## Research Brief

CONSORTIUM ON
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## ISAT Report Brief

When the 2006 Illinois Standards Achievement Test (ISAT) scores were finally released in March 2007, there were many questions about the comparability of the 2006 test to earlier ISATs. The 2006 ISAT was a new test-with new items, a new format, new timing requirements, and new scoring procedures. Understandably, many people were skeptical about whether it was appropriate to compare 2006 results to prior ones, especially given the dramatic improvements. ${ }^{1}$

Because this controversy drew so much attention, perhaps less attention was paid to a careful analysis of the 2006 results in their own right. This data brief looks more thoroughly into the 2006 test results for Chicago Public Schools (CPS). ${ }^{2}$

First, we look at Chicago results compared to those for all other students in the state of Illinois. To do this, we take the statewide data and remove Chicago students so that we get a mutually exclusive comparison.

We find that the gaps between Chicago students and other students in the state of Illinois are much smaller in upper grades than in lower grades. In reading, the difference between Chicago and the rest of the state is one-half as big at eighth grade as it is at third grade. This suggests that students get progressively stronger going from lower to upper grades in Chicago Public Schools, relative to the rest of Illinois.

Second, we examine these test scores within racial/ethnic groups, comparing African-American, Latino, White, and Asian students in CPS to their counterparts in the rest of the state. No Child Left Behind (NCLB) has made reducing the achievement gap between minority and nonminority
students a national goal. It also has heightened our awareness of differences between demographic groups, and it has suggested the utility of comparing students with similar characteristics to each other.

Our findings show that the big gaps between students in CPS and in the rest of the state disappear when we compare racial/ethnic groups in CPS to their counterparts in the rest of the state. In fact, some groups in CPS consistently outperform their counterparts in the rest of the state. There are still large differences in performance, however, between African-American and Latino students on the one hand and White and Asian students on the other.

The 2006 ISAT was created with a "vertical" or crossgrade scale, so that all students from grades three through eight are measured on the same underlying scale. Although reading and math have separate scales, they both range from a minimum score of 120 to a
maximum score of 340 to 411 , depending on subject and grade level. One of the most important benefits of the vertical scale is that in the future, when subsequent ISAT results become available, we can measure the amount of achievement growth that students make from one grade to the next because the underlying scale is constant and spans the grade levels. Although the Iowa Tests of Basic Skills used in CPS until 2005 had this feature, the old ISAT did not. ${ }^{3}$

Figure 1 shows the average scale scores in reading and math for CPS students compared to the rest of the students in public schools in Illinois for grades three through eight. A quick glance shows, as expected, that scores increase with the grades. A second glance shows, also as expected, that Chicago students score lower-often one full grade or more-than other Illinois students. For example, note that the average third-grade student outside of Chicago scored higher in reading than the average Chicago fourth-grader.

A more careful look reveals another pattern. In the upper grades, the gap between Chicago students

FIGURE 1
Chicago 2006 ISAT Average Scale Scores Compared to the Rest of the State

and other students in Illinois is considerably smaller than it is in the lower grades. In third-grade reading, Chicago students trail the rest of the state by 17 scale score points (191 vs. 208). This is equal to a difference of 0.62 standard deviation units. (See Tables 1 and 2 in the Appendix for detailed statistics, including mean values, standard deviations, number of cases, medians, and scores for the 25 th and 75 th percentile on the distribution for each grade and subject. Table 3 shows group differences in standard deviation units.) By sixth grade, the difference is down to 12 points ( 224 vs. 236), or 0.46 SDs. By eighth grade, the difference is 9 points ( 242 vs. 251), or 0.36 SDs. This is still a sizable difference, but the gap in eighth-grade reading is about one-half the size of the third-grade reading gap.

Although it is not quite so strong, the same pattern holds in math. There is a 21 point difference between Chicago students and students in the rest of the state in grade three ( 0.72 SDs ), an 16 point difference in grade six ( 0.60 SDs ), and a 15 point difference in grade eight (0.52 SDs).

In the past, it had been common for observers to claim that students fell further behind the longer they were enrolled in CPS. The evidence suggests the contrary, at least relative to Illinois: on the whole, students in upper grades are not as behind as students in lower grades. Rather than showing that CPS students are doing better in the upper grades, this could also mean that students in the rest of the state are doing worse. Although a full test of either assumption requires longitudinal data that is not available, what we show here supports the idea that students do better after more time in CPS elementary schools relative to other students statewide.
In order to take a more complete look at test scores in Chicago compared to the rest of the state, we use the more complex display of a box plot to make detailed comparisons. A box plot shows the full distribution of scores on a given variable-in this case, ISAT reading and math scores. The box marks off the middle 50 percent of the distribution, with the top line indicating the score at the 75 th percentile, the line in the middle

FIGURE 2
How to Read a Box Plot

Box Plot Example


Adding Cut Scores for State Achievement Levels

indicating the 50 th percentile (median), and the lower line indicating the 25 th percentile. The mean (statistical average) is marked by a cross. In Figure 2, the score at the 75 th percentile is 233 , the score at the median is 204 , the score at the 25 th percentile is 176 , and the mean score is 208. The "whisker" at the top of the box marks the highest score (after removing outliers), so the top whisker spans the top 25 percent of scores; similarly, the lower whisker marks the lowest score and spans the range of the bottom 25 percent.

To provide additional information to the graphics, we include the cut scores that differentiate the four Illinois student performance levels (exceeds standards, meets standards, below standards, and academic warning) from each other. These are shown on the box plot graphs on the right in Figure 2. The topmost line (dark gray) differentiates the scores that exceed state standards from lower scores. Next, the light gray line marks the cut between scores that meet state standards and scores that do not meet state standards. Finally, the yellow line marks the cut scores between academic
warning and below standards. Scores below the yellow line are in the warning category. ${ }^{4}$

Our initial graph compares the average ISAT scores in reading and math for CPS students and for students in the rest of the state. In Figure 3, we show more detail with the box plots. The two box plots show the distribution of reading scores on the left and math scores on the right. CPS students are shown by the darker box plots; these plots are to the left of the lighter box plots, which show scores of students from the rest of Illinois. Note that the three lines indicate the cut scores that define student performance levels in Illinois.

These three lines allow us to readily estimate the percentage of students in each of the four categories of Illinois student performance levels. In eighth-grade reading, for example, there are no students in the warning category either for CPS or for the rest of Illinois, and about 25 percent of CPS students are below standards. About 75 percent of CPS students meet or exceed state standards, with about 8 percent exceeding them.

FIGURE 3
Chicago 2006 ISAT Score Distributions: Chicago Compared to the Rest of the State for All Students


One can see that the gap narrows going up the grade levels. This is true for average students, for relatively low-performing students at the 25 th percentile, and for relatively high-scoring students at the 75 th percentile; it is especially true for students at the 25 th percentile. In third-grade reading, for example, CPS students lag behind the rest of the state by 23 points ( 168 vs . 191). By eighth grade, that difference is down to seven points (229 vs. 236). It is encouraging to note that the weakest students are relatively stronger in the upper grades.

One still cannot escape noticing the very large gaps between Chicago and the rest of the state; even as they narrow in the upper grades, they are still large. It is also evident that Chicago scores are at least one grade below the rest of Illinois. For example in eighth-grade reading, where the gap between Chicago and the rest of the state is smallest, Chicago eighth-graders are scoring about the same as seventh-graders in the rest of the state.

Figure 3 shows the ISAT performance of all CPS students in comparison to all students in the rest of the
state. Figure 4 looks at only African-American students. In both reading and math, CPS African-American students are directly compared to African-American students in the rest of Illinois.

Here we see some of the same patterns for AfricanAmericans students that we saw for all students in Figure 3. There is a gap in the lower grades between African-American students in Chicago compared to those in the rest of the state in both reading and in math. In reading the third-grade gap is seven points, favoring African-American students outside of Chicago. Note that this is considerably smaller than the 17 point gap for all students shown earlier. By eighth grade, that gap has not only disappeared but reversed, with Chicago African-American students outscoring their counterparts in the rest of Illinois by one point. In standard deviation units, the difference at grade three is 0.27 standard deviation units lower for African-American students in CPS. By eighth grade, CPS African-American students score 0.06 standard deviations units higher. (See Tables 1 and 2 in the

## FIGURE 4

Chicago 2006 ISAT Score Distributions: Chicago Compared to the Rest of the State for African-American Students


Appendix for detailed information. Table 3 includes score gaps in standard deviation units.) In math, there is a 10 point gap in third grade between AfricanAmerican students in CPS compared to those in the rest of the state. By eighth grade, that gap is reduced to slightly over two points.

The pattern holds at the 25th and 75th percentiles for reading as well. Chicago's African-American students at the 25th percentile (the bottom line on the box plot) scored much lower than African-American students at the 25 th percentile in the rest of the state in the third grade. By eighth grade, this gap is gone (in fact, it is reversed). Similarly, Chicago's AfricanAmerican students at the 75th percentile are below their counterparts in the rest of the state in the third grade, but they are equal to them in the eighth grade.

Scores for African-American students in Chicago and in the rest of the state are quite low compared to scores for students of other racial/ethnic backgrounds. In eighth-grade reading, for example, AfricanAmerican students in CPS score 20 points lower than

White CPS students. This is the "achievement gap" that NCLB is rightly concerned about, which is evident not only in test scores but in other outcome measures as well, including graduation rates. ${ }^{5}$ Yet if we compare CPS scores to other scores in the state or nation, we get a substantially different picture of the relative performance of CPS students by making our comparison within similar groups of students.

The same pattern prevails for Latino students (see Figure 5), and this time it is even somewhat more favorable for Chicago students. In reading, Chicago Latino students in third grade underperform Latinos in the rest of Illinois by about three score points. For eighth-graders, Chicago Latino students outperform their counterparts by four score points. In math, there was a bigger gap of six points at third grade; this gap favored Latino students outside of Chicago over Latino students in CPS. For eighth-graders, the gap is less than 1 point. Note also the performance among students at the 25 th percentile. In both reading and math, CPS Latino students are below their counterparts in the third

FIGURE 5
Chicago 2006 ISAT Score Distributions: Chicago Compared to the Rest of the State for Latino Students

grade and higher than they are in the eighth grade.
It is worth observing, however, that Latino students still score considerably lower than both White and Asian students in CPS and in the rest of the state.

White CPS students are a relative minority, making up only about 9 percent of the ISAT population. White students are the majority across the rest of Illinois, where they account for nearly 70 percent of the ISAT population.

Chicago White students perform well on the ISAT in comparison to White students in the rest of the state. (See Figure 6). In reading, in fact, on average they consistently score as well as or better than their peers statewide. In third grade, the gap favors Chicago White students. In eighth grade, that gap is still in favor of CPS and is slightly higher. Chicago's White students at the 25 th percentile are behind their counterparts in the third grade, but ahead of them in the eighth grade. White students at the 75th percentile ranking are consistently ahead of or equal to their peers statewide.

The pattern is somewhat different in math. Average

White students in CPS score about the same as average White students in the rest of the state at all grade levels. White students at the 25th percentile in CPS are a little behind similar students in the rest of the state at all grade levels, but are less behind in eighth grade than in third. White students at the 75 th percentile in CPS are consistently ahead.

There are relatively few Asian students in CPS or in the rest of Illinois. They make up about 3 percent of the tested population in Chicago and 4 percent of the tested population in the rest of the state. On the whole, Asian students score well on the ISAT; they outperform students in all other racial/ethnic groups in both reading and math. (See Figure 7).

We see the same trend for Asian students that we see with other groups in reading, but not in math. In the third grade, Asian students in Chicago score lower in reading than Asian students in the rest of Illinois; and in eighth grade, Asian students in Chicago score about the same as other groups of students.

In math, CPS Asian students are outperformed at

FIGURE 6
Chicago 2006 ISAT Score Distributions: Chicago Compared to the Rest of the State for White Students

every grade except seventh by Asian students in the rest of the state. This finding, like others shown here, probably runs counter to many expectations or stereotypes about test score performance. It is true that Asian students in CPS score high in math-in fact,
considerably higher than African-American, Latino, and White students. But unlike those students, when we make comparisons to similar students statewide we see lower, rather than higher, scores.

FIGURE 7
Chicago 2006 ISAT Score Distributions: Chicago Compared to the Rest of the State for Asian Students


## Conclusion

This simple analysis of 2006 ISAT scores brings to light several interesting findings that are not widely known about CPS test performance.
First, CPS relative performance is better in upper grades than in lower grades in comparison to students in public schools in the rest of Illinois. This is especially true in reading and especially true among African-American and Latino students, who constitute nearly 90 percent of CPS enrollment. This finding suggests that longer enrollment in CPS leads to better relative performance, not worse as was suggested previously. We don't have longitudinal data to fully test our assertion, but the data show a strong suggestive pattern that this is the case.

A second somewhat unexpected finding is that reading performance in CPS looks stronger than math performance in comparison to the rest of the state. Typically, CPS elementary students have scored higher in math than in reading on both the ISAT and the Iowa Tests of Basic Skills. ${ }^{6}$ White students are the exception, but students of other racial/ethnic groups are behind their counterparts in the rest of the state at all grade levels in math. The gaps decrease in the upper grades, but not as significantly as they do in reading.

The most compelling finding here is that when we disaggregate ISAT reading scores by race/ethnicity and compare students in CPS to their counterparts in the rest of Illinois, CPS student performance looks more positive than what we are accustomed to seeing. In the upper grades, in fact, CPS students often look better. For example, this finding is true for AfricanAmerican and Latino students in eighth-grade reading. It is also true for White students at every grade level in reading. The findings tend to hold for weak, average, and strong students in CPS as well. The math findings aren't as positive; CPS students trail their counterparts across grades. It is still the case, however, that the gap narrows in the upper grades.

African-American and Latino students are the two largest racial/ethnic groups in Chicago Public Schools. They score lower on the ISAT than White and Asian students, not only in Chicago but across the rest of the state as well. The rest of Illinois has higher ISAT scores than CPS, primarily because there is a larger enrollment of White students and a lower enrollment of racial/ ethnic groups that have been long underserved by our educational systems. CPS would actually outscore the rest of the state on the ISAT if its enrollment had the same racial composition. Student performance in CPS looks remarkably better than typically portrayed when
we make these group-to-group comparisons. Perhaps these findings also suggest that CPS does relatively better with traditionally underserved populations than the rest of the state does and that ways to improve can be found in Chicago rather than elsewhere.

We cannot ignore, however, the gaps between African-American and Latino students on the one hand and White and Asian students on the other. Although CPS looks good in comparison to the rest of the state, both CPS and Illinois exhibit large achievement gaps between minority and nonminority students that need to be redressed.

## Endnotes

1 See, for example:
Dell'Angela, Tracey. 2007. City grade schools shine on tests. Chicago Tribune, March 6.
Golab, Art, and Rosalind Rossi. 2007. Highest test scores go to Chicago schools. Chicago Sun-Times, March 6.
Test scores better, but some question results. 2007. NBC-5 News, March 6.
2 For more technical information about the 2006 test and a description of how the old and new tests were linked, see the Illinois State Board of Education Assessment Division, "Report on the ISAT/SAT-10 Bridge Study and Development of the 2006 ISAT Reporting Scales." March 17, 2006. Available online at http://isbe. net/assessment/pdfs/Bridge_study.pdf.

3 The old Illinois Standards Achievement Test only tested third-, fifth-, and eighth-graders, another factor that made it difficult to measure annual achievement growth in students.
4 Cut scores document from the Illinois State Board of Education. Available online at http://isbe.net/assessment/pdfs/cut_points_07.pdf. 5 Allensworth, Elaine. 2005. Graduation and dropout trends in Chicago: A look at cohorts of students from 1991 to 2004. Chicago: Consortium on Chicago School Research at the University of Chicago. 6 Chicago Public Schools test score reports. Available online at http://research.cps.k12.il.us/cps/accountweb/Reports/citywide.html.

## Appendix

## TABLE 1

2006 ISAT Reading Scores: CPS Students Compared to the Rest of the State

|  |  | All Students |  | African-American |  | Latino |  | White |  | Asian |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | CPS | Other IL | CPS | Other IL | CPS | Other IL | CPS | Other IL | CPS | Other IL |
| Grade 3 | Mean | 190.67 | 208.33 | 185.27 | 192.47 | 194.78 | 198.42 | 213.26 | 212.35 | 214.55 | 218.19 |
|  | SD | 28.72 | 27.43 | 27.37 | 26.35 | 26.05 | 24.69 | 30.66 | 26.60 | 26.33 | 24.46 |
|  | N | 24,154 | 107,712 | 15,507 | 15,321 | 6,076 | 11,081 | 2,040 | 76,900 | 531 | 4,410 |
|  | 25th Percentile | 168 | 191 | 163 | 175 | 177 | 183 | 195 | 197 | 200 | 202 |
|  | Median | 191 | 211 | 186 | 195 | 197 | 200 | 217 | 214 | 214 | 217 |
|  | 75th Percentile | 211 | 227 | 205 | 211 | 214 | 217 | 232 | 227 | 232 | 232 |
| Grade 4 | Mean | 206.44 | 220.56 | 199.50 | 203.45 | 212.31 | 212.43 | 225.07 | 224.61 | 229.55 | 231.85 |
|  | SD | 27.29 | 27.07 | 25.93 | 25.55 | 24.58 | 24.53 | 28.23 | 26.06 | 25.88 | 26.17 |
|  | N | 24,894 | 110,705 | 14,454 | 15,717 | 7,627 | 12,159 | 2,139 | 78,358 | 674 | 4,471 |
|  | 25th Percentile | 188 | 203 | 182 | 186 | 197 | 197 | 208 | 208 | 211 | 216 |
|  | Median | 208 | 221 | 199 | 206 | 213 | 213 | 224 | 227 | 227 | 230 |
|  | 75th Percentile | 224 | 237 | 218 | 221 | 227 | 230 | 241 | 241 | 246 | 246 |
| Grade 5 | Mean | 212.71 | 228.65 | 205.46 | 210.78 | 218.42 | 220.33 | 232.97 | 233.01 | 236.10 | 239.47 |
|  | SD | 27.70 | 26.86 | 26.42 | 26.00 | 24.98 | 24.63 | 28.10 | 25.59 | 24.42 | 24.49 |
|  | N | 27,293 | 115,722 | 15,513 | 16,439 | 8,840 | 13,274 | 2,198 | 81,523 | 742 | 4,486 |
|  | 25th Percentile | 193 | 213 | 186 | 193 | 202 | 204 | 215 | 218 | 221 | 226 |
|  | Median | 213 | 232 | 206 | 211 | 221 | 223 | 235 | 235 | 235 | 241 |
|  | 75th Percentile | 232 | 245 | 223 | 229 | 235 | 238 | 253 | 247 | 253 | 253 |
| Grade 6 | Mean | 224.34 | 235.93 | 220.53 | 221.65 | 225.05 | 224.97 | 243.27 | 240.38 | 244.18 | 246.44 |
|  | SD | 24.49 | 24.54 | 23.30 | 23.63 | 23.18 | 22.35 | 27.40 | 23.31 | 23.84 | 23.09 |
|  | N | 31,643 | 120,319 | 17,378 | 17,199 | 11,224 | 15,613 | 2,254 | 82,920 | 787 | 4,587 |
|  | 25th Percentile | 209 | 220 | 204 | 204 | 209 | 209 | 227 | 227 | 229 | 231 |
|  | Median | 225 | 239 | 220 | 222 | 225 | 225 | 244 | 242 | 244 | 247 |
|  | 75th Percentile | 242 | 253 | 236 | 239 | 242 | 242 | 260 | 257 | 260 | 260 |
| Grade 7 | Mean | 232.74 | 241.11 | 227.97 | 225.77 | 234.41 | 231.40 | 249.33 | 245.47 | 252.57 | 251.71 |
|  | SD | 24.72 | 25.14 | 23.65 | 23.44 | 22.87 | 22.78 | 27.34 | 24.17 | 25.33 | 23.22 |
|  | N | 28,327 | 121,759 | 15,038 | 17,395 | 10,146 | 15,323 | 2,307 | 84,621 | 836 | 4,420 |
|  | 25th Percentile | 218 | 224 | 213 | 209 | 220 | 215 | 234 | 231 | 236 | 236 |
|  | Median | 234 | 244 | 229 | 226 | 234 | 231 | 249 | 247 | 252 | 252 |
|  | 75th Percentile | 249 | 259 | 244 | 241 | 249 | 247 | 266 | 263 | 266 | 266 |
| Grade 8 | Mean | 241.91 | 250.61 | 237.31 | 235.95 | 243.80 | 240.30 | 257.47 | 254.60 | 259.75 | 260.04 |
|  | SD | 22.91 | 23.79 | 21.87 | 22.03 | 21.27 | 21.82 | 24.91 | 22.79 | 23.19 | 22.89 |
|  | N | 28,761 | 122,803 | 15,488 | 16,398 | 10,030 | 14,625 | 2,475 | 87,306 | 768 | 4,474 |
|  | 25th Percentile | 229 | 236 | 225 | 223 | 231 | 225 | 243 | 241 | 246 | 246 |
|  | Median | 243 | 254 | 238 | 236 | 246 | 241 | 259 | 256 | 259 | 259 |
|  | 75th Percentile | 256 | 266 | 251 | 251 | 256 | 256 | 273 | 269 | 273 | 277 |

## tABLE 2

2006 ISAT Math Scores: CPS Students Compared to the Rest of the State

|  |  | All Students |  | African-American |  | Latino |  | White |  | Asian |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | CPS | Other IL | CPS | Other IL | CPS | Other IL | CPS | Other IL | CPS | Other IL |
| Grade 3 | Mean | 198.67 | 219.34 | 191.69 | 201.74 | 204.36 | 210.05 | 222.24 | 223.52 | 230.00 | 233.85 |
|  | SD | 29.11 | 28.14 | 27.01 | 26.18 | 26.22 | 25.21 | 30.13 | 27.09 | 27.79 | 27.70 |
|  | N | 25,152 | 110,467 | 15,485 | 15,336 | 6,079 | 11,070 | 2,037 | 76,873 | 531 | 4,407 |
|  | 25th Percentile | 178 | 200 | 173 | 183 | 187 | 193 | 201 | 205 | 212 | 217 |
|  | Median | 198 | 219 | 190 | 201 | 203 | 209 | 223 | 223 | 231 | 233 |
|  | 75th Percentile | 219 | 236 | 209 | 219 | 223 | 228 | 243 | 240 | 247 | 251 |
| Grade 4 | Mean | 214.82 | 232.45 | 206.40 | 214.54 | 221.49 | 225.07 | 234.11 | 236.38 | 244.25 | 248.25 |
|  | SD | 27.00 | 27.00 | 24.16 | 24.42 | 23.54 | 23.90 | 27.62 | 25.51 | 26.71 | 28.35 |
|  | $N$ | 25,819 | 113,346 | 14,418 | 15,713 | 7,622 | 12,159 | 2,136 | 78,338 | 672 | 4,470 |
|  | 25th Percentile | 195 | 215 | 188 | 196 | 206 | 209 | 216 | 219 | 226 | 229 |
|  | Median | 215 | 233 | 206 | 213 | 223 | 224 | 235 | 237 | 243 | 247 |
|  | 75th Percentile | 233 | 251 | 223 | 231 | 237 | 241 | 253 | 253 | 259 | 267 |
| Grade 5 | Mean | 222.97 | 242.79 | 213.85 | 222.47 | 229.45 | 234.43 | 244.79 | 247.26 | 257.56 | 262.19 |
|  | SD | 27.00 | 30.00 | 22.42 | 24.31 | 24.34 | 24.99 | 31.29 | 29.19 | 32.39 | 32.56 |
|  | N | 28,197 | 118,230 | 15,487 | 16,414 | 8,842 | 13,276 | 2,192 | 81,512 | 742 | 4,483 |
|  | 25th Percentile | 203 | 222 | 198 | 205 | 211 | 217 | 222 | 227 | 234 | 239 |
|  | Median | 219 | 241 | 210 | 219 | 228 | 233 | 243 | 246 | 257 | 261 |
|  | 75th Percentile | 239 | 261 | 227 | 237 | 245 | 250 | 267 | 267 | 281 | 285 |
| Grade 6 | Mean | 235.23 | 251.70 | 227.85 | 233.14 | 239.43 | 241.83 | 255.70 | 256.43 | 266.55 | 270.83 |
|  | SD | 25.00 | 28.00 | 21.94 | 23.35 | 23.28 | 23.16 | 29.46 | 26.90 | 29.04 | 31.17 |
|  | N | 32,579 | 122,585 | 17,347 | 17,193 | 11,179 | 15,606 | 2,252 | 82,902 | 787 | 4,583 |
|  | 25th Percentile | 216 | 232 | 211 | 216 | 222 | 225 | 235 | 238 | 246 | 250 |
|  | Median | 232 | 250 | 225 | 231 | 238 | 240 | 254 | 255 | 267 | 270 |
|  | 75th Percentile | 250 | 270 | 241 | 247 | 254 | 255 | 275 | 275 | 287 | 291 |
| Grade 7 | Mean | 245.21 | 260.31 | 237.22 | 239.12 | 248.16 | 248.52 | 266.87 | 265.77 | 281.48 | 281.24 |
|  | SD | 27.00 | 31.00 | 23.39 | 24.22 | 24.39 | 25.36 | 33.07 | 29.92 | 33.47 | 33.93 |
|  | N | 29,132 | 123,746 | 15,001 | 17,373 | 10,123 | 15,314 | 2,308 | 84,623 | 835 | 4,420 |
|  | 25th Percentile | 226 | 238 | 221 | 222 | 232 | 230 | 244 | 246 | 258 | 258 |
|  | Median | 243 | 258 | 235 | 237 | 247 | 247 | 264 | 264 | 280 | 280 |
|  | 75th Percentile | 261 | 280 | 251 | 255 | 263 | 264 | 288 | 285 | 305 | 305 |
| Grade 8 | Mean | 258.08 | 273.34 | 250.52 | 253.21 | 261.57 | 261.00 | 277.85 | 278.14 | 288.90 | 295.19 |
|  | SD | 26.00 | 30.00 | 22.37 | 23.48 | 23.66 | 24.28 | 30.55 | 29.38 | 31.18 | 36.05 |
|  | $N$ | 29,598 | 124,545 | 15,431 | 16,383 | 10,019 | 14,625 | 2,468 | 87,275 | 768 | 4,472 |
|  | 25th Percentile | 240 | 251 | 235 | 237 | 245 | 244 | 256 | 258 | 268 | 270 |
|  | Median | 255 | 272 | 248 | 251 | 259 | 259 | 276 | 276 | 287 | 291 |
|  | 75th Percentile | 273 | 291 | 265 | 267 | 276 | 275 | 298 | 295 | 308 | 318 |

2006 ISAT Reading and Math Standardized Differences Scores

| Reading Standardized Differences |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | All Students | African-American | Latino | White | Asian |
| Grade 3 | -0.62 | -0.27 | -0.14 | 0.03 | -0.15 |
| Grade 4 | -0.51 | -0.15 | 0.00 | 0.02 | -0.09 |
| Grade 5 | -0.57 | -0.20 | -0.08 | 0.00 | -0.14 |
| Grade 6 | -0.46 | -0.05 | 0.00 | 0.12 | -0.10 |
| Grade 7 | -0.33 | 0.09 | 0.13 | 0.16 | 0.04 |
| Grade 8 | -0.36 | 0.06 | 0.16 | 0.13 | -0.01 |
| Math Standardized Differences |  |  |  |  |  |
|  | All Students | African-American | Latino | White | Asian |
| Grade 3 | -0.72 | -0.37 | -0.22 | -0.05 | -0.14 |
| Grade 4 | -0.66 | -0.33 | -0.15 | -0.09 | -0.14 |
| Grade 5 | -0.67 | -0.36 | -0.20 | -0.08 | -0.14 |
| Grade 6 | -0.60 | -0.23 | -0.10 | -0.03 | -0.14 |
| Grade 7 | -0.50 | -0.08 | -0.01 | 0.04 | 0.01 |
| Grade 8 | -0.52 | -0.12 | 0.02 | -0.01 | -0.18 |

Standardized Difference $=\frac{\text { Chicago Mean }- \text { Rest of IL Mean }}{\text { Pooled Standard Deviation }}$

A negative difference indicates higher scores in the rest of Illinois.
A positive difference indicates higher scores in CPS.

## John Q. Easton

John Q. Easton is Executive Director of the Consortium on Chicago School Research (CCSR). He has been affiliated with CCSR since its inception in 1990 and led its first research study. Much of Easton's research at CCSR examines trends in achievement test scores and the use of test scores in school improvement and school accountability efforts. He is coauthor of a recent study on the relationship between freshman-year academic performance and high school graduation. Easton holds a PhD in Measurement, Evaluation, and Statistical Analysis from the University of Chicago.

## Stuart Luppescu

Stuart Luppescu is Ohief Psychometrician at the Consortium. In his 15 years at CCSR, he has worked on projects involving measure development, survey data analysis, test equating, and studies of achievement test trends. He holds a PhD in Educational Measurement from the University of Chicago.

## Todd Rosenkranz

Todd Rosenkranz is the Data Archivist and Deputy Psychometrician at the Consortium. In his eight years at CCSR, he has done extensive work on test trends for the ITBS, ISAT, TAP, and PSAE. He has an MA in Public Policy from the Irving B. Harris Graduate School of Public Policy Studies at the University of Chicago.

This report reflects the interpretation of the authors. Although the Consortium's Steering Committee provided technical advice and reviewed earlier versions, no formal endorsement by these individuals, organizations, or the full Consortium should be assumed.

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Our Mission

The Consortium on Chicago School Research (CCSR) at the University of Chicago aims to conduct research of high technical quality that can inform and assess policy and practice in the Chicago Public Schools. By broadly engaging local leadership in our work, and presenting our findings to diverse audiences, we seek to expand communication among researchers, policy makers, and practitioners. CCSR encourages the use of research in policy action, but does not argue for particular policies or programs. Rather, we believe that good policy is most likely to result from a genuine competition of ideas, informed by the best evidence that can be obtained.

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