substantial, the survey results do not accurately represent what everyone in the school thinks or feels.

For example, news organizations often survey citizens to determine presidential job approval ratings. Rather than ask every citizen how they feel, they take a sample that is representative of the entire population. As long as those who respond to the survey accurately reflect the population of citizens as a whole, the results will not be biased. Thus, even though less than a one hundredth of 1% of the population respond, the results reflect the feelings of the population overall.

Mathematically, bias occurs when the values of some statistic (like an average) is different between those who responded and the full sample.

If we divide by the average of the full sample, we can compare bias values across variables:

Relative bias=$[avg(y_r)-avg(y_n)]$ / $avg(y_n)$

where $avg(y_r)$=the average of some variable $y$ (like age or GPA) for all responding individuals and $avg(y_n)$=the average of $y$ for all **eligible** individuals.

A little bit of algebra reveals that the relative bias is related to the response

rate:

Relative bias=(1-Response Rate) * $(avg(y_r)-avg(y_m)) / avg(y_n)$]

where $avg(y_m)$=the average of $y$ for **nonresponding** individuals. So if the response rate is 100%, then the relative bias of $y$ is zero. But if the response rate is less than 100% *and* if there are substantial differences between responding and nonresponding individuals, then $y$ has some bias associated with it.

The table below presents examples of what happens when the response rates are low or high and what happens when there is a large or small difference in an outcome, in this case, the average GPA. Each cell is the relative bias as calculated from the formula. For these examples, the overall average $avg(y_n)$ is computed as the weighted average of $avg(y_r)$ and $avg(y_m)$ so that we can hold both the response rate and difference between respondents and nonrespondents constant.

Notice how the response rate and $avg(y_r)-avg(y_m)$ affect each other. When there is a small difference between respondents and nonrespondents, the bias <u>can</u> be lower at a 50% response rate than at a 75% response rate.

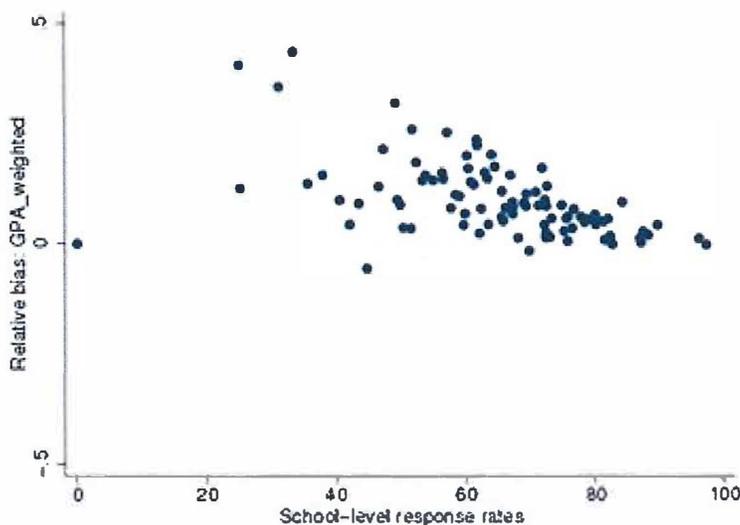|  | Response rate = 99% | Response rate = 75% | Response rate = 50% |
|---|---|---|---|
| SMALL DIFFERENCE between respondents and nonrespondents: $avg(y_r)$=2.45 $avg(y_m)$=2.35 | (1-99%)*(2.45-2.35)/2.449 =0.0004 | (1-75%)*(2.45-2.35)/2.425 =0.0103 | (1-50%)*(2.45-2.35)/2.40 =0.0208 |
| LARGE DIFFERENCE between | (1-99%)*(2.52- | (1-75%)*(2.52- | (1-50%)*(2.52- |

| respondents and nonrespondents: $avg(y_r)=2.52$ $avg(y_m)=2.0$ | 2.0)/2.515 =0.0021 | 2.0)/2.39 =0.0544 | 2.0)/2.26 =0.1150 |
|---|---|---|---|

We cannot calculate the relative bias for our survey measures because we do not have information on the students or teachers who do not respond. But we can look at the bias for some variables that are available for all students. If biased variables are related to our measures, then our measures likely have some bias.

## Example 2: Higher response rates are related to *less* bias

After the 2007 Chicago Public Schools student survey, we calculated relative bias of weighted GPA and test scores within each school. In Figure 1, the school-level response rates are plotted along the horizontal axis. The vertical axis shows the relative bias of GPA.

**Figure 1. School level response rates and bias of GPA.**



## Example 2: Higher response rates are unrelated to bias

But let's contrast this with test scores (PSAE math scores in high schools). In

Figure 2, we see a different situation. As response rates increase, the bias of this variable does not change—it stays around zero in schools with 35% response rates as well as in schools with 90% response rates.

**Figure 2. Response rates and standardized bias of PSAE math scores in CPS high schools in 2007.**
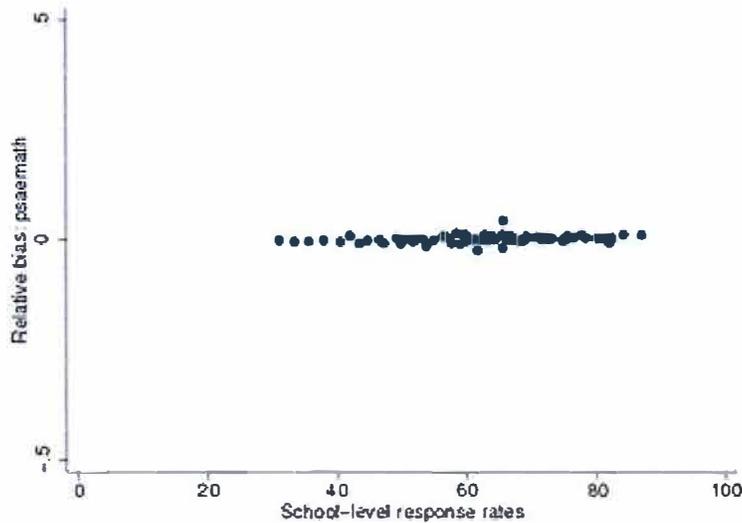


## What do I do with this information?

We require a minimum 50% response rate to receive reports. But whether your response rate is 51% or 91%, please interpret the results in light of this information. High response rates yield more *certainty* in our measures, but high response rates do not always yield less *bias*. Keep in mind the over- or under-representation of certain groups when you interpret the findings.

# Missing Data

Reports are only provided to schools with a 50 percent response rate or higher for the student and/or teacher survey. A minimum of 10 student respondents and 8 teacher respondents are required to receive a report.

Whether a school actually has reportable data on questions, Measures, and ultimately Essentials is also determined by a couple of other factors.

First, we remove any individuals who have extremely questionable responses, including those who provide a single response to a very large number of items. While it is possible that an individual strongly disagrees with every single question on the survey, we find these rare response patterns extremely improbable—particularly because the survey is designed so that some items are more difficult to endorse than others.
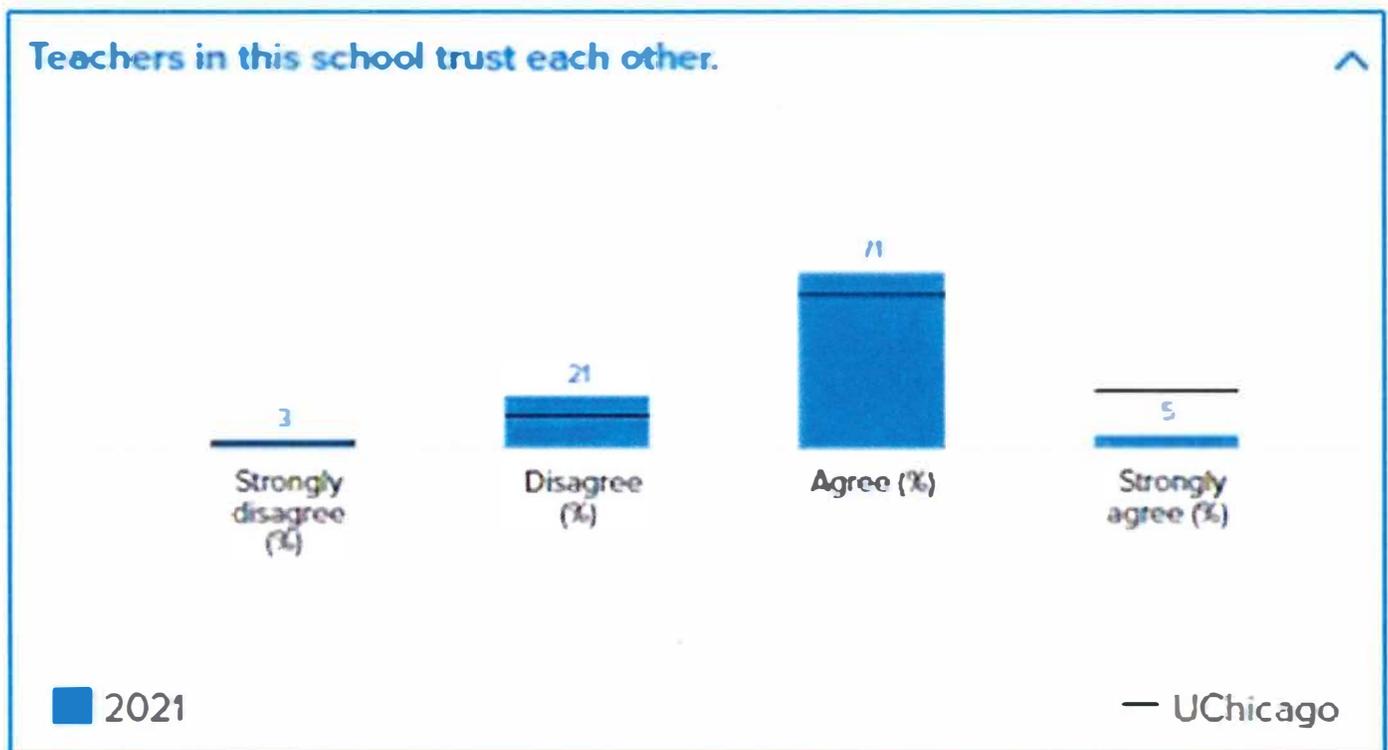
Next, we make sure there are at least eight (8) valid responses to items making up a Measure. Some schools with small numbers of teachers simply may not have enough respondents to qualify. The reason for this is two-fold: We need to protect the confidentiality of individual respondents; and having very small numbers makes related statistics less reliable.

If Measures or Essentials appear gray and say "Low response", that means that there are not enough data to present the results. Sometimes, an Essential might have most but not all of its Measures missing. For example, Ambitious Instruction contains three student Measures and one teacher Measure (Quality of Student Discussion). If a school has no student data but does have data for Quality of Student Discussion, a teacher-based Measure, the Ambitious Instruction essential will still be gray but data for Quality of Student Instruction will be displayed. When Essentials have partial data, they will appear gray with an asterisk indicating that some measure data are available.
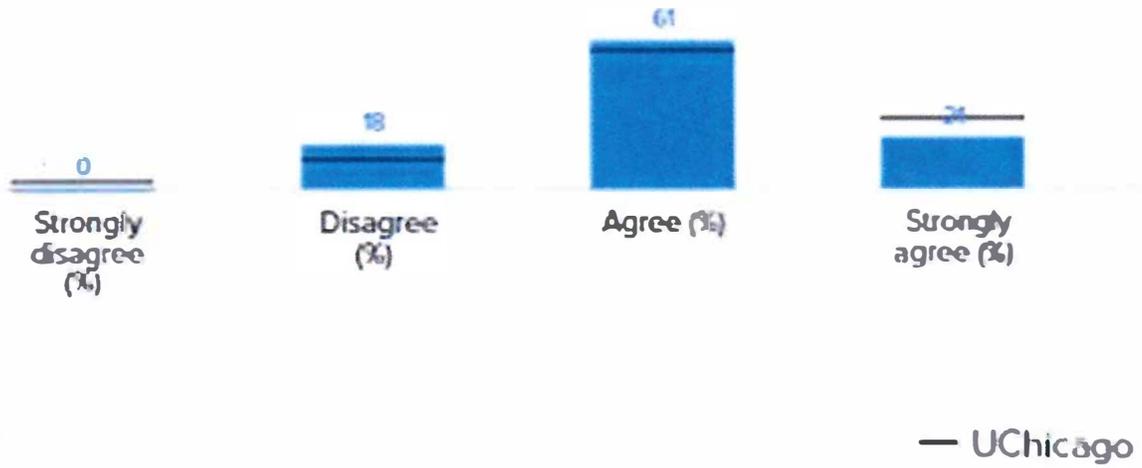
# Why does my school appear weak or neutral when most of the responses are agree or strongly agree?

Sometimes, a school may have a low score on a measure, but responses to many of the items seem generally positive. But on the survey, students and teachers use the strongly agree and agree categories in ways that are analytically and conceptually distinct.
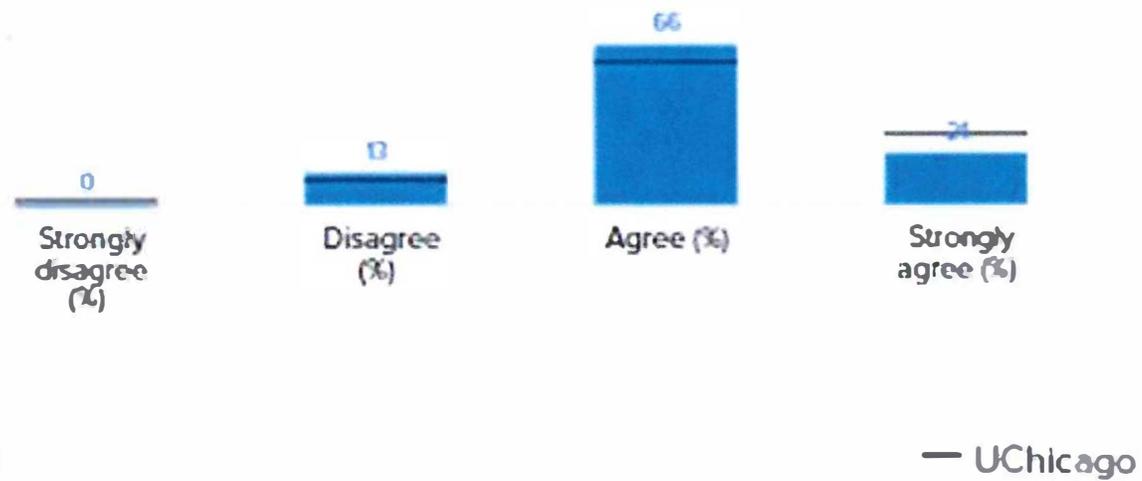
For example, School A has a score of 29 on Teacher-Teacher Trust, but the percent of teachers agreeing or strongly agreeing with each item ranges from 76 to 89%. If we only look at the frequencies, we might think that this school is doing well on this measure. But when we look at the proportion of respondents who agree and compare it to those who strongly agree, we can see that most respondents are agreeing instead of strongly agreeing:
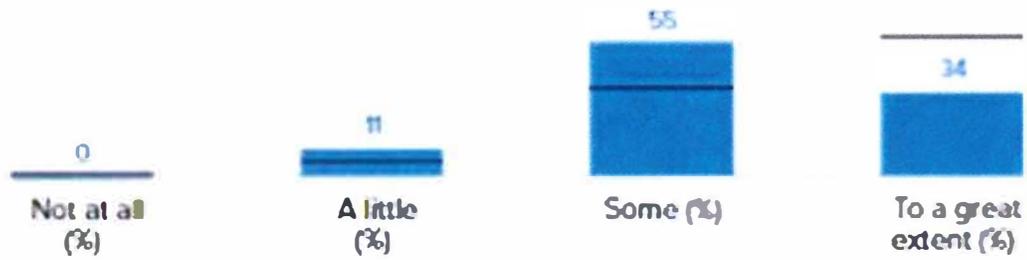


Teachers in this school trust each other.

| Strongly disagree (%) | Disagree (%) | Agree (%) | Strongly agree (%) |
|:---:|:---:|:---:|:---:|
| 3 | 21 | 71 | 5 |

2021      — UChicago

## It's OK in this school to discuss feelings, worries, and frustrations with other teachers. ⌃

| | Strongly disagree (%) | Disagree (%) | Agree (%) | Strongly agree (%) |
|---|---|---|---|---|
| Value | 0 | 18 | 61 | 21 |

■ 2021       — UChicago

## Teachers respect other teachers who take the lead in school improvement efforts. ⌃

| | Strongly disagree (%) | Disagree (%) | Agree (%) | Strongly agree (%) |
|---|---|---|---|---|
| Value | 0 | 13 | 66 | 21 |

■ 2021       — UChicago

## Teachers feel respected by other teachers   ∧



| | | 55 | |
| | | | 34 |
| 0 | 11 | | |
| Not at all (%) | A little (%) | Some (%) | To a great extent (%) |

■ 2021                                                   — UChicago

## Teachers at this school respect those colleagues who are experts at their   ∧
craft.



| | | 61 | |
| | | | 25 |
| 0 | 14 | | |
| Strongly disagree (%) | Disagree (%) | Agree (%) | Strongly agree (%) |
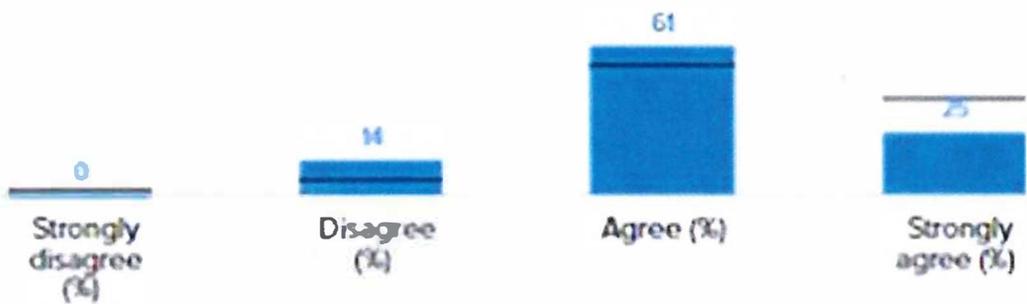
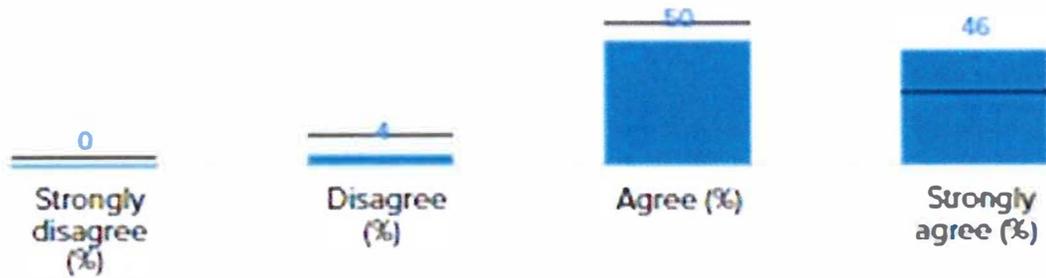■ 2021                                                   — UChicago

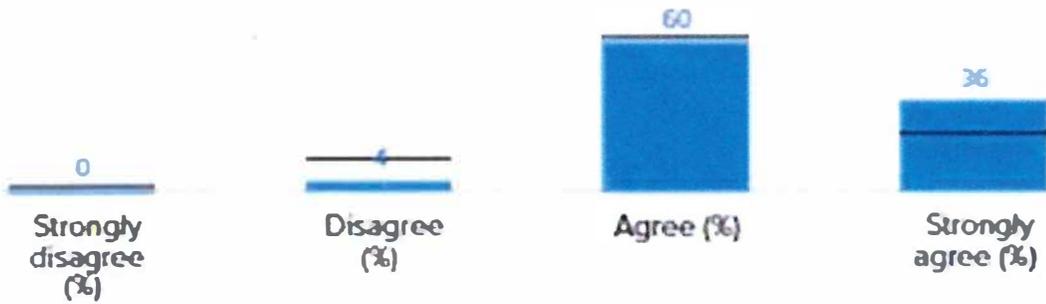Compare these frequencies to the frequencies of School B that has a measure score of 70 on Teacher-Teacher Trust:

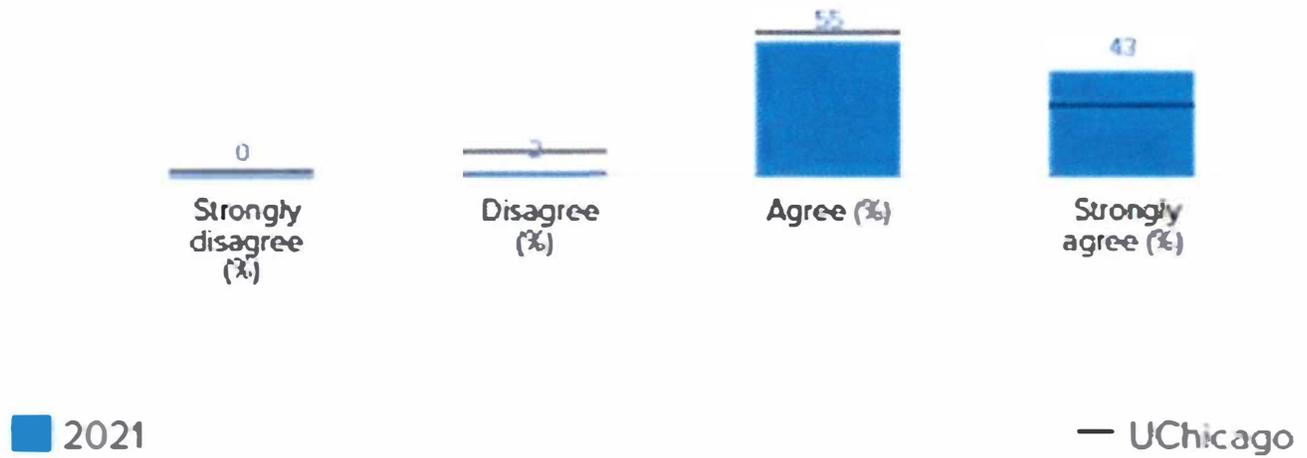## It's OK in this school to discuss feelings, worries, and frustrations with other teachers. ∧

| Category | Value |
|----------|-------|
| Strongly disagree (%) | 0 |
| Disagree (%) | 4 |
| Agree (%) | 50 |
| Strongly agree (%) | 46 |

■ 2021 — UChicago

## Teachers in this school trust each other. ∧

| Category | Value |
|----------|-------|
| Strongly disagree (%) | 0 |
| Disagree (%) | 4 |
| Agree (%) | 60 |
| Strongly agree (%) | 36 |

■ 2021 — UChicago

## Teachers respect other teachers who take the lead in school improvement efforts. ^



| | | 55 | 43 |
|---|---|---|---|
| 0 | 2 | | |
| Strongly disagree (%) | Disagree (%) | Agree (%) | Strongly agree (%) |

— UChicago

## Teachers at this school respect those colleagues who are experts at their craft. ^



| | | 46 | 50 |
|---|---|---|---|
| 0 | 4 | | |
| Strongly disagree (%) | Disagree (%) | Agree (%) | Strongly agree (%) |

— UChicago

## Teachers feel respected by other teachers



|        | Not at all (%) | A little (%) | Some (%) | To a great extent (%) |
|--------|----------------|--------------|----------|------------------------|
| 2021   | 2              | 8            | 26       | 64                     |
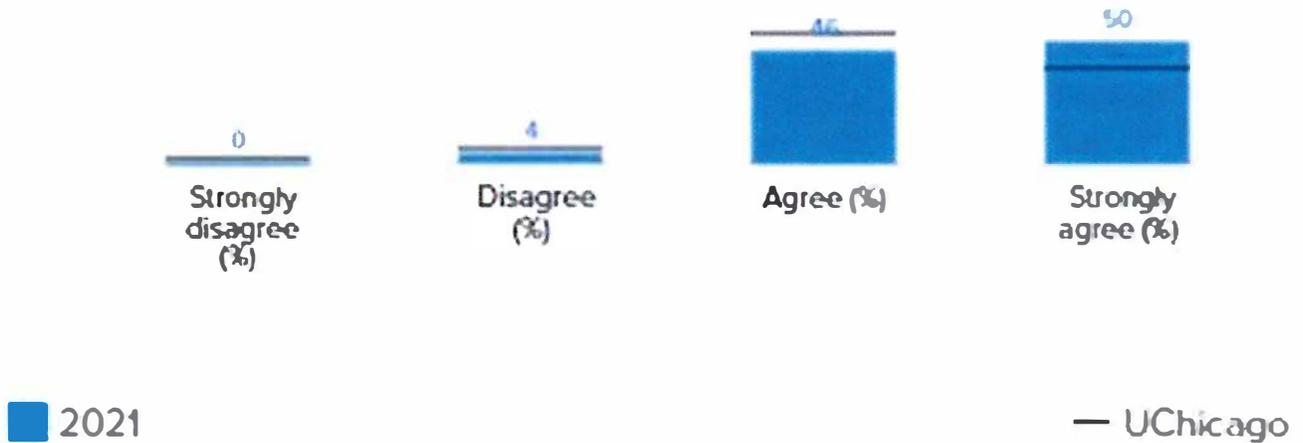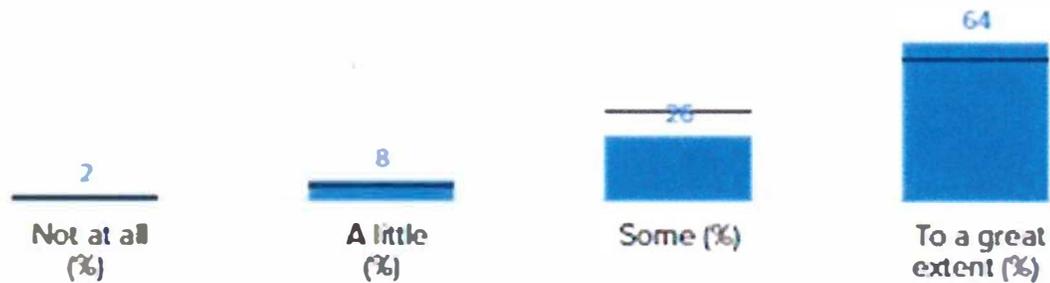
■ 2021                                    — UChicago

The percent agreeing or strongly agreeing to each item for School B somewhat higher than School A —90% to 98% for School B vs 79%-87% for School A — but note that there is a much greater proportion of respondents in the very top category for School B.

In addition, our method of analysis (Rasch analysis) takes into account that some items are more "difficult" to agree with than others. In Teacher-Teacher Trust, we know from Rasch analysis that "Teachers in this school trust each other" is the most difficult to endorse, while "Teachers feel respected by other teachers" is the "easiest" to endorse.

If a teacher responds in a statistically improbable way, that response is down-weighted in calculating the school's measure score. For example, if the teacher reports that she strongly disagrees with "Teachers in this school trust each other" but responds "to a great extent" to "Teachers feel respected by other teachers", our scoring process down-weights that individual because the responses are statistically unreliable.