REPORT

The Research Alliance for New York City Schools

iMentor's College Ready Program

Examining Implementation and Impacts for 10th Graders

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December 2017

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EXECUTIVE SUMMARY

A large and growing body of research shows that relationships between adults and youth, such as those formed in mentoring programs, can improve youth's odds of success. In *Foundations for Young Adult Success*, Nagaoka et al. (2015) describe relationships with supportive adults as a necessary underpinning for students' development. Studies of formal mentoring programs, most notably Big Brothers Big Sisters, have demonstrated a variety of benefits for youth and highlighted the importance of close relationships between mentors and mentees (Grossman & Rhodes, 2002; Herrera et al., 2007). More recently, Bayer et al. found that students who had a close relationship with their mentor made significant academic gains, whereas students who did not have a close relationship saw little improvement (2013).

The iMentor College Ready Program combines school-based mentoring with technology and aspects of whole school reform, in an effort to improve students' college readiness. The program matches low-income youth with college-educated mentors and aims to help them develop close relationships through online communication and monthly in-person events, which take place throughout students' four years of high school. In turn, iMentor hopes to leverage these relationships to help students develop the mindsets, skills, and knowledge necessary to reach and succeed in college.

The Research Alliance for New York City Schools is conducting a mixed-methods evaluation of iMentor's College Ready Program in eight New York City high schools. This report (the third, so far, from our evaluation) examines the College Ready Program's impact on a variety of outcomes at the end of students' scheduled 10th grade year and updates our analysis of the program's implementation across schools. It also begins to explore whether students' engagement with key components of the College Ready Program has any association with positive outcomes. iMentor's leaders have emphasized two priorities that they believe are important to achieve the program's goals: developing close mentee-mentor relationships and meeting thresholds for participating in various program activities. Thus, we explore how student outcomes differed across these two domains.

This information may help identify opportunities to strengthen the program, and will provide useful context as we continue to investigate iMentor's impact on student outcomes in future years of the study. Our findings may also offer valuable insights

for other mentoring and youth development initiatives that seek to foster supportive relationships between students and adults.

How Was iMentor Implemented During the 10th Grade?

iMentor identifies its key program components as: (1) matching students to the recruited pool of mentors; (2) supporting the mentee-mentor relationship; (3) teaching non-cognitive skills and college knowledge in weekly classes; and (4) providing opportunities for the mentee-mentor pair to interact, online and in person. Drawing on program data iMentor collects and surveys conducted as part of our evaluation, we found that:

- Across all eight evaluation schools, 77 percent of students had been matched with a mentor by December of their 10th grade year; about 49 percent of students remained matched with their original mentor from 9th grade. Schools and cohorts varied between 58 percent and 94 percent of students matched.
- 37 percent of students met or were approaching iMentor's goal of weekly online interaction with their mentor.
- 45 percent of students met or were approaching iMentor's goal of attending six events per school year, and 60 percent of students attended events at least twice.
- Students reported relatively high levels of closeness with their mentors. On the spring survey, 11 percent of 10th graders reported feeling "Not close" or "A little close" to their mentor, while about 48 percent said they felt "Somewhat close," and 40 percent "Very close". Notably, just 33 percent of students who reported feeling "Very close" to their mentor met all of iMentor's participation goals; 57 percent of these students were approaching iMentor's goals.

iMentor sets participation goals for school-level implementation, as well as individual student participation. Overall, we found that schools have struggled to meet iMentor's implementation goals, but that participation in key activities has varied substantially across schools and student cohorts (see Figure 1 in the full report for more information about the cohorts and timeline for our study). There was no overall upward trend in implementation levels over time; rather, implementation levels rose and fell, across the various program components and schools. Many schools were successful in matching students, but a few struggled with preliminary matches and with matches ending. No school met iMentor's goals for pair interaction, as measured through online communication and event attendance. Still, students reported

relatively high levels of closeness with their mentor, and, perhaps surprisingly, many of the students who reported feeling close did not meet iMentor's participation goals.

These findings raise a number of questions: How did iMentor staff and school personnel make decisions about iMentor's implementation? Did personnel choose to emphasize certain program components and deemphasize others? If so, why? What challenges did schools encounter in the areas where implementation declined? And what resources helped some schools improve in key areas?

About iMentor's College Ready Program

iMentor provides the following supports and resources to partner schools:

- **College-educated mentors,**
- **iMentor support staff**, including Program Managers (PMs) assigned to each school,
- **A proprietary data platform, Canvas,** that facilitates interactions between mentors and mentees and tracks key program data, and
- **A college-readiness curriculum** that is taught in weekly iMentor classes.

In each partner school, iMentor PMs engage in four key activities:

- **Matching** mentees and mentors based on gender and shared interests,
- **Supporting** mentee-mentor pairs,
- **Teaching** college knowledge and non-cognitive skills in a weekly class, and
- **Providing opportunities for mentees and mentors to interact** through Canvas posts and monthly events.

iMentor's approach is distinctive for several reasons. First, few mentoring programs have embraced technology as fully as iMentor, which uses its online platform as the main form of contact between students and mentors. Second, iMentor attempts to serve *all* students at the school, for the entirety of their high school career; mentoring programs typically serve only a subset of students, and often for a shorter period. Finally, iMentor includes a College Ready curriculum that is taught during the school day; it is unusual for a mentoring programs to have a curricular component that is taught like an elective class during school. iMentor's ultimate goal is for students to enroll and succeed in college, defined by completing a 2- or 4-year degree or even entering directly into a career. (For further details, please see our previous reports.)

What Were the Effects of iMentor After Two Years of Implementation?

Overall, iMentor had a small, positive, statistically significant impact on some student experiences and attitudes, but not on students' attendance or academic performance. Compared to similar students who did not have access to iMentor, the average iMentor 10th grader:

- Was much more likely to have a mentor;
- Was slightly more likely to have developed a resume and researched a possible career path;
- Had slightly higher college aspirations, resilience and critical thinking; but
- Was not more likely than their peers to have completed a variety of college preparation activities;
- Did not have a higher grade point average (GPA), attendance rate, or number of credits;
- Was similarly likely to be chronically absent; and
- Was similarly likely to be on track to graduate.

Were Stronger Outcomes Associated with Closer Mentoring Relationships or with the Intensity of Participation in iMentor Activities?

Looking only at students who had access to iMentor, those who reported feeling very close to their mentors had some stronger outcomes compared with those who did not feel as close. (Note that for this exploratory analysis, we did not look at attendance or academic outcomes.) We found that students who felt closer to their mentor:

- Displayed moderately stronger growth across a range of non-cognitive skills, such as goal setting behavior, reilience, persistence, and critical thinking; but
- Did not participate in more college and career activities or express higher college aspirations.

By contrast, iMentor students who participated more fully in iMentor activities generally had similar outcomes as those who did not. Students who participated more intensely:

- Displayed similar non-cognitive skills, with the exception of stronger resilience and goal setting behavior,
- Expressed similar levels of college aspirations, and
- Participated in similar levels of college and career activities, with the exception of being more likley to visit a college campus, particularly colleges outside of NYC but in New York state.

Conclusion

Overall, we found few impacts from iMentor on students' college-related activities, non-cognitive skill development and academic achievement. The program had some small positive and statistically significant impacts on critical thinking and internal resilience, as well as on career activities. Of all the outcomes we tested, these are most closely related to iMentor's 10th grade programming. iMentor and comparison students were equally likely to participate in more generic college readiness activities, such as researching and visiting colleges. We hypothesize that this may be because many comparison students were participating in these activities through other programs.

As in previous reports, we should emphasize that these findings are based on two years of participation in a four-year program and do not mean that iMentor will not ultimately have impacts on outcomes like high school graduation and college enrollment. Nonetheless, these findings raise questions for iMentor about whether the program is accomplishing what it is intended to at this stage, especially in terms of the non-cognitive skills where we did not see any impacts.

Our exploratory analyses suggest that iMentor's effects on non-cognitive skills might be mediated by mentor-mentee closeness. In other words, feeling very close to their mentor may help students develop their non-cognitive skills. By contrast, the non-cognitive outcomes of students who participated more intensely in iMentor's program activities did not, on the whole, differ from those of students with lower levels of participation.

Based on these findings, we suggest that iMentor redouble its efforts to investigate how and why some pairs are closer than others. Is it personality types? Mentor characteristics, or training? Program Manager support? Participation in certain events? Communication through online chatting, emails, or texts? Are some pairs

choosing to communicate with phone calls and text messages, instead of through the Canvas platform? Is the content of their communication different? Are they meeting, outside of formal iMentor events? In certain circumstances, it may make sense for iMentor to prioritize relationship building over activity participation, given that outcomes did not vary for students with higher and lower participation levels.

CHAPTER 1: INTRODUCTION

A large and growing body of research shows that relationships between adults and youth, such as those formed in mentoring programs, can improve youth's odds of success. In *Foundations for Young Adult Success*, Farrington et al. (2015) describe relationships with supportive adults as a necessary underpinning for students' development. Studies of formal mentoring programs, most notably Big Brothers Big Sisters, have demonstrated a variety benefits for youth and highlighted the importance of a close relationships between mentors and mentees (Grossman & Rhodes, 2002; Herrera et al., 2007). More recently, Bayer et al. found that students who had a close relationship with their mentor made significant academic gains, whereas students who did not have a close relationship saw little improvement (2013).

The iMentor College Ready Program combines school-based mentoring with technology and aspects of whole school reform, in an effort to improve students' college readiness. The program matches low-income youth with college-educated mentors and aims to help them develop close relationships through online communication and monthly in-person events, held throughout students' four years of high school. In turn, iMentor hopes to leverage these relationships to help students develop the mindsets, skills, and knowledge necessary to reach and succeed in college. (See the textbox on the next page for more information about the College Ready Program.)

To learn about the process and efficacy of iMentor's approach, the Research Alliance for New York City Schools is conducting a mixed-methods evaluation of the College Ready Program in eight New York City high schools. This report is the third in a series from our evaluation.[1]

The report examines the College Ready Program's impact on a variety of student outcomes after two years (i.e., at the end of students' 10th grade year) and tracks variation in the implementation of the program across schools. Implementation often improves as school personnel become more familiar with a program (e.g., Domitrovich, 2010), but such trends may vary across program components and sites. While weak or incomplete program implementation in an initial year may be a natural result of the start-up learning curve, these implementation problems in later years could signal that schools have not bought into a program's theory of action, may have

competing views of how the program's goals can best be achieved, or may not have the resources needed to implement the program as designed.

Because iMentor was implemented with two consecutive cohorts of students on a staggered timeline, at the writing of our last report, only *some* of the schools and cohorts in our study had implementation data available. In this report, we are able to paint a more complete picture of iMentor's implementation through 10th grade across all schools and cohorts.

Similarly, with the data now available, we are able to document students' 10th grade outcomes for all schools and cohorts. While it will take several more years to learn about iMentor's impact on its ultimate goal (college success for students), this report examines important proximal outcomes, including attendance, grade point average, and key experiences and attitudes that may help students prepare for the college or career transition.

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iMentor's approach is distinctive for several reasons. First, few mentoring programs have embraced technology as fully as iMentor, which uses its online platform as the main form of contact between students and mentors. Second, iMentor attempts to serve *all* students at the school, for the entirety of their high school career; mentoring programs typically serve only a subset of students, and often for a shorter period. Finally, iMentor includes a College Ready curriculum that is taught during the school day; it is unusual for a mentoring programs to have a curricular component that is taught like an elective class during school. iMentor's ultimate goal is for students to enroll and succeed in college, defined by completing a 2- or 4-year degree or even entering directly into a career. (For further details, please see our previous reports.)

Finally, this report begins to explore whether students' engagement with key components of the College Ready Program has any association with positive outcomes. iMentor's leaders have emphasized two priorities that they believe are important to achieve the program's goals: developing close mentee-mentor relationships, and meeting thresholds for participating in various program activities. Thus, we explore how student outcomes differed across these two domains. This information may help identify opportunities to improve the program, and will provide useful context for interpreting future findings about iMentor's impact on student outcomes. These findings may also offer valuable insights for other mentoring and youth development initiatives that seek to foster relationships between students and supportive adults.

In the next chapter, we outline our data collection strategies and the methods used to analyze the data, and provide a description of the eight schools implementing iMentor as part of our evaluation. Chapter 3 presents an updated analysis of iMentor's implementation for 10th graders, including the extent to which the key program activities met iMentor's established goals for student participation and school implementation. In Chapter 4, we assess iMentor's impacts on student outcomes after two years of access to the program. Finally, Chapter 5 presents our conclusions and describes the next phase of our evaluation.

CHAPTER 2: STUDY METHODS, DATA SOURCES, AND DESCRIPTION OF PARTICIPATING SCHOOLS

This report focuses on students from all eight evaluation schools during their 10th grade year and similar comparison students who did not have the opportunity to participate in iMentor.

The report draws on multiple sources of data, including our 10th grade survey, iMentor's proprietary platform (originally known as iMi, now called Canvas), and administrative records from the NYC Department of Education (DOE), to answer the following research questions:

1. To what extent was iMentor implemented as designed in the eight evaluation schools during the 10th grade year, and how did implementation vary across schools and cohorts?
2. What were the overall impacts of iMentor on 10th graders?
3. How did outcomes vary for iMentor students who had very close relationships with their mentor or students who met all participation goals?

This chapter gives an overview of the timeline, the schools participating in our evaluation, as well as the methods we used to update the implementation analysis from our previous report and to assess iMentor's impacts during the 10th grade.

Evaluation Timeline

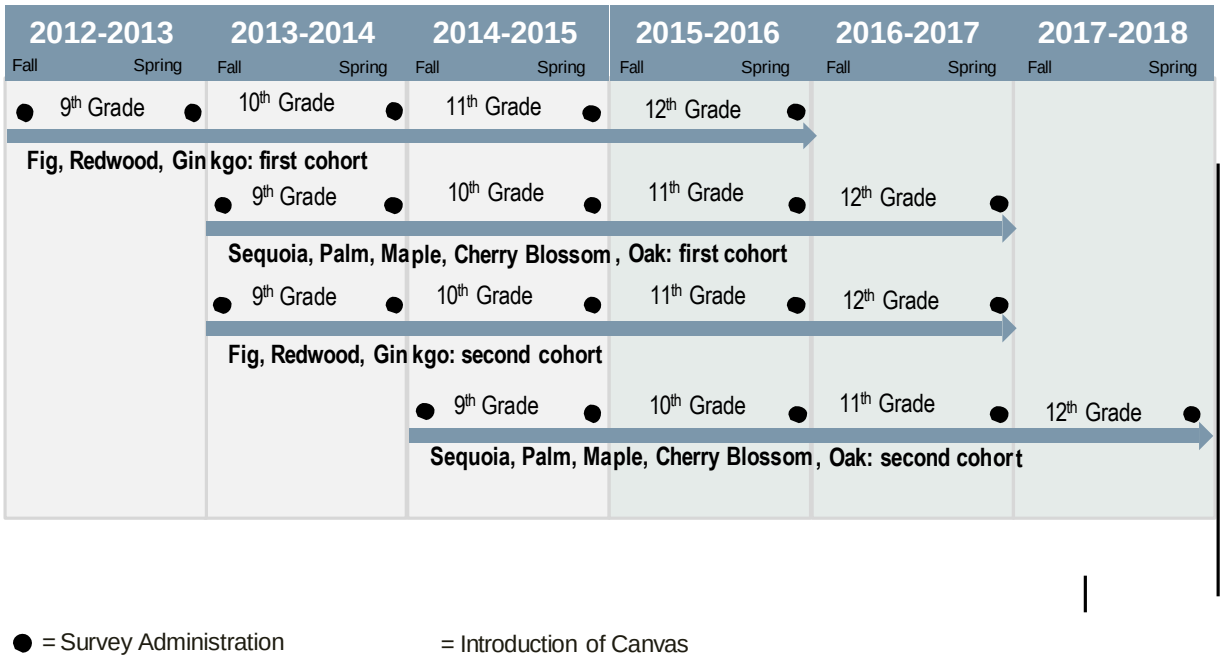
Our evaluation of the College Ready Program tracks two consecutive cohorts of incoming 9th graders at each of the eight participating NYC high schools. As shown in Figure 1 below, iMentor's rollout in these schools was staggered. Fig, Redwood and Ginkgo represent the first wave of schools that began the program, in the 2012-2013 school year. [2] Sequoia, Palm, Maple, Cherry Blossom, and Oak represent the second wave of schools, and they began the program in 2013-2014. In each school, our evaluation is tracking two consecutive cohorts of students who are expected to participate in the iMentor College Ready Program for their full high school career.

This report uses data for both cohorts in all eight schools. These students were scheduled to be 10th graders during the 2013-14, 2014-2015, or 2015-16 school years (depending on when they entered 9th grade). For the remainder of the report, we will

refer to the sample of students simply as "10th graders." The current analysis is an update from our previous report, where we focused only on program implementation for iMentor students who were scheduled to be 10th graders during the 2014-2015 school year. This new report examines 10th grade implementation and impacts for all cohorts and all waves of schools.

Figure 1 also shows the timeline for survey administration, and the point in time that each wave and cohort was introduced to Canvas, iMentor's new proprietary interactive platform—which replaced the original iMi platform (see our previous reports for more information about iMi). The platform was overhauled in response to feedback about the user experience of iMi, the structure of email exchanges, and the backend support available to Program Managers (PMs). Both iMi and Canvas track mentee-mentor virtual interaction, but in slightly different ways that we expand upon in Chapter 3.

Figure 1: Timeline of iMentor Implementation in the Eight Evaluation Schools



Notes: The figure shows timing of survey administration and the introduction of the new Canvas platform. The switch to Canvas from iMi affected data collection for the first wave of schools' first cohort in the 12th grade, the first wave of schools' second cohort in the 11th grade, the second wave schools' first cohort in the 11th grade, and the second wave schools' second cohort in the 10th grade. For this final wave and cohort, we use data reported through Canvas, in contrast with the data reported through iMi for all previous waves and cohorts during their 10th grade year.

Methods Used for This Report

Examining iMentor's Implementation

This is our second report that includes analysis of iMentor's implementation during the 10th grade. Our previous report, *Focus on Mentee-Mentor Relationships: The 10th Grade Implementation of iMentor's College Ready Program*, presented results from analyses of interviews with school and iMentor staff, as well as programmatic data from iMi for students who were 10th graders in the 2014-2015 school year.

This report presents a fully updated analysis of the programmatic data available for all cohorts and waves of schools (see Data Sources textbox below for more details).

Data Sources

Administrative Data: The study draws on administrative data provided by the NYC DOE, to examine student demographic characteristics, 8th grade test scores, high school GPA, credits attempted and accumulated, Regents scores and passing rates, student enrollment/drop out status, and on-time graduation rates.

Survey Data for Students and Mentors: Students in iMentor schools take a baseline survey in the fall of 9th grade (before they are matched with a mentor) and complete a follow-up survey each spring for the next four years. The student survey contains over 100 items, including measures of non-cognitive outcomes, as well as details about their background that cannot be obtained through administrative records. Mentors also take a baseline survey when they are matched with a mentee and then another survey every subsequent spring. The mentor survey has over 60 items, including questions about mentors' relationships with their mentee, as well as demographic information, details about their career, and their satisfaction with iMentor.

Student survey response rates were above 70 percent, and mentor survey response rates were above 50 percent. See the first report from our evaluation (*Bringing Together Mentoring, Technology, and Whole School Reform*) for the specific items, constructs, response ranges, and internal consistency of the student survey. Student survey administration and initial processing are managed by an external firm, Ewald & Wasserman.

iMentor Programmatic Data: iMentor collects data from mentees and mentors via a proprietary online platform. Mentees, mentors, and iMentor staff all have a password-protected account on the platform. The platform was overhauled for the 2016-2017 school year to create a different interface, add new features, and eliminate emailing. For mentees and mentors, the previous iMentor platform, iMi, was largely a place to send and receive emails, fill out surveys, and receive and respond to iMentor event invitations. iMentor staff used the platform to enter and access information about student participation in iMentor classes, emails sent and received as part of the program, and iMentor events. The new platform is called Canvas. In-class lesson content is integrated into Canvas. In place of email, an exchange on Canvas consists of a student submitting responses related to the current lesson and the mentor responding. Students and mentors can also interact through a chat feature. iMentor staff still have access to information about participation, but the backend has also been overhauled to make the information easier to find and more actionable. The Research Alliance uses iMentor platform data to track the number of pairs that were matched and sustained for the entire year, the number of iMentor classes held at each school, as well as the amount of pair interaction and event attendance.

We use these data to assess the extent to which the four key activities of the iMentor College Ready Program occurred. These activities are matching mentees and mentors, supporting mentee-mentor pairs, teaching college knowledge and non-cognitive skills, and providing mentees and mentors opportunities to interact. We present updates across our complete sample using iMentor programmatic data for both cohorts of 10th graders from each of the eight evaluation schools. This analysis covers the 2013-14, 2014-15, and 2015-16 school years, and examines variation across schools as well as changes that occurred in the program over this time. We did not conduct any additional interviews for this report.

Examining iMentor's Impact

Our study aims to measure iMentor's effects on a suite of knowledge, behaviors, and skills that students need to enroll and thrive in college, as well as on academic outcomes that can be considered precursors for college success (see the Outcomes textbox on page 9 for more information). In future years of the evaluation, we will assess students' rates of applying to college, being accepted, and enrolling in different kinds of schools. Because these activities take place in later high school years, they are not included in this report.

Our methodology for examining students' outcomes is the same as it has been in past years, so we give a brief overview here and refer readers to *Bringing Together Mentoring, Technology, and Whole School Reform* (2015) for a more detailed description. For the outcomes derived from administrative records (academic achievement and attendance), we used Comparative Interrupted Times Series (CITS) analyses, a rigorous approach that examines students' outcomes at iMentor schools, both before and after the implementation of the program, and compares any changes that took place with a similar set of schools during the same timeframe. This approach is able to control *both* for school characteristics that remain consistent over time and district-wide changes to similar schools.

For the outcomes derived from the surveys (non-cognitive skills and college and career activities), we used a lagged cohort research design to compare survey results for two groups of students within the same school: those who had the opportunity to participate in iMentor ("treatment students") and those who did not ("comparison students" who started 9th grade the year before iMentor was implemented).

For all outcomes, our study is designed to create two similar groups and control for any differences between the treatment and comparison groups using our administrative data set. For the outcomes derived from the student survey, we also include baseline survey data in our models for additional controls between the two samples. Our goal is to create two groups that are similar in all respects that might influence student outcomes except for their access to iMentor. If we can do this effectively, then we can confidently say that any differences in students' outcomes are due to iMentor and not because of preexisting factors. We use statistical methods to control for students' background characteristics, prior academic performance and attendance, as well as their responses to the iMentor survey taken in the fall of 9th grade.

While controlling for these background characteristics and baseline measures helps ensure that the two groups are as comparable as possible, we cannot be certain that we have controlled for all differences between treatment and comparison students. For example, we do not know about student motivation or student excitement to have a mentor. Furthermore, there may be some systematic changes that happened at the same time as the implementation of iMentor, making it difficult to discern iMentor's impact. For example, for the lagged comparison analysis, if there were a district-wide initiative focused on college readiness, we might see district-wide gains in college readiness indicators, including at iMentor schools. In this case, it would be difficult to disentangle the impact of the district initiative from the impact of iMentor. The CITS analysis accounts for district-wide changes, making it a more rigorous method. However, the quality of the matched comparison groups is critical in the CITS analysis, and if our comparison group is not very similar to our treatment group, then our analyses could be inaccurate. We've conducted the appropriate baseline and sensitivity tests to ensure that our model is robust to varying quality of matched comparisons. See Appendix A for more details.

While these concerns mean that we must be cautious about drawing causal inferences from these analyses, our design does effectively control for many differences between the treatment and comparison students. As such, our study provides a good estimate of iMentor's effect on student outcomes.

Outcomes

Our study aims to measure iMentor's effects on a suite of knowledge, behaviors, and skills that are important precursors to enrolling and succeeding in college.

Based on administrative data:

- **On-Track for Graduation:** Indicates whether a student has earned 21 credits and passed two Regents exams with a score of 65 or higher by the end of 10th grade.
- **GPA:** Averages the grades students earned in 10th grade, weighted by academic credits.
- **Chronic Absenteeism:** Indicates whether a student missed at least 10 percent of (i.e., 18 or more) days of school during the 10th grade year.

Based on survey data (see Appendix B for details):

- **College and Career Activities:** Student experiences preparing for college, such as learning about college and the college application process, as well as learning about careers and developing resumes.
- **College and Career Aspirations:** Student ambitions for college completion and future careers.
- **Non-Cognitive Skills:** iMentor targets key non-cognitive skills with its College Ready curriculum. The non-cognitive skills we measured this year are:
    - **Internal Resilience**, which measures the extent to which students tend to ascribe responsibility for their actions and success to themselves, as opposed to external factors, with items like, "My own efforts and actions are what will determine my future" (Richards et al., 2002).
    - **Scholastic Efficacy**, which measures students' confidence in their ability to be sucessful at his or her school work (Bayer et al., 2015). It is made up of five items like, "I feel that I am very good at my school work," and "I feel that I am just as smart as other kids my age."
    - **Perseverance**, which measures students' ability to maintain effort, even in the face of discomfort or a lack of immediate success (Walker & Arbreton, 2004). It is made up of eight items like, "If I can't do a job the first time, I keep trying until I can."
    - **Self-Advocacy**, which measures the extent to which students engage in self-promotion by pointing out their abilities and competencies to others (Bolino & Turnley, 1999). The construct is made up of four items like, "I talk proudly about my experiences."
    - **Critical Thinking**, which measures students' problem solving ability. It is made up of five items like, "I try to get all the facts before trying to solve a problem" (D'Zurilla & Maydeu-Olivares, 1995).
    - **Confident about College and Career,** which measures how confdient students are that they can go to and graduate in college as well as know what kind of job or career they would like as an adult. The construct is made up of four items like, "I am conifident that I can do all of the things I need to do to go to college."
    - **Goal Setting Behavior**, which measures if students set and work toward goals with a mentor. It is a construct made up of six items like, "My mentor helps me to set and reach goals."

When exploring the effects of iMentor on certain subgroups of students, like those who met iMentor's participation goals or those with very close relationships with their mentors, we must be even more cautious about drawing causal inferences. In these cases, we are looking at a subgroup of students and introducing bias into our model because these subgroups of students might be different from one another in ways we do not statistically control for. However, we feel confident in the breadth of observable control variables from the baseline survey and academic records and do not believe there are any large unobservable differences that might be missing from our model that would significantly change the findings.

Where Is the College Ready Program Being Implemented?

iMentor schools enroll students with roughly similar academic characteristics as other NYC students. Based on their 8th grade test scores, 9th graders who enrolled in evaluation schools had slightly lower academic achievement levels vis-a-vis students in other NYC high schools. Students in evaluation schools were also more likely to be chronically absent (i.e., absent for more than 10 percent of the school days in a year).

The iMentor evaluation schools differ from the average NYC high school in that they are relatively new (they all opened between 2001 and 2009), relatively small (enrolling an average of just above 300 students), and have a higher proportion of Latino students. Our evaluation sample has a slightly higher proportion of English Language Learner (ELL) students, due to the inclusion of one ELL school. Evaluation schools also have a higher proportion of students in poverty. Finally, it is notable that the eight evaluation schools are all part of a single network of schools known for providing a high degree of support to its schools, including leadership development and coaching. (For more details on differences between the evaluation schools and all other NYC high schools, please see our previous report or Table A1 in the appendix.)

While lessons that emerge from the study may well be relevant to other City schools, it is important to recognize that this is still a non-representative sample, which limits our ability to generalize outside these eight schools.

Sample for this Report

Our sample includes all the students who started 9th grade in an iMentor school as part of one of the implementation cohorts shown in Figure 1 on page 5. These students were scheduled to be 10th graders in the 2013-14, 2014-2015, or 2015-16 school year, depending on their cohort and school. The sample includes all the students that iMentor intended to serve, even if they did not participate in the iMentor program or have dropped out or switched schools. See Table 1 for a description of the sample's key characteristics.

Table 1: Background Characteristics, iMentor Treatment Sample

	iMentor
Gender (%)	
Female	46.8
Male	53.2
Race (%)	
Asian	2.7
Black	32.0
Latino	62.4
White	1.5
Other	1.4
Academic Test Scores (8th Grade)[a]	
ELA Scaled Score	-0.47
Math Scaled Score	-0.58
Entered 9th Grade Overage (%)	35.7
Poverty (Grade 9) (%)	93.3
Other Characteristics (Grade 10) (%)	
Foreign Born	28.9
English Learner	15.9
Special Education	19.2
Attendance	85.1
Number of students	1711
Number of schools	8

Source: Research Alliance calculations based on data obtained from the NYC Department of Education.

Notes: Sample includes only students in the iMentor treatment sample. Indicators of poverty include free or reduced price lunch (including universal feeding schools), temporary housing and other forms of public assistance.

[a] Test scores are from the 8th grade NYS Exams and reported in Z-score units, standardized with district-wide means and standard deviations.

We've conducted baseline equivalency tests for our two main lines of analysis (see Appendix A for more detail). For the analysis of outcomes derived from the student surveys, we tested to see if the comparison students (in this case, an earlier cohort of 9th graders at the same school) are statistically similar to treatment students. We found that treatment and comparisons students have similar baseline characteristics, meaning their backgrounds in the fall of 9th grade were not statistically different from one another. For the analysis of student academic achievement and attendance that depend on administrative data, we tested if these comparison students (in this case, students at other similar schools) are statistically similar to the treatment students. We found that these comparison students are also similar to treatment students.

CHAPTER 3: ASSESSING THE IMPLEMENTATION OF iMENTOR'S KEY ACTIVITIES

This chapter presents an updated analysis of participation in the iMentor College Ready Program's key activities, at both the student and school level. As noted in Chapter 2, this analysis includes both cohorts in each of the eight evaluation schools, covering years 2013-14, 2014-15, and 2015-16.[3]

iMentor identifies its key components as: (1) matching students to the recruited pool of mentors; (2) supporting the mentee-mentor relationship; (3) teaching non-cognitive skills and college knowledge in weekly classes; and (4) providing opportunities for mentee-mentor pairs to interact, online and in person. iMentor collects information about these activities, allowing staff to track pairs and help address any problems that arise. The Research Alliance is using these same data to assess students' engagement in iMentor's key components (with the exception of "supporting the mentee-mentor relationship," because the data iMentor has about this component is not consistent across all students over time).

In addition to tracking individual mentoring pairs, iMentor also has school-level participation goals. As a school-wide program, iMentor aims to permeate a significant proportion of each school in which it works. The last section of this chapter examines the extent to which schools in the study are meeting or approaching these goals.

iMentor's theory of action proposes that its four key activities will foster strong mentoring relationships, lead to greater college knowledge, and improve non-cognitive skills. The most proximal outcome is developing a close mentee-mentor relationship. This relationship is seen as one of the main levers for students to develop the non-cognitive skills they need to be successful in college and career. Therefore, this chapter also examines students' reports about how close they feel to their mentor.

Overall, the conclusions drawn in our 2016 report largely still hold true: We find that schools have struggled to meet implementation goals, but that participation in key activities has varied substantially across schools and cohorts. There was no overall upward trend in implementation levels over time; rather, implementation levels rose and fell, across the various program components and schools. When comparing schools, we find that many schools were successful in matching students, while others struggled with preliminary matches and with matches ending. No school has met iMentor's goals for pair interaction, as measured through online communication and

event attendance. Still, students reported relatively high levels of closeness with their mentor, and, perhaps surprisingly, many of the students who reported feeling close did not meet iMentor's participation goals.

Main Findings Summary

- Across the eight schools, 77 percent of students had been matched with a mentor by December of their 10th grade year; about 49 percent of students remained matched with their first 9th grade mentor. Schools and cohorts varied between 58 percent and 94 percent of students matched.
- 37 percent of students met or were approaching iMentor's goals of weekly online interaction with their mentor.
- All but two schools were able to offer at least 15 sessions (where students were supposed to communicate with their mentor online as well as learn lessons from the College Ready curriculum). This is promising but falls short of meeting iMentor's goal of 20 sessions offered.
- The introduction of Canvas, discussed below in more detail, coincided with increased online interaction for some cohorts and with decreased online interaction for others.
- Particpation in events was generally low. Across schools, we found that 45 percent of students met or were approaching iMentor's goal of six events attended per school year, and 60 percent of students attended an event with their mentor at least twice. No schools approached iMentor's expectations in this area.
- Students reported relatively high levels of closeness with their mentors—somewhat surprising given the challenges most schools faced in meeting implementation goals. On the spring survey, 11 percent of 10th graders reported feeling "Not close" or "A little close" to their mentor, while about 48 percent said they felt "Somewhat close," and 40 percent "Very close".

Changes to iMentor's Online Platform: Canvas

iMentor envisions mentees and mentors developing their relationship through a combination of online and in-person communication. The online communication is a distinguishing feature of the iMentor College Ready Program and is facilitated by their online platform.

As noted in Chapter 2, iMentor redesigned its online platform for the 2015-2016 school year. Both cohorts in Ginkgo, Fig, and Redwood and the first cohort in Maple, Cherry Blossom, Oak, Sequoia and Palm experienced the original iMentor platform during the 10th grade, called iMi. On iMi, students exchanged emails with their mentor. A typical email began with students sharing a "high" and "low" experience about their week, followed by some kind of response to their mentor's last email (to keep the conversation going). Then, students would have a few questions to answer related to the day's lesson.

The new platform, called Canvas, was introduced to address problems with email that we described in previous reports, such as wordy, long prompts, and an outdated interface. Canvas was implemented in the 2016-17 school year with the second cohort of students in Maple, Cherry Blossom, Oak, Sequoia and Palm. With Canvas, instead of sending long emails to mentors, students work on projects online and respond to a single question at a time. Likewise, instead of mentors sending long emails to mentees, they respond to students' work/posts via the online platform. For example, students might create a poster representing careers they are interested in, and mentors could comment on the poster's images and text. Canvas also provides a chat feature that students and mentors can use for less formal communication.

With the switch from iMi to Canvas, the technical measurement of sessions and emails changed slightly. Table 2 below maps how we define a session, an email, and a "perfect session" across the two platforms.

Table 2: Definition of Measures for iMi and Canvas

Measure	iMi definition	Canvas definition
Session	An iMentor class was offered, representing the opportunity for students to engage in class content and to complete one email exchange with their mentor through iMi.	A Canvas lesson was presented, representing the opportunity for students to engage in class content and to have a written exchange with their mentor.
Email	Student entered any text into iMi email and sent it to their mentor.	Student entered any text into Canvas text boxes and submitted it for their mentor's response.
Perfect session	A session where a student sent an email through iMi to their mentor, and the mentor responded, before the next session. While students generally wrote emails in class, mentors had until the next iMentor class period to respond.	A session where a student entered text into the Canvas platform and the mentor responded, before the next session. While students generally engage in Canvas lessons in class, mentors had until the next iMentor class period to respond.

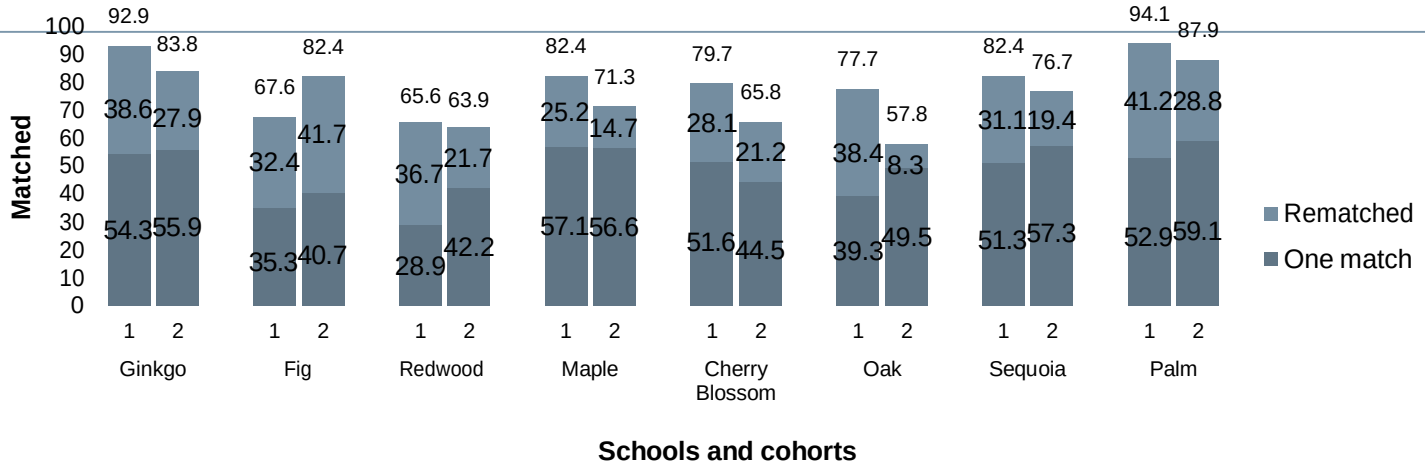
Source: iMentor documentation

Key Activity 1: Matching Students to Mentors

Most of the matching occurs during the fall and winter of students' 9th grade year. In 10th grade, students only need to be matched if they are new to the school[4] or if the mentee and/or mentor asked to end the original mentoring relationship. By December 31st of students' 10th grade year, 77 percent (1,316 students) across these eight schools had a mentor. About 49 percent of 10th graders remained matched with their original mentor from 9th grade.

We found similar patterns of match rates across schools as reported in *Focus on Mentee-Mentor Relationships* (2016). As shown in Figure 2 below, some schools and cohorts had over 90 percent of their students matched while others hovered near 65 percent. In our previous report, we noted an association between higher match rates and two school factors: better attendance and a leader who championed iMentor. It is more difficult to engage students who are frequently absent. Unmatched students missed, on average, 17 more days than matched students—this is a less extreme difference than the 27 day difference we found when we looked only at the 2014-15 10th graders.

Figure 2: Percentage of Students Matched by December 31st of 10th Grade, by School and Cohort



Source: Research Alliance calculations based on data provided by iMentor.

Notes: Sample is the 1,711 students who entered 9th grade during the first and second year iMentor was offered at their school; data are for their expected 10th grade year.

iMentor tracks why matches end, and the data show that mentors are more likely to end matches than mentees. The most common reasons mentors end their match are that they move, have scheduling conflicts, or otherwise feel they cannot meet the requirements of the program. The most common reasons mentees end a match are that they move or transfer schools, have academic or behavioral problems that preclude participation, or they just do not want to be matched with a mentor anymore.

When a mentor departs, PMs, sometimes along with the departing mentor, have a conversation with the student to try and prevent the student from feeling abandoned or rejected by the mentor. The PM then works to re-match these students with a new mentor. As students move through their high school careers, it will be important to continue assessing the extent to which pairs stay together, and the frequency with which students have to be re-matched.

Key Activity 2: Supporting Mentee-Mentor Pairs

Because we did not conduct any new interviews with iMentor school or program staff, and there are no quantitative measures to draw on from iMi or Canvas that show the extent to which PMs support mentee-mentor pairs, we do not have any updates in this area. As a recap, PMs use a case management model, which is a process often used in social work or health care to measure and track client needs and support. It consists of a needs assessment, monitoring, service planning, case conferencing, and reassessment (HRSA, 2001). Looking forward to future interviews, we plan to inquire about how well the new Canvas platform is supporting PMs in this role.

Key Activity 3: Teaching Non-Cognitive Skills and College Knowledge

PMs teach the iMentor curriculum during a weekly iMentor class that is programmed into students' school schedule. While the online platform developed, the first part of class, a 10-15 minute lesson taught by the PM, remained unchanged across iMentor cohorts and waves of schools. The content of the 10th grade curriculum—focused on excitement in college, potential careers, and the development of non-cognitive skills—has remained consistent. See Figure 3 below for a full list of topics covered in the 10th grade curriculum.

Figure 3: Curriculum Topics

iMentor 10th Grade Curriculum Topics	
Goal setting	Identifying careers
Soft skills	Self-promotion
Building a college-going identity and connecting career interest to college	Building excitement about college
Developing critical thinking skills	Assessing high school growth and identifying leadership opportunities

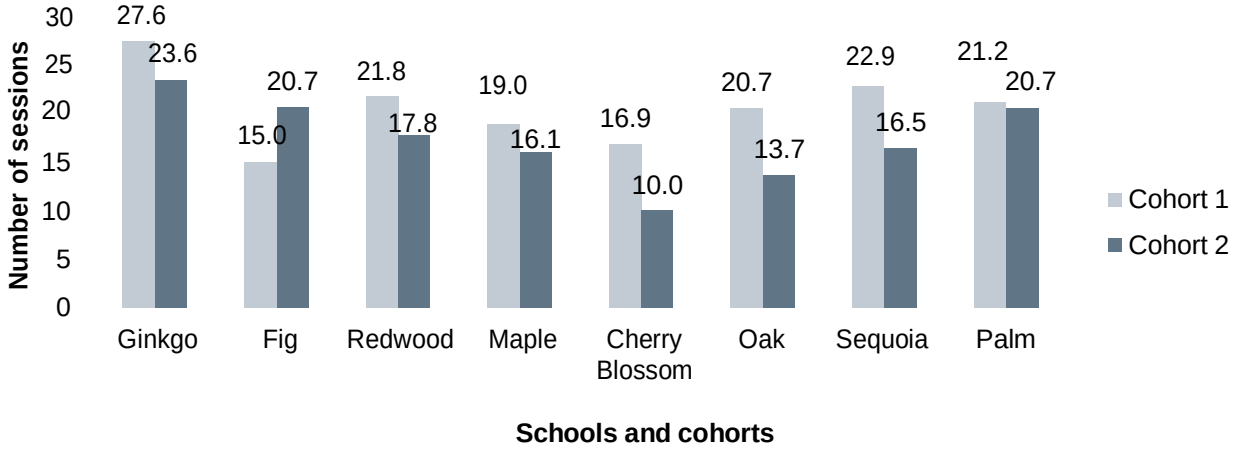
Source: iMentor documentation

Canvas allows us to calculate the number of lessons assigned to a student and his/her mentor for the year, though this is slightly different from the measure we used from 2013-14 to 2014-15: the number of classes offered. We refer to both of these as "sessions" in this report. Neither of these measures capture student attendance, but we think they both effectively capture potential exposure to curriculum content—the previous measure captured whether students had the opportunity to attend and participate in classes, and the current measure captures how many online lessons were assigned to each student.

With the exception of the second cohorts at Cherry Blossom and Oak, students in all iMentor cohorts were offered at least 15 sessions, which is approaching iMentor's participation goal (see Figure 4). This represents somewhat more consistent implementation than we observed for other program activities.

Students who do not have a mentor still have the opportunity attend iMentor class, and the PM supports these students, responding to their emails or canvas lessons. We found that 10th grade students with a mentor had 5.7 more sessions, on average, than students without mentors.

Figure 4: Average Number of Sessions During 10th Grade, by School and Cohort



Source: Research Alliance calculations based on data provided by iMentor.

Notes: Sample is the 1,711 students who entered 9th grade during the first and second year iMentor was offered at their school; data are for their expected 10th grade year. For the 2016 & 2017 cohorts, "sessions" refers to opportunities to attend iMentor classes. For 2018 cohorts, "sessions" refers to lessons offered on Canvas.

Key Activity 4: Providing Pairs with Opportunities to Interact

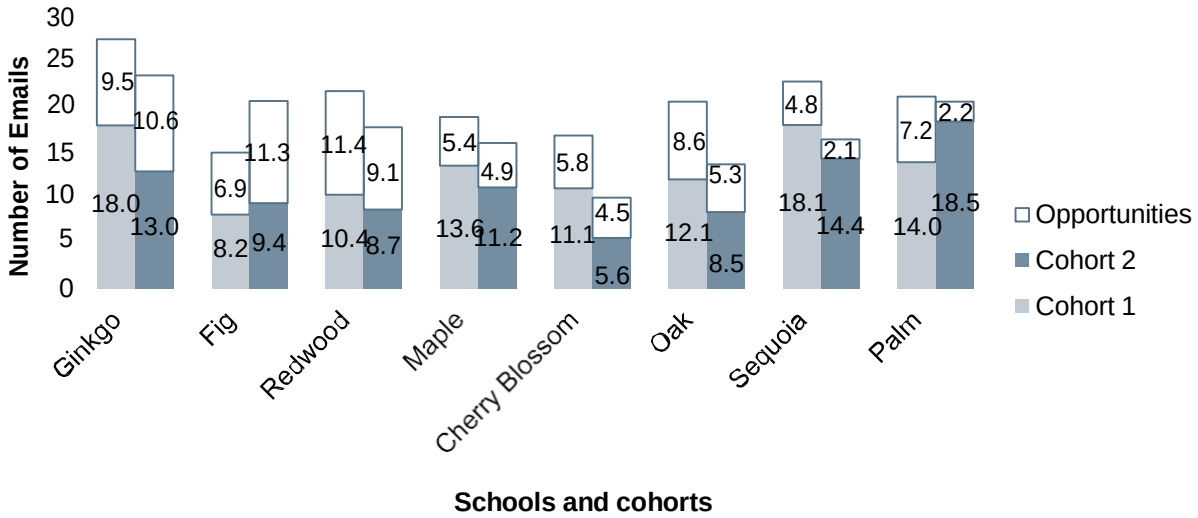
In this section, we analyze how much students interacted with their mentor online and at events, and further discuss differences in measurement between iMentor's previous online platform, iMi, and the new platform, Canvas.

Mentee-Mentor Email

As described earlier, some 10th grade students used email to communicate online with their mentors, and others used the new Canvas platform. For ease of reporting, we refer to both kinds of communication as "email" below.

Each bar in Figure 5 shows the average number of sessions offered to 10th graders for each school and cohort. The bars are divided into 1) sessions when students exchanged emails with their mentor (the shaded area), and 2) sessions when emails were not exchanged—essentially missed opportunities for students to engage with their mentor (the white area). The figure shows that there was wide variation in both the opportunities to email and how much students took advantage of those opportunities. The average number of emails students sent over the course of their 10th grade year ranged from about 5 to 18.

Figure 5: Average Number of Emails and Sessions for 10th Grade Students, by School and Cohort



Source: Research Alliance calculations based on data provided by iMentor.

Notes: Sample is the 1,711 students who entered 9th grade during the first and second year iMentor was offered at their school; data are for their expected 10th grade. For the 2016 & 2017 cohorts, Emails refers to emails sent through the iMi platform. For 2018 cohorts, Emails refers to entering text in a Canvas lesson. Opportunities represents the additional sessions, on average, that were available to students where they would have had a chance to email their mentor. Any discrepancies between the totals in Figure 5 and Figure 4 are due to rounding.

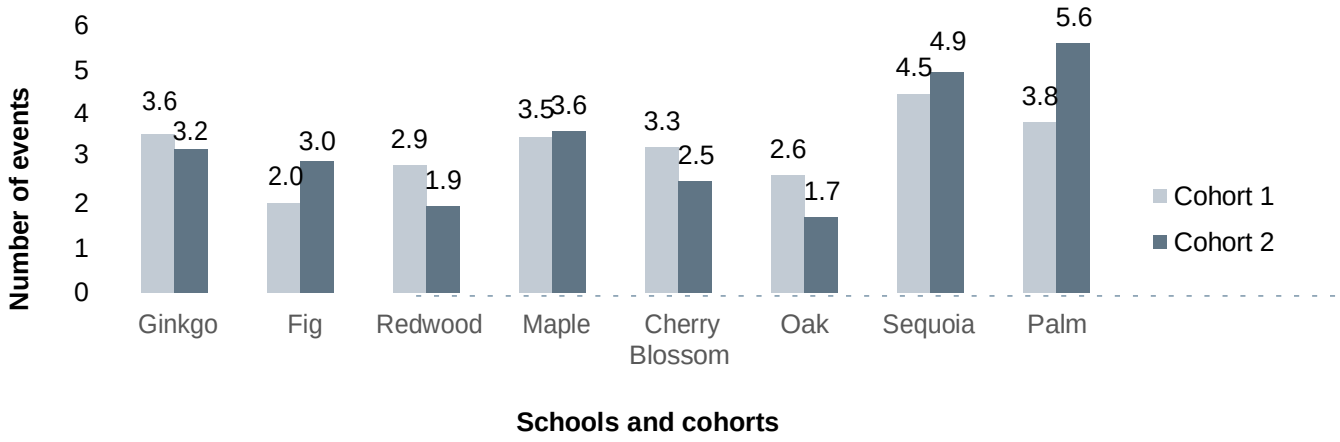
At all schools except for Fig and Palm, students had fewer sessions and sent fewer emails, on average, in the second cohort. We see that some schools—particularly Sequoia and Palm—drastically reduced the number of missed opportunities, while other schools made little or no progress in this area. We suggest that iMentor further investigate program implementation at Sequoia and Palm schools to understand why those students were more engaged in email after Canvas was implemented.

Events

Students have the opportunity to meet their mentor in-person at monthly events. These events typically take place in the evenings at school and focus on a current topic in the iMentor curriculum. They include planned activities, along with discussion prompts and worksheets for pairs to complete together. Informal or re-scheduled events can make up for missed larger events and provide additional time to meet. In our last report, we discussed feedback from mentors, PMs, and school staff, who described events as a vital opportunity for pairs get to know each other better and develop stronger relationships. We also noted that the timing of events (after work, generally around 6 p.m., to accommodate mentors' schedules) may be a barrier to better student attendance.

Our updated analysis shows that only 28 percent of students in our sample met iMentor's goal of attending at least six events (the solid line in Figure 6). An additional 18 percent of students attended at least four events, which is considered approaching iMentor's goal (the dotted line), and 60 percent of students saw their mentors at least two times over the school year. This means that the majority of students are not meeting iMentor's goal for event attendance. As the events become more closely linked to college applications and readiness, it will be interesting to see whether attendance and student enthusiasm improve.

Figure 6: Average Number of Events Attended by Students in Each School and Cohort



Source: Research Alliance calculations based on data provided by iMentor.

Notes: Sample is the 1,711 students that entered 9th grade during the first and second year iMentor was offered at their school; data are for their expected 10th grade.

Informal Interactions

With permission from their parent or guardian, students can communicate with mentors by phone or text outside of formal iMentor interactions. Student survey results from all waves and cohorts show that 14 percent of students talk to their mentor on the phone, 50 percent text with their mentor, and 13 percent do both. It is important to note that we do not know how *often* these students text their mentors, or the substance of these texts or phone calls.

To What Extent Did Each School Meet iMentor's School-Level Implementation Goals?

In addition to iMentor's participation goals for each individual student (described above), iMentor has parallel school-level implementation goals. Table 3 on page 23 lists the full set of school-level implementation goals and the percentage of students at each school who engaged in key activities. The table shows that, overall, iMentor has been better able to meet school-level implementation goals for matching students with mentors and providing sessions than for email exchange and event attendance. The green numbers indicate that the program met iMentor's goal, the yellow numbers indicate that the program is approaching iMentor's goal, and the red number indicates that the program fell short of approaching iMentor's goal.

Table 3: iMentor School-Level Implementation of Three Key Activities, by School

		Matching Students with Mentors	Teaching Non-Cognitive Skills and College Knowledge	Providing Opportunities to Interact		Meeting All Thresholds	
	Number of students	Matched by Dec. 31 (%)	Average number of sessions	Met emailing goals (%)	Attended 6+Events (%)	Approaching all participation goals (%)	Meeting all participation goals (%)
Ginkgo	263	88.2(*)	25.5(*)	28.5(^)	24.0(^)	27.4	12.2
Fig	176	76.7 (#)	18.5 (#)	19.3(^)	18.8(^)	19.3	8.0
Redwood	173	64.7(^)	19.9(*)	15.0(^)	17.3(^)	16.2	5.2
Maple	248	76.6 (#)	17.5 (#)	32.3(^)	31.9(^)	33.5	17.7
Cherry	274	72.3(^)	13.3(^)	20.4(^)	20.1(^)	20.8	7.3
Oak	221	67.9(^)	17.2 (#)	27.1(^)	18.1(^)	23.1	13.1
Sequoia	222	79.7 (#)	19.9(*)	48.6(^)	48.6(^)	50.0	34.7
Palm	134	91.0 (#)	20.9(*)	53.7 (#)	47.8(^)	54.5	36.6
Overall	1,711	76.9	18.9	29.9	27.6	29.7	16.0

Source: Research Alliance calculations based on data provided by iMentor.

Notes: Sample is the 1,711 students who entered 9th grade during the first and second year iMentor was offered at their school; data are for their expected 10th grade year. For the 2016 & 2017 cohorts, sessions refers to iMentor classes offered, and emails refers to emails sent through the iMi platform. For 2018 cohorts, sessions refers to online Canvas lessons presented, and emails refers to students entering text in a Canvas lesson. For 2016 & 2017 cohorts, a perfect session is a mentee email and a mentor response within a session time period. For 2016 & 2017 cohorts, a perfect session is a student's on-time completion of a Canvas lesson and a mentor response to that lesson. Percent perfect refers to perfect sessions divided by all opportunities (i.e., sessions offered in 2016 & 2017 and maximum lessons available in 2018). Approaching participation goals is based on percent perfect sessions of 55% or greater, 4 or more events attended, and students have a mentor by December 31st of the school year. Meeting all participation goals benchmark is based on percent perfect sessions of 65% or greater, 6 or more events attended, and pairs matched or maintained by December 31st of the school year. The blue numbers (*) indicate that the program met iMentor's participation goal, the purple numbers (#) indicate that the program was approaching participation goals, and the red number (^) indicates that the program fell short of approaching iMentor's participation goal.

The results show that iMentor approached its goals for matching at five of the eight schools. All but one iMentor schools held enough sessions on average to approach iMentor's expectations. Schools on the whole are doing relatively well in these areas. On the other hand, no schools consistently exceeded or were approaching the emailing goal, although two schools improved markedly after the introduction of Canvas. Likewise, schools struggled to meet the event benchmark, with no schools meeting expectations in this area. (iMentor does not have a standardized and measurable benchmark for pair support at the school level.)

Overall, iMentor is being implemented better in some schools than others. For example, in Sequoia and Palm, iMentor met or approached expectations for matching students with mentors and number of sessions offered, and these two schools also had the highest email and event attendance rates. On the other end of the spectrum, implementation levels at Redwood, Cherry, and Fig were consistently far below iMentor's expectations.

Because our evaluation only includes eight schools, it is difficult to empirically link specific school characteristics with implementation outcomes. However, it is worth noting that stronger implementation seems to be associated with better attendance rates. The two schools with the highest levels of implementation, Sequoia and Palm, had an average attendance rate of 90 percent for the iMentor cohorts in the 10th grade. The bottom three schools had an average attendance rate of 79 percent for the iMentor cohorts in the 10th grade. School attendance is an important prerequisite for participating in the iMentor program, because the class takes place during school hours. This is also the time when PCs encourage students to communicate with their mentor and to attend events that take place after school.

In our last report, we discussed factors that could influence how well iMentor implements the program in schools. For example, school staff and PCs suggested that the extent to which school leaders were invested in iMentor varied across schools. Please see *Focus on Mentee-Mentor Relationships* (2016) for further discussion of factors that could influence the different implementation of iMentor across schools, including administrative support, PC quality, and teacher-buy in.

How Close Did Students Feel to their Mentor?

All of the activities described above have two objectives: The first is to develop close relationships between mentees and mentors, and the second is to provide instruction that promotes college and career success. In prior years, we had robust measures of relationship closeness, including a mentee and mentor closeness rating (1-10) that each filled out monthly on the iMi platform. However, with the new platform, we no longer have that rating consistently over time. We still have a question on the spring survey that asks students to describe how close they feel to their mentor with the response categories: "Not close at all", "A little close", "Somewhat close", and "Very close". This item was used in the Big Brothers Big

Sisters study testing the impact of school-based mentoring (research on BBBS has established that closeness is a necessary component of mentoring effectiveness) (Bayer et al., 2013).

Consistent with our previous report on iMentor, our updated anlaysis shows that 11 percent of 10th graders reported feeling "Not close" or "A little close" to their mentor on their spring surveys. About 48 percent felt "Somewhat close," and 40 percent felt "Very close". Notably, 33 percent of the students who reported feeling "Very close" to their mentor met iMentor's participation goals, and 57 percent were approaching iMentor's participation threshold. We conduct an exploratory analysis in the next chapter to begin to test several links in the iMentor theory of action, by examining whether students who feel "Very close" to their mentor or who met or approached iMentor's participation goals had better outcomes than other students.

Discussion

Overall, we observed that students have been matched with mentors at a relatively high rate, and schools are holding sessions to teach iMentor's curriculum. However, mentors and mentees are communicating with each other over the online platforms and meeting at events much less frequently than iMentor would like. Some pairs are also connecting by phone or text. Across schools, only 16 percent of students are fully meeting iMentor's participation goals, which may limit the program's impact. In the next chapter, we examine iMentor's effect on 10th grade student outcomes and explore whether students who met or approached iMentor benchmarks had better outcomes than those who did not.

Although implementation levels might be expected to improve over time as school personnel became familiar with a program's components, we did not consistently see this pattern with the implementation of iMentor. At some schools, the implementation of certain program components improved, while others dropped. This finding raises a number of questions: How did PMs and school personnel make decisions about iMentor's implementation? Did personnel choose to emphasize certain program components and deemphasize others? If so, what was their reasoning? What challenges did schools encounter in the areas where implementation declined? And what resources helped some schools improve in key areas?

CHAPTER 4: ASSESSING THE IMPACT OF IMENTOR ON STUDENT OUTCOMES

The previous chapters described the iMentor College Ready program and its implementation in the 10th grade year. The program's top priorities—developing close mentee-mentor relationships and meeting thresholds for participating in program activities—are expected to lead to improved student outcomes, including key non-cognitive outcomes, college- and career-going activities, attendance, academic outcomes, and ultimately college and career success. In the previous chapter, we reported that most students did not participate fully enough to meet iMentor' implemenation goals. In light of this, it would not be surprising if iMentor's impact were muted.

In this chapter, we look closely at the impact of the iMentor College Ready Program on 10th grade students. Specifically, we assess iMentor's impact on students' non-cognitive outcomes (see the textbox on page 9 for details), college- and career-related activities, college aspirations, attendance, and academic achievement, including GPA, credit accumulation and being on track to graduate. In this analysis, we compare the outcomes of students who have the opportunity to participate in iMentor with similar students who did not have that opportunity, as described in greater detail in the second chapter in this report.

We also conduct an exploratory analysis to begin to understand the relationship between students' outcomes and two program priorities that iMentor has articulated: 1) high levels of participation in the key program activities, and 2) close relationships between mentors and mentees. iMentor sees both of these as important to improving student outcomes. Given the program's struggles in achieving participation goals, we were eager to examine the hypothesis that intense participation leads to stronger outcomes. Similarly, we test whether students who feel very close to their mentors tend to have more positive outcomes than students who do not feel very close. While we encourage caution in interpreting the results of this exploratory and less methodologically rigorous analysis, we believe it may provide useful information for iMentor as they consider their program priorities going forward.

The chapter begins with a summary of major findings. We then report the overall impact findings in more detail, followed by a discussion of the exploratory findings.

Main Findings Summary

Overall Impact of iMentor for 10th Grade Students

Overall, iMentor had a small, positive, statistically significant impact on some student experiences and attitudes, but not on students' attendance or academic performance. Specifically, we found that compared to similar students who did not have access to iMentor, the average iMentor 10th grader:

- Was much more likely to have a mentor;
- Was slightly more likely to have developed a resume and researched a possible career path;
- Had slightly higher college aspirations, resilience and critical thinking; but
- Was not more likely to have completed a variety of college preparation activities;
- Did not have a higher GPA, attendance rate, or number of credits than their peers;
- Was similarly likely to be chronically absent; and
- Was similarly likely to be on track for high school graduation.

Exploratory Analyses

Looking only at students who had access to iMentor, those who reported feeling very close to their mentors had some stronger outcomes compared with those who did not feel as close. Specifically, we found that students who felt closer:

- Displayed moderately stronger growth on a variety of non-cognitive skills, such as goal setting behavior, resilience, persistence, and critical thinking; but
- Did not participate in more college and career activities or express higher college aspirations.[5]

By contrast, iMentor students who participated more fully in iMentor activities generally had similar outcomes as those who did not. Students who participated more intensely:

- Displayed similar non-cognitive skills, with the exception of stronger resilience and goal setting behaivor, and
- Expressed similar levels of college aspirations, and participated in similar levels of college and career activities, with the exception of higher levels of visiting a

college campus, particularly at schools outside of New York City but in New York state.

Overall Impacts of iMentor

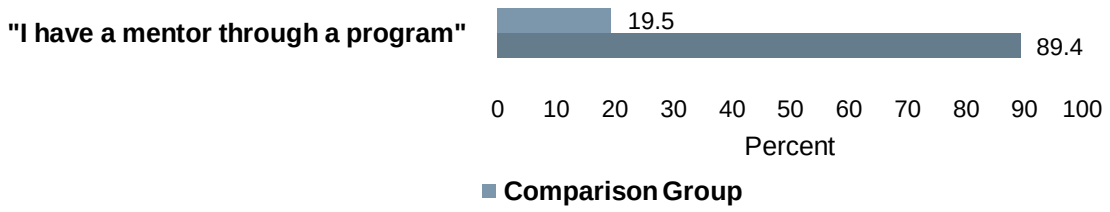
In this section, we assess the overall impact of iMentor on 10th grade student outcomes. We begin by looking at the effect of iMentor on students' experiences directly related to the program, such as having a mentor and participating in certain career and college activities. Then we examine the effect of iMentor on students' growth in non-cognitive skills that are taught in the program. Lastly, we look at the effect of iMentor on student attendance and academic achievement, which are less directly connected to the program activities.

Student Experiences

iMentor students are more likely to have a mentor than similar students not in iMentor.

For students, the first major step in the iMentor program is being matched with a mentor. Thus, we would expect iMentor students to be more likely to have a mentor through a program than comparison students. Figure 7 illustrates that this was indeed the case. iMentor students were more than four times more likely to report having a mentor than comparison students (i.e., students in the same school in the year before iMentor was implemented), controlling for background characteristics. Interestingly, almost 20 percent of comparison students reported having a mentor even though they did not have access to iMentor.

Figure 7: 10th Graders in iMentor and Comparison Group Who Have a Mentor



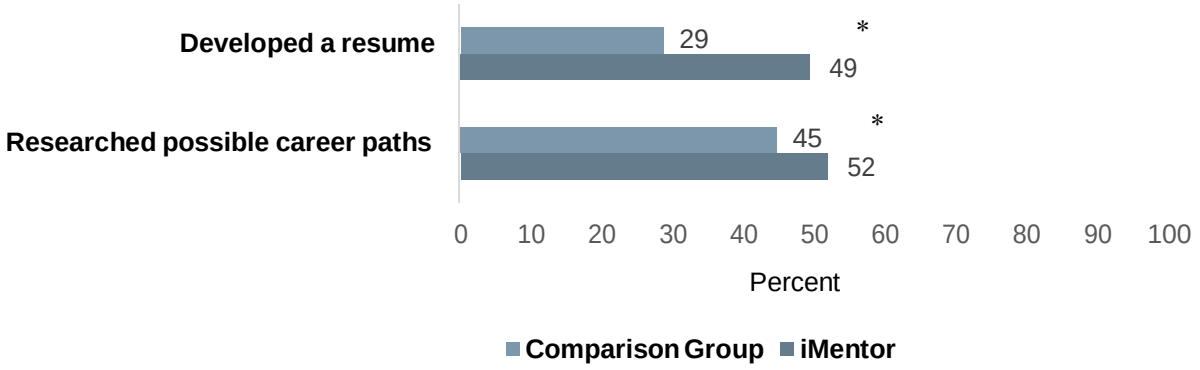
Source: Research Alliance calculations based on data obtained from the iMentor 10th grade student spring survey.
Notes: The comparison group sample includes 604 students, and the iMentor sample includes 1278 students. Samples includes iMentor students who entered 9th grade during the first and second year iMentor was offered at their school, and comparison students who entered 9th grade the year before iMentor was implemented at their school. The data are for their expected 10th grade year.

iMentor students were more likely to participate in career-related activities, but not more likely to participate in college-related activities.

Students answered questions on the spring survey about their participation in various career and college preparation activities during the school year. Many of the activities are directly aligned with the 10th grade iMentor curriculum. For example, during the iMentor class, students spend an entire unit developing a resume and researching a career path.

Figure 8 shows students' participation in career-related activities, for both iMentor and comparison students, after controlling for background characteristics. (For more specifics on the model, see Appendix B.) It illustrates that iMentor students were indeed more likely than comparison students to develop a resume and research possible career paths. While 29 percent of comparison students developed a resume, 49 percent of iMentor students did so. Likewise, while 45 percent of the comparison students researched a possible career path, 52 percent of iMentor students did so.

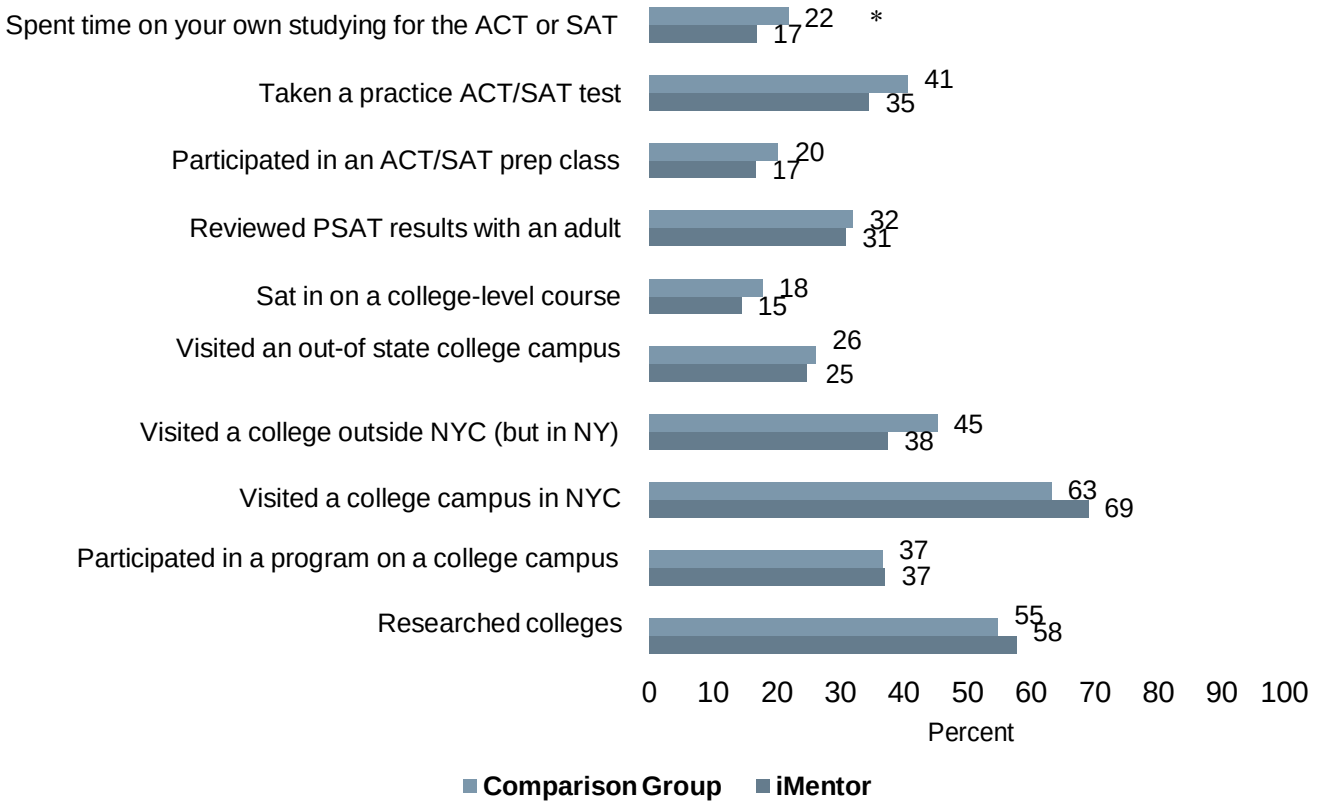
Figure 8: 10th Graders' Career-Related Activities for iMentor and Comparison Group, Regression Adjusted



Source: Research Alliance calculations based on data obtained from the iMentor 10th grade student spring survey.

Notes: The comparison group sample includes 604 students, and the iMentor sample includes 1278 students.
* indicates p <.05 . Samples include iMentor students who entered 9th grade during the first and second year iMentor was offered at their school and comparison students who entered 9th grade the year before iMentor was implemented at their school. The data are for their expected 10th grade year.

Figure 9: 10th Graders' College Preparation Activities for iMentor and Comparison Group, Regression Adjusted



Source: Research Alliance calculations based on data obtained from the iMentor 10th grade student spring survey.

Notes: The comparison group sample includes 604 students, and the iMentor sample includes 1278 students.
* indicates p <.05 . Samples include iMentor students who entered 9th grade during the first and second year iMentor was offered at their school and comparison students who entered 9th grade the year before iMentor was implemented at their school. The data are for their expected 10th grade year.

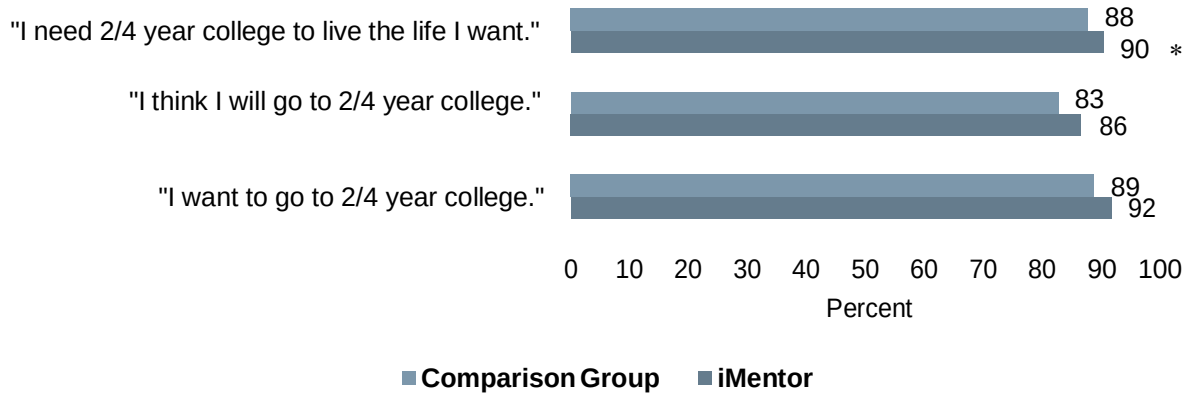
Figure 9 shows students' participation in college-related activities, for iMentor and comparison students, after controlling for background characteristics. The figure shows that iMentor and comparison students participated in similar types and amounts of college-related activities in their 10th grade year. One possible explanation for this lack of contrast is the prevalence of other college readiness programs in NYC schools, such as College Access: Research and Action (CARA NYC), College Bound Initiative (CBI) and others. Some of these may have been available to comparison students.

Students' College Aspirations

iMentor students were more likely to believe that they need to attend college and that they will attend college.

During classes and events, iMentor encourages students to think about the importance of attending college and planning the steps to ensure that college will be an option after high school. One event in the 10th grade is held at a college in the NYC area, and other events encourage students to ask their mentor about their college experiences. As illustrated in Figure 10, we found that both comparison and iMentor students have high college aspirations. For example, about 90 percent of students in both groups want to attend a two- or four-year college. However, iMentor students are slightly more likely to think they need to attend college to have the life they want, and they are slightly more likely to think that they will in fact attend college. The differences between the groups are small but statistically significant. These results are promising precursors for students applying and later enrolling in college.

Figure 10: 10th Graders' College Aspirations for iMentor and Comparison Group, Regression Adjusted



Source: Research Alliance calculations based on data obtained from the iMentor 10th grade student spring survey.

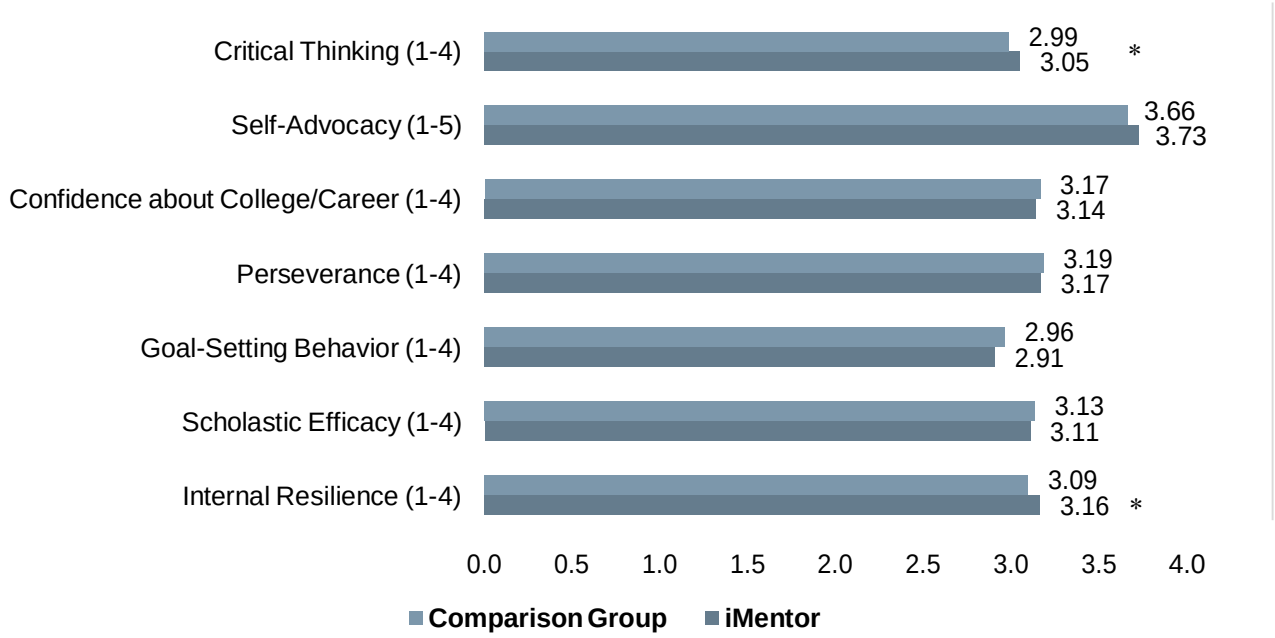
Notes: The comparison group sample includes 604 students, and the iMentor sample includes 1278 students.
* indicates p <.05 . Samples include iMentor students who entered 9th grade during the first and second year iMentor was offered at their school and comparison students who entered 9th grade the year before iMentor was implemented at their school. The data are for their expected 10th grade year.

Students' Non-Cognitive Skills

iMentor students had slightly more growth in critical thinking and internal resilience.

Teaching non-cognitive skills through the iMentor curriculum is a central part of iMentor's theory of action. However, our findings show only limited impact on students' non-cognitive skills after two years. Of the seven non-cognitive skills we tested, two showed small, positive, statistically significant differences in the growth of students' non-cognitive skills (see Figure 11). These differences were on measures of critical thinking and internal resilience. In relation to comparison students, iMentor students had .07 units more critical thinking (on a 4-point scale), and .11 units of resilience (on a 4-point scale). These differences amount to a .14 and .10 effect size, which are considered small (Cohen, 1977, 1988).

Figure 11: 10th Graders' Non-Cognitive Outcomes for iMentor and Comparison Group, Regression Adjusted



Source: Research Alliance calculations based on data obtained from the iMentor 10th grade student spring survey.

Notes: The comparison group sample includes 604 students, and the iMentor sample includes 1278 students.
* indicates p <.05 . Samples include iMentor students who entered 9th grade during the first and second year iMentor was offered at their school and comparison students who entered 9th grade the year before iMentor was implemented at their school. The data are for their expected 10th grade year.

Student Attendance and Achievement

iMentor students have similar academic and attendance outcomes as comparison students.

As mentioned in previous sections, the iMentor College Ready Program does not have an explicit academic or attendance focus. However, our evaluation looks at iMentor's impact on academic outcomes, because academic preparation is an important component of college readiness, especially as it relates to persistence in college and degree attainment. We examined students' credit accumulation and GPA, as well as their attendance rates and the proportion of students who were chronically absent. As explained in Chapter 2, our analysis for academic and attendance outcomes uses a CITS method to compare trends in iMentor students' outcomes to trends for students at similar schools.

Table 4 illustrates the achievement and attendance outcomes of iMentor 10th graders relative to their projected outcome, based on trends at the school over time (i.e., "iMentor change"). It then shows how comparison schools performed on these same outcomes (i.e., "Comp. Change"). Any differences between the changes seen at the two sets of schools can be attributed to iMentor. As the table shows, there were no statistically significantly differences. These results mean that iMentor has not had a discernible impact on academic achievement or attendance for 10th graders.

Table 4: iMentor's Impact on Achievement and Attendance for 10th Graders

	iMentor - Projected	iMentor Change	Comp. Change	Impact
OnTrack for Grad. (%)	**53.13**	**2.18**	**3.59**	**-1.41**
Standard Error		(4.22)	(2.97)	(5.16)
GPA (weighted)	**71.10**	**-0.85**	**-0.06**	**-0.8**
Standard Error		(1.13)	(0.79)	(1.37)
Credits Earned (Academic)	**11.19**	**-0.4**	**-0.28**	**-0.12**
Standard Error		(0.92)	(0.62)	(1.11)
Credits Earned (Total)	**12.71**	**-0.07**	**-0.21**	**0.13**
Standard Error		(0.74)	(0.50)	(0.89)
Chronic Absenteeism (%)	**40.84**	**-0.73**	**-1.96**	**1.24**
Standard Error		(3.96)	(2.78)	(4.84)
Attendance (%)	**83.54**	**0.78**	**0.13**	**0.65**
Standard Error		(1.28)	(0.90)	(1.57)
Number of Students		**1249**	**2457**	
Number of Schools		**6**	**12**	

Sources: Research Alliance calculations based on data obtained from the NYC Department of Education.
Notes: Sample includes only students in the 9th grade for the first time. Standard errors are clustered at the school level.
* indicates p <.05

Exploratory Analyses: Are Stronger Outcomes Associated with Closer Mentoring Relationships or with the Intensity of Participation in iMentor Activities?

One of the most direct and important intended outcomes of the iMentor program is a strong relationship between students and their mentor. iMentor's theory of action suggests that it is at least partially through this relationship that students will improve their non-cognitive skills and get help navigating the college and career process, ultimately leading to post-secondary success. To test the early part of the iMentor theory of action, we set out to determine whether students with a closer relationship to their mentor experienced more gains on non-cognitive skills than those who didn't have a close relationship. We define closer relationships as students reporting that they are "very close" to their mentors on their spring student survey.

Another strand of our exploratory analysis focuses on students who participated in iMentor more intensively. These are students who met or were approaching iMentor's goals. These students were matched with a mentor by December 31st of their 10th grade year, attended 15 or more sessions, emailed with their mentor at least 55 percent of the sessions, and attended at least four or more events. In this analysis, we examine if iMentor students with intensive participation have different outcomes than iMentor students who did not participate intensively.

We choose to compare outcomes for these two subgroups of iMentor students for a number of reasons. First, intense participation and close relationships were the top two priorities that iMentor program leadership articulated to the staff and volunteers responsible for directly implementing the program, and both are central to the program's theory of action. Second, as seen in Chapter 3, many students who reported close relationships with mentors did *not* meet participation goals—running somewhat counter to both iMentor's theory and previous research. Therefore, we thought it would be useful to further explore the extent to which participation and close relationships are associated with iMentor's outcomes of interest.

In essence, this analysis is attempting to isolate the additional value of close relationships and intense participation on the effects of iMentor. If one or both of these priorities does not appear to add additional value, program leadership might consider deemphasizing them and focusing on other priorities. It is important to note, however, that we are less certain about the results of these analyses than we are of the overall impacts. Differences seen between the subgroups' outcomes may be due to

the variable we are testing (i.e., differing closeness/intensity), but even more than in our main impact analyses, the differences might stem from unaccounted-for differences in the composition of the groups. These important—but missing—variables could be mentor characteristics, like the ability to work with teenagers; mentee characteristics, like their comfort with adults; or aspects of mentee-mentor "fit," like common interests.

Luckily, we can assess many potential differences, particularly in terms of mentee characteristics, using our rich baseline data. We begin by looking at the composition of each subgroup and answer the questions: How many students were very close to their mentors and participated intensely? And do those students have different background characteristics from students who were not very close and did not participate intensely?

Table 5: 10th Grade iMentor Students, by Relationship Closeness and Participation Intensity

	Not Intense Participation	Intense Participation	Total
Not Very Close Relationship	441	239	680
Very Close Relationship	189	241	440
Total	630	480	1110

Source: Research Alliance calculations based on data provided by iMentor.

Notes: Sample is the 1,110 iMentor students who responded to the 10th grade follow-up survey. "Intense participation" refers to meeting or approaching implementation benchmarks, described above. "Very close relationships" refers to students who reported that they are "very close" to their mentors on the spring survey.

As shown in Table 5, roughly one fifth of iMentor students fell into each of the following groups: intense participation and very close relationships; intense participation and not very close relationships; low participation and very close relationships. About two fifths of students had neither intense participation nor very close relationships with their mentors.

Table D1 in Appendix D presents the characteristics for our key student subgroups. Students who were very close and not very close to their mentors have quite similar background characteristics in terms of race, poverty, English Language Learner status, special education designation, and prior achievement scores. We did find some differences in their baseline non-cognitive skills, such as communication; their motivation for career planning; and adult social supports.[6] We controlled for all of

these background characteristics when we modeled the differential effects for these subgroups.

Table D2 in Appendix D also shows the background characteristics of students who did and did not participate intensely in iMentor programming. In contrast to comparisons by closeness, the subgroups defined by participation intensity show more substantial differences. Students with intense participation are more likely to be girls, to be African American, and to have higher past academic performance, and they are less likely to be chronically absent, compared to students with lower participation. Again, we controlled for all of these characteristics in our statistical models.

For our exploratory analysis, we only present findings from outcomes derived from the student surveys. This way, we can control for all of the background characteristics we had available from the baseline student survey, as well as the NYC DOE administrative dataset, as shown in the Appendix D. In contrast, we are not conducting this analysis for attendance and academic achievement, because many of the important control variables are derived from the student survey, and we do not have student survey results for the comparison students in our academic analysis sample (see Chapter 2 for more details about the construction of the two comparison groups).

Table 6 below shows the differences in outcomes between groups, adjusted for background characteristics. The table includes two pieces of information to help readers judge whether the differences in outcomes are meaningful: shading showing whether differences are small, medium, or large, and stars indicating where differences are statistically significant.

Table 6: Differences in 10th Grade iMentor Student Outcomes by Closeness and Participation Intensity, Regression Adjusted

Outcome (Scale)	Effect size: Small / Medium / Large	Very Close Relationship	Without a Very Close Relationship	Very Close/Not Very Close Difference		Intense Participation	Without Intense Participation	Intense/ Not Intense Difference	
College and Career Activities									
Spent time on your own studying for the ACT or SAT		14.7%	15.6%	-0.9%		19.2%	15.6%	3.6%	
Taken a practice ACT/SAT test		39.2%	37.8%	1.4%		39.6%	37.8%	1.9%	
Participated in an ACT/SAT prep class		18.2%	16.9%	1.3%		20.8%	16.9%	3.9%	
Reviewed PSAT results with an adult		26.4%	30.6%	-4.2%		26.6%	30.6%	-4.0%	
Sat in on a college-level course		14.4%	13.4%	1.0%		14.5%	13.4%	1.1%	
Visited an out-of state college campus		22.8%	22.7%	0.0%		28.2%	22.7%	5.4%	
Visited a college campus outside NYC (but in NY state)		42.8%	40.5%	2.2%		48.5%	40.5%	8.0%	*
Visited a college campus in NYC		69.1%	68.0%	1.2%		69.7%	68.0%	1.8%	
Participated in a program or special event on a college campus		40.8%	36.6%	4.2%		39.3%	36.6%	2.7%	
Researched colleges		59.2%	57.0%	2.1%		61.1%	57.0%	4.1%	
Developed a resume		53.9%	51.8%	2.1%		55.8%	51.8%	4.1%	
Researched possible career paths		56.1%	52.5%	3.6%		58.2%	52.5%	5.7%	
College and Career Aspirations									
"I think I will go to a 2/4 year college."		86.5%	86.6%	-0.1%		88.6%	86.6%	2.0%	
"I want to go to a 2/4 year college."		93.3%	92.5%	0.7%		89.6%	92.5%	-2.9%	
"I only need high school to live the life I want."		4.7%	5.9%	-1.2%		5.0%	5.9%	-1.0%	
Academic and Personal Behaviors and Attitudes (1-4 scale)									
Critical Thinking		3.21	3.03	0.18	*	3.08	3.03	0.06	
Confident about College/Career		3.23	3.10	0.13	*	3.15	3.10	0.05	
Goal-Setting Behavior		3.68	2.95	0.74	*	3.31	2.95	0.37	*
Self-Advocacy		3.94	3.69	0.25	*	3.76	3.69	0.07	
Internal Resilience		3.34	3.15	0.19	*	3.22	3.15	0.07	*
Scholastic Self-Efficacy		3.16	3.06	0.10	*	3.11	3.06	0.05	
Perserverance		3.30	3.16	0.14	*	3.20	3.16	0.04	
Number of students		430	630			478	582		
Number of schools		8	8			8	8		

Source: Research Alliance calculations based on data obtained from the NYC Department of Education and the iMentor student survey.

Notes: Sample includes only students in the 9th grade for the first time. * indicates p<.05 .

College and Career Activities

Table 6 shows that students who feel very close to their mentors participated in college- and career-related activities at a similar rate as students who do not feel close to their mentors. Likewise, across most outcomes, students who participated intensely in iMentor reported similar levels of college and career activity as students with lower levels of participation. Students who participated intensely did visit New York state colleges (outside of NYC) more than students with lower participation, but the difference between these groups is small. These findings suggest that neither being close to a mentor nor participating intensely in Mentor will, in and of themselves, increase students' college and career activities.

College Aspirations

We found that students who feel very close to their mentor reported similar college aspirations as students who do not feel close to their mentors. And students who participated intensely had similar college aspirations as students with lower participation. This finding is a little surprising given that part of the mentee-mentor experience, and a goal of most of iMentor activities, is to generate enthusiasm about college. A closer relationship could beget more motivation to attend college and more assurance that, with the mentor's support, students could attend college. However, we did not see any evidence of these connections in our findings.

Non-Cognitive Skills

Table 6 shows that students who are very close to their mentor experienced larger non-cognitive skill gains than students who are not very close to their mentors. For every non-cognitive skill we measured, students who are very close did statistically significantly better than students who are not close, though the size of these differences vary.[7] These findings bolster the hypothesis that having a very close relationship with a mentor is a lever for increasing non-cognitive skills.

By contrast, most non-cognitive outcomes did not vary by participation intensity, meaning students who participated intensely had similar growth on these skills at the end of 10th grade as students with lower levels of participation. The two exceptions were internal resilience and goal setting behavior, where there were somewhat larger gains for students who participated intensely.

Discussion

Overall, we found few impacts from iMentor on students' college-related activities, non-cognitive skill development or academic achievement. The program had some small positive and statistically significant impacts on critical thinking and internal resilience, as well as career activities. Of all the outcomes we tested, these are most closely related to iMentor's 10th grade programming. iMentor and comparison students were equally likely to participate in more generic college readiness activities, such as researching and visiting colleges. We hypothesize that this may be because many comparison students were participating in these activities through other programs. Almost all evaluation schools had other college readiness programs before and during the implementation of iMentor.

As in previous reports, we should emphasize that these findings are based on two years of participation in a four-year program and do not mean that iMentor will not ultimately have impacts on outcomes like high school graduation and college enrollment. Nonetheless, these findings raise questions for iMentor about whether the program is accomplishing what it is intended to at this stage of students' high school experience, particularly in terms of the five non-cognitive skills where there were no discernible impacts.

Our exploratory analyses suggest that iMentor's effects on non-cognitive skills might be mediated by mentor-mentee closeness. In other words, feeling very close to their mentor may help students develop their non-cognitive skills. By contrast, the non-cognitive outcomes of students who participated intensely did not, on the whole, differ from those of students with lower levels of participation. For the most part, students who participate intensely did not have different outcomes than their peers.

Based on these findings, we suggest that iMentor redouble its efforts to investigate how and why some pairs are closer than others. Is it personality types? Mentor characteristics, or training? Program Manager support? Participation in certain events? Communication through online chatting, emails, or texts? Are some pairs choosing to communicate with phone calls and text messages, instead of through the Canvas platform? Is the content of their communication different? Are they meeting, outside of formal iMentor events? In certain circumstances, it may make sense for iMentor to prioritize relationship building over activity participation, given that outcomes did not vary for students with higher and lower participation levels.

CHAPTER 5: SUMMARY

Overall, we found that schools have struggled to meet implementation goals. While many schools were successful in matching students, others struggled with preliminary matches and with matches ending. No school has met iMentor's goals for pair interaction, as measured through email exchanges and event attendance. Still, students reported relatively high levels of closeness with their mentor, and many of the mentees who report feeling close did not meet participation goals.

We observed small, positive effects on a few student outcomes most closely tied to iMentor's 10th-grade programming, such as having a mentor, developing a resume, researching career paths, and planning to attend college, as well as critical thinking and internal resilience. The 10th grade iMentor curriculum included lessons on career development, critical thinking, goal setting, and excitement about college, and week after week, many students and mentors wrote to one another, sharing thoughts about the lessons and deepening their relationships. PMs spent a good deal of time monitoring and nurturing these relationships. These efforts seem to have translated into some measurable improvements in key student outcomes. It is noteworthy, however, that these impacts were small. For example, iMentor students were three percentage points more likely to think they will go to a two- or four-year college (91 versus 89). These types of marginal changes are in the right direction, but would need to grow to make the kind of substantial difference that iMentor aspires to make in the lives of young people.

The iMentor College Ready Program does not appear to improve 10th graders' academic performance or school attendance. For these more distal outcomes, we hypothesized that iMentor's effect would only occur indirectly, as a result of gains in other areas. In order to have a chance of observing effects on academics and attendance, we believe we would need to see large effects on the outcomes most closely related to iMentor's programming. Given the lack of effects on many of the non-cognitive outcomes we tested, and the relatively small size of the effects we did see, it is not surprising that iMentor didn't boost students' academic achievement or attendance.

Our exploratory analysis found that students who felt very close to their mentor had larger gains on their non-cognitive skills. Yet we found little evidence that more intense participation in iMentor's key activities led to better outcomes. This raises questions for iMentor about the relative value of different program activities—and

whether it might be possible create a stronger link between program activities and the development of strong mentoring relationships.

It is important to note that iMentor is a four-year program, and this analysis focuses on 10th grade students, who had access to two years of iMentor in their schools. Next year, we will analyze the program's impacts on 11th graders. For iMentor, 11th grade marks a shift toward more college-going activities. We plan to continue to investigate the role of relationships in these activities and other potential areas of impact, including eventually examining iMentor's effect on high school graduation and college enrollment.

Endnotes

[1] The first, *Bringing Together Mentoring, Technology, and Whole School Reform* (2015), examined the College Ready program's early implementation and preliminary impacts for 9th grade students. The second, *Focus on Mentee-Mentor Relationships: The 10th Grade Implementation of iMentor's College Ready Program* (2016) closely assessed the implementation of the iMentor program for 10th graders and began to explore factors associated with the formation of close relationships.

[2] Schools are represented with pseudonyms to keep their identities confidential.

[3] For our analysis that integrates results from both iMentor programmatic data and insights from interviews with program and school staff in the 2014-15 school year, please see our previous report, *Focus on Mentee-Mentor Relationships* (2016).

[4] Students new to the school in the 10th grade are not included in our sample.

[5] For this exploratory analysis, we did not analyze how attendance and academic outcomes varied with relationship strength and participation intensity, as iMentor did not have a statistically significant impact on any of these outcomes.

[6] A test of model fit showed that background characteristics and baseline non-cognitive skills have statistically significant explanatory power predicting both relationship closeness and participation intensity.

[7] 48 students who reported they do not have a very close relationship with their mentor were never matched with mentors, leading us to question whether this group accounted for the differences in outcomes between students that do and do not have very close relationships with mentors. Accordingly, we re-ran our calculations excluding this group, and we found that the overall pattern of differences remained robust.

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