We often hear that preparation for college and careers begins when students are young. Yet, it can be difficult for middle grade educators to know how best to prepare these students for future success. Middle grade practitioners need to know what to pay attention to and who needs additional support. Without knowing how to identify students who are on-track for high school or college graduation in the middle grades, it can be difficult to set appropriate performance goals, or intervene when students struggle.

The study *Looking Forward to High School and College: Middle Grade Indicators of Readiness in Chicago Public Schools* shows how students’ middle grade (grades five through eight) performance can be used to determine students’ likelihood of graduating from high school and leaving high school with a strong probability of success in college. This brief summarizes a few key findings relevant for schools serving students in the middle grades.

**THE 5 KEY FINDINGS**

1. **Middle grade attendance and GPA provide the best indication of how students will perform in high school classes.** These are better indicators than test scores or background characteristics, such as race and neighborhood poverty level, for identifying which students are at risk of failing ninth-grade classes or earning low grades in high school.

2. **Students who are chronically absent or receiving Fs in the middle grades are at very high risk of being off-track for graduation in ninth grade, and eventually dropping out of school.** These students are already in need of intervention during the middle grades, before they end up falling in high school. Many other students end up off-track in high school, but cannot be identified as at high risk until after they make the transition to high school.

3. **College readiness depends on very strong grades in middle school, as well as high school.** Students need to earn all As and Bs during the middle grades to have at least a modest chance at college readiness by the end of high school.

4. **Improving grades and attendance in the middle grades can have a large pay-off for high school success; even more so than improving test scores.** Students who improve their attendance or grades from fifth through eighth grade have better on-track rates, higher grades, and higher test scores in high school than students who start out with the same achievement in fifth grade but do not improve during the middle grades. Modest improvements in attendance or grades from fifth through eighth grade are associated with substantial differences in high school outcomes.

5. **High school selection matters for whether students graduate and earn the credentials needed for college.** Students with the same eighth-grade GPAs, attendance, and test scores have much different probabilities of being on-track and earning high grades in high school, depending on which high school they attend. The high schools where students have the best pass rates and highest grades are not necessarily the schools with the highest test scores.
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To download the full report, visit ccsr.uchicago.edu/publications.
GPA and Attendance Are Critical Indicators

Students’ middle grade attendance and overall GPA provide the best indication of how students will perform in high school classes, compared to other potential indicators such as test scores, suspensions, or background characteristics. There are many different indications of how students are performing in school, including test scores, grades, attendance, and disciplinary records. Recently, there has also been attention focused on “noncognitive factors,” such as students’ academic perseverance (grit) and study habits, which are not measured by standardized tests. It is also common to hear that students’ high school performance is strongly related to their background characteristics, such as their race, gender, or family income. With so many factors potentially related to later outcomes, it may seem difficult to identify which students are at risk for poor performance in high school. It turns out, however, that the best prediction of passing classes and getting high grades in high school comes from a combination of just two indicators—grades and attendance. Adding other information about students, including their test scores, suspensions, eighth-grade study habits, and background characteristics, does not improve the prediction of whether students will be successful in high school classes, once their grades and attendance are considered.

Implications
Middle school staff and teachers can use eighth-grade GPA and attendance to create simple indicator systems to identify students who are at risk of failing classes in high school, even before they enter ninth grade. To get more students on the path to college-readiness, middle grade practitioners can also use eighth-grade GPA and attendance to identify students’ risk for earning grades lower than As and Bs in high school.

The Role of Test Scores and Course Grades (GPAs) for Students’ Future Achievement

Prior research shows passing classes and earning high grades in high school are essential for high school and college graduation, while test scores primarily matter for college access. There is often a perception that students’ performance on tests is what matters for high school and college graduation. While there are innumerable studies showing significant relationships between test scores and educational attainment, grades are more strongly and consistently found to be related to educational attainment than test scores. Furthermore, the relationship of test scores to high school and college graduation becomes small, once we take into account students’ GPAs. It is students’ grades that ultimately matter more for high school and college graduation than their test performance, and grades are affected by many factors other than test scores. This does not mean that test scores are irrelevant—it is easier for students with higher tested skills to get good grades—but a focus on test scores as the dominant factor affecting college readiness would be misplaced. It is crucial that students are engaged and working hard in their classes, as indicated by their course grades. It is by working hard in their classes that students gain the academic skills, the behavioral skills, and the noncognitive skills they need to be successful in college and careers.

A Rumberger and Lim (2008); Allensworth and Easton (2007).
B Geiser and Santelices (2007); Roderick et al. 2006; Bowen, Chingos, and McPherson (2009); Allensworth (2013).
C Farrington et al. (2012).

1 See Chapters 4 and 7 of the full report for details about the relationships between middle grade indicators and high school performance.
Off-Track in High School Often Starts in the Middle Grades

Students who are chronically absent or receiving Fs in the middle grades are at very high risk of being off-track for graduation in ninth grade and eventually dropping out of school. Students who are chronically absent in eighth grade—missing more than 10 percent of the school year—are more likely to be off-track than on-track when they get to high school (see Figure 1.A). If students are attending school less than 85 percent of the time in any of the earlier grades in middle school (grades five through seven), they are at high risk of failing when they get to high school. If they are attending less than 80 percent of the time, they are almost certain to be off-track at the end of ninth grade.

Many students who are chronically absent in eighth grade have also been chronically absent in earlier grades. In fact, almost 70 percent of chronically absent eighth-graders have been chronically absent for more than one year during the middle grades (grade five through eight); over a quarter have been chronically absent four years or more. Students who are chronically absent during the middle grade years are at very high risk for not earning a high school diploma.

Another group of students at high risk for failure in high school are students who get Ds and Fs and have high absence rates in the middle grades (see Figure 1.B). For eighth-grade students with middle grade GPAs below a 2.0, those with attendance rates below 95 percent have less than a 50/50 chance of being on-track for graduation in their first year of high school. For students in grades five through seven, a GPA of less than 1.5 means they are more likely to be off-track for graduation in high school than on-track. The combination of low attendance and low grades is a clear signal that students are very likely to fail in high school.

While middle grade students with low grades and poor attendance are at high risk for being off-track for graduation, many other students still are at some risk. Only students whose eighth-grade GPA is a 3.0 or higher and who attend school at least 95 percent of the time are at very low risk of being off-track by the end of ninth grade.

Implications

Students who are chronically absent during the middle grades are set up for failure before they even enter high school. They are in need of strategies for improving their attendance—for coming to school every day that they are not sick. Their attendance is likely to further decline when they enter high school, leading them to eventually drop out, unless they develop new patterns around school attendance. This may take an adult mentor, teacher, counselor, or other school staffer reaching out to find out why the student is missing school and working with their family or other service provider to address the issue that is leading to low attendance.

Likewise, students who are receiving Ds and Fs in the middle grades have very little chance of eventually graduating from high school. Grades tend to drop in high school, compared to middle school, by about half a GPA point. Students receiving Ds in the middle grades are likely to receive Fs in high school. There are many different reasons that a student may be earning poor grades—it is not just that students have weak academic skills. If they are to graduate, it will likely take an adult to find out why they are having difficulties, develop a plan for overcoming those difficulties, and monitor attendance.

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2 These are the same patterns identified by researchers studying Philadelphia schools—students with below 80 percent attendance in the middle grades or a final grade of F in math or English had a greater than 75 percent chance of eventually dropping out of school (Neild and Balfanz, 2006; Balfanz, Herzog, and Mac Iver, 2007).

3 Rosenkranz et al. (2014). See Chapter 3 in the full report for more information about how performance drops from eighth to ninth grade.

4 There is a wide range in students’ tested skills among students who receive Ds and Fs. Low academic skill levels are only one of many reasons that students receive poor grades.
them closely to make sure their grades are improving. Grades and attendance can change over time, and students’ experiences in school matter for whether they show improvements or declines in those areas.\(^5\) There are a number of initiatives that provide examples of successful strategies for improving the academic performance of at-risk students. One example is the Check-and-Connect program, in which mentors monitor students’ attendance and course performance, providing support as they need it.\(^6\) For students with a moderate risk of failure, low-cost programs, such as the NYC Success Mentors, have had success at improving students’ attendance, grades, and test scores.\(^7\) For students at extremely high risk of failure, more intensive programs, such the model developed by Match Education, have been shown to improve students’ performance, although they require a greater expense.\(^8\)

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\(^5\) There is significant variation in change over time in students’ grades and attendance from fifth through eighth grade and about half of the variation can be attributed to school effects. See chapter 3 in the full report for more information.

\(^6\) Sinclair et al. (1998); Lehr, Sinclair, and Christensen (2004).

\(^7\) Balfanz and Byrnes (2013).

\(^8\) Cook et al. (2014).
Strong Grades Are Critical for College Readiness

College readiness depends on very strong grades in middle school, as well as high school. Almost all students want to go to college, but the vast majority of students who leave eighth grade in Chicago do not even have a 1-in-4 chance of finishing high school with the qualifications that indicate they will succeed in college. The biggest stumbling block is students’ course grades. Research in Chicago and other parts of the country shows that only students who graduate high school with at least a 3.0 GPA have a 50/50 chance of earning a college diploma in six years. ACT scores are less predictive of college graduation than students’ high school GPAs.9

Many middle grade students are already off the path to college readiness without realizing it. If students earn less than a 3.0 GPA in the middle grades, they have a slim chance of earning at least a 3.0 GPA in high school—less than a 23 percent chance, regardless of eighth-grade ISAT scores or attendance rates. Even those middle grade students earning As and Bs are not guaranteed the same success in high school. As shown in Figure 2.A, students with an eighth-grade GPA between 3.0 and 3.3 have no more than a 31 percent chance of earning As or Bs in ninth grade if they have ISAT math scores that exceed standards (above 310). Only students with at least a 3.7 GPA in eighth grade have a relatively good chance of earning As and Bs in high school. Among these students, having higher test scores increases their likelihood of earning As and Bs. But for students with an eighth-grade GPA below 3.7, higher test scores do not substantially increase their likelihood of earning As and Bs. Higher attendance rates, on the other hand, are associated with improved likelihoods of earning As and Bs in ninth grade for students with eighth-grade GPAs above 3.0, as shown in Figure 2.B.

Implications
Students who plan to go to college need to understand that college requires very strong levels of effort in school, effort that produces A- or B-quality work in the middle grades as well as in high school. Families should know that high standards are needed to prepare for college so that they can work with middle grade teachers to ensure students are putting in the effort required to earn high grades. Other research shows that teachers can support students’ grades and work effort by providing high levels of support; this includes: 1) monitoring students’ performance closely with regular updates; 2) reaching out right away with help for specific academic problems; and 3) providing clear explanations and checking for understanding.10

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9 Roderick et al. (2006); Bowen, Chingos and McPherson (2009); Healey, Nagaoka, and Michelman (2014).
10 Rosenkranz et al. (2014); Allensworth et al. (2014).
Students With an Eighth-Grade GPA of Less Than 3.7 Have No More Than a 52% Chance of Earning As and Bs in High School, Regardless of Their Test Scores

Higher Attendance Rates are Associated With Improved Likelihoods of Earning As and Bs in Ninth Grade for Students With Eighth-Grade GPAs above 3.0

Note: The percentages are based on students entering ninth grade in the 2009-10 school year. Students with an eighth-grade GPA of less than 3.0 (not shown) have no greater than a 23 percent chance of earning As or Bs in ninth grade, even with ISAT math scores greater than 310. For additional details and probability calculations for other GPA ranges, see Figure 21 of the full report.
Improving grades and attendance in the middle grades can have a large pay-off for high school success; even more so than improving test scores. Improvements in attendance and grades are related to substantially better high school outcomes. As shown in Figure 3, a student with an average GPA (2.8), average attendance (97 percent), and average test scores (225 math ISAT and 215 reading ISAT) in fifth grade who improves attendance to 99 percent by the end of eighth grade has a 93 percent chance of being on-track for graduation in high school. In comparison, a student with exactly the same records in fifth grade whose attendance declines over the middle grades to 93 percent, has only a 66 percent chance of being on-track in high school.

The student who improves attendance also earns better grades (2.4 vs. 2.1 GPA) and has higher test scores (16 vs. 15 on PLAN) in high school than the similar fifth-grade student whose attendance declines by eighth grade (see Figure 4). All high school outcomes are substantially better among students who improve their attendance in the middle grades, compared to students with the same achievement in fifth grade who do not improve their attendance.

Students who improve their course grades during the middle grades show even better high school outcomes than students who improve their attendance. A student with average GPA, attendance, and test scores in fifth grade whose GPA rises to 3.3 by eighth grade has a 95 percent chance of being on-track (see Figure 4). If this student's GPA had declined between fifth grade and eighth grade to 2.0, however, the student would have only a 54 percent chance of being on-track. That's a spread of 41 percentage points in the likelihood of being on-track, and the difference in ninth-grade GPA between these scenarios would be 0.05 GPA points, which is a substantial difference on a four point scale.

Contrast these outcomes with those that result from increases or decreases in test scores during the same period. A student at the 95th percentile of test-score growth with average GPA, attendance, and test scores in fifth grade whose math ISAT score rises from 225 to 276 by eighth grade has a 77 percent chance of being on-track and will likely earn a GPA of 2.2 and a PLAN score of 16 in ninth grade (see Figure 4). If this student's ISAT math score declines to 215 by eighth grade, however, the student would have only a 66 percent chance of being on-track. That's a spread of 11 percentage points in the likelihood of being on-track, and the difference in ninth-grade GPA between these scenarios would be 0.05 GPA points, which is a substantial difference on a four point scale.

Note: Analysis compares students with similar attendance, GPA, and test scores in fifth grade. See note on Figure 4 for information about calculations and other outcomes.
score instead only improves to 253 by eighth grade (representing the fifth percentile of test-score growth between those grades), this student would have a 68 percent chance of being on-track and would likely earn a GPA of 2.1 and a PLAN score of 15 in ninth grade. That is a spread of only 9 percentage points in the likelihood of being on-track and of only 0.1 ninth-grade GPA points. The improvement in tenth-grade test scores associated with improving middle grade test scores is the same (one point) as among students who improve their attendance.

Implications
Strategies aimed at improving attendance or GPA in middle school would likely have a large pay-off for high school and college graduation, even more so than efforts aimed at improving test scores. Problems with attendance and grades may not be seen as being of low importance compared to progress on tests. Students who improve their grades or attendance from fifth through eighth grade, however, have much better high school outcomes than students who start with similar grades, attendance, and test scores in fifth grade but do not improve their grades or attendance. Making sure students come to school every day and work up to their potential—completing homework, participating in class, and demonstrating strong work effort—could have substantial pay-off in their eventual success in college and careers.

There are many reasons students miss school, from sickness to transportation and family issues, to a lack of interest in coursework. If students do not figure out how to keep obstacles from interfering in middle school attendance, it will be even more difficult when they get to high school and may have less teacher support and more responsibilities. Improving attendance requires strong partnerships and communication with families and school-wide strategies to meet the particular issues in the school community that prevent students from attending school.\(^\text{12}\)

Likewise, grades are strongly determined by students’ academic behaviors—coming to class, turning in assignments, participating, and doing high-quality work over the course of the entire year. Students who develop these behaviors in the middle grades are developing the work habits they will need in order to be successful in high school. Schools, teachers, and families can help to foster these behaviors in middle grade students.

FIGURE 4
Improving Grades and Attendance During the Middle Grades Has A Big Pay-Off for High School Outcomes

Predicted Ninth-Grade Outcomes for Students With the Most and Least Improvement in Attendance, GPA, and Test Scores in the Middle Grades (Fifth Through Eighth Grade)

<table>
<thead>
<tr>
<th>Core GPA</th>
<th>Attendance</th>
<th>ISAT Math</th>
<th>ISAT Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.8</td>
<td>97</td>
<td>225</td>
<td>215</td>
</tr>
<tr>
<td>3.3</td>
<td>99%</td>
<td>276</td>
<td>248</td>
</tr>
<tr>
<td>2.0</td>
<td>99%</td>
<td>253</td>
<td>241</td>
</tr>
</tbody>
</table>

Note: Change from fifth through eighth grade represents improvement that is at the 95th percentile (top line) or fifth percentile (bottom line) in terms of change from fifth through eighth grade in each indicator. The predicted ninth-grade outcome is based on the eighth-grade indicator level, and controls for GPA, attendance rates, and ISAT scores in fifth grade (predicting outcomes for a student with average fifth-grade achievement: 97 percent attendance, 2.8 GPA, 225 math ISAT, 215 reading ISAT).
High School Choice Matters

High school selection matters for whether students graduate and earn the credentials needed for college. Students with the same academic records in the middle grades have large differences in high school outcomes, depending on which high school they attend. For example, among students with typical eighth-grade achievement levels—an eighth-grade GPA of 2.2, an attendance rate of 95 percent, and a score of 253 on the math portion of the ISAT—on-track rates range from 31 to 75 percent, depending on which high school they attend, and taking into account any differences due to their middle school. That is a difference of over 40 percentage points.

High school effects are largest for students with average achievement levels. Students with very low eighth-grade achievement are unlikely to do well at any high school. For example, among students with an eighth-grade GPA of 1.0, an attendance rate of 77 percent, and a score of 247 on the math portion of the ISAT, the probability of being on-track ranges from 3 to 12 percent, depending on which high school they attend—a difference of just nine percentage points. Students with high achievement have a good chance of being on-track at all high schools, although at some high schools they are at some risk of being off-track. For example, for a student with an eighth-grade GPA of 3.2, an attendance rate of 97 percent, and a 279 on the math portion of the ISAT, the probability of being on-track ranges from 77 to 98 percent, depending on which high school they attend.

Choice of high school also matters for whether students earn As and Bs in their ninth-grade classes, especially for students with high eighth-grade achievement. For students with very high achievement (e.g., eighth-grade GPA of 3.6, 98 percent attendance, and a 294 on ISAT), their likelihood of earning high grades can vary by as much as 40 percentage points, depending on the high school they choose. Students with an eighth-grade GPA of less than a 3.0 are unlikely to earn high grades in high school, regardless of which high school they attend.

Implications
Middle schools would benefit from learning at which high schools their students actually end up with the highest GPAs, graduation rates, and on-track rates. These may not be the schools with the highest average ACT test scores. One method of discerning whether students receive sufficient support in high school is to compare ninth-grade on-track and graduation rates at schools that have similar incoming test scores. If students with similar academic skills are more likely to be on-track or graduate at one school than another that has students with similar tested skills, then they likely receive better supports at the school with higher ninth-grade on-track or graduation rates. Middle schools might also consider the college-going rates among high schools that serve similar populations of students; this is another indicator of whether high schools are providing the supports students need to succeed in high school and beyond. Middle school practitioners can use this information to help guide students in their choice of high school so that they can maximize their chances of getting good grades and being ready for college.
Summary

Everyone is concerned about getting students to graduate from high school and ready for college. Middle school practitioners can use students’ performance in middle school to identify and intervene with students at high or very high risk of not performing well in high school, even before they enter high school. For students with 80 percent or lower attendance or a GPA of less than 1.0, interventions are strongly warranted while they are in middle school, if students are to have a chance of graduating from high school. Middle grade students with an attendance rate of 90 percent or lower or a GPA of less than a 1.5 are also more likely to fail than to succeed in high school, unless they get support.

In order to be college-ready, students need to be getting As and Bs in their classes, even in the middle grades. That means they need to attend school every day—in both middle school and high school—and get all of their work done, every day. These are the basic requirements for improving achievement—both for getting higher grades and for learning and improving test scores.

Middle schools can also help students by helping them enroll in high schools that are likely to give them strong academic support. During the transition to high school, attendance and work effort often diminish dramatically, so that even high-achieving students encounter performance problems. Some high schools offer more supports than others, leading students with similar middle school performances to do very differently.

High schools in Chicago have shown substantial success at getting more students on-track in the ninth-grade year by monitoring students’ grades and attendance closely and reaching out right away when students fall behind. It is easy to lose focus on supporting students’ academic behaviors, with all of the changing demands around curriculum, pedagogy, and assessments. Monitoring indicators, such as attendance, is not a substitute for improving instruction or creating engaging environments. But figuring out why students have low grades and poor attendance, and addressing those issues, is essential to establish an engaging classroom environment with challenging instruction. Otherwise, the best-planned lesson falls flat. Getting students to be more engaged in their classes—coming every day they are not sick, turning in all assignments, and putting in their best effort—is what matters the most for their later outcomes.

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13 Roderick et al. (2014).
14 Allensworth et al. (2014).
References


ABOUT THE AUTHORS

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This report reflects the interpretation of the authors. Although UChicago CCSR’s Steering Committee provided technical advice, no formal endorsement by these individuals, organizations, or the full Consortium should be assumed.
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