

Who's Making It:

The Academic Achievement of Recent Boston Public School Graduates
in the Early College Years

Sara E. Stoutland and Ann S. Coles



April 2009

About the Boston Foundation

The Boston Foundation, Greater Boston's community foundation, is one of the oldest and largest community foundations in the nation, with assets of \$763 million. In Fiscal Year 2008, the Foundation and its donors made close to \$79 million in grants to nonprofit organizations and received gifts of \$113 million. The Foundation is made up of some 900 separate charitable funds established by donors either for the general benefit of the community or for special purposes. The Boston Foundation also serves as a major civic leader, provider of information, convener, and sponsor of special initiatives designed to address the community's and region's most pressing challenges. For more information about the Boston Foundation, visit www.tbf.org or call 617-338-1700.

About the Boston Higher Education Partnership

The Boston Higher Education Partnership (BHEP) is a consortium of 30 colleges and universities and the Boston Public Schools (BPS), working together to increase postsecondary readiness, access, and success for Boston students. In collaboration with individual schools and school district leaders, member institutions offer a wide range of activities including academic enrichment, tutoring, mentoring, and college awareness to help students prepare and plan for college, future careers, and civic engagement. They also provide millions of financial aid dollars to make college affordable for BPS graduates, offer professional development for BPS teachers and principals, and undertake research to inform teaching and improve student learning outcomes. For more information about BHEP, contact Ann Coles, Interim Executive Director, at 617-778-7195 x111 or anncoles@accessboston.org.

About TERI

TERI (The Education Resources Institute) is a nonprofit organization based in Boston that is dedicated to promoting access to education for students of all ages and backgrounds. TERI is a national leader in helping low-income individuals, and those who are the first generation in their families to realize their college dreams. TERI fulfills its mission by informing educational policy, managing direct service programs, and supporting student loan programs.

UNDERSTANDING BOSTON is a series of forums, educational events and research sponsored by the Boston Foundation to provide information and insight into issues affecting Boston, its neighborhoods and the region. By working in collaboration with a wide range of partners, the Boston Foundation provides opportunities for people to come together to explore challenges facing our constantly changing community and to develop an informed civic agenda.

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Dear Colleagues:

At TERI, a Boston-based non-profit organization founded in 1985, we promote access to education for students of all ages and backgrounds. Our college access programs specifically target young people and adults from lower income backgrounds. We have helped over a million individuals in the Boston area pursue their college goals through our services based at the Boston Public Library and the Boston Public Schools (BPS). We also have supported collaborative efforts to expand college access locally through our leadership of the Boston Higher Education Partnership, regionally through our sponsorship of College Ready New England, and nationally through our support of the Pathways to College Network.

When we speak of college access at TERI, we mean not simply getting students into college, but helping to ensure that they successfully complete college degrees and certificates. Over the years we have supported more than 20 research studies that focused on critical issues related to college transitions and achievement. The findings and recommendations of these studies have informed education policies and practices at all levels, and resulted in improved college opportunities for underserved students locally and nationally.

Increasing the number of BPS graduates who succeed in college has always been a high priority for TERI. For this reason, we were pleased to join the Boston Foundation in supporting the Boston Higher Education Partnership to undertake this study—*Who's Making It: the Academic Achievement of Boston Public School Graduates in the Early College Years*. The study's findings underscore the importance of a college education to BPS graduates and illuminate the difficulties they—and other inner city students—face in earning college degrees. It also provides valuable recommendations for what Boston's education and community leaders can do to help more students achieve their college goals.

TERI stands ready to join with others to enable every BPS graduate who aspires to a college degree to achieve this goal. Working together, I am confident we will succeed.

A handwritten signature in orange ink, which appears to read "Willis J. Hulings III". The signature is fluid and cursive, with a long horizontal stroke at the end.

Willis J. Hulings III
President & CEO
TERI

Preface

In the fall of 2008, the Boston Private Industry Council released a report with funding from the Boston Foundation, titled *Getting to the Finish Line*, about the college enrollment and graduation rates of Boston public school students. The news was not good: only 35.5% of students who graduated from the Boston Public Schools in the class of 2000 and enrolled in college had earned a two-year or four-year postsecondary degree by September of 2007.

In response, Mayor Thomas M. Menino issued a bold community-wide challenge for an initiative that will prepare many more of Boston's students to earn a college degree. The Boston Foundation has committed \$1 million to support that new initiative.

This report takes an in-depth look at exactly what happens to Boston's students during their first two years of college—a time of difficult and sometimes impossible transition. Not surprisingly, it finds that students with more rigorous high school preparation, such as those attending exam schools, had much higher rates of persistence, progress and performance. It also reveals that those who could attend college continuously, without taking a break, do best—and that the efforts colleges make to help students do count.

This study contains a great deal of valuable data, but I also encourage you to read the quotes from faculty members and students about these early and often harrowing college years. They provide invaluable insight into the complex lives led by Boston's young people and the types of support and assistance they need to prevail.

Two-thirds of all of the jobs that are created in our economy require at least some college education, yet close to half of Boston's students attending non-exam schools fail to graduate even from high school in four years—and many who do graduate are unprepared for college-level work and are not getting the support they need to apply to college and succeed once they are there.

We see this report and others that we have published—as well as all of our work in the area of education—as part of a quest we are on to break the correlation between poverty and poor results for Boston's students. Achieving our goal is important not just to the success of our city's students, but to the success of Greater Boston in the 21st century global economy.



Paul S. Grogan
President and CEO
The Boston Foundation

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The Boston Higher Education Partnership (BHEP) and the authors greatly appreciate the considerable assistance and support we received with this study including:

- The participating colleges and universities and their staff who provided us with the student transcript data from their institutions and arranged the student focus groups.
- The students, faculty and staff at participating colleges as well as career coaches at Boston's Private Industry Council who participated in interviews or focus groups, giving up time from their busy schedules to talk with us.
- Members of the study's Advisory Group who provided valuable suggestions on the research design, facilitated the collection of transcript data, helped arrange faculty interviews and student focus groups, and offered helpful comments on early drafts of the study.
- Lisa Famularo (Rennie Center for Education Research and Policy), Ronald F. Ferguson (Harvard University), Martha Mullane (Boston Public Schools), Jill Norton (Rennie Center for Education Research and Policy), and Bridget Terry-Long (Harvard University) who offered useful insights and advice on the design or early drafts of the study.
- Deborah Hirsch (former executive director of BHEP) and Mandy Savitz-Romer (former associate director of BHEP), who laid the groundwork—both conceptually and financially—for the study.
- Janine Dewar and Hannah Rodriguez-Farrar for research assistance and Aimee McCarron for administrative support.

We also are deeply grateful to the Boston Foundation and TERI for funding the study and providing substantial in-kind support, without which we could not have undertaken this research.

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EXECUTIVE SUMMARY

Who's Making It: The Academic Achievement of Recent Boston Public School Graduates in the Early College Years

In the 21st century, the United States needs many more college-educated workers to sustain its leadership in the global economy. Equally important, individuals need postsecondary credentials to secure work that pays a living wage and to maintain a high quality of life. Given these needs, ensuring the postsecondary success of all students has become a critical national priority. Yet, while many agree on the importance of college success for all, we are a long way from achieving that goal. Today, about 43% of Americans who enroll in college obtain a degree (Horn et al. 2004). For graduates of the Boston Public Schools (BPS), the outlook is more discouraging. The Boston Private Industry Council's (PIC) recent study of BPS graduates from the Class of 2000 found that only 35.5% of those who enrolled in college over a seven-year time frame had graduated and another 14% were still enrolled with no degree (Boston Private Industry Council 2008). Knowing initial enrollment and degree completion rates is a critical first step in understanding the college success of BPS graduates. The next step is to learn more about what happens after students begin college by exploring factors contributing to degree advancement.

Over the past three years, the Boston Higher Education Partnership (BHEP) has undertaken two studies investigating what happens during the early college careers of BPS graduates. In 2006, the BHEP completed a study, "From College Access to College Success," examining the transition from high school to college for BPS graduates from the Classes of 2003, 2004, and 2005 who began college full-time in the fall of 2005. This study found many BPS graduates struggling in their first year of college, especially those at two-year colleges. More than two-thirds of graduates attending community colleges took developmental courses and, on average, withdrew from or failed over 30% of all the credits they attempted in the first year.¹ In focus groups, students reported difficulties with course work, especially math. The BPS

graduates at four-year colleges generally reported feeling better prepared, but even so they withdrew from or failed 25% of the credits they attempted.

The 2006 report raised many questions. Which BPS students would persist in college through the second year and how would they perform academically? How many would be on track to graduate within a reasonable time frame? What would happen to those taking developmental classes as they progressed? What variation would there be between types of institutions?

This BHEP study, undertaken with support from the Boston Foundation and TERI, explores these questions through an in-depth look at the first two years of college. It provides insight into what happened to BPS graduates along the route to a college degree and why only 35% completed degrees after seven years. By considering various categories of persistence, college selectivity, and indicators of academic preparation prior to college, this research develops a picture of how BPS graduates were succeeding (or not) during their first two years of college.

To better understand the first stages of college, the study addresses the following questions: Among BPS graduates who enrolled in the fall of 2005, who was still attending the same college two years later? Of those who persisted, how were they progressing and performing academically? How did the *way* they persisted (full-time or part-time; continuously or intermittently) affect their academic progress and performance? What difference did the selectivity of the college make in measures of students' academic success? What difference did the individual college make? What role did academic preparation prior to college play? How might contextual factors have influenced the academic success of BPS graduates?

The Study Design

In order to explore these questions, the study examined three types of academic outcomes: persistence (recurrent enrollment); progress (accumulated academic credits); and performance (cumulative grade point average)—and developed measures for each. All three types of outcomes are necessary to earn a degree: a student must persist—enroll in a sufficient number of semesters; progress—earn at least the minimum number of credits to graduate; and perform—maintain at least the minimum grade point average required for graduation. While students must also fulfill other requirements specific to their institution, for the early college career, these three measures provide a reasonably full picture of students' academic achievements.

Both quantitative and qualitative data were collected to explore the college persistence, progress, and performance of BPS graduates participating in the study. The quantitative analysis built on the database of students' college transcripts compiled for BHEP's first report. The number of participating colleges and universities increased from 10 to 23 with an accompanying increase in the number of BPS graduates from 465 to 946. Students had graduated from the BPS in 2003, 2004, or 2005 and began college for the first time full-time in the fall of 2005. The transcript data extended through four semesters (Fall 2005 to Spring 2007) and included enrollment information for a fifth (Fall 2007). Participating colleges supplied the data directly to the BHEP, stripped of identifying student information. No data was provided on student transfers. All reported findings are statistically significant to at least the .05 level.

Colleges were divided into four "selectivity groups": four-year more selective; four-year medium selective; four-year less selective; and two-year colleges. The groups were based on the primary type of degree they conferred (bachelor's or associate's) and, for four-year colleges, the institution's median combined SAT score.

The qualitative data came from several sources, including: 1) individual or group interviews with 24 faculty and staff who worked with BPS graduates as well as other first generation students at colleges or a nonprofit organization; and 2) seven focus groups with recent BPS graduates in their second year of college. These interviews focused on factors that support or hinder the college success of BPS graduates and other first generation college students. In addition, an "institutional

profile" encompassing various institutional attributes was developed for each participating college. Information for the profiles was gathered from the colleges' own web sites as well as on-line national databases.

Limitations of the Study

The study has several limitations. The transcripts provide information only from students' early college careers (the first five semesters). Thus, we have no information on graduation rates and, at most, know only whether students were successful (or not) through their second year of college. In addition, the study has data only from the institutions at which students initially enrolled. It is not known if a student transferred to another institution. Finally, the qualitative data must be interpreted with caution because of the very small number of faculty and students interviewed. The people interviewed were not randomly selected, but were identified through the study's college liaisons and there is no way of knowing how representative their views were.

The Lives of Boston Public School Graduates

It is important to consider the context of these young people's lives. Based on the qualitative interviews of this study along with national research findings on first generation and low-income students, we know that many recent BPS graduates attending college faced numerous challenges, encompassing multiple financial and family obligations as well as feelings of alienation from the campus environment. Their lives were often more complicated and carried greater responsibilities than the average 20 year old college student from a middle-income family. Consequently, at times, what appeared to be an academic challenge may in fact have been a lack of time or energy created by non-academic responsibilities or circumstances. While this study cannot directly connect the analysis of student's academic records to contextual factors, it is important to keep them in mind when drawing implications from the quantitative findings.

Key Quantitative Findings

Based on analysis of the transcript data, the study’s key quantitative findings are:

Finding One

Students who had a more rigorous high school preparation or who attended colleges with higher academic admission requirements were more likely to be academically successful in college. At the same time, there is evidence that the intention to persist in college remained high for less prepared students or those who attended less selective institutions.

Exam school graduates had much higher rates of persistence, progress, and performance than their counterparts who graduated from comprehensive or Pilot high schools. Seventy-one percent of exam school graduates continuously enrolled full-time over five semesters compared to 41% of non-exam school graduates. Of these students who continuously enrolled full-time, 64% of exam school graduates were earning credits at a rate that put them on track to graduate in 100% (four/two years) of expected program time compared to 34% of non-exam school graduates.

Students who attended more or medium selective four-year colleges were more likely to persist and to do so full-time than students attending colleges

with less stringent admission requirements.

Students at four-year more selective colleges were almost four times more likely and those at medium selective colleges more than twice as likely to continuously enroll full-time than students at two-year colleges.

Differences between college selectivity groups were smaller when applying a broad definition of persistence that included part-time students who continuously enrolled and those who enrolled intermittently. In particular, applying this broad definition of persistence resulted in two-year colleges’ persistence rate increasing threefold and the gap between two-year colleges and four-year more selective colleges being cut in half. (Chart 1)

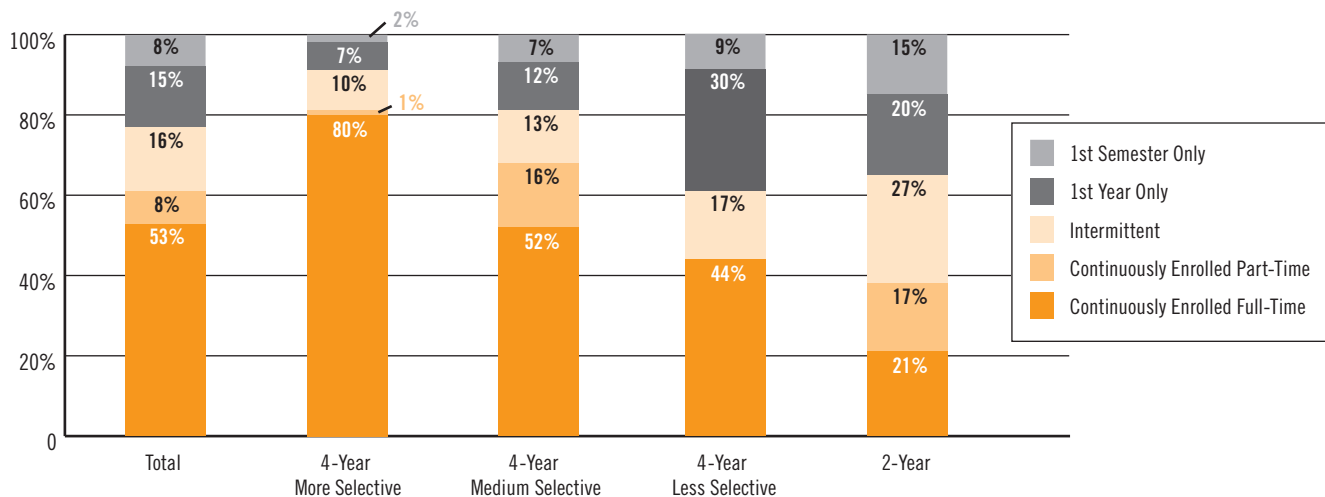
Finding Two

How a student chose to persist at college—continuously or intermittently, full-time or part-time—made a difference in their academic success no matter what type of college they attended.

Consistent persistence was critical to students’ academic progress and performance:

Students who continuously enrolled and were always full-time were particularly likely to be performing and persisting at satisfactory rates, regardless of which type of college they attended.

CHART 1
Persistence Categories by College Selectivity Group



For example, two-year college students who enrolled full-time every semester were almost twice as likely to have reached satisfactory achievement levels as students at more selective colleges who had “stopped out” (temporarily withdrew from college).

Students who continuously enrolled but did so occasionally part-time, while not doing as well as their full-time counterparts, had higher levels of academic achievement than those who stopped out. For instance, students who enrolled intermittently at more selective colleges were three times more likely to have low GPAs than students at two-year colleges who enrolled every semester but were sometimes part-time.

Finding Three

Institutional characteristics, policies, or practices seemed to have influenced students’ academic success:

Within each college selectivity group, there were substantial differences between colleges on most measures of academic success. Every selectivity group included one or two colleges where students did far better on almost every measure of success than students at other institutions in that group. Most strikingly there was one four-year less selective college and one two-year college where students’ rates of progress and performance were at least equal to the average rates at medium selective schools. Moreover, each college selectivity group usually had one or two colleges whose students did far worse on almost every measure than other institutions in that group. These findings suggest that what happened during college, once a student enrolled in a particular college, may have played a major role in a student’s academic success or failure.

Finding Four

There were two findings with unclear implications:

When students who persisted did not reach a satisfactory level of academic achievement, it was more likely to be associated with earning insufficient credits than with low grades. Students were much more likely to be behind in credit accumulation than to have a grade point average below graduation requirements. The difference between students

at four-year less selective and two-year colleges on these measures implied that variation in institutional policies and practices may influence the rate at which students accumulate credits.

For students at colleges with less stringent admission requirements, enrollment in developmental courses was not strongly associated with lower rates of persistence or academic achievement.

At four-year less selective and two-year colleges, students who enrolled in at least one developmental course and those who never enrolled in such a course were equally likely to be continuously enrolled. Moreover, of those who continuously enrolled full-time at four-year less selective colleges, both developmental and non-developmental students were equally likely to have reached satisfactory academic achievement (defined as accumulating sufficient credits and earning a satisfactory GPA). At two-year colleges, for continuously enrolled full-time students, developmental status did not affect the likelihood of earning a high GPA.

Issues Raised by Quantitative Findings

These findings raise a number of issues about the patterns of academic success among BPS graduates. The qualitative data and national research, while not offering definitive answers, can shed some light on these issues. Throughout the report, these topics are addressed by posing a question raised by the quantitative findings and offering a speculative answer. Topics discussed include: variation in enrollment patterns; academic momentum and excessive withdrawal; differences between college selectivity groups; and others.

Evidence for the Importance of College Knowledge in Student Success

The quantitative analysis revealed that the majority of students who were able to continuously enroll through the second year of college were achieving at least minimal academic standards and some reached high levels of achievement. The qualitative findings revealed one possible reason for this: those students who made it to the end of their second year had acquired considerable “college knowledge.” When asked what advice they would give to a BPS graduate entering college,

the students interviewed for this study responded with advice resembling a basic college survival course: study hard and well; manage your time efficiently; ask your professor and advisor for help; use the college’s academic support services; and get to know a variety of people on campus. Many attributed their grasp of college life to summer bridge programs and first-year seminars. But the discussion of their experiences made it clear that these initial programs would not have been sufficient by themselves to carry the student through college. These students were able to put into practice the advice offered, because the staff of these programs—as well as other college faculty and staff—reached out to them and regularly offered support and advice as students’ college careers progressed.

Recommendations

In light of these key findings, we offer the following:

Recommendations for Action

- Increase the use of data on postsecondary achievement disaggregated by student characteristics as the first step toward improving the persistence, progress, and performance of BPS graduates in college.
- Continue and increase investments in improving the academic preparation and college knowledge of BPS students attending non-exam schools.
- Increase the engagement of BPS graduates and other under-represented students in their college coursework and other academic experiences.
- Develop strategies for improving student success based on an understanding of the contextual issues (financial, work, family, campus climate) that affect the college participation and achievement of BPS graduates.
- Build strong partnerships among key stakeholders in higher education, the Boston Public Schools, the Mayor’s Office, and community, business and philanthropy to promote and support increased college success for BPS graduates.
- Scale up effective practices and programs for improving persistence to serve all students who need such support in order to succeed in college.

Recommendations for Research

In order to better understand what high school, higher education, and community leaders can do to improve the college success of BPS graduates, research on the following topics is recommended:

- How BPS students acquire college knowledge;
- How they become academically engaged;
- How contextual factors, both on and off campus, create challenges to degree advancement; and
- How institutions can bring effective programs and practices to scale.

Conclusion

Boston can make substantial progress in improving the college completion rates of BPS graduates if we act on what we know works. Such efforts will succeed if we begin by looking at data on the college experiences of BPS graduates and identifying a small number of strategic problem areas on which to focus. These efforts should be based on what the research tells us are highly effective practices and policies for improving the college achievement of under-served students, such as increasing the engagement of students in their college coursework and reducing the challenges created by on-campus and off-campus contextual factors. Finally, these efforts will require the participation of college faculty and staff as well as BPS staff in developing action plans for needed changes and taking responsibility for implementing such plans.

For the city to meet 21st century economic and social needs, college readiness and success for all students needs to be central to the life and focus of all Boston high schools and higher education institutions enrolling BPS graduates. Achieving a goal as ambitious as “college for all” starts with strong leaders who are visibly committed to this important work—from college presidents to high school principals to board members and heads of nonprofit organizations to members of the School Committee. It means that everyone who touches the lives of Boston’s public school students or their families must embrace this goal and assume responsibility for achieving it. Commitment and responsibility—combined with using knowledge gained from this research to inform decisions—is the only way to achieve the changes necessary to dramatically increase the numbers of BPS graduates completing college degrees in future years.

CHAPTER ONE

Introduction and Overview

In the 21st century, the United States needs many more college-educated workers to sustain its leadership in the global economy. Equally important, individuals need postsecondary credentials to secure work that pays a living wage and to maintain a high quality of life. Given these needs, ensuring the postsecondary success of all students has become a critical national priority. Yet, while many agree on the importance of college success for all, we are a long way from achieving that goal. Today, about 43% of Americans who enroll in college obtain a degree (Horn et al. 2004). For graduates of the Boston Public Schools (BPS), the outlook is more discouraging. The Boston Private Industry Council's (PIC) recently released a study of BPS graduates from the Class of 2000 found that only 35.5% of those who enrolled in college over a seven year time frame had graduated, while another 14% were still enrolled with no degree (Boston Private Industry Council 2008, p. 38).² Knowing initial enrollment and degree completion rates is a critical first step in understanding the college success of BPS graduates. The next step is to learn more about what happens after students begin college by exploring factors contributing to degree advancement.

Over the past three years, the Boston Higher Education Partnership (BHEP) has undertaken two studies investigating what happens during the early college careers of BPS graduates. In 2006, the BHEP completed a study, "From College Access to College Success," examining the transition from high school to college for BPS graduates from the Classes of 2003, 2004, and 2005 who began college full-time in the fall of 2005. This study found many BPS graduates struggling in their first year of college, especially those at two-year colleges. Over two-thirds of graduates attending community colleges took developmental courses and, on average, withdrew from or failed over 30% of all the credits they attempted in the first year.³ In focus groups, students reported difficulties with course work, especially math. The BPS graduates at four-year colleges generally reported feeling better prepared, but even so they withdrew from or failed 25% of the credits they attempted.

The 2006 report raised many questions. Which BPS graduates would persist in college through the second year and how would they perform academically? How many would be on track to graduate within a reasonable time frame? What would happen to those taking developmental classes as they progressed? What variation would be there between types of institutions?

This BHEP study, undertaken with support from the Boston Foundation and TERI, explores these questions through an in-depth look at the first two years of college. It provides insight into what happened to BPS graduates along the route to a college degree and why only 35% complete degrees after seven years. With more than twice as many students in the dataset and a longer time span, this study is able to go beyond overall averages and examine outcomes for student subgroups. By considering various categories of persistence, college selectivity, and indicators of academic preparation prior to college, this research develops a rich and nuanced picture of how BPS graduates were succeeding (or not) during their first two-years of colleges.

The study focuses on academic success in the early college years. The first two years of college are crucial. Unless students are academically successful during this time, earning a degree is difficult and, for many, unobtainable (Adelman 2006). To better understand the first stages of college, the study addresses the following questions: Among BPS graduates who enrolled in the fall of 2005, who was still attending the same college two years later? Of those who persisted, how were they progressing and performing academically? How did the way they persisted (full-time or part-time; continuously or intermittently) affect their academic progress and performance? What difference did the selectivity of the college make in measures of students' academic success? What difference did the individual college make? What role did academic preparation prior to college play? How might contextual factors have influenced the academic success of BPS graduates?

The Study Design⁴

In order to explore these questions, the study examined three types of academic outcomes: persistence (recurrent enrollment); progress (accumulated academic credits); and performance (cumulative grade point average)—and developed measures for each. All three types of outcomes are necessary to earn a degree: a student must persist—enroll in a sufficient number of semesters; progress—earn at least the minimum number of credits required to graduate; and perform—maintain at least the minimum grade point average required for graduation. While students must also fulfill other requirements specific to their institution, for the early college years, these three measures provide a reasonably full picture of students' academic achievements.

Key Types of Academic Outcomes Examined in This Study

Persistence: *Enrollment each semester at the starting college.* This is a measure of how consistently a student attends college (i.e. every semester, intermittently, never enrolls for several semesters), and how intensely (full-time or part-time) over five consecutive semesters.

Progress: *Accumulation of academic credits.* This is a measure of the number of courses a student passes. It is reported using the total number of course credits earned during any of four consecutive semesters.

Performance: *Cumulative grade point average.* This is a measure of how well a student is doing in the courses in which s/he enrolls. It is reported using the average of the grades received in each course in which a student enrolled and received a letter grade during any of four consecutive semesters.

Both quantitative and qualitative data were collected to explore the college persistence, progress, and performance of BPS graduates participating in the study. The quantitative analysis was built on the database of students' college transcripts compiled for the BHEP's first report. The number of colleges and universities providing transcripts increased from 10 to 23 with an accompanying increase in the number of BPS graduates from 465 to 946. Students had graduated from the BPS in 2003, 2004, or 2005 and began college for the first time full-time in the fall of 2005. The transcript data extended through four semesters (Fall 2005 to Spring 2007) and included enrollment information for a fifth (Fall 2007). Participating colleges supplied the data directly to the BHEP, stripped of identifying student information. No data was provided on student transfers. All findings reported are statistically significant to at least the .05 level.

Colleges were divided into four "selectivity groups:" four-year more selective, four-year medium selective, four-year less selective, and two-year colleges. The groups were based on the primary type of degree they conferred (bachelor's or associate's) and, for four-year colleges, the institution's median combined SAT score.

The qualitative data came from several sources, including: 1) individual or group interviews with 24 faculty and staff who worked with BPS graduates as well as other first generation students at colleges or a nonprofit organization; and 2) seven focus groups with recent BPS graduates in their second year of college. These interviews focused on factors that support or hinder the college success of BPS graduates and other first generation college students. The faculty and staff interviews were exploratory in nature and conducted early in the study. The findings were used to conceptualize the study's framework and focus the quantitative analysis. The student focus group protocol, while still open-ended, was designed around the three types of academic outcomes (persistence, progress and performance), and focused on factors leading to student success. In addition, an "institutional profile" encompassing various institutional attributes was developed for each participating college. Information for the profiles was gathered from the colleges' own web sites as well as on-line national databases.

Limitations of the Study

The study has several limitations. The transcripts provide information only from students' early college years (the first five semesters). Thus, there is no information on graduation rates and, at most, we know only whether students were successful (or not) through their second year of college. In addition, the study has data only from the institutions at which students initially enrolled. It is not known if a student transferred to another institution. Thus, some students labeled "non-persisters" at their starting institution may in fact have transferred to another college. Moreover, the quantitative dataset includes only those BPS graduates who began at the institutions participating in the study, and not BPS graduates who transferred to other colleges and universities. As a subset of the population, it is not known how representative it is of the all BPS graduates who began college in 2005.⁵ Finally, the qualitative data must be interpreted with caution because of the very small number of faculty and students interviewed. The people interviewed were not randomly selected, but were identified through the study's college liaisons and there is no way of knowing how representative their views were.

The Non-Academic and Academic Challenges BPS Graduates Face

As we take an in-depth look at whether BPS graduates were succeeding (or not) in college, it is important to consider the context of these young people's lives and the multiple challenges many of them faced. A number of students' lives were more complicated with greater responsibilities than the average 20 year old college student from a middle-income family (Perna and Thomas 2006; Hearn 2006).

The faculty and staff interviewed provided some perspective on these issues, explaining how the mix of financial pressures, complex family situations, and academic responsibilities shaped these students' lives. Faculty and staff reported:

Paying tuition is a struggle. But they have other responsibilities besides going to college. So they end up working to pay tuition, going home to help their family, and then end up sleep deprived and exhausted so they can't do analytical work. Plus they [enter college] already behind academically.

The climate of the university is overwhelming. They're intimidated by that, and they shut down. And they shut down in class, too.

Students needed to work to pay tuition because their families lacked the financial resources to do so. Often, families were unable to secure loans. A college career coach for BPS graduates described the resulting complexities:

Because they can't get loans, they end up having to work to keep up with tuition payments. So then, great, you have less debt, but you are working more and your academics suffer. So it's a cycle. You have bad grades, so you're not going to get into a nursing program and you have some debt, but you're not going to have the earning capacity, because you're not going to be a nurse.

Thus, working many hours during college may hurt some students' progress and performance to the point where their long-term earning potential may suffer.

Some students' families were not only unable to support the student financially, the family depended on the student to help them with both money and time. College faculty and staff had many examples:

One student said she would give her family money if she had it. She had given her grandfather half her pay check... to pay for half of the repair on his truck so he could have his truck back. But most of the time, she didn't have the money [to help out].

A student told me, "Oh, yeah, I couldn't go to class, you know, my grandfather has diabetes, and I had to take him to the hospital."

I have a student who goes home every weekend because... her mother's not able to cope very well. So she goes home and makes dinners ahead for the week, cleans the house, does the laundry, and then comes back to school...

Other families, while they wanted their children to earn a degree, had little understanding of what was required to succeed in college. One faculty person reported:

I've had several students who are the first generation to go to college say, "My parents really, really want me to go to college and they keep telling me it's so important, but they don't really understand what responsibilities and what kind of work load I have to do." So they have that mixed message.

In addition, unexpected events sometimes resulted in students missing many classes or even dropping out. Faculty and staff told many stories about the unpredictability of students' lives:

I had a student who got up at 5:30 in the morning—taking her two kids with her—because she had such a severe toothache, and went to the dental clinic at 6:00 in the morning, and got out of the dental clinic at 2:00 in the afternoon.

I've had at least three students come in saying they've missed a week or two of classes [because] they've been in the hospital.

[Of my students who have dropped out recently,] three left because they couldn't keep the academics up... AND they all had very complicated lives... I had one student leave because her boyfriend was shot...

These challenges—whether predictable or not—took up a substantial amount of students' time and energy in any given week. Students had many more things to juggle than merely deciding when to study for what class.

On top of these non-academic challenges, many students attended high schools that had not prepared them well for college course work. Faculty noted that students lacked critical thinking skills, and a few even had basic skills deficits:

In high school, they were not required to write long papers. They're real shocked when I say to my 101 class, "Write five pages. Five typed pages."

[Most of these] students haven't written a lot... [They have] big gaps in cultural literacy. They can only retell or regurgitate.

They don't know how to understand complicated directions. They don't know how to organize information...

[Some have] big gaps in math, including arithmetic. Some don't know their math facts. They can't do their "3's."

The BPS graduates who had these academic gaps often needed to study harder than their classmates in order to master the skills necessary for college level work.

Family and work responsibilities made it difficult for some students to study effectively. As faculty pointed out, time management under these conditions took on a whole new face:

Of course time management is a problem. But, I think it's much more than that. I think it's all of the issues related to being so fatigued from working... They can't process. There's no memory skill. They're obviously generating language differently because they're so tired.

[Students who work many hours] cannot devote their time to studies. So they stay up until 3:00 or 4:00 in the morning, trying to do the work. And the quality is not representative of what they can really do, when given the time.

In addition to their outside responsibilities and academic challenges, some students had a hard time developing a sense of belonging to their college, in part because the campus culture was different from their home and neighborhood life, making it hard for students to feel "at home" on campus. Staff who worked one-on-one with students shared the following:

They associate food with their home. [Some] don't eat all week. [They tell me] "I only eat when I go home, because I only like my mom's cooking." And sometimes it's a problem because they come in here hungry, and tired...

I've had a lot of conversations with students about "I'm at this prestigious, relatively white institution, and I go back to my neighborhood and it's like, 'Why do you have to go there?'"

In sum, BPS graduates attending college faced many challenges, encompassing multiple financial and family obligations as well as feelings of alienation from the campus environment. Consequently, at times, what appeared to be an academic difficulty may in fact have been a lack of time or energy created by non-academic responsibilities or circumstances.

Key Quantitative Findings

The quantitative analysis of students' academic experiences needs to be understood within the context of their lives. While this study cannot directly connect the analysis of student's academic records to contextual factors, recognizing such factors may help to bring its findings alive and allow the reader to draw more relevant implications from them.

The study's key quantitative findings are:

Finding One

Students who had a more rigorous high school preparation or who attended colleges with higher academic admission requirements were more likely to be academically successful in college. At the same time, there is evidence that the intention to persist in college remained high for less prepared students or those who attended less selective institutions.

Exam school graduates had much higher rates of persistence, progress, and performance than their counterparts who graduated from comprehensive or Pilot high schools. Seventy-one percent of exam school graduates continuously enrolled full-time over five semesters compared to 41% of non-exam school graduates. Of these students who continuously enrolled full-time, 64% of exam school graduates were earning credits at a rate that put them on track to graduate in 100% (four/two years) of expected program time compared to 34% of non-exam school graduates.

Students who attended more or medium selective four-year colleges were more likely to persist and to do so full-time every semester than students attending colleges with less stringent admission requirements. Students at four-year more selective colleges were almost four times more likely to continuously enroll full-time than those at two-year colleges.

Differences between college selectivity groups were smaller when applying a broad definition of persistence that included part-time students who continuously enrolled and those who enrolled intermittently. In particular, applying this broad definition of persistence resulted in two-year colleges' persistence rate increasing threefold and

the gap between two-year colleges and four-year more selective colleges being cut in half.

Finding Two

How a student chose to persist at college—continuously or intermittently; full-time or part-time—made a difference in their academic success no matter what type of college they attended.

Consistent persistence was critical to students' academic progress and performance:

Students who continuously enrolled and were always full-time were particularly likely to be performing and persisting at satisfactory rates, regardless of which type of college they attended. For example, two-year college students who enrolled full-time every semester were almost twice as likely to have reached satisfactory achievement levels as students at more selective colleges who had "stopped out" (temporarily withdrew from college).

Students who continuously enrolled but did so occasionally part-time, while not doing as well as their full-time counterparts, had higher levels of academic achievement than those who stopped out. For instance, students who enrolled intermittently at more selective colleges were three times more likely to have low GPAs than students at two-year colleges who enrolled every semester but were sometimes part-time.

Finding Three

Institutional characteristics, policies, or practices seemed to have influenced students' academic success.

Within each college selectivity group, there were substantial differences between colleges on most measures of academic success. Every selectivity group included one or two colleges where students did far better on almost every measure of success than students at other institutions in that group. Most strikingly there was one four-year less selective college and one two-year college where students' rates of progress and performance were at least equal to the average rates at medium selective schools. Moreover, each college selectivity group usually had one or two colleges whose students

did far worse on almost every measure than other institutions in that group. These findings suggest that what happened during college, once a student enrolled in a particular college, may have played a major role in a student's academic success or failure.

Finding Four

There were two findings with unclear implications:

When students who persisted did not reach a satisfactory level of academic achievement, it was more likely to be associated with earning insufficient credits than with low grades. Students were much more likely to be behind in credit accumulation than to have a grade point average below graduation requirements. The difference between students at four-year less selective and two-year colleges on these measures implied that variation in institutional policies and practices may influence the rate at which students accumulate credits.

For students at colleges with less stringent admission requirements, enrollment in developmental courses was not strongly associated with lower rates of persistence or academic achievement.

At four-year less selective and two-year colleges, students who enrolled in at least one developmental course and those who never enrolled in such a course were equally likely to be continuously enrolled. Moreover, of those who continuously enrolled full-time at four-year less selective colleges, both developmental and non-developmental students were equally likely to have reached satisfactory academic achievement (defined as accumulating sufficient credits and earning a satisfactory GPA). At two-year colleges, for continuously enrolled full-time students, developmental status did not affect the likelihood of earning a high GPA.

Issues Raised by Quantitative Findings

These findings raise a number of issues about the patterns of academic success among BPS graduates. The qualitative data and national research, while not offering definitive answers, can shed some light on these issues. Throughout the report, these topics are addressed by posing questions raised by the quantitative findings and offering speculative answers. Topics

discussed include: variation in enrollment patterns; academic momentum and excessive withdrawal; differences between college selectivity groups; and others.

Report Outline

After a brief overview of the national research on college student success, the remainder of the report discusses the quantitative findings in detail and the questions they raise. Chapter 2 briefly reviews the research literature in order to place the report's findings and recommendations in a national context. Chapter 3 presents a summary of students' demographic characteristics, academic preparation prior to college, and initial enrollment by college selectivity group. Chapter 4 takes an in-depth look at persistence, dividing students into categories depending on their enrollment patterns. Chapter 5 looks at students' progress (rate of credit accumulation) and performance (grade point average) in each of the persistence categories (continuously enrolled full-time, continuously enrolled part-time, intermittently enrolled and non-persisters). In addition, each persistence category is broken into college selectivity groups to examine the relationship between college selectivity and levels of progress and performance. Chapter 6 examines variation in academic outcomes between individual colleges within college selectivity group. Chapter 7 looks at differences in academic preparation prior to college (exam and non-exam graduates and non-developmental versus developmental course takers). Chapter 8 reviews the qualitative findings, especially from the student focus groups, and discusses factors leading to student success. The concluding chapter offers recommendations for institutional action and further research.

CHAPTER TWO

Overview of Research on College Student Success

What are the conditions that lead to postsecondary degree completion for students in the United States—generally and particularly for first generation or low-income students? This chapter addresses this question by reviewing current research on college retention and degree completion. It is not meant as a comprehensive literature review but rather aims to situate the report's findings and recommendations for BPS graduates in a national context. After a brief note on rates of degree completion, the chapter divides the research into four topic areas, though the issues interrelate and overlap. These are: 1) intermediate academic outcomes; 2) academic engagement; 3) student contextual factors (financial, work, family, campus climate); and 4) institutional contextual factors (characteristics, policies, and practices).

Postsecondary Degree Completion

College success here is defined as completion of a postsecondary degree. College completion rates in the US as a whole are low. Only 43% of students who start college complete a degree within five years (Horn et al. 2004).⁶ Students whose parents did not go to college or who are low-income have even lower degree completion rates, especially when compared those with more educational and financial resources. Of students who enrolled in postsecondary education between 1992 and 2000, only a quarter of first generation students earned a bachelor's degree compared to two-thirds of students whose parents had completed at least a bachelor's degree. Forty-three percent (43%) of first generation students left college without any degree compared to just 20% of second generation students (Chen 2005: 6).⁷ The pattern is similar for students from low-income backgrounds compared to those from middle or high incomes (Horn et al. 2004).

Intermediate Academic Outcomes: Which Outcomes Predict Degree Completion?

By delving into the details of high school and college transcripts to examine intermediate academic outcomes, transcript analysis provides evidence about which patterns of persistence, progress, and performance increase (or decrease) the chances of students earning a degree. The transcript analysis for this study drew heavily on the work of Adelman (2006). Analyzing a national sample of high school and college transcripts, Adelman provides a narrative about “academic momentum” by examining which intermediate academic outcomes predict college degree completion.⁸ The relevant findings include:

1. Academic outcomes at the pre-collegiate level:

- a. **Completing a rigorous high school curriculum** is the most important pre-collegiate factor that increases a student's chances of postsecondary degree completion (Adelman 2006, p. 26-27). Mathematics, in particular, is critical, with completion of Algebra II or above raising the chances of degree completion (p. 30).

2. Academic outcomes at the postsecondary level:

- a. **Continuous enrollment is key.** “...[W]ith sixteen other variables in play, continuous enrollment increases the probability of degree completion by 43%” (p. 74).
- b. **Part-time status** (enrolling for less than 12 credits during any semester) reduces the probability of degree completion by about a third (p. 67; see also King 2002).
- c. **Excessive withdrawal** (withdrawing from or repeating 20 percent or more of one's courses) decreases the probability of earning a bachelor's degree by nearly half (p. 74).

- d. **Poor credit accumulation in the first year** (earning less than 20 credits in the first 12 months) diminishes the chances of completing a degree by about a third (p. 48).
- e. **Enrolling in a developmental course**, once other factors are taken into account, does not deter degree completion (p. 49).
- f. **Completing key academic or “gateway” courses** increases the chances of degree completion. For example, students who earn credits for an American Literature course are six times more likely to complete a degree than those who do not. Students completing general chemistry are four times more likely to earn a degree. Those completing pre-calculus, introductory economics, introductory philosophy or world civilization are three times more likely (p. 59).

The above patterns of persistence, progress and performance matter for all students, no matter what their demographic characteristics. However, first generation and low-income students are more likely to follow the patterns that decrease the chances of degree completion and less likely to follow patterns that increase it. In particular, lack of rigorous high school preparation accounts for much of low-income students’ low rate of degree completion (Adelman 2007; Cabrera et al. 2005; Ishitani 2006; Roderick et al. 2006). In addition, first generation students are more likely to attend school part-time (Nunez and Cuccaro-Alamin 1998). First generation students’ lower degree complete rates are also related to completing fewer credits, earning lower grades, withdrawing from or repeating more classes, and taking fewer academic (gateway) courses (Chen 2005). It is important to remember that these factors do not play out in the same way for all low-income or first generation students. Each student’s chances of success depend on how the above conditions unfold in his or her own particular life (Ishitani 2006).

Academic Engagement: Which Academic Behaviors and Attitudes Lead to Academic Success?

Transcript analysis provides us with much information about how academic outcomes of each successive semester build upon one another to ultimately result in degree completion—or not. But it does not provide insights into what students actually do to achieve those academic outcomes. Survey research on students’ academic engagement looks at which behaviors and attitudes within the campus context increase student success.⁹

Student engagement is defined as the extent to which a student takes part in educationally effective practices. Educationally effective practices include: interacting with faculty; cooperating with peers on academic tasks; participating in active learning such as group projects; spending time on tasks (for examples, studying); having high expectations for their achievement; and interacting with faculty and other students who respect diverse talents and ways of learning. The more time and effort a student puts into these educationally effective practices, the more engaged a student is said to be (Kuh et al. 2006, p. 31).

The relationship between engagement and desired college outcomes is well documented. Academic engagement increases the likelihood that a student will persist, earn high grades, and ultimately graduate (Kuh et al. 2006; Tinto and Pusser 2006; Kuh et al. 2007; Pascarella et al. 2004). First generation students, in particular, tend to have higher levels of academic achievement when they are more academically engaged (Pascarella et al. 2004; Lundberg et al. 2004) as do Black and Hispanic students (Fisher 2007) as well as under-prepared students (Cruce et al. 2006).

While first generation students benefit from high levels of engagement, overall they have lower levels of engagement than students whose parents went to college (Lundberg et al. 2004; Pike and Kuh 2005; Pascarella et al. 2004; Nunez and Cuccaro-Alamin 1998). The differences in engagement between first generation and other students are particularly large at public two-year colleges, where 40% of first generation students report low levels of academic engagement compared to 29% of others (Nunez and Cuccaro-Alamin 1998, p. 30). Part-time students also have low levels of engagement (Kuh et al. 2006; CCSSE 2008). Among part-time students at

community colleges, only 15% say they discussed ideas about classes, grades, or assignments with instructors outside class often, while 47% never had such conversations (CCSSE 2008).

Contextual Factors: Which Non-Academic Conditions Are Associated with Academic Engagement?

Students' levels of academic success and engagement are influenced by multiple contexts, many of which are unrelated to the classroom (Perna and Thomas 2006). Research has shown that the following non-academic conditions are associated with levels of academic engagement:

Having too few financial resources. Difficulty paying for college is common among students from a variety of family backgrounds; but for low-income students, it is particularly striking. Middle-income students average \$994 in unmet needs while low-income students average \$3556 (King 2002, p. 19). Depending on the type of institutions students attend, 74% - 92% of low-income students say they have unmet needs compared to 36% - 65% of middle-income students (Choy and Berker 2003, p. 39). In an attempt to fill this financial gap, students may commute, work many hours, or borrow. Commuting and working long hours are associated with lower levels of engagement, while borrowing is associated with higher levels of retention. Low-income students are more likely to commute or work than to borrow (King 2002, p. 20). One reason for this is that their families are often misinformed about financial aid (Vargas 2004).

Living on campus substantially increases student engagement. Residing on campus appears to have the same kind of powerful effect on academic engagement and outcomes as continuous enrollment (Kuh et al. 2006; King 2002). First generation students are more likely to live off campus or at home and this appears to be a primary reason for their low levels of engagement (Pike and Kuh 2005, p. 290; IHEP 2001). For example, a study of low-income students in New England found that students who lived off campus were less likely to meet with their advisor on a regular basis or participate in clubs or community service (IHEP 2001).

As discussed above, it seems likely that students' decisions to commute is a financial one (Saenz et al. 2007; Higher Education Research Institute 2007).

Working too many hours decreases student engagement; while working fewer hours on campus or at a career-related job increases it.

Students who work over 20 hours a week are much more likely to report that working negatively impacts their grades (Choy and Berker 2003), academic progress (Furr 2000), or interactions with faculty and peers (Lundberg 2004). Working 15 or fewer hours per week, on the other hand, enhances a student's educational experiences, especially if the employment is on campus or related to the student's field of study or career goals (Perna et al. 2006, p. 38).

Low-income students' employment patterns seem to lead to low-levels of engagement. While low-income students are no more likely to hold a job than other students (about three quarters of all students work), they tend to work more hours—averaging over 25 hours a week—and work off campus (Perna et al. 2006, see also Pascarella et al. 2004). Both of these conditions are associated with low levels of engagement.

Knowing the benefits of educationally purposeful activities and how to engage in them increases academic engagement.

Research suggests that many first generation students may be less engaged because they are unaware of the importance of engagement or are uncertain of how to become involved in these activities (Kuh et al. 2006; Rendon 2006; Vargas 2004). Students whose parents have gone to college often learn about the importance of engagement and ways to become involved through their parents. First generation students' parents, who by definition lack a college experiences, are typically unable to provide this advice (Vargas 2004). Some first generation students rely on their older sibling (Ceja 2006) or peers (Dennis et al. 2005), but not all are able to do so.

Having a sense of belonging to the campus community allows for more academic engagement.

For students to become engaged and take advantage of institution resources for learning and personal development, they must not only know how to access them, they must also feel they are invited to do so (Kuh et al. 2006, p. 14). In other words, in order

to be fully engaged, students must feel welcome as full members of their campus community, rather than alienated from it. First generation, low-income and minority students often have a hard time developing a sense of belonging to their campus community (Rendon 2006; Tinto and Pusser 2006). They may find it difficult to fit into an institution where the values, traditions, and conventions are in stark contrast to those of their families and home communities (Rendon 2006, p. 9; Kuh et al. 2006, p. 14-15). When students' energy is directed at coming to terms with cultural and social conflicts, they have less time and energy to engage in effective educational practices.

Receiving family encouragement may increase academic motivation and engagement. There is some evidence that family encouragement is an important predictor of college persistence (Hossler et al. 2008). Currently, close to the same percentage first and second generation college students report that parental encouragement is an important reason they went to college (47% and 43% respectively) (Saenz et al. 2007). However, while low-income parents encourage their children to go to college and want them to graduate, they often lack the specific knowledge about what it takes to succeed in college (Rowan et al. 2008; Vargas 2004).

The above conditions play out differently in students' lives depending on their particular circumstances. Students who are able to live on campus and work less than 20 hours a week do not only have more time to study and interact with faculty, they also are able to develop a sense of belonging to their college and learn how educational activities can lead to success. Students who live off campus, work many hours, and have daily family responsibilities, simply have little time to become engaged, even if they know how to engage academically and desire to do so.

Institutional Context: What High School and College Conditions Support Student Engagement and Success?

So far, this chapter has considered academic success and engagement from the students' point of view and looked at what conditions support or deter their success. This section considers academic engagement and success from the institutional point of view, and reviews what is known about how institutions shape student engagement and success.

High Schools

High schools play a key role in college student success. As noted above, completion of a rigorous high school curriculum greatly enhances students' chances of success. In addition, high schools are in a position to provide information about the college admissions process, financial aid, and college academic expectations. Because first generation parents lack specific knowledge about the college going process, they tend to rely on their children's high school to be the primary provider of this information (Rowan-Kenyon et al. 2008; Vargas 2004). However, low-income and first generation students often attend "low resourced" high schools with curricula that do little to prepare them for college-level courses and which lack the capacity to offer adequate assistance with college selection and admission (Venezia et al. 2003; Vargas 2004).

Postsecondary Institutions

Characteristics, policies and practices of postsecondary institutions tend to be associated with levels of student engagement and success. Researchers have found that institutions with higher than expected student engagement or degree completion have many conditions in common (Kuh et al. 2005; Maraskin and Lee 2004; and Engle and O'Brien 2007).

It is important to note that there are some institutional characteristics associated with levels of student engagement and graduation rates that colleges can do little about. Two-year colleges and less selective colleges tend to have lower levels of engagement and graduation in part because they enroll students who tend to have fewer academic, financial, and social resources. Moreover, even among the same types of colleges, there are

institutional characteristics that are hard to change. In a study of small colleges serving high percentages of low-income students, the colleges with higher graduation rates tended to be geographically isolated with homogenous student bodies and high rates of residential students. Compared to similar colleges with low graduation rates, these high performing colleges also had more resources to spend on students' education and so had more full-time faculty, lower student/faculty ratios, and some graduate offerings (Maraskin and Lee 2004).

Nevertheless, there are many conditions associated with high rates of engagement and success that college personnel can control. The policies and practices listed below are organized around four conditions of student success (Engle and O'Brien 2007) and have been associated with higher than expected levels of academic engagement and degree completion.

1. A personalized education experience

- a.* Structured experiences for all students that welcome them as community members and provide them with information they need to be effective students (Kuh et al. 2005).
- b.* Designated faculty or staff members as "first responders" to students' needs (Engle and O'Brien 2007).
- c.* Special programs for at-risk student populations including summer bridge programs (Engle and O'Brien 2007; Maraskin and Lee 2004).
- d.* Early warning and advising systems (Engle and O'Brien 2007).
- e.* Frequent contact with faculty (Hearn 2006).

2. A commitment to student learning or undergraduate education

- a.* Common use of engaging pedagogies that provide opportunities for students to practice what they are learning in the classroom, develop leadership skills, and work with people from different backgrounds (Kuh et al. 2005).
- b.* Integrated support systems that include academic (developmental courses, tutoring, study groups, supplemental education); social (counseling, mentoring, ethnic student centers); and financial (including work/study) support (Tinto and Pusser 2006).

- c.* Especially for commuting and part-time students, engaging pedagogies and support systems that are integrated into the classroom experience such as small learning communities (Tinto and Pusser 2006).
- d.* Frequent feedback, including entry assessment and classroom assessment techniques (Tinto and Pusser 2006).
- e.* Comprehensive first-year programs (Engle and O'Brien 2007; Hearn 2006).
- f.* Efforts to improve instruction in 'gate-keeping' introductory courses (Engle and O'Brien 2007).

3. A sense of shared community

- a.* High expectations for all students, including students of color and low-income students (Tinto and Pusser 2006).
- b.* Respect for diversity (including race/ethnicity/cultures, talents and abilities, ways of knowing and learning) (Hearn 2006).
- c.* Maintaining gathering places for learning for all types of students (Kuh et al. 2005).
- d.* For commuter students, and especially part-time commuting students, efforts to develop learning communities based in the classroom (Tinto 2004; Tinto and Pusser 2006).

4. An institutional culture that promotes success

- a.* Shared leadership that is distributed among administrators, faculty members, and student affairs staff (Kuh et al. 2005).
- b.* A central person, office or committee that coordinates undergraduate education or retention activities (Engle and O'Brien 2007).
- c.* An emphasis on using data about retention (Engle and O'Brien 2007; Maraskin and Lee 2004).
- d.* Strategic use of resources—for example, when resources are scarce, small amounts of money are made available to support activities consistent with the institution's mission and goals, such as developing outcome assessments, obtaining books and materials, or providing small emergency loans to students in need (Kuh et al. 2005).

This research provides a context for analyzing and understanding the college experiences of BPS graduates, many of whom are first generation students from low-income families or students of color. Such students are less likely to complete degrees or to reach critical early college success indicators. Their low levels of achievement are related to inadequate high school preparation and lower levels of engagement in college. The lower levels of engagement are in part a result of contextual factors related to students' lives outside of college. In addition, first generation and low-income students may be unfamiliar with campus norms and expectations or feel alienated from the campus community. Finally, there are many institutional policies and practices that research has found encourage student engagement and success in a variety of higher education settings.

This report's analysis of BPS graduates' patterns of persistence, progress, and performance uses the intermediate academic outcomes research. The concluding chapter draws on this chapter in its recommendations for high schools, colleges and other organizations that serve BPS graduates.

CHAPTER THREE

Description of Boston Public School Graduates at Initial College Enrollment

This chapter provides summary information on the background and college enrollment of the 946 BPS graduates in the sample. All students enrolled full-time for the first time at a college in the fall of 2005 and had graduated from the BPS in 2003, 2004, or 2005. Eighty-four percent (793 of 946) graduated from BPS in 2005; 5% (51 of 946) in 2004; and 1% in 2003 (13 of 946). For 9% (89 of 946) of students, colleges did not supply the specific year of graduation.

College Selectivity Groups

The participating institutions were sorted into four “selectivity” groups: four-year more selective, four-year medium selective, four-year less selective, and two-year colleges. The groups of four-year colleges and universities were created using the institutions’ overall median combined SAT scores as a way to crudely address selectivity effects (i.e., more selective colleges only accepted better prepared students). Each group had at least one public and one private institution.

Thirty-six percent of the students in the study sample (341 students) enrolled in institutions classified for this study as four-year more selective colleges and universities. There were six institutions in this group with the number of students at each college ranging from four to 144. Twenty-two percent of the students (203 students) enrolled in institutions classified as four-year medium selective colleges/universities. There were eight colleges in this group with initial enrollment from three to 107 students. Eighteen percent of the students (178 students) enrolled in less selective institutions of which there were five. Enrollment at individual colleges ranged from 11 to 68. Twenty-four percent of the students were attending two-year colleges (224). There were four institutions in this group with initial enrollment ranging from 22 to 106 (**Table 1**).

The sample size in each selectivity group was sufficient to compare results within each group and among

TABLE 1:

College Selectivity

Four-Year More Selective	36%	(341 of 946)
Four-Year Medium Selective	21%	(203 of 946)
Four-Year Less Selective	19%	(178 of 946)
Two-Year	24%	(224 of 946)

groups. However, it is not known what percent of the total population of BPS graduates starting college full time in the fall of 2005 were in each selectivity group. So it is important to be cautious about drawing conclusions about all BPS graduates from results based on this sample.¹⁰

Demographics: Race and Gender

Fifty-nine percent of the students were female and 41% were male (**Table 3**). Thirty-two percent were African American, 20% Hispanic, 20% Asian, 19% white, and 9% other or unknown. (**Table 2**). In this sample, Asians were the most likely to be enrolled in more- or medium-selective colleges—86% of Asian students enrolled in these types of colleges compared to 67% of white, 42% of Latino, and 41% of African American students. Conversely, African American and Latino students were more likely to enroll in less selective and two-year colleges—58% of each group (**Table 4**).

TABLE 2:

Race

African American	32%	(302 of 946)
Latino	20%	(187 of 946)
Asian	20%	(193 of 946)
White	19%	(177 of 946)
Other	9%	(87 of 946)

TABLE 3:

Gender

Female	59%	(559 of 946)
Male	41%	(387 of 946)

TABLE 4:

College Selectivity and Race

College Selectivity Category	African American		Latino		Asian		White		Other		Total	
	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.
Four-Year More Selective	28%	86	20%	38	52%	100	47%	83	39%	34	36%	341
Four-Year Medium Selective	13%	39	22%	42	34%	66	20%	35	24%	21	21%	203
Four-Year Less Selective	27%	82	26%	48	4%	7	14%	24	20%	17	19%	178
Two-Year	31%	95	32%	59	10%	20	20%	35	17%	15	24%	224
Total	100%	302	100%	187	100%	193	100%	177	100%	87	100%	946

TABLE 5:

Exam School Graduates

Exam	41%	(384 of 946)
Non-Exam	59%	(562 of 946)

TABLE 6:

College Selectivity and Exam School Status

College Selectivity Category	Exam Graduates		Non-Exam Graduates		Total	
	%	No.	%	No.	%	No.
Four-Year More Selective	70%	238	30%	103	100%	341
Four-Year Medium Selective	46%	94	54%	109	100%	203
Four-Year Less Selective	14%	25	86%	153	100%	178
Two-Year	12%	27	88%	197	100%	224
Full Dataset	41%	384	59%	562	100%	946

TABLE 7:

Combined SAT Scores (Four-year colleges only)

SAT 1000 or more	52%	(359 of 690)
SAT less than 1000	48%	(331 of 690)

TABLE 8:
College Selectivity and SAT Status

College Selectivity Group	Combined SAT 1000 or more		Combined SAT less than 1000		Total	
	%	No.	%	No.	%	No.
Four-Year More Selective	76%	255	24%	82	100%	337
Four-Year Medium Selective	45%	89	56%	111	100%	200
Four-Year Less Selective	10%	15	90%	138	100%	153
Total	52%	359	48%	331	100%	690

TABLE 9:
College Selectivity and Median SAT Scores

College Selectivity Group	Median SAT for BPS graduates	Range of Median SAT between colleges
Four-Year More Selective	1130	985 -1230
Four-Year Medium Selective	960	910-1120
Four-Year Less Selective	780	750-840

Exam School Status

Overall, 59% of the students in the sample graduated from non-exam (comprehensive or Pilot) schools, and 41% graduated from one of Boston’s three exam schools (Table 5). By comparison, 74% of all 2005 BPS graduates attended non-exam schools and 26% attended exam schools. Virtually all exam school students went to college, while a significant number of non-exam school graduates did not (PIC 2007). As expected, the percent of exam school graduates in each group decreased as college selectivity decreased. In the four-year more selective category, 70% (238 of 341) of the BPS graduates who initially enrolled came from exam high schools; in the medium selective, 46% (94 of 203) did so; in the less selective, 14% (25 of 178) and at two-year colleges, 12% (27 of 224) (Table 6).

SAT Scores

Student transcripts included SAT scores for those attending four-year colleges but not two-year colleges.¹¹ Fifty-two percent (52%) had combined math and verbal SAT scores of 1000 or above and 48% had scores below

1000.¹² Eighty percent (80%) of the exam school students compared with 20% of the non-exam school students had SAT scores 1000 or above. In the college selectivity groups, 76% of the students attended more selective institutions and had SATs 1000 or above compared to 45% of the students at medium selective and 10% of the students at less selective colleges (Tables 7 and 8).

The median SAT scores of BPS graduates took predictable steps downward with each selectivity category. The median combined score was 1130 for more selective, 960 for medium selective, and 780 for less selective colleges. Within selectivity groups, median scores for BPS graduates varied considerably by institution, especially for more and medium selective colleges. At more selective colleges, the BPS median SAT score at individual institutions ranged from 985 to 1230; at medium selective colleges, the range was 910 to 1120. Less selective institutions had a smaller range between individual colleges with a low of 750 and a high of 840 (Table 9).

There is much overlap between four-year college students who graduated from exam schools and those with combined SAT scores over 1000. Conversely, there were so few non-exam school graduates with SAT scores

over 1000 and so few exam school graduates with SAT scores under 1000. For this reason, the study does not offer further analysis using SAT scores.

Developmental Course Enrollment

A developmental course (also referred to as a remedial course) is defined as a course for which students receive college credits, but the credits do not count toward a degree. Developmental courses are designed to help students acquire the academic skills necessary to succeed in regular college courses. Colleges usually assign students to developmental courses based on placement tests they administer. Among private institutions, each college decides which placement tests to use, the cut-off scores for placement, and whether enrollment in developmental courses is mandatory. The Massachusetts Department of Higher Education has set consistent standards for all public institutions. Most of the more selective and some of the medium selective institutions in this study did not offer developmental courses.

Consequently, drawing conclusions based on differences between developmental and non-developmental students must be done with caution. Whether or not students took developmental courses depended in part on the policies of the college they attended as well as their academic skills.

In this study, a “developmental” student refers to a student who enrolled in at least one developmental course during any semester from fall 2005 to fall 2007. A “non-developmental” student never enrolled in a developmental course during this time period.

Overall, 30% of the students in this study had enrolled in one or more developmental courses during their first two years of college and so met the study’s definition as a developmental student. Seventy percent (156 of 224) of two-year college students took at least one developmental course, while 44% (79 of 178) of students at less selective institutions did so. This compares to 18% (36 of 203) for students at medium selective and only 3% (10 of 341) of students at more selective institutions (Tables 10 and 11).

TABLE 10:

Developmental Status

Non-Developmental	70%	(665 of 946)
Developmental	30%	(281 of 965)

TABLE 11:

College Selectivity and Developmental Status

College Selectivity Category	Non-Developmental		Developmental		Total	
	%	No.	%	No.	%	No.
Four-Year More Selective	97%	331	3%	10	100%	341
Four-Year Medium Selective	82%	167	18%	36	100%	203
Four-Year Less Selective	56%	99	44%	79	100%	178
Two-Year	30%	68	70%	156	100%	224
Full Dataset	70%	665	30%	281	100%	946

CHAPTER FOUR

The College Persistence of Boston Public School Graduates

As discussed previously, doing well in college was far from the only responsibility that many BPS graduates had while they attended college. While it is beyond the scope of this study to assess the impact of such challenges on student achievement, this analysis attempts to take them into account by using a nuanced approach to college persistence.

The study examined college persistence by looking at student enrollment over five semesters, for every semester, and on a full-time or part-time basis. Patterns of persistence and non-persistence were divided into the following categories:

Persistence

Continuously Enrolled Always Full-Time: Student enrolled at the starting institution for five consecutive semesters who attempted at least 12 credits *every* semester.

Continuously Enrolled Ever Part-Time: Student enrolled at the starting institution for five consecutive semesters who attempted less than 12 credits during *at least* one semester. In other words, though they started full-time, between the second and fifth semester, these students would have enrolled part-time at least once and potentially up to four times.

Intermittently Enrolled: Student enrolled at the starting institution for at least one semester after the first year but did *not* enroll in every semester between Fall 2005 and Fall 2007. Student could enroll either full- or part-time. “Stopped out” is another term used to refer to this enrollment pattern.

Non-Persisters (at starting institution, transfer status is unknown):

Enrolled first year only: Student enrolled for the first two semesters (either full-time or part-time in the second semester) but did not enroll at the starting institution after the first year.

Enrolled first semester only: Student never enrolled at the starting institution after the first semester.

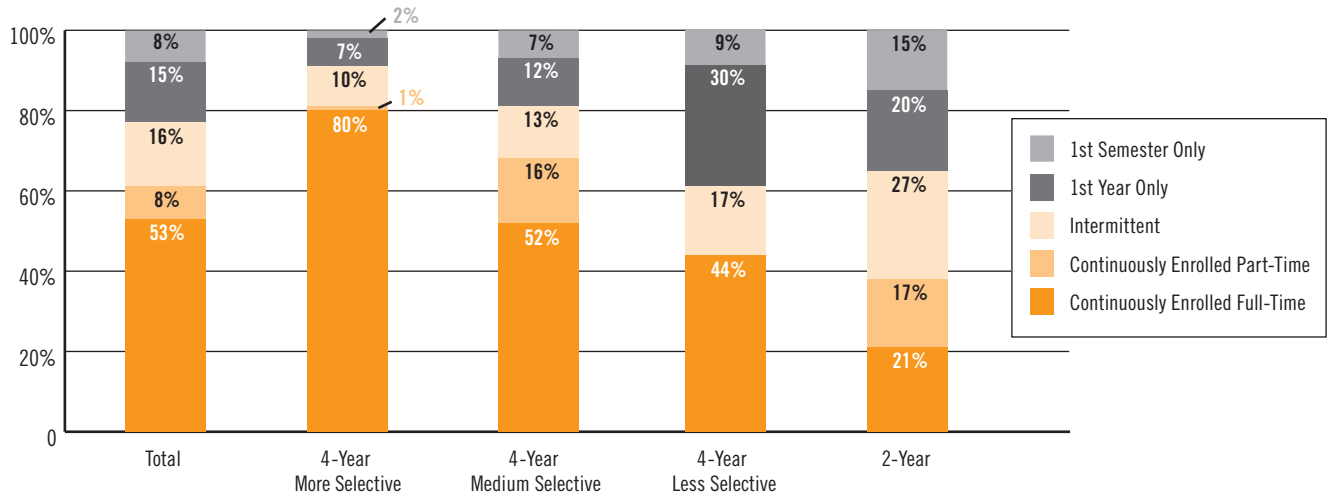
Identifying students who continuously enrolled full-time made it possible to examine those students who were able to invest substantial effort into making progress towards a degree. Looking at persistence beyond full-time continuous enrollment provided the opportunity to examine students who demonstrated intentions to persist in college, even while they could not pursue full-time studies.

The rest of this chapter examines each enrollment pattern separately and discusses differences between college selectivity groups. In addition, results are considered for overall persistence, meaning the combination of the three persistence categories.

Continuously Enrolled Always Full-Time

Overall, just over half (53%) of BPS students in this study continuously enrolled full-time at the same institution at which they started. However, there were marked differences between selectivity groups, with 80% of the students at more selective colleges continuously enrolled full-time compared to 52% of students at medium selective, 44% at less selective, and only 21% at two-year colleges (**Chart 1**). Thus, students attending more selective four-year colleges were four times more likely to persist full-time without “stopping out” than students attending two-year colleges, which have open admissions policies.

CHART 1
Persistence Categories by College Selectivity Group



Continuously Enrolled Ever Part-Time

Only 15% (203 of 946) of all students in the study, regardless of their persistence category, ever enrolled part-time (attempted less than 12 credits).¹³ Students who enrolled part-time for one or more semesters were nearly all attending medium selective or two-year colleges. In the medium selective category, 23% (77 of 203) of the students ever enrolled part-time with the majority attending one institution, while at two-year colleges, 39% (88 of 204) did so. At the more selective colleges, only six students ever enrolled part-time and at less selective colleges, only two students did so.

Only eight percent of the total sample continuously enrolled but did so occasionally part-time. Again, only the medium selective and two-year institutions had sizeable numbers of students in this category. Sixteen percent of the students at medium selective colleges and 17% of all two-year college students continuously enrolled part-time (Chart 1).

Intermittently Enrolled

Just as not all students who persisted every semester always enrolled full-time, some students attended college intermittently, that is, enrolling either full-time or part-time some semesters while not enrolling at all other semesters. Students who follow this pattern of enrollment are sometimes said to have stopped out.

This intermittent enrollment pattern suggests that such students had the intention to persist in college even while they were unable to do so consistently.¹⁴ In particular, two-year college students were likely to occasionally stop out. Twenty-eight percent of the students at two-year colleges followed this pattern, compared to 17% of students at less selective institutions, 13% at medium selective, and 10% at more selective institutions (Chart 1).

Overall Persistence

Combining the three persistence categories produced a more positive picture of persistence than merely considering continuously full-time enrollment rates. With this broad notion of persistence, differences among selectivity categories decreased. The increase for two-year colleges was especially marked. While only 21% of two-year college students continuously enrolled full-time, 65% persisted in some way at the institution at which they started. Similarly, 61% of students at four-year less selective colleges persisted in some way, compared to 44% who continuously enrolled full-time. The persistence rate for students at medium selective institutions increased to 81%, just 10 points lower than the rate at more selective colleges (orange-shaded areas on Chart 1).

What are the implications of the large numbers of students at two-year and less selective colleges who enrolled at least occasionally part-time, but did so continuously or who enrolled intermittently?

Because these students were still attending college in some way two years after initially enrolling full-time, it seems likely that many still had aspirations to complete a college degree. Furthermore, since these students continued to enroll at the same institution where they began their higher education, it appears they had made some kind of positive connection with that institution. As we will see in the next chapter, however, the academic achievement of continuously enrolled part-time or intermittent students was below those who continuously enrolled full-time. Given these findings, it is important to learn more about the college experiences of part-time and intermittent students. Why did they decide to enroll part-time or to “stop out” for a semester or two? Why have they kept coming back to the same college? What challenges have they faced during college? In what ways did part-time or intermittent enrollment increase or decrease their academic performance? What more could be done to improve the academic progress and performance of these students?

Non-persistence

Non-persistence was defined as never enrolling *at the starting institution* after the first semester or first year. As noted earlier, some of these students may have transferred to another institution or would return to the starting institution at a later time. This study, however, was not able to gather information either on student transfer or students who returned after the fifth semester. In the next chapter, the academic achievement of non-persisters is examined in order to get a sense of the number of students who, based on their college transcripts, might have had the opportunity to transfer or return.

Twenty-three percent of the students studied did not persist at their starting institution after their first year, with less selective and two-year colleges having the highest non-persistence rates. Thirty-nine percent of the students at less selective and 35% at two-year institutions fell into this category. The medium and more selective colleges had far fewer students who did not persist—19% and 9%, respectively (Chart 1).¹⁵

While four-year less selective and two-year colleges had similar rates of persistence, the patterns of non-persistence differed. Compared to two-year college students, students at less selective four-year institutions were more likely to continue for a full year and then never return rather than stop after only one semester. Of all students at less selective colleges, 30% only enrolled for the first two semesters and just nine percent (9%) only for the first semester. By contrast, 20% of two-year college students enrolled for the first two semesters only and 15% for the first semester only (Chart 1).

Conclusion

In sum, BPS graduates who attended colleges with higher academic admission requirements were more likely to persist and much more likely to do so full-time every semester than students attending colleges with less stringent admission requirements. However, differences between college selectivity groups were smaller when applying a broad definition of persistence that included part-time students who continuously enrolled and those who stopped out. In particular, two-year college students who persisted were likely to do so at least occasionally part-time or intermittently. Consequently, applying this broad definition of persistence meant that two-year colleges’ persistence rate increased threefold and the gap between two-year colleges and four-year more selective colleges was cut in half.

These results hint at the substantial differences among the study’s participating colleges and students, and the complexities of the lives of BPS graduates. The next chapter delves deeper in factors shaping students’ college success by looking at how persistence patterns affect the rate at which students progress (accumulate credits at a sufficient rate) and perform (earn a satisfactory GPA).

Of the students who did not persist beyond the first year, why were students at four-year less selective schools more likely to persist for two semesters than students at two-year colleges?

It is possible that the environment at four-year less selective colleges makes it more conducive for students to persist through two semesters. All of the less selective colleges gave students the option to live on campus, and most had at least half of their students doing so. None of the two-year colleges had residence halls. Much research has shown that living off campus is associated with lower levels of academic engagement. In addition, the environment at less selective colleges may have been more conducive to commitment in part because most students at these institutions are full-time traditional age college students who expected to attend college full-time for four or five consecutive years. At the two-year colleges, on other hand, the majority of students are part-time or older returning adults and stopping out was a common practice. (See Tables 12 and 13 for residential nature of college and support services offered.)

CHAPTER FIVE

The Progress and Performance of Boston Public School Graduates in College

Students do not earn college degrees by merely persisting; they must also progress and perform at sufficient levels. When college success is defined as a college degree, it is necessary to look not merely at whether students enroll in any given semester, but also how many credits they earn each semester (progress) and the grades they receive for those courses (performance).

The intensity at which students persist (or not) in college influences the likelihood of them earning a degree (Adelman 2006, p. xxi). BPS students who enrolled part-time or intermittently (since they had enrolled in fewer credits) would not be expected to be as far along in their degree as continuously enrolled full-time students. As will become apparent, however, BPS graduates' patterns of persistence (like students nationally) also affected their academic achievement in more profound ways.

This chapter examines different levels of academic achievement (satisfactory, low, and high) for the four persistence categories—continuously enrolled always full-time, continuously enrolled ever part-time, intermittent, and non-persisters—and considers how students in each of these categories fared in terms of progress and performance. Variation between college selectivity groups is also examined.

Satisfactory Academic Achievement

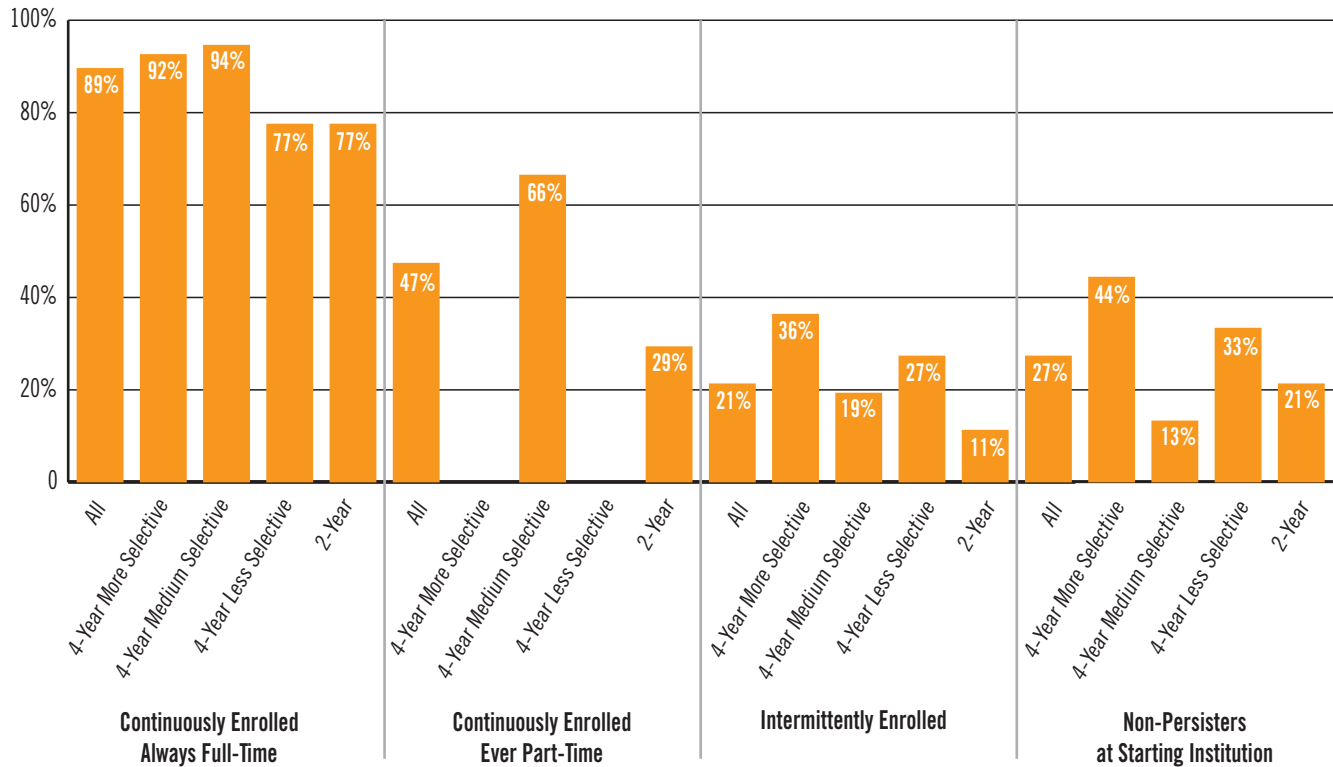
The study combines measures of satisfactory progress and satisfactory performance into one variable referred to as “satisfactory academic achievement.” Satisfactory progress is defined as earning credits at a rate allowing degree completion within 150% of expected program time (six years for a four-year degree and three years for a two-year degree).^{16, 17} Satisfactory academic performance is defined as maintaining a “C” average (2.0 GPA).¹⁸ If students reached or exceeded *both* of these measures, they were designated as achieving at a satisfactory academic level.

Continuously enrolled full-time students were by far the most academically successful on this measure compared to students in the other persistence categories. By the end of their second year, 89% (448 of 506) were achieving at satisfactory academic levels. Continuously enrolled full-time students were at least three times more likely to reach this level than students who enrolled intermittently or did not persist at the starting institution (**Chart 2**). These high rates of satisfactory academic achievement for continuously enrolled full-time students remained when students were broken into college selectivity groups, though more and medium selective colleges had higher rates than less selective and two-year colleges (**Chart 2**).

Overall, students who continuously enrolled but did so occasionally part-time were not as likely to reach satisfactory achievement levels as their always full-time counterparts. However, they were substantially more likely to do so than intermittent or non-persisting students. Forty-seven percent of continuously enrolled part-time students reached satisfactory achievement compared to 21% for intermittent and 27% of non-persisting students. This pattern continued when students were broken out into college selectivity groups (**Chart 2**).

In sum, consistent persistence, especially when it was full-time, increased the likelihood that a student would achieve at satisfactory levels. Continuously enrolled students, and particularly continuously enrolled full-time students, were much more likely to be making satisfactory academic progress and performance than intermittent or non-persisting students.

CHART 2
Satisfactory Achievement by Persistence Category and College Selectivity



Satisfactory Achievement is defined as earning credits at a rate to graduate in 150% of expected program time (For continuously enrolled and intermittent, this is defined as earning at least 40 credits. For non-persisters, it is defined as earning at least 20 credits for those enrolled for two semesters and at least 10 credits for those enrolled for only one semester). In any persistence category, earning at least a 2.0 GPA is also required.

What was the likelihood that non-persisters transferred to another institution?

The satisfactory academic achievement variable is one way to estimate students' opportunity to transfer or to return to their starting institution. Satisfactory achievement for non-persisters was defined as earning an average of 10 credits a semester and maintaining a 2.0 GPA. Since all students attempted at least 12 credits in the first semester and many continued to do so in the second, most students earning fewer than 10 credits per semester likely withdrew from or failed at least one or two courses. A GPA below 2.0 placed a student on academic probation at most participating colleges. In other words, students failing to reach satisfactory achievement would not likely have had the opportunity to transfer or return to the starting institution. Colleges would be unlikely to accept students who had withdrawn or failed a couple of college courses or who were on academic probation at another college.¹⁹ Moreover, some colleges would have required transfer students to have a better than satisfactory record.

At most, just over a quarter (27%) of students who did not persist at their starting institution had academic records that would allow them the opportunity to transfer to another college or re-enroll in their original one. In terms of college selectivity, 44% of more selective, 13% of medium selective, 33% of less selective and 21% of two-year college students might have had this opportunity (Chart 2).

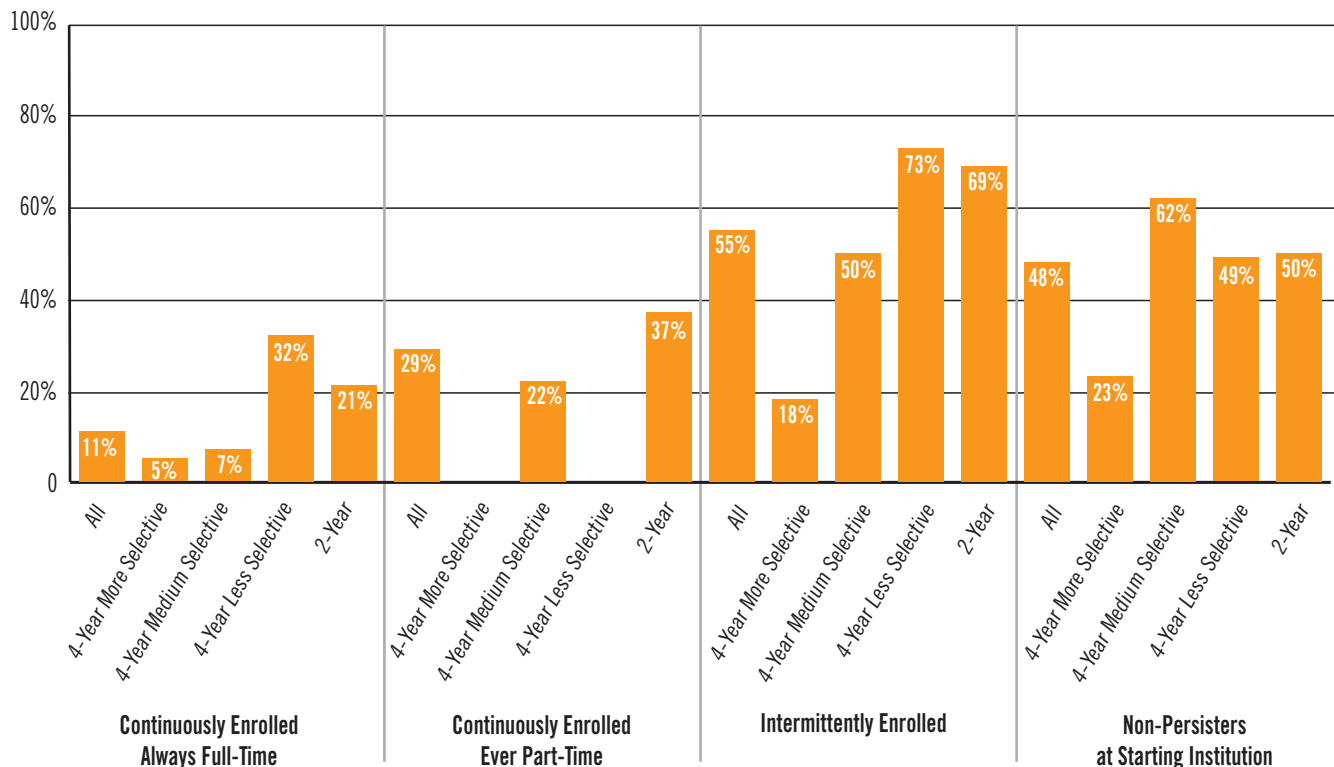
Low Progress and Performance

Another way to look at how persistence affects academic achievement is to study the students who were not doing well—those whose academic records indicated that they had lost academic momentum and were not advancing toward a college credential. Two variables of poor academic achievement are examined: 1) low progress or “excessive withdrawal” which is defined as withdrawing from or failing at least 12 credits (or about one semester’s worth of classes) over the course of all semesters in which a student enrolled;²⁰ and 2) low performance or “low GPA,” defined as earning less than a C- (1.7 GPA).

Low Progress (Excessive Credit Withdrawal)

In every college selectivity group, continuously enrolled students had lower rates of excessive withdrawal than their counterparts who enrolled intermittently or did not persist (**Chart 3**). Eleven percent of continuously enrolled full-time students had excessive withdrawal compared with 29% of continuously enrolled ever part-time students and approximately half of intermittent enrollers (55%) and non-persisters (48%) (**Chart 3**). Eleven percent of continuously enrolled full-time students had excessive withdrawal compared with 29% of continuously enrolled ever part-time students and approximately half of intermittent enrollers (55%) and non-persisters (48%) (**Chart 3**). Many students at less selective and two-year colleges—no matter what their persistence category—had high rates of excessive withdrawal. In contrast, students from more selective institutions, regardless of their persistence category, had excessive withdrawal rates that were lower or nearly equal to students from less selective institutions and two-year colleges who were continuously enrolled fulltime.

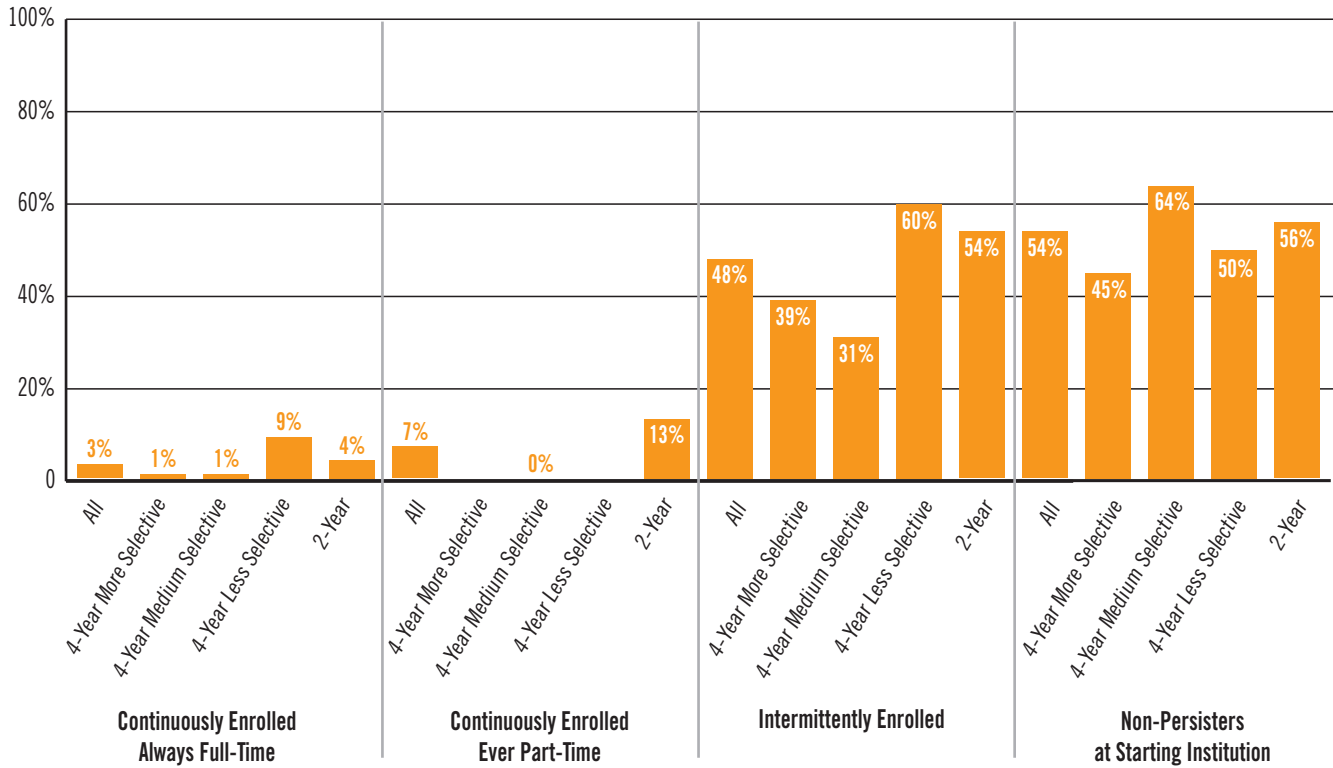
CHART 3
Low Progress by Persistence Category and College Selectivity Group



Low Progress is defined as withdrawing or failing a total of 12 or more credits during all semesters enrolled.

CHART 4

Low Performance by Persistence Category and College Selectivity Group



Low Performance is defined as earning less than a 1.7 GPA (cumulative).

At colleges with less stringent admissions requirements, rates of excessive withdrawal were high for all students, including those continuously enrolled full-time. Of students in this persistence category, close to a third of students at four-year less selective college and a fifth of students at two-year ones had withdrawn or failed at least a semester’s worth of credits (12 or more credits (Chart 3).

Low Performance (Low Grade Point Average)

Very few students, who continuously enrolled, whether part-time or full-time, had low performance. Overall, only three percent of students who continuously enrolled full-time and seven percent of continuously enrolled part-time students had low GPAs (Grade Point Average). In contrast, 48% of intermittent enrollers and 45% of non-persisters had low GPAs (Chart 4). This pattern varied little for college selectivity groups. Students who enrolled intermittently or did not persist had substantially higher rates of poor performance no matter what their college selectivity groups than continuously enrolled always full-time or ever part-time students. For example, students at more selective institutions who stopped out were three times more likely to have performed poorly than two-year college students who occasionally enrolled part-time but never stopped out (Chart 4).

What are the potential perils of stopping out?

Many faculty and staff interviewed talked about the difficulty of getting back “on the academic track” once a student had fallen off. The quantitative findings support this view. Compared to their continuously enrolled counterparts, intermittent students as a whole were not doing well in college. The ineffectiveness of a “stopping out” strategy was not due merely to students attempting fewer credits. Rather, stopping out seemed to result in students somehow losing momentum as they often completed courses with poor grades or never completed them at all.²¹

What are some other ways that students lose momentum?

Stopping out was not the only way students lost momentum. Many continuously enrolled full-time students who did not make satisfactory progress in the first year had difficulty gaining back lost momentum. Only 46% (13 of 28) of continuously enrolled full-time students who earned fewer than 20 credits in their first year were making satisfactory progress (had earned at least 40 credits) by the end of their second year, and none was on track to graduate in 100% (two/four years) of their program time. Once behind, it was difficult for many students to catch up and for many of those who were doing “okay” to move ahead and excel.

What are the potential consequences of excessive withdrawal?

In his analysis of a national sample of four-year college students, Adelman found that excessive withdrawal without penalty often prevents students from earning a degree (Adelman 2006). BPS graduates interviewed, however, seemed to hold a different view on the subject. When asked what their peers should do if they are doing poorly in a course, BPS graduates generally recommended that they withdraw so they can keep up their GPA. Students had this to say about how to address low performance in a course:

Go to the professor and ask... what [you] can do to not fail the course. And if it's going to affect your GPA and you have a scholarship, see if you can still withdraw from the course. Even though it's going to show on your transcript, it's not going to affect your GPA.

The quantitative analysis showed the negative consequences of this strategy. For the majority of those students who continuously enrolled, what prevented them from reaching satisfactory (or good) progress was not their GPA or the number of credits they attempted, but rather the fact that they did not complete sufficient credits.²²

Withdrawal may keep up a student's GPA but at the expense of fewer credits earned. For many students, the long-term consequence of fewer accumulated credits might be paying for an extra year (or two) of college or delaying starting a job that provides college-degree wages.

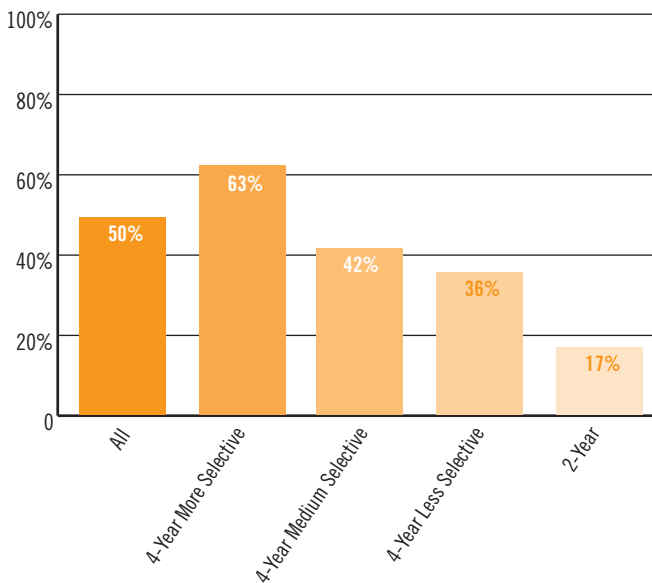
Given this combination of high rates of excessive withdrawal or failure and the potentially serious consequences of such actions, exploring the causes of excessive withdrawal might lead to some innovative ideas for increasing students' progress.

High Academic Achievement

Another issue related to consistent persistence and academic success is which students were progressing and performing at high enough levels to be eligible for graduate or professional school. The variables used here are: 1) Good Progress—earning credits at a rate to be on track to graduate in 100% of expected program time²³; and 2) High Performance—earning at least a “B” average (3.0 GPA).

Continuously enrolled full-time students were essentially the only students able to reach this high level of academic progress. Half of the continuously enrolled full-time students had achieved “good progress” and were on track to graduate in 100% of expected program time. Only four students in any of the other enrollment categories were progressing at this rate (Chart 5).

CHART 5
Good Progress of Continuously Enrolled Full-Time Only
by College Selectivity Category



Note that only 4 students who were *not* continuously enrolled full-time made “good progress.”

Good Progress is defined as accumulating credits at a rate to graduate in 100% of expected program time. Students at four-year colleges had earned at least half of the minimum number of credits to graduate. Students at two-year colleges had earned the minimum number of credits needed to graduate.

Of the continuously enrolled full-time students, those at colleges with higher selectivity were more likely to have achieved good progress than others. Students at two-year colleges in particular were not fairing well in terms of “on time” graduation (Chart 5). Only 15% of students who had continuously enrolled full-time (7 of 47) graduated with an associate degree in two years.

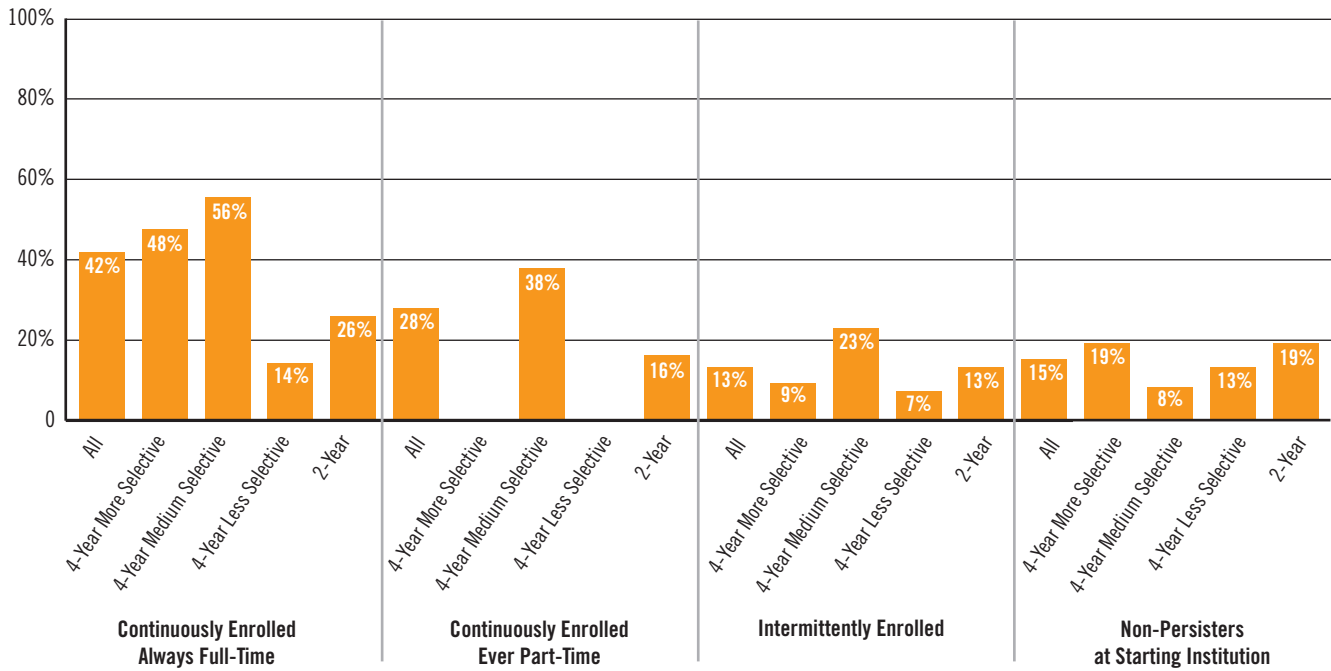
As for high levels of performance, although some students in every persistence category had maintained at least a “B” average, continuously enrolled full-time students were much more likely to have done so. Close to three times as many continuously enrolled full-time students had at least a “B” average compared to intermittent or non-persisting students (Chart 6). In addition, students at more and medium selective colleges were much more likely to be maintaining high grades than students at less selective or two-year colleges. At more and medium selective colleges, about half of the continuously enrolled full-time students were reaching levels of high performance, while only 14% of less selective students and 26% of two-year college students in this persistence category were doing so.

Why were students at more and medium selective colleges much more likely to be reaching high levels of achievements?

Undoubtedly part of the reason for this was that these students were entering college better prepared academically. (Recall that these college selectivity groups had the lion’s share of exam school graduates and those with higher SAT scores.) But more may be at play here: perhaps faculty at more and medium selective colleges assume their students will graduate in four years and earn at least B’s. Students in an environment with high expectations typically are more likely to achieve them (Cortes and McFarlin Jr. 2007).

CHART 6

High Performance by Persistence Category and College Selectivity Group



High Performance is defined as earning more than a 3.0 GPA (cumulative).

Why were students' rates of progress lower than their rates of performance at any given level of achievement?

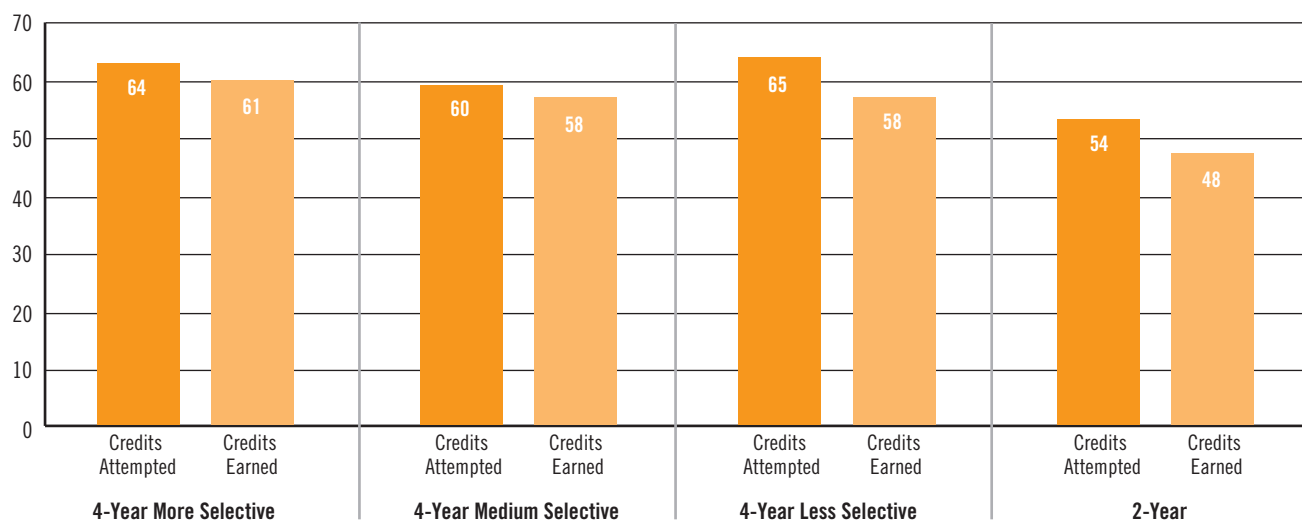
Students who continuously enrolled were less likely to have reached the cut-off for credit accumulation than for GPA whether they were achieving at low, satisfactory, or high levels. It is not entirely clear why this is so. Perhaps some students made a practice of withdrawing from courses in which they expected to receive a low grade, hence slowing credit accumulation while maintaining GPA. Or perhaps students with low GPAs were unlikely to be continuously enrolled because they were discouraged from re-enrolling (or not allowed to re-enroll) since their low GPA put them on academic probation or made them ineligible for financial aid. Further research, perhaps quantitative analysis at the course-level, along with qualitative inquiry, could shed light on this topic.

High Rates of Progress and Number of Attempted Credits

There was one exception to this pattern of higher rates of performance than progress (Chart 5) that merits further exploration.²⁴ Continuously enrolled full-time students at less selective colleges were more likely to be on time to graduate in 100% of program time than to have earned a "B" average. This higher rate of good progress for students at less selective colleges can be explained in part by examining total credits attempted. Students continuously enrolled full-time at less selective institutions attempted on average 65 credits (median number) compared to only 54 credits for two-year students (Chart 7). Most continuously enrolled full-time two-year college students were not on track to graduate at 100% of expected program time, simply because they were not attempting enough credits. Moreover, students at less selective colleges seemed to have attempted enough credits to give them some "wiggle room." By attempting substantially more than the minimum number of credits, some were on track to graduate in 100% of expected program time despite withdrawing or failing a substantial number of credits.

CHART 7

Median Number of Total Credits Attempted and Earned of Continuously Enrolled Full-Time by College Selectivity



Conclusion

In sum, the major findings in this chapter are:

- Consistent persistence was a critical factor to academic success for BPS graduates. In line with national findings, students who continuously enrolled and did so always full-time were particularly likely to be successful, regardless of which type of college they attended.²⁵ They had higher rates of satisfactory academic achievement and far lower rates of low progress and performance than students with other enrollment patterns. For example, two-year college students who enrolled full-time every semester were almost twice as likely to have reached satisfactory achievement levels as students at more selective colleges who had stopped out. These findings strongly suggest that full-time continuous enrollment is the most effective strategy for college success. Chapter Seven explores the acquisition of college knowledge as potentially a primary reason for why continuously enrolled students fare well in college.
- Students who enrolled every semester but did so occasionally part-time, while not doing as well as their full-time counterparts, had higher levels of academic achievement than those who stopped out.
- For instance, students who enrolled intermittently at more selective colleges were three times more likely to have low GPAs than students at two-year colleges who enrolled every semester but were sometimes part-time. For some students who are not able to continuously enroll full-time, it may be far better to enroll every semester part-time than to stop out for a semester or two.
- When students who persisted were not achieving at satisfactory levels, it was more likely to be due to earning insufficient credits than to low grades. Students were much more likely to be behind in credit accumulation than to have a grade point average below that required for graduation.
- At colleges with less stringent admission requirement, many students had excessive credit withdrawal. The difference between students at four-year less selective and two-year colleges on this measure implied that variation in institutional policies and practices may influence the rate at which they accumulate credits.

Why were two-year students attempting fewer credits than four-year less selective students?

Massachusetts public two-year colleges charge for tuition by the credit, while the four-year less selective colleges charge a flat rate to enroll full-time and allow students to register for a certain total number of credits per semester for that fee. Consequently, most of the two-year college students had a financial incentive to take a modest course load, while students paying a flat fee at four-year less selective colleges had a financial incentive to register for as many courses as allowed for that fee. In addition to cost-related issues, the two-year colleges, unlike most of the four-year colleges, were commuting campuses where students travel to campus for classes and tend to have more non-academic responsibilities than students living in residence halls. These factors may hinder two-year college students from enrolling in as many courses as those attending less selective four-year colleges.

When might part-time, continuous enrollment be an effective strategy for college success?

The analysis in this chapter suggests that continuously enrolled part-time students were in some sense “in between” students. Their academic achievement lagged behind continuously enrolled full-time students, but it was substantially better than intermittent students. Part-time enrollment seems to entail some risk. Nevertheless, the qualitative findings from this study suggest part-time enrollment for some students may be their best alternative.

As several of the faculty and staff interviewed reflected on the conditions under which many BPS graduates attended college, they observed that part-time enrollment for some students may be a strategy that allowed them to stay clear of academic probation and remain in college. One faculty member suggested that students would do better if they got out of the four-year mindset. They could take fewer courses each semester, but work harder and be more successful in those courses. One said:

I do a lot of one-on-one. I know the traditional set for college is four years; but the reality is [that] a lot of people don't finish in four years. And it's trying to get [students] away from that mind set of “I have to do this in four years.” And getting them to understand that, “It's okay not to do it in four years; you'll probably be more successful.” Some of these students have so many things pulling them in different directions.

Perhaps for students who lack academic skills and need to study more, or for students whose outside responsibilities prevent them from devoting full-time to their studies, the slow but steady option (continuously enrolled part-time) is their best pathway to college success.

CHAPTER SIX

Institutional Differences in Academic Outcomes within College Selectivity Groups

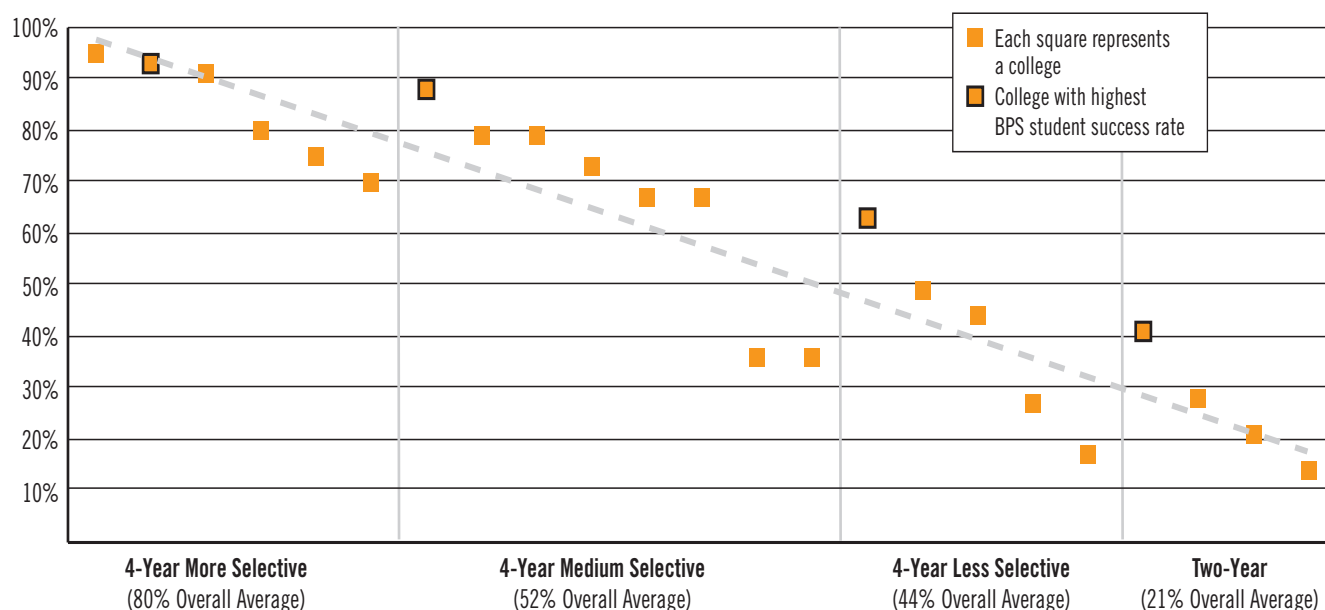
The analysis, so far, has revealed that students attending colleges with higher selectivity were more likely to persist and to do so with the most intensity, that is, to be continuously enrolled full-time. In addition, of those who continuously enrolled full-time, students at more and medium selective colleges were progressing and performing at higher levels. A look inside the college selectivity groups to examine individual college results, however, revealed some striking exceptions to those findings.

When examining rates of persistence within each college selectivity group, there was at least a 25 percentage point difference between the college with the lowest continuously enrolled full-time rate and the one with the highest. For more selective colleges, the range was between 70% and 95%; for medium selective 36% and

88%; for less selective, 17% and 63%; and for two-year colleges, 14% and 41% (**Chart 8**). Similar disparities also were found when considering satisfactory achievement and good progress for continuously enrolled full-time students (**Charts 9 and 10**).

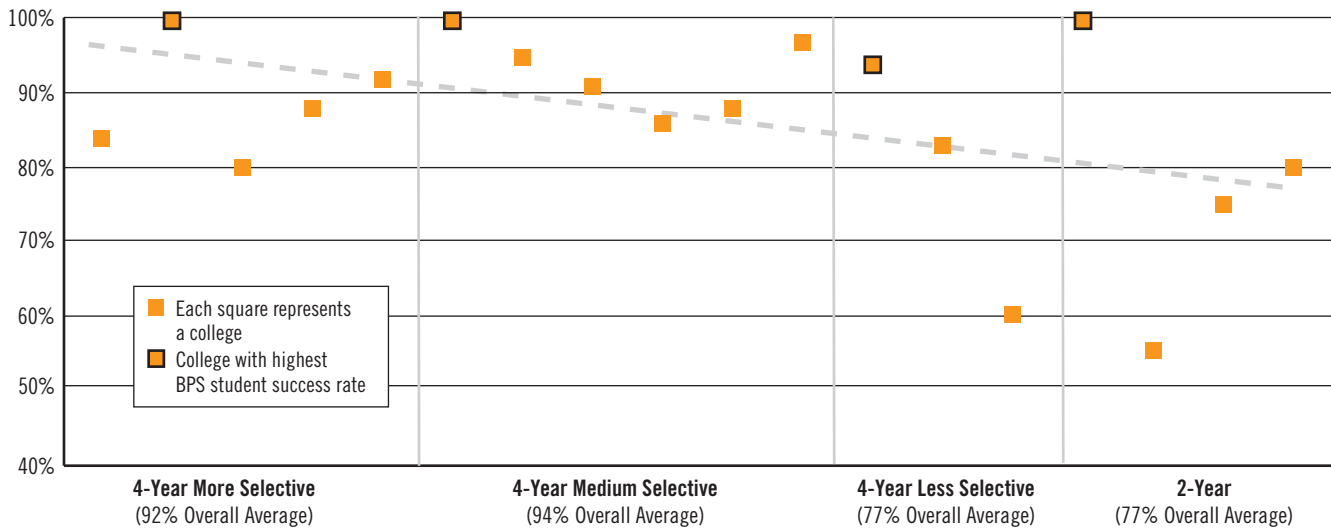
Another salient finding in the institutional-level analysis was that one college in every selectivity group was at the top of its group on every measure (note the black outlined orange squares in Charts 9 and 10). The result was particularly striking for less selective and two-year colleges, where the top college tended to have student achievement rates similar to those in the middle or upper range of medium selective colleges. Moreover, while not as tight a connection, there were usually one or two colleges consistently found at the bottom of their college selectivity group in terms of academic success.

CHART 8
Persistence: Continuously Enrolled Full-Time Students by College Selectivity Group



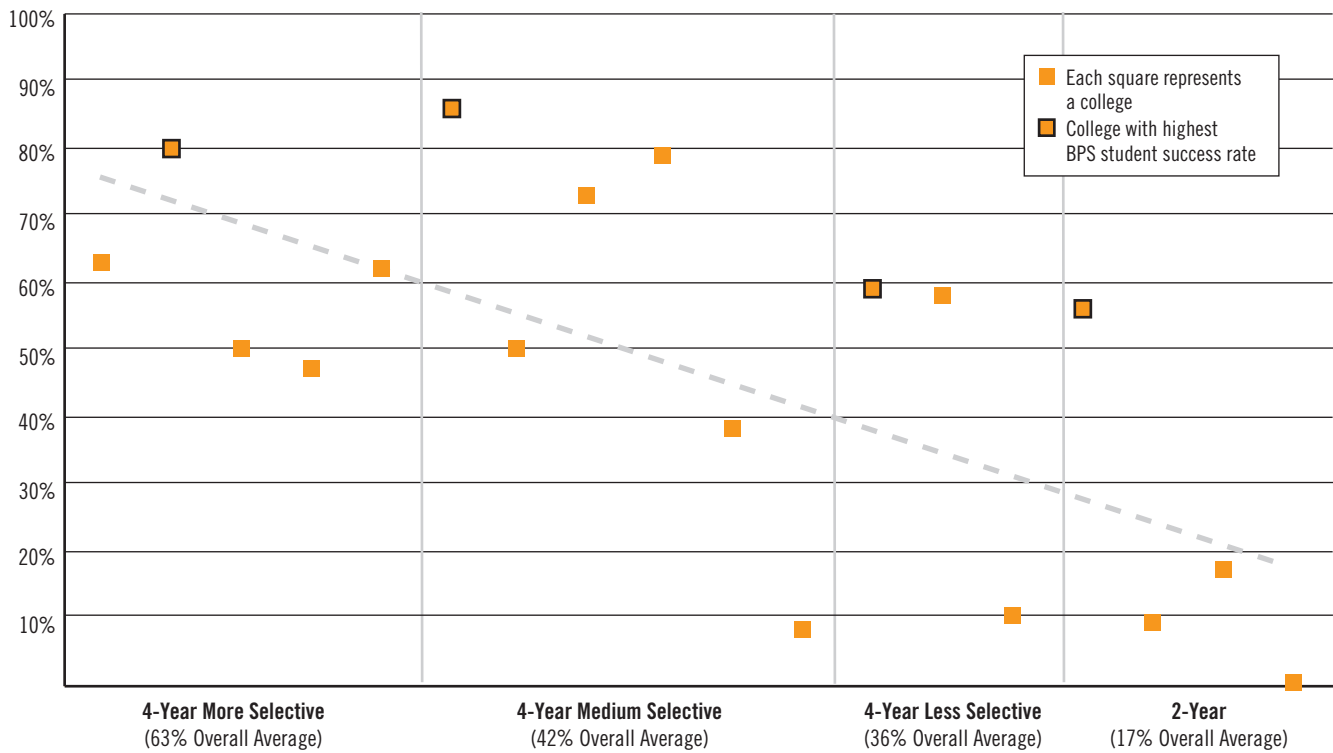
Continuously Enrolled Full-Time is defined as enrolling for five consecutive semesters from Fall 2005 to Fall 2007 and attempting at least 12 credits in every semester.

CHART 9
Satisfactory Achievement of Continuously Enrolled Full-Time Students by College Selectivity Group



Satisfactory Achievement is defined as earning credits at a rate to graduate in 150% of expected program time (40 credits over two years) and earning at least a 2.0 GPA

CHART 10
Good Progress of Continuously Enrolled Full-Time Students by College Selectivity Group



Good Progress is defined as earning credits at a rate to graduate in 100% of expected program time (half of the credits needed to graduate for four-year colleges and all the credits needed to graduate for two-year colleges).

How can a college offer so many academic support services and not have more students succeeding?

Several college faculty members as well as career coaches from a local nonprofit provided insight into this question. In their experience, colleges' academic support services were not always the "right fit" for BPS graduates, and even when the services fit matched the students' needs, students were not always able to access them. A career coach pointed out:

The school might say that students have access to an hour of tutoring a week—which is great. But, the quality of the tutoring might not be great. Or our student might not have the skills to engage with the tutor in a constructive way. So even though that service is available, I've found that often it isn't something that launches our students forward.

A faculty member at a two-year college offered this insight on access:

We offer as many support services as I've ever seen, anywhere. It's getting those students to be able to take advantage of them that becomes a challenge...

These seasoned practitioners, in line with national research, emphasized that those who provide academic support to students must be prepared to teach more than course content to students. Some students will need help with study skills as well as managing multiple responsibilities. In addition, the services must be offered at accessible times and places. In sum, it seems that merely offering programs and services will not ensure broad student success; rather the programs and services must strive to effectively serve all the students who need them.

The colleges with high rates of success among BPS graduates also tended to have the highest overall institutional graduating rates in their selectivity group. Likewise, the colleges with the lowest rate of academic success among BPS graduates ended up at or near the bottom in terms of institutional graduation rates for their selectivity group for all students (**Appendix B**).

Effects of Institutional Attributes Unclear

The institutional attributes that led to better than average (or lower than average) college success rates among BPS graduates or their general student population were not immediately clear. It was difficult to find a pattern between rates of student success at particular colleges and median SAT scores, percent of students living on campus, cost of attendance, or percent of unmet financial need (Appendix B). In addition, when types of student support services provided by colleges were examined, almost all institutions were found to offer nearly all types of services. For example, nearly all colleges had a learning center, study skills assistance, academic tutoring, financial aid counseling, career counseling and some kind of first year orientation program (Appendix B).

CHAPTER SEVEN

Academic Preparation Prior to College

This study considered academic preparation for college from two vantage points: whether BPS graduates attended an exam school or non-exam school and whether they enrolled in one or more developmental courses. While the study did not focus on the effects of high school preparation on college success, it did find differences in the persistence, progress, and performance of BPS graduates based on whether they attended an exam or non-exam high school and whether they enrolled in one or more developmental courses in college. An analysis of differences between exam and non-exam school graduates is consistent with the findings of numerous national studies substantiating the importance of a rigorous high school curriculum and the acquisition of solid academic skills to college success.

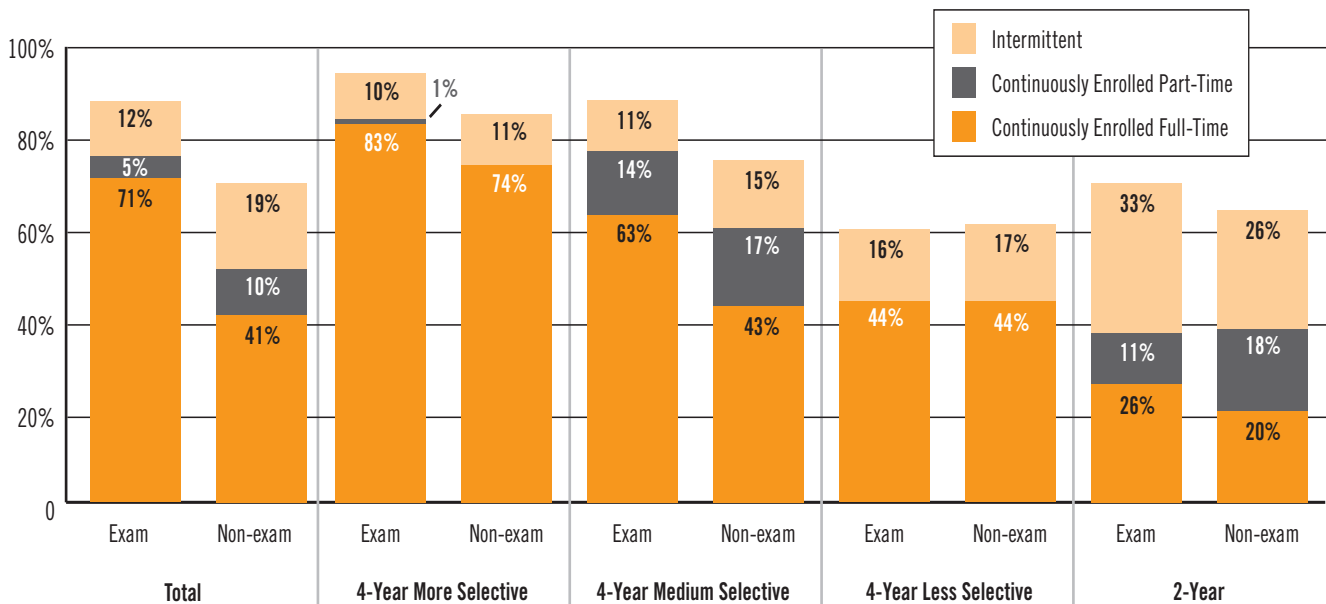
The results for enrollment in developmental course work are not as clear. Looking at all students in the study, those who enrolled in at least one developmental course had lower academic achievement on every measure. However, an analysis of four-year less selective

and two-year college students' experiences found that enrollment in developmental courses was not strongly associated with lower rates of persistence or academic achievement. Given that there was no standard procedure across colleges for placing a student in developmental courses, it is unclear what these findings mean.

Exam versus Non-Exam School Graduates

As expected, exam school graduates had much higher rates of academic success than their counterparts who graduated from comprehensive or Pilot high schools. In terms of persistence, exam school graduates were not only more likely to persist in some way, they were more likely to do so every semester and always full-time. Using a broad definition of persistence (enrolled at least once after the first year either part-time or full-time), 88% percent of exam school graduates persisted in some way compared to 70% of non-exam students (**Chart 11**). With a more stringent definition of persistence—contin-

CHART 11
Persistence Categories by Exam School Status and College Selectivity Group



uously enrolled full-time—the differences were even greater. Seventy-one percent of exam school graduates continuously enrolled full-time compared to 41% of non-exam school (Chart 11).

Graduating from an exam school also was associated with higher rates of progress and performance. Of the continuously enrolled full-time students, 95% of exam school graduates compared to 81% of non-exam school graduates were achieving at a satisfactory level.²⁶ When high levels of progress and performance were considered, the gaps were even greater. Sixty-four percent of exam school graduates were earning credits at a rate that would allow them to earn a degree in 100% (two/ four years) of expected program time (“good progress”) while only 34% of non-exam students were doing so. The results for high levels of performance were similar.

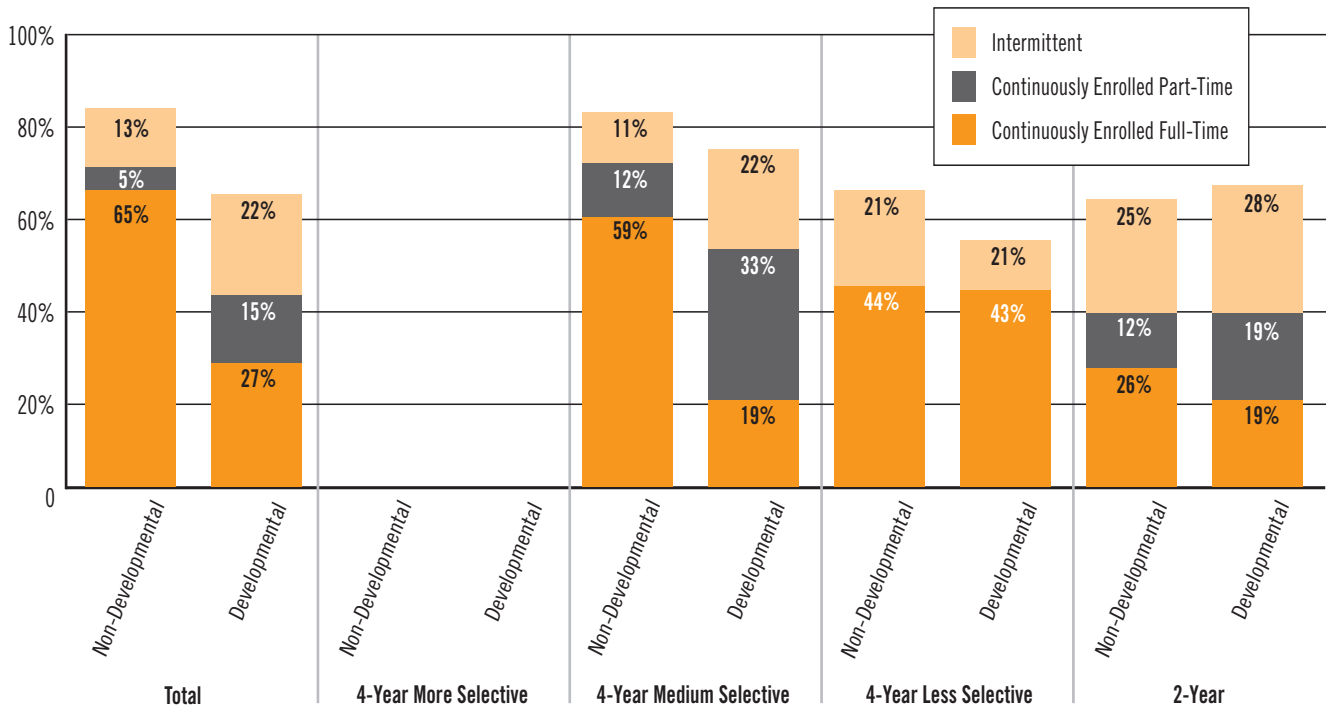
When students were divided into college selectivity groups, exam school graduates at more and medium selective colleges had higher rates of academic success than non-exam students. The number of exam school graduates at less selective and two-year colleges was

too small to produce meaningful results, however. At less selective colleges, there were only 11 exam school graduates who continuously enrolled full-time, and at two-year colleges, there were only seven.

Outcomes for Non-Developmental versus Developmental Students

Students who never enrolled in a developmental course were far more likely to be academically successful than those who enrolled in at least one such course. Using a broad definition of persistence (enrolled at least once after the first year either part-time or full-time), 83% of non-developmental students persisted while only 64% of developmental students did so (Chart 12). With a more stringent definition of persistence—continuously enrolled full-time—the differences were even greater. Sixty-five percent of non-developmental students persisted compared to only 27% of developmental students (Chart 12).

CHART 12
Persistence Categories by Developmental Status and College Selectivity Group



Developmental Status means students registered for at least one developmental. There are two few Developmental students in the 4-Year More Selective students to break out. The difference between developmental and non-developmental continuously enrolled full-time two-year college students was not statistically significant at the .05 level.

In addition, students who never took a developmental course were far more likely to be reaching satisfactory achievement than those who did—91% of non-developmental students compared to 74% developmental students (Chart 13).²⁷ When high levels of progress were considered, the gaps became greater still: 55% of non-developmental students compared to 21% of developmental students were earning credits at this rate.²⁸ The results for high levels of performance (GPA) were similar (Chart 14).

When students were broken into college selectivity groups, at times there was little difference between developmental and non-developmental students on rates of academic success.²⁹ At four-year less selective and two-year colleges, the percent of students who continuously enrolled was the same for both those who took at least one developmental course and those who never enrolled in such a course (Chart 12). Moreover, among those who continuously enrolled full-time at four-year less selective colleges, both developmental

and non-developmental students were equally likely to have achieved at satisfactory academic levels (Chart 13). In addition, at two-year colleges, for continuously enrolled full-time students, taking a developmental course did not affect the likelihood of students earning a high GPA (Chart 14).

Conclusion

In sum, exam school graduates were more likely to be academically successful in college. Similarly, in general students who never enrolled in a developmental course were more likely to be successful than those enrolled in at least one. However, when only students who attended colleges with less stringent admissions requirements were considered, differences between the achievement of developmental and non-developmental students decreased, at times to the point where there were few discernible differences. Why this is so remains unclear.

CHART 13
Satisfactory Achievement of Continuously Enrolled Full-Time Students by Developmental Status

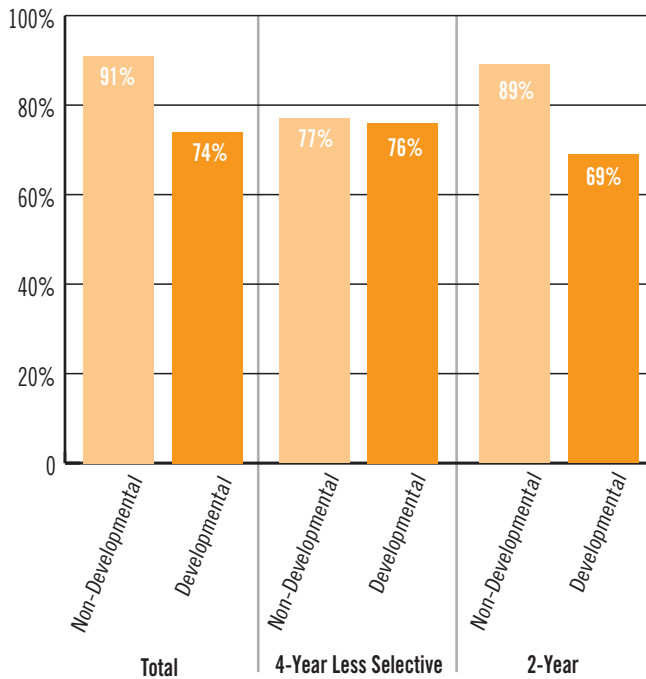
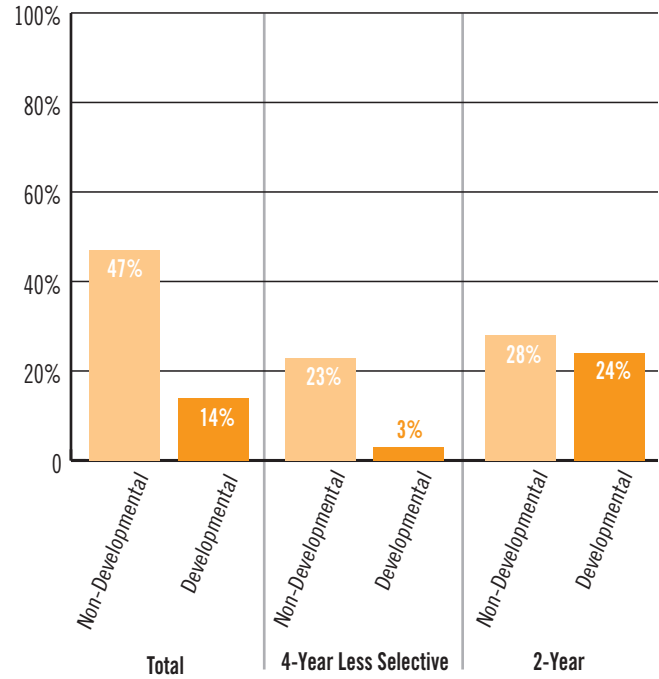


CHART 14
High Performance of Continuously Enrolled Full-Time Students by Developmental Status



Why were there at times few academic differences among developmental and non-developmental students at four-year less selective and two-year colleges?

There is no simple answer to this question. The results of national research on the effectiveness of developmental studies have been mixed and complicated.³⁰ One study found that developmental status did not affect degree completion (Adelman 2006, p. xiii). Adelman writes, "Sufficient numbers of students who took remedial courses successfully moved through so that remediation did not make a strategic difference in degree completion." Another study found that students who took a developmental course and passed the first time were as likely to graduate as those not enrolling in a developmental course. However, those who enrolled in but did not pass a developmental course the first time had very low graduation rates (Nora et al. 2005). Other research examining only students with placement test scores clustered around the cut-off score found that students who barely failed and so were required to take a developmental course tended to have more early college success than those who just passed and did not take a developmental course. However, this early success did not continue for graduation rates. (Calcagno and Long 2008; Bettinger and Long (forthcoming).) To complicate these findings, there is evidence that many students whose assessment scores indicate that they should be taking developmental courses do not in fact enroll in them (Bailey et al. 2008).

CHAPTER EIGHT

Factors Leading to the College Success of Some Boston Public School Graduates

The quantitative analysis has revealed that the majority of students who were able to continuously enroll through the second year of college were achieving at least minimal academic standards. Many who always enrolled full-time were reaching high levels of achievement. The qualitative findings suggest one reason for this. Those students who made it to the end of their second year had acquired considerable “college knowledge.”³¹

Before discussing these findings, it is important to reiterate that they are based on a very small number of interviews and subjects (seven focus groups with a total of 23 students). Consequently, the students’ views are offered as a way to illuminate the quantitative findings and provide one possible explanation for why BPS graduates succeed in college. It is not known how widespread college knowledge was among other BPS graduates nor what ideas or comments other graduates may have had regarding their college experiences.

When asked what advice they would give to BPS graduates entering college, the responses of the students interviewed resembled an outline for a basic college survival course: study hard and well, manage your time efficiently, ask your professor and advisor for help, use the college’s academic support services, and get to know lots of different people on campus. Their understanding of what it takes to succeed in college was very similar to the views of higher education experts (Conley 2005; Kuh et al. 2006; Tinto and Pusser 2006) as well as fellow first generation students (Cushman 2006). Many students attributed their grasp of college life to summer bridge programs and first-year seminars. But the discussions of their experience made it clear that such programs would not have been sufficient by themselves to carry the student through college. Students were able to put into practice the advice offered, because the staff of these programs as well as other college faculty and staff reached out to them and offered on-going support as they progressed through college.

The solid college knowledge of the students interviewed contrasted with what faculty and staff said about the lack of knowledge and skills that first generation students generally bring to college. This seeming contradiction may reflect the relative success of students who persisted and had time to participate in a focus group compared to students who had not persisted or whose multiple commitments prevented them from talking to a researcher.

Below is a synthesis of the responses from student focus groups to the question, “What advice would you give to an incoming BPS graduate to help them succeed in college?” The insights of staff and faculty are included at points to illuminate the students’ views.

Time Management Skills. Faculty and staff mentioned that first generation students often lacked time management skills. Student focus group participants had much to say on the subject.

Don’t overload your course schedule.

My freshman year fall semester I took five classes and it was too easy for me. I didn’t have homework. Then second semester my freshman year I took seven classes all together even though you have to pay extra for it... and it was so hard I had to drop one class.

Don’t work more than 15 to 20 hours a week.

My first semester here I worked 40 hours since that is what I did in high school, but that was too much.

Make a realistic schedule.

You have to be efficient. Last year I stayed in the library for so long I slept half the time and that wasn’t efficient.

Don’t sign up for courses that are scheduled at a time when you’re going to have difficulty making it. If you can’t get up in the morning, don’t sign up for early morning classes.

Don't procrastinate.

Don't just study the day before the quiz. Try to study at least three days before. Start slowly, and then you have [a] more in depth understanding and everything.

I [am not good at] at science so I do my science first so I can get it out of the way... [and] if I need help, people are awake, so I can get some tutoring.

Critical Thinking Skills. Faculty often commented on how many BPS graduates and other first generation students lacked critical thinking skills—that students were able to re-tell but not analyze. A number of students interviewed observed that they had learned the most from the college classes that taught them critical thinking skills.

The teacher kept asking why. He made you back up what you said. You couldn't just say anything. You had to really think.

We learned how to... read beyond what the book is teaching you.

Class attendance and participation. Students not only emphasized the importance of going to class, but also of taking notes and actively participating in class discussions. A few talked about how they had overcome their fears of speaking in class.

You got to take notes and you got to participate. If you sit there and be quiet, the teacher is not going to know what's going on in your mind or how you're doing in class. You need to speak up.

I was afraid to talk [at first, but] by the end of the first semester [freshman year], I was talking. [My professor] always believed in me [and] that I could do things like talk and give my opinion no matter what.

My communications class helped me a lot. I didn't have confidence to speak in public places. It's really hard for me. But that class helped.

Communicating with faculty. Students emphasized the importance of communicating with faculty regularly, especially when a student was having trouble in a class. They recommended talking to professors after class, going to office hours, or e-mailing them. While some students had had experiences with faculty who were hard to reach or who made them uncomfortable, they still felt it was important to try and communicate with them. They also recommended choosing professors who were known for their open communication styles.

Unlike high school, here it's like your professors care about their class... If you're slacking, they'll usually let you know. Or if there's a project coming up they'll remind you. Or they'll ask you how it's going. Just that small interaction helps out a lot. It shows that they care, but at the same time it shows that it's your responsibility, not theirs', to be on you.

I don't actually have to go to tutors because when I go to office hours, my teacher is actually my tutor.

Basically know who can help and who cannot. Some professors are mean, but some professors are not.

Role of academic advisors. While some students had had more positive experiences with their advisor than others, all agreed that a good advisor was an asset in college.

At least before you plan your classes, go see [your advisor] and talk to him. Be the first one to go sign up to meet with him, because classes fill up quickly. And he knows what's best for you. He knows what classes you need and what's part of your major.

I am worried I don't know what to do with my life and [my advisor] always tells me that I'm in the right place and I will figure it out... And also [we talk] about the classes and how I'm doing. She's very helpful...

Role of support from other staff and peers. Students also mentioned the importance of seeking out other staff on campus, especially if a student was struggling.

But if you're going to drop out because of your grade I think you need to go talk to somebody. I think you may not have tried hard enough or you didn't really do your best. College isn't a place where people are being weeded out. I don't think that's the case. Tools in the college community could really help you and make you stay...

Others talked about relying on their peers.

My advisor wasn't that helpful. During orientation she helped me register for classes and she said "You're premed right?" And then she just left... She could have elaborated on the courses that I was going to take and [their] level of difficulty. For me it was different because I came from a disadvantaged background and others came from the suburbs. [So my advisor] didn't know me that well and my friends knew me better so I think their advice was more helpful.

As soon as you get to college make friends; make friends with upperclassmen because they know what they are doing; they know how to help you.

Academic support resources. Students listed many academic support programs on their campuses, and they all recommended using such supports when needed. In particular, they mentioned writing or tutoring centers. Many students took advantage of the academic support services offered on campus regularly. A few said they didn't have time to use them, but thought they were a good idea.

A sense of belonging to the college community. As students discussed their college experiences, it was clear that many considered themselves full and active members of their college community and understood the importance of connecting with others on campus—from deans to fellow classmates.

I am pretty much settling down now. I have a great group of friends. I have a great group of faculty members that make sure that in 2010 I am graduating. I am receiving my degree and going off to grad school.

Get to know people, even get to know the dean. You're going to need people to get you through.

In addition to the advice that focus group participants offered for students entering college, it was clear that, for some, family and workplace support also played an important role in their success.

Other Factors

Family encouragement. While students reported various levels of family support, a few suggested that the encouragement their family provided was critical to their success.

I have to graduate... I just have to... Dropping out is just far from your mind... especially [when]... you have your family contributing, not pressuring... They're praising you because you're the first person to go to college. You have to kind of set that standard; like I have to graduate and make my family proud so dropping out is not [a possibility]...

In my family, they are very supportive, especially my mother. She asks me all the time about how classes are going. Are you finding anything difficult? So her asking so many questions about school gets on my nerves sometimes, but she cares... The support of your family is the best thing in the world.

Workplace support. Some students talked about how people at their workplaces encouraged their studies. A few employers gave students time off around exam time, while others reminded them of the importance of a college degree. One student described an employer who went so far as to restrict work hours if student employees were having difficulty in their studies.

When I worked at [a large retail store] about six months ago, they would care [about your studies]... If you brought crappy grades to work... or if your grades were sloppy, [the manager would tell you], "You're going to get three hours a week," (the minimum they can give you) or they would just tell you to quit.

Role of Summer Bridge Programs and First-Year Seminars

Many students talked warmly of programs and people who had helped them to succeed in college. In particular, students mentioned summer bridge programs and first-year seminars:

[The summer program] was helpful because the professors treated us like freshman in college, not like high school anymore, and we saw what the professors require. You have to have adult behavior, you have to follow the syllabus, have your assignment on time. Not treating us like babies; we are adults. And I enjoyed the program a lot.

[The summer program also introduced us to...] the library and their resources. What we need to do if we have a research paper. And the research computers they have downstairs. And where to take out books and [where to] take out a laptop inside the library.

I took a class. It was a transitional class to get used to college. It was a one-credit course and it was a class where you can meet people and get to know your friends. We talked about issues going on in college. The things you're gonna deal with. How to manage your time. How to be on track and everything. That really helped me with figuring out where I want to go.

In addition, to the knowledge gained from these summer and first-year programs, the students talked about staying connected with program staff:

Every time I have a problem, even if it's the smallest problem, I go see my [pre-college summer advisor].

Summer program staff talked about the long-term benefits of the program if staff members stayed connected to students:

So the first year (after the summer bridge program)... they go on their way—many, not everybody. There are some people who really believe us, and so they try to do what we [tell] them to do. But, there are others who don't and then, first year, they try out and they see that it really works. So, sophomore year, we see that they come back: "What can you tell me about the study guide? What were those... like time management, what was that course you would like us to take?

Students who go through the summer bridge program are successful, [but] it's not just the summer program. I think it's just because of the amount of hours we spend with them, semester after semester, with all the issues... What we do in our programs... that is holistic advising, which is getting involved in the whole of the student's life.

In sum, students who had been able to consistently persist also demonstrated a great deal of college knowledge. The question remains: what more can be done to ensure a substantial increase in the number of BPS graduates who have these kinds of positive college experiences?

CHAPTER NINE

Conclusion with Recommendations for Action and Research

There is no question that many BPS graduates are highly motivated to achieve college goals. From 1985 to 2005, the number of BPS graduates enrolling in college the year after they left high school increased by 27 percentage points, from 50% to 77%, well ahead of the 67% college-going rate for recent high school graduates nationally. Yet, if degree completion rates for BPS graduates beginning college in the fall of 2005 are similar to those who began in the fall of 2000, fewer than half will have college degrees seven years later (Boston Private Industry Council 2008).

Such disparities between the college aspirations and success of BPS graduates are troubling for many reasons, and there is an increasing sense of urgency among Boston leaders about the need to address them. This study provides valuable insight into these disparities by examining the academic outcomes (persistence, progress, and performance) of BPS graduates who began college full-time for the first time in the fall of 2005 through the beginning of their fifth semester in college. The study produced three important findings.

First, students who had rigorous high school preparation or attended colleges with higher admission requirements were succeeding at much higher rates than other students. This finding is consistent with the experiences of graduates starting college in 2000. Within this group, exam school graduates were 2.5 times more likely to complete a college degree than non-exam school graduates (59% compared with 24%) (Boston Private Industry Council 2008). At the same time, the intention to earn a college degree remained high for less well-prepared students or students attending less competitive colleges, as reflected in the fact that 65% of those at two-year colleges and 63% at less selective colleges were persisting at the same institution in some way.

Second, whether students persisted full-time or part-time, continuously or intermittently, made a substantial difference in the number of college credits they earned and their grade point average, regardless of what kind of college they attended. Students who were able to go

to college full-time every semester achieved at much higher levels than students who attended only part-time or who stopped out occasionally and then returned.

Finally, it appears that differences in institutional characteristics, policies, and practices do affect student success. Among colleges with similar academic admission standards, significant differences were found in the persistence, progress, and academic performance of BPS graduates attending these institutions.

Recommendations for Action

While closing the gap between the college aspirations and achievement of BPS graduates will be challenging, fortunately there is considerable research that identifies effective policies and practices for doing so. The following recommendations draw from this research.

Increase the use of data on academic achievement, disaggregated by student characteristics, as the first step toward improving the persistence, progress, and performance of BPS graduates and similar students in college.

Using data and research helps to inform decision-making about ways to improve persistence, progress, and success. Data tells students and teaching faculty how students are doing in their courses and who needs assistance in order to improve their performance. Campus leaders can use data to identify patterns and gaps in the performance of different types of students and determine actions needed to improve achievement and reduce dropout rates. Data also can be used to assess the effectiveness of support services and make changes as needed to improve student outcomes.

Possible Actions

- Institute an early warning system, such as mid-term progress reports, to provide students, their teachers, academic advisors, and support staff with information about how students are doing mid-way through their courses. Mandate that advisors and support staff meet individually with students to review their mid-term progress, discuss ways to address problems contributing to academic difficulties, and make referrals to campus support services as appropriate.
- Set campus-wide, measurable goals for improving persistence and achievement. Hold all college faculty, staff, and students responsible for achieving these goals and provide recognition for those individuals and groups that make outstanding contributions to improving student success.
- Establish a retention and success task force of faculty and staff to analyze student transcript data and examine trends in particular areas, such as student achievement in gateway courses. Look at sub-groups of students by race/ethnicity, gender, high school attended, placement test scores, and financial aid status in order to surface problems unique to particular groups. Use this analysis to identify actions each campus department can take that will contribute to improved student outcomes.

Continue and increase investments in improving the academic preparation and college knowledge of BPS students attending non-exam schools.

This study provides evidence of the importance of high school preparation and college knowledge in enabling students to succeed in college, as revealed by the finding that exam school graduates persisted and progressed at substantially higher rates than non-exam school graduates.

Possible Actions—Academic Preparation

- Expand the availability of dual enrollment and AP courses. This is one of the goals of BPS Superintendent Carol Johnson’s “Acceleration Agenda,” which aims to graduate all students ready for college, work, and life. Several BHEP members currently provide dual enrollment courses for a small number of students at no cost.

- Improve teacher quality. Higher education institutions can play a key role in improving teacher quality by offering professional development in content areas and effective pedagogies, and by providing mentors and other support for new teachers who are graduates of their education programs.
- Expand after-school and summer academic enrichment programs that extend learning time beyond the traditional school day. Examples include the federally funded Upward Bound programs operated by Boston University and other area institutions, the University of Massachusetts Boston’s Urban Scholars Program, and the College Bound program at Boston College.

Possible Actions—College Knowledge

- Expand the college, school, and community partnerships that assist BPS students with college planning and the admission process. For example, TERI’s COACH Program involves Boston University, Suffolk, and Harvard students assisting BPS 12th graders with the college application process. And the Let’s Get Ready program has local college students helping 11th and 12th graders to prepare for the SATs and explore college options.
- Require all BPS high school students to take a college and career exploration mini-course (sometimes called an “advisory”) each year in the 12th grade, and include information about ways to ease the transition to college and strategies for success in the freshman year of college.
- Build the capacity of community-based programs such as ACCESS, Bottom Line, the Higher Education Resource Centers in Roxbury and Dorchester, and TERI’s College Planning Centers to serve larger numbers of BPS students. Working together, these programs can increase the college knowledge of *every* BPS student.

Increase the engagement of BPS graduates and other under-represented students in their college coursework and other academic experiences.

While this study did not look specifically at the academic engagement of BPS graduates, the findings suggest that some BPS graduates are more involved than others in their academic work. Continuously enrolled full-time students had higher rates of persistence,

progress, and performance than other BPS graduates. We suspect that these higher rates of success were due in part to continuously enrolled full-time students spending more time on campus where they were able to more easily be more engaged in their college coursework and related campus experiences.

Possible Actions

- Focus on what happens in the classroom. Involve students in purposeful academic experiences that include ongoing dialogue with faculty and other students, collaborative (project-based) learning, and respect for social and cultural diversity.
- Provide structured opportunities to ensure interaction between students and faculty through mentoring programs, study groups, and joint projects.
- Integrate academic support services into the classroom, including supplemental instruction, tutoring, and academic skill-building workshops that are connected to the coursework.
- Establish or expand targeted services and programs to help first-year students adjust to the campus environment and college-level courses. Examples include summer bridge programs and small learning communities through which students enroll together in two or more courses.
- Expand on-campus employment opportunities with competitive wages to increase the time students spend on campus and strengthen their connections with the campus community.

Develop strategies for improving student success based on an understanding of on-campus and off-campus contextual issues (financial, social, family and community) that affect the college achievement of BPS graduates.

Paying attention to the needs of different student groups, such as commuting students, part-time students, and students of color, can help campuses target support to mitigate the contextual challenges that students face in achieving college goals. College faculty and staff interviewed for this study noted the often negative effect of such challenges on the persistence and progress of BPS graduates.

Possible Actions

- Recruit and train college staff members to serve as ‘case managers’ for BPS graduates, working individually with students to help them solve problems caused by on-campus and off-campus contextual issues that interfere with their academic work.
- Take steps to reduce the financial pressures that lead BPS graduates and other students from low-income backgrounds to drop out or work so many hours they don’t have time for their studies. Such steps could include providing assistance completing the FASFA to every BPS graduate who has not already done so, offering a money management mini-course for first-year students receiving financial aid, and establishing an emergency no-interest loan fund for short-term financial emergencies, which otherwise would result in students withdrawing from a course or leaving college.
- Partner with community organizations that currently assist BPS high school students to extend that support through their first year or two of college. The Boston Private Industry Council and several other local organizations currently provide such support.
- Encourage parents and other family members to actively support their students’ college aspirations. Family members typically are the ‘advisors’ trusted most by first generation students, even when they have limited college knowledge. Helping families understand the demands of college and the ways in which they can support students can contribute significantly to increasing persistence

Build strong partnerships among key stakeholders in higher education, the Boston Public Schools, the Mayor’s office, and community, business and philanthropy to promote and support increased college success for BPS graduates.

Research, as well as the experiences of leaders in Boston and across the US, suggests that partnerships are a critical ingredient to the success of efforts aimed at improving college readiness and degree completion, especially for students who have been underserved in higher education.

Possible Actions

- Encourage and support ongoing partnerships between college faculty and student affairs staff—as well as high school teachers and counselors—to facilitate the integration of support services into students’ academic experiences.
- Involve BPS and area college staff in working together to align high school graduation standards with the knowledge and skills students need to succeed in first-year college courses. Engage parents and other family members as collaborators in supporting students’ efforts to meet the academic demands of college courses.
- Work with a task force of community organizations, employers, public officials, and philanthropic organizations to support individual students in overcoming challenges to college success and build citywide support for increasing the number of BPS graduates who complete college as a strategy for meeting the labor force needs of Boston’s knowledge-based economy.

Scale up effective practices and programs for improving persistence to serve all students on campus who need such support in order to succeed in college.

Every college and university participating in this study offers a wide range of programs and services designed to help students succeed academically. In many instances, however, these programs have the capacity to assist only a small percentage of the students who need such support. Scaling up effective programs and practices can be done by thinking innovatively, adjusting priorities, and leveraging existing resources to greater advantage.

Possible Actions

- Make college success for all students central to the work of the institution, with senior leadership conveying, campus-wide, the clear expectation that all students, whether full-time or part-time, have the ability to succeed academically and can count on faculty and staff to support them in their efforts to achieve their postsecondary goals.

- Focus on a small number of strategic problem areas identified by examining data on student academic achievement and success. Have campus leaders, teaching faculty, and student affairs staff work together to develop integrated plans for addressing these problems, giving everyone defined roles and responsibilities.
- Provide faculty and staff who have direct and regular contact with students incentives to increase campus-wide student persistence and progress. (Faculty typically have greater organizational influence with students than others in the college community.)
- Cultivate a campus culture that embraces and values diversity and differences among students, and provides ways for students of all backgrounds to engage actively in the college community.

Research Recommendations

In order to better understand what high school, higher education, and community leaders can do to improve the college success of BPS graduates, research exploring the following questions would be useful:

College Knowledge. How do BPS students acquire and apply college knowledge as they transition from high school through their first year of college?

Academic Engagement. How do the processes by which students become academically engaged and sustain that engagement vary by type of student, especially part-time or commuter students? What institutional policies and practices increase engagement for part-time and commuter students?

Contextual Factors. What challenges do contextual factors, both on and off campus, create for students as they make progress toward a college degree? What are some successful strategies that students use to meet these challenges? What are colleges doing to ensure students are able to use those successful strategies?

Going to scale. What are the critical factors involved in bringing effective programs and practices to scale?

Conclusion

Boston can make substantial progress in improving the college completion rates of Boston Public Schools graduates if we act on what we know works. Such efforts will succeed if we begin by looking at data on the college experiences of BPS graduates and identifying a small number of strategic problem areas on which to focus. These efforts should be based on what the research tells us are highly effective practices and policies for improving the college achievement of underserved students, such as increasing the engagement of students in their college coursework and reducing the challenges created by on-campus and off-campus contextual factors. Finally, these efforts will require the participation of college faculty and staff campus-wide as well as BPS staff in developing action plans for needed changes and taking responsibility for implementing such plans.

For the city to meet 21st century economic and social needs, college readiness and success for all students needs to be central to the life and focus of all Boston high schools and higher education institutions enrolling BPS graduates. Achieving a goal as ambitious as “college for all” starts with strong leaders who are visibly committed to this important work—from college presidents to high school principals to board members and heads of nonprofit organizations to members of the School Committee. It means that everyone who touches the lives of Boston’s public school students or their families must embrace this goal and assume responsibility for achieving it. Commitment and responsibility—combined with using knowledge gained from research to inform decisions—is the only way to achieve the changes necessary to dramatically increase the numbers of BPS graduates completing college degrees in future years.

APPENDIX A

Research Design and Methodology

Quantitative Data: College Transcripts

This study combined the original dataset from BHEP's 2006 study with updated data from the original 10 colleges and data from 13 new colleges. Almost every college that was a member of BHEP was invited to participate. In addition, other colleges that had enrolled more than 25 2005 BPS graduates were invited to participate.³² All but one of these top receiving colleges of BPS students participated. Thus, this database is a combination of top receiving colleges for BPS graduates and of other BHEP members interested in participating. All but two of the colleges were BHEP members. All colleges were located in Massachusetts and all but one were within 20 miles of Boston.

The second round of quantitative data collection occurred between October 2007 and January 2008. All participating institutions were provided with a list of College Board/ACT high school codes for every BPS high school to identify BPS graduates and asked to provide anonymous student record data. Students had to have graduated from BPS in 2003, 2004, and 2005 and be part of the institution's Fall 2005 IPEDS (Integrated Postsecondary Education Data System) first-time, full-time cohort. Colleges were asked to provide the following data:

- 1 Student course taking records (course name, course number, department, credits attempted, credits earned, grade received, and a code for developmental, English as a Second Language, or regular college course) for four semesters (Fall 2005, Spring 2006, Fall 2006, and Spring 2007);
- 2 Enrollment data for Fall 2007. Colleges indicated if a student was enrolled or not for the Fall of 2007. Two-year colleges were also asked to identify any student who had received an associate degree;
- 3 Calculated variables for total credits attempted and total credits earned in each semester of the regular academic year between Fall 2005 and Spring 2007;
- 4 Student background information: demographics (race and gender); high school of graduation; and SAT scores (four-year colleges only);
- 5 Number and type of pre-existing credits upon matriculation (AP, dual enrollment, summer bridge program, etc.).

This was the same set of data requested in the 2006 BHEP study, but the first study only requested information for the 2005/06 school year. Consequently, colleges that participated in the first study were asked only to provide course taking records and calculated variables for the 2006/07 academic year as well as enrollment information for fall 2007.

All student identifiers were stripped. There is information only from the institution where the student started college. There is no information on whether or where any student transferred to another institution.

College Selectivity

Colleges were divided into four selectivity categories: four-year more selective, four-year medium selective, four-year less selective, and two-year colleges. For four-year colleges, categories were based on the institutions' overall median SAT scores. The more selective colleges' median combined Verbal and Math SAT scores were above 1,100. Medium selective colleges' median combined SAT scores were between 980 and 1090. Less selective colleges' median combined SAT scores were below 950. Note that one less selective college did not report its median SAT scores since it does not require students to submit them. In this case, we used the percent of students admitted to place them in the less selective category. Note that two-year colleges do not collect SAT scores and hence do not report institutional averages for them.

There are no other studies that examine BPS graduates using these types of selectivity groups and no other source of information for the portion of BPS graduates enrolled in each college selectivity category.

Exam School Status

Students were designated as having exam school status if they had graduated from Boston Latin School, Boston Latin Academy, or the John D. O'Bryant School of Mathematics and Science. All other students were designated as non-exam.

Students are admitted to exam schools based on their grade point average (GPA) and results of the Independent School Entrance Examination (ISEE) (administered by the BPS). Students are admitted to the exam schools in grade 7 or 9 (with a small number of students admitted in grade 10 to the O'Bryant School of Mathematics and Science).

Developmental Status

Using course taking records, students who had a developmental course on their transcript were designated as "developmental." All others were designated as non-developmental. A developmental course was defined as a college course designed to allow students to improve their academic skills so that they would be able to succeed in their colleges introductory courses. Students who passed the course earned academic credits for the course, but the credits did not count toward graduation.

In the calculated variables of credits attempted and earned, developmental and regular courses were included. Analysis revealed that all but a few students who were able to reach at least satisfactory progress (accumulated 40 credits over two years) had taken at most one developmental course. It seemed reasonable to include these students in the "satisfactory" level of progress, as making up the three credits which had not counted toward college credit seemed like a reasonable task.

Data Cleaning

The data was cleaned to resolve any discrepancies between the course-level data and the calculated variables. In particular, grade point averages were re-calculated using the individual course data. All variables related to grade point averages used the re-calculated variable. In addition, a few colleges' individual course record data did not correspond to the calculated variables for attempted and earned credits. Consequently, the attempted and earned credits for these colleges were re-calculated using the individual course record data.

One college's dataset did not have any students who never enrolled after the first semester. Since this was a two-year college, it seems likely that the college merely did not include these students (rather than all the students who had entered continuing into the second semester). We decided to continue to include this college, since the calculations for continuously enrolled or intermittent enrollment would not have been affected. Nevertheless, the percent of students at two-year colleges who did not persist after the first semester (as well as the combined category of those who did not persist after the first or second semester) at the starting institution is probably somewhat high.

Statistical Significance Tests

All analysis was conducted using STATA (statistical software). All findings presented here are statistically significant to at least the .05 level using Chi Squared or Fisher's Exact test. Fisher's Exact test was chosen when cell sizes were small.

When the number of students in a sub-group was less than five, the data is not reported for that subgroup. There were two colleges with less than five students in the initial dataset. These colleges were not included in the institutional analysis. In addition, three colleges had fewer than five students who continuously enrolled full-time. Percents for these colleges were not included in the institutional analysis examining progress and performance.

Qualitative Data Collection

Faculty and Staff Interviews

The faculty and staff interviews were conducted in the Fall of 2007 by the first author. Faculty and staff were recruited through the BHEP college liaison and the research study's Advisory Group. The original intention was to conduct only individual interviews with faculty and staff, but often interviewees invited other colleagues to join them and so many became group interviews.

These interviews were a convenience sample based on the relationship that a college's BHEP liaison or a member of the study's Advisory Group had with staff at their institution or organization. All faculty and staff interviewed worked with first generation students in their first or second year of college. (Faculty and staff generally were not aware of where their students graduated from high school and could not speak to the uniqueness of BPS graduates.) An effort was made to interview people from both two- and four-year colleges; public and private institutions; and institutions with varying selectivity.

In all, 10 interviews at five colleges and one nonprofit were held, involving 24 interviewees. Five individual interviews and five group interviews were held. Group interviews had from two to five participants. Every college selectivity group was represented, and interviews were held at both public and private colleges. All interviews were conducted on-site. All were taped and transcribed.

The interviews were open-ended and exploratory in nature. One of the goals was to collect topics to explore in the quantitative analysis. (See "Faculty and staff interview questions" below.)

Student Focus Groups

The student focus groups were conducted in the spring of 2007 by the first author. Students from a sub-set of 10 participating colleges were invited to participate. These colleges were chosen to ensure that both two-year and four-year colleges, public and private colleges, and colleges with varying selectivity would be represented.

The students interviewed are a convenience sample based on the relationship that a college's BHEP liaison had with staff or students at their institution or organization. The participating college's BHEP liaison (or a member of their staff) recruited students for the focus group and arranged for a meeting space at their institution. All students were current second year students who graduated from the Boston Public Schools and began college full-time (at least 12 credits) in the Fall of 2006. We chose to interview second-year students rather than the students in the 2005 cohort because we believed it was important to get a sense of how second-year students viewed college, rather than students providing a retrospective on the early years (the 2005 cohort would have been in their third year of college).

In all, seven focus groups at seven different colleges were conducted. The groups ranged in size from two to five for a total of 23 students. Of the 23 students interviewed, four had graduated from an exam high school and 19 from a non-exam school; nine were male and 14 female; seven students identified themselves as African American, eight as Latino, one as Asian, four as white and three as bi-racial; 13 of the students' parents had not attended college. The group interviews took between 45 minutes and 1½ hours. A cash stipend of \$35 was offered to all students completing the focus group. Focus groups were taped and transcribed.³³

The interview protocol was open-ended. Topics were introduced and prompts used as needed. Students were asked to discuss: 1) progress and persistence (making progress towards a degree); 2) performance (doing well in classes and keeping up grades); and 3) life outside of college (balancing college and other commitment and activities) (see "Student Focus Group Interview Questions" below). In addition, students were asked to fill out a one-page questionnaire regarding their college experience.

We had expected to have larger focus groups and conduct them at more colleges, but recruiting second-year students based on their high school proved to be more difficult than anticipated.

Institutional Profiles

A profile for every college was developed (and compiled into a table) that included institutional attributes. Information was gathered from the web sites of the Integrated Postsecondary Education Data System (IPEDS), the College Board, and individual institutions. The following information was collected from IPEDS: graduation rate in 150% of expected program time; median SAT; and undergraduate enrollment. From the College Board, the following was collected: percent admitted; percent of all undergraduates living in college housing; average percent of student financial need met; and tuition and fees. The information on student support services was compiled from the colleges' own websites.

Faculty and Staff Interview Questions

- 1) What are the strengths and weaknesses that students who are first generation/BPS graduates bring to the classroom? What skills, characteristics do the students who succeed bring with them? Those who don't make it, what are they lacking? (Note: The study is looking at full-time students, just out of high school) Have you noticed anything unique about BPS grads compared to other first generation students? In your classes, do you know if a student is 1st generation? Low-income? From BPS?
- 2) What are some of the particular challenges first generation face during their second/sophomore year (academic, financial, time pressures, social, family)? How are the challenges different from their first year? (their 3rd and 4th year?)
 - a) What academic issues most often interfere with students' capacity to succeed?
 - b) What non-academic issues interfere with first generation students' capacity to succeed?
 - c) What strengths do students rely on in their second year?
 - d) How do students' experiences in their first year shape their second year experience? (What has to happen in a student's first year, to allow him or her to be successful in their second?)
- 3) In what ways do outside influences (family, work, church) help these students succeed?
- 4) How often do first generation students come to you with academic issues? Non-academic issues? Does this differ for first and second year students?
 - a) When, and in what way, do you approach them about an academic issue? What are some of the things you do to help these students academically?
 - b) Who do these students seek out within the institutions to help them?
- 5) What challenges do you face in teaching these students? How does teaching first year BPS (first generation) students differ from teaching them in their second year?
- 6) What sorts of things do you do in your classes that you find benefits first generation students in particular (e.g. curriculum, readings, pedagogy (projects, cooperative learning), study groups, assignments, requirements, creating classroom community)?
 - a) Have you had to change your teaching to accommodate first generation students' learning needs?

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- 7) What is your institution doing that helps first generation students succeed? What is it doing that hinders their success? What more could this institution do to help these students succeed? What recommendations or changes would you make to help more students graduate?

Student Focus Groups Interview Questions

A. Making progress towards a degree (Progress and Persistence)

1. What advice would you give to an incoming freshman from BPS about how to plan his/her course schedule each semester (number of classes/credits to register for; how to choose the particular courses)?
2. Who should they ask for help in planning their schedule? How and when? Who do you ask (advisor, other professor or staff, friends, family)? How do they help you?
3. What steps should they take to make certain they will be able to handle all their classes and do as well as possible in them? What should they do to try to balance their other commitments/responsibilities (work, family, extracurricular) when they plan their course schedule? Give some examples of what you've done; (e.g. take less than a full course load, take some easy courses, arrange schedule so classes meet at convenient time)
4. Is there a class or two (or professor) that you would highly recommend as a way to prepare academically for future courses? Why? (What class has helped you the most academically? Set you up to do better in subsequent course? What did you learn?)
5. What advice would you give on taking summer courses? Why?
6. If appropriate for college: What about taking developmental courses. What advice would you give? (A developmental course is a reading, writing, or math course where you receive credit, but not credit towards graduation.) (What should they do to ensure that it prepares them for next level of college course? If you took one, how was your experience different in developmental courses versus regular college courses?)

B. Doing well in classes/keeping up grades (Performance)

1. First, what do you consider doing well in a class? (What you think of as a good grade? A satisfactory grade?)
2. What advice would you to give to a BPS grads about doing well in their classes and keeping up their grades?
3. Let's talk about a few things that students can do to keep up their grades:
 - a) Study: Talk a little about when, where, and how and how much you'd advice someone to study. (What has worked for you and why?)
 - b) Study groups. Talk about the pros and cons of study groups (including just studying together with friends). What has worked for you and why? Which class? How was it formed? How often did it meet? In what ways did it help you (or not) do better in class?
 - c) Talk with professors: What advice would you give about talking with or getting to know professors? What has worked for you? (How often, when, and for what, do you talk to your professors? Do you go to office hours? For what? How was it helpful—or not? Do you see professors outside of class? At other campus events?)
 - d) Tutoring: When should a student seek out tutoring? Where are good places to go on this campus? (Give examples from your own or other students' experiences. Where? Who tutored you? How often? How did you find out about it? Did it help? Did it cost anything?)

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4. What are some things that staff on this campus do to help students do well academically (academic support centers or personal counseling center or minority student support program)? Are there any other programs or people who are able to help students do better in their classes?
 5. What would you tell someone if they were having difficulty keeping up with classes? (What do you think gets in the way? What are some things people on campus could do?)
 - a) What would you advise someone to do if they were in danger of failing a course? (Have you ever a dropped or failed a class? What happened? What semester was it?)
 - b) What was your hardest class and why? What steps did you take to try to do well?
 - c) What was your hardest semester and why? What steps did you take to get through it?
 - d) Under what circumstance would you advise someone to take a course over to get a better grade? What have been your or other students' experiences? What was different about the second time? (Better or worse experience? In what ways?)
 6. If someone was feeling discouraged about college or thinking about dropping out, what would tell them? (Have you ever thought about dropping out? What made you stay?)
 7. Under what circumstances, do you think someone should transfer from this college to another one? (Have you ever thought about transferring? If yes, why?)

C. Life outside of college: How it supports or interferes with doing well in college (Contextual Issues)

1. If appropriate for college: Are you are living on or off campus? What are the pros and cons of living on-campus? Off campus?
2. What advice would you give students to help them manage college course work, family and social life? When they have time conflicts, what should come first?
3. Work: What is the maximum number of hours a week that you would advise a student to work? What are some of the way that work can get in the way of studying or going to class as much as one should? In what ways can a job (or people at a job) help someone do better in college? (Can you give some examples from your own experience?)
4. Family: What advice would you give someone who has a lot of family responsibilities about how to balance family and college life? What are the ways that a family can support a college student? How can families get in the way of doing well in college?
5. Activities: What advice would you give to someone about getting involved in extracurricular activities or socializing? (on-campus? off campus?) In what ways can these activities help someone do better in college? In what ways can they get in the way?
6. Financial Aid: Is the financial aid that students receive at this college enough to cover the expenses associated with attending? (If not, what doesn't it cover? What is the most difficult expense to make up? What expenses are students most surprised about or are often higher than expected? What advice would you give a student about how to make ends meet?)

APPENDIX B

Institutional Attributes and Academic Support Services

Institutional Attributes of Participating Colleges

	College with highest rate of academically successful students who graduated from BPS	College with lowest rate of academically successful students who graduated from BPS
Graduation rate 150% of expected program time *		
4-Year More Select	88%	65%
4-Year Medium Selective	57%	33%
4-Year Less Selective	60%	20%
2-Year	41%	12%
Median SAT of entering students*		
4-Year More Selective	1,335	1,140
4-Year Medium Selective	985	1,005
4-Year Less Selective	940	Not reported
Undergraduate enrollment*		
4-Year More Selective	9,880	19,823
4-Year Medium Selective	727	9,246
4-Year Less Selective	860	1,212
2-Year	438	8,212
Percent undergraduates living in college housing**		
4-Year More Selective	82%	60%
4-Year Medium Selective	70%	0
4-Year Less Selective	74%	51%
2-Year	0	0
Tuition and fees (in-state) **		
4-Year More Selective	\$37,950	\$ 9,924
4-Year Medium Selective	\$27,205	\$ 8,840
4-Year Less Selective	\$27,800	\$23,225
2-Year	\$13,350	\$ 3,180
Average percent of financial need met **		
4-Year More Selective	100%	82%
4-Year Medium Selective	69%	84%
4-Year Less Selective	60%	Not reported
2-Year Select	Not reported	Not reported

* Source: Integrated Postsecondary Education Data System (IPEDS; <http://nces.ed.gov/IPEDS>) ** Source: College Board (<http://collegesearch.collegeboard.com>)

Academic Support Services

Institution	Extensive Undergrad. Evening/ Early Morning Classes	Learning Center	Reduced Course Load	Remedial Instruction	Study Skills Assistance	Tutoring	Writing Center	Career Counseling	Trio Student Support Services Program	Financial Aid Counseling	Pre-admission Summer Program	Freshman Orientation	Minority Student Services (e.g. AHANA)	Services for Students w/ Learning Disabilities	Computer Services: # of Work Stations
Four-Year More Selective															
College A	X	X			X	X	X	X	X	X	X	X	X	P	1000
College B	X	X			X	X	X	X		X		X	X	C	750
College C	X	X	X		X	X	X	X		X		X		P	250
College D		X	X	X	X	X	X	X	X	X	X	X	X	C	1993
College E	X		X	X		X	X	X		X	X	X	X	P	250
College F	X	X			X	X	X	X		X		X	X	C	N/A
Four-Year Medium Selective															
College G		X	X	X	X	X	X	X		X	X	X		P	120
College H	X	X	X	X	X	X	X	X		X	X	X	X	P	1232
College I		X	X		X	X	X	X		X		X	X	P	500
College J		X	X		X	X		X		X		X	X	P	370*
College K	X	X		X	X	X	X	X		X	X	X	X	P	145
College L	X	X	X		X	X	X	X	X	X		X	X	P	232*
College M	X	X	X	X	X	X	X	X		X	X	X	X	P	325
College N		X	X		X	X	X	X		X	X	X	X	C	195
Four-Year Less Selective															
College O	X	X	X		X	X	X	X		X		X	X	P	196
College P		X	X		X	X	X	X	X	X		X	X	P	108
College Q	X	X	X	X		X	X	X	X	X	X	X	X	C	84*
College R	X	X	X	X	X	X		X		X		X		P	100
College S		X	X	X	X	X	X	X		X		X		P	60
Two-Year															
College T		X	X	X	X	X		X		X	X	X			
College U	X	X		X		X		X		X		X		P	52
College V	X	X	X	X	X	X	X	X		X		X		P	550
College W	X	X	X	X	X	X	X	X	X	X	X	X		P	640

Source: Individual College Web sites

* PC required

P= partial

C= comprehensive

APPENDIX C

Participating Colleges and Universities

Benjamin Franklin Institute of Technology
Boston College
Boston University
Bunker Hill Community College
Emmanuel College
Fisher College
Framingham State College
Lesley University
Massachusetts Bay Community College
Massachusetts College of Art and Design
Massachusetts College of Pharmacy and Health Sciences
Mount Ida College
Northeastern University
Pine Manor College
Regis College
Roxbury Community College
Simmons College
Salem State College
Suffolk University
University of Massachusetts Amherst
University of Massachusetts Boston
Wentworth Institute of Technology
Wheelock College

Endnotes

1. A developmental course (also referred to as a remedial course) is a course designed to allow students to improve their academic skills so they will be able to succeed in their college's introductory courses. Students who pass the course earn academic credits for the course, but the credits do not count toward graduation. Developmental courses are offered in math, writing, and, at some colleges, reading.
2. For students at four-year colleges, the seven year graduation rate was 48% with another 12% still enrolled without a degree; and for two-year college, the graduation rate was 13% with another 18% still enrolled without a degree (Boston Private Industry Council 2008: 38)
3. A developmental course (also referred to as a remedial course) is a course designed to allow students to improve their academic skills so they will be able to succeed in their college's introductory courses. Students who pass the course earn academic credits for the course, but the credits do not count toward graduation. Developmental courses are offered in math, writing, and, at some colleges, reading.
4. For a more detailed discussion of the study's design and methodology, see Appendix A.
5. For more discussion of this issue of representation, see Appendix A. Except for the Boston PIC studies, there is no other study examining BPS graduates attending both public and private colleges.
6. Horn et al. looks at students entering college for the first time in 1995-95 and uses the National Center on Education Statistics' dataset, Beginning Postsecondary Students Longitudinal Study (BPS:90/94 and BPS:96/01).
7. Chen's data contains students scheduled to graduate from high school in 1992 and uses Postsecondary Education Transcript Study (PETS) that is part of the National Education Longitudinal Study of 1988 (NELS:88).
8. The study used the National Center for Education Statistics' NELS:88/2000. It includes high school graduates from the class of 1992 who enrolled in a four-year postsecondary institution at least once between 1992 and 2000. The maximum postsecondary time for these students to earn a degree was 8.5 years. Note that it does not include postsecondary students who only enrolled in two-year or less than two-year colleges.
9. Many of these researchers have also looked at how institutions influence student behavior and attitudes. This is examined in the final section on institutional factors.
10. See Appendix A: Study Design and Methodology for a discussion of the representation of sample. There is no other study that divides BPS graduates into these selectivity groups.
11. SAT scores for one four-year college were not available. Two-year colleges do not require students to submit SAT scores. The combined score of 1000 is the median score of the sample.
12. In 2005, 1600 was the maximum combined SAT score.
13. Recall that only students who began full-time were included in the study.
14. Of course, those who did not persist at their starting institution may also have had the intention to persist in college; it's just not revealed in this data.

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15. One two-year college's dataset contained no student who never enrolled after the first semester. Since this was a two-year college, it seems likely that the college merely did not include these students (rather than all students who entered continuing into the second semester). We decided to include this college, since the calculations for continuously enrolled or intermittent enrollment would not have been affected. Nevertheless, the percent of students at two-year colleges who did not persist after the first semester at the starting institution (as well as the combined category of those who did not persist after the first or second semester) is probably somewhat high.
 16. Note that credits from all courses—including developmental and regular college courses—were included. Including developmental credits did not substantially change the outcomes. See section on developmental status in Appendix A for further explanation.
 17. Degree completion in 150% of expected program time was chosen because it is the measurement used by IPEDS (the U.S government's Integrated Postsecondary Education Data System) to report graduations rates. The measure of 150% of expected program time was defined as earning at least 40 credits over two-years (20 credits a year on average) for all persisters—continuously enrolled full-time, continuously enrolled part-time and intermittent students. For non-persisters, a measure using only the semesters in which students enrolled was used. Students who had enrolled for both semesters of the first year were considered to have reached satisfactory achievement if they had earned at least 20 credits in the first year. Students who had only attended for one semester were considered to have reached satisfactory achievement if they had earned 10 credits in the first semester.

These are rough figures for 150% of expected program time, because the number of credits required to graduate varied among colleges. At four-year colleges, the number of credits needed to graduate varied between 120 and 144. At two-year colleges, credits required ranged from 60 to 72. So for four-year colleges which required 120 credits to graduate, students would need to average 20 earned credits a years to graduate in 6 years (or 150% of expected program time). For two-year colleges which required 60 credits for graduation, it would take 3 years (or 150% of expected program time). For colleges which required more than 120/60 credits to earn a degree, this variable over-estimated those making satisfactory progress.

18. A "C" average (2.0 GPA) was chosen as a cut-off, because at most of the participating institutions, a 2.0 GPA was the minimum needed for a student to graduate (and at many colleges, a lower GPA put a student on academic probation).
19. For example, to transfer from a Massachusetts public two-year college to a state college or university, generally a minimum of a 2.0 GPA is required. However, if a student has between 12 and 23 credits and no high school transcript, a 2.5 GPA is required.
20. Using excessive withdrawal as a measure of low progress was chosen because national research has shown that excessive withdrawal is a significant deterrent to degree completion (Adelman 2006: 73-76). The assumption here is that excessive withdrawal or failure in the first two years will substantially slow down progress towards a degree.
21. For an in-depth discussion of academic momentum using national-level data, see Adelman 2006.
22. The study did not distinguish between failed credits and withdrawn credits—both were marked as attempted but unearned credits. It is important to make clear the difference between failed and withdrawn credits. In grade point average calculations, failed credits (those receiving an "F") are counted as zero in the numerator and the number of credits attempted is added to the denominator (and so lowering a GPA). Withdrawn credits, on the other hand, are left out of the grade point calculation all together (and so have no effect on the GPA). Thus, for continuously enrolled students, given the relatively high GPAs and the high number of "unearned" credits, it seems reasonable to assume that a good proportion of the unearned credits were in fact withdrawn credits.

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23. This rate of 100% of expected program time (good progress) took into account the variation in number of credits required to graduate between institutions. The calculation to determine if a student had reached the “100% program rate” used the number of credits required to graduate from the college in which the student was enrolled. Thus, a four-year college student with a “good progress” status would have earned half the credits needed to graduate from the institution in which she or he was enrolled. A two-year college student would have earned all the credits required for graduation over two years.
 24. The other exception was continuously enrolled full-time students at more selective colleges where 63% had rates of high progress and 48% had rates of high performance. Since the rates are high on both measures and these colleges are known for their high standards, the fact that students were less likely to be earning “B”s in their classes was not particularly surprising.
 25. For findings with national-level data, see Adelman 2006.
 26. Recall that satisfactory achievement is defined as earning credits at a rate to graduate in 150% of expected program time and earning at least a 2.0 GPA.
 27. Recall that satisfactory achievement is defined as accumulating earned credits at a rate to graduate within 150% of program time and earning at least a 2.0 GPA.
 28. High progress is defined as accumulated credits at a rate to graduate within 100% of program time. High performance is defined as a 3.0 GPA or better.
 29. Because more selective and medium selective colleges had too few students taking developmental courses to draw meaningful conclusions, analysis here is limited to four-year less selective and two-year colleges.
 30. For an overview of some these complexities, see Bailey et al. (2008) or Attewell et al. (2006).
 31. For further discussion of “college knowledge,” see Conley 2005.
 32. These figures of college enrollment were obtained from the Boston PIC 2007:16.
 33. One focus group was not taped due to equipment failure and so was written immediately following the session based on the author’s notes.

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