To Take or Not to Take:

Factors that Influence the Decisions that Students Make
About Taking College-Level Courses in High School

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Abstract

This descriptive and exploratory study investigates the factors that influence the decisions that students make about taking college-level courses in high school. While the study examines the decisions of high school students from across the distribution of student achievement, it pays particular attention to the decisions of students in the academic middle. Ten factors with the potential to influence those decisions were identified through a review of relevant literature on college readiness, high school reform, academic motivation and adolescent decision making. To capture students' perspectives on those potential factors, a survey was developed and administered in a diverse group of seven high schools in the Minneapolis/St. Paul metropolitan area in the spring of 2012. Qualitative data were also gathered at two of those schools, both of which were large suburban high schools. Through the focus groups and interviews conducted at those schools, two additional factors that could influence student decisions about college-level course taking were identified.

The study concludes that the following three factors are highly influential in shaping students' decisions about taking college-level courses: (1) the economic incentives of earning college credit in high school, (2) the signals that higher education institutions send to high school students, and (3) the level of effort that students exert in school. The study also concludes that insufficient access to college-level courses is not a major factor in students' course taking decisions at any of the schools that were studied. Finally, the study concludes that the following factors play a moderate role in course

taking decisions, but that further research is needed to more precisely determine the degree and type of influence these factors exert:

- The course registration process
- An inherent college-going orientation
- Students' actual and perceived level of academic readiness
- Interaction with adults at school
- Interaction with parents
- Interaction with peers
- Commitments outside of school
- The learning environment in college-level courses
- Interest in the subject being studied.

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Chapter 1

Purpose, Research Questions, Significance and Limitations of the Study

Purpose

Encouraging high school students to take college-level courses is now a major priority of educational policy at the local, state and national levels. In fact, as other waves of high school reform have receded in recent years, it is not an overstatement to say that increasing the number and diversity of high school students who take college-level courses has become the nation's most widely embraced strategy for improving high schools. Whereas reforms such as connecting school to work and creating small learning communities have largely lost steam, the number of high schools that offer college-level courses is great and growing.

The number of research studies that are examining the implications of college-level course taking is also on the rise. Scholar are working to understand, for example, if taking college-level courses in high school actually leads to higher rates of admission to and improved performance in college. Other researchers are beginning to ask if college-level course taking is a cost-effective strategy when the expenses and outcomes are examined across the entire secondary-postsecondary continuum. Still other scholars are beginning to examine the degree to which there are important differences in the outcomes of different approaches to college-level course taking in high school, such as those offered through the Advanced Placement (AP), International Baccalaureate (IB), College-in-the-Schools (CIS), and Postsecondary Enrollment Options (PSEO) programs.

But even as our understanding of the consequences and implications of college-level course taking is improving, comparatively little analytic light has been shed on why students choose to take – or not to take – college-level courses. That is a critical question because while states, school systems and schools can do a great deal to encourage students to take college-level courses, the decision to do so ultimately rests with the students themselves. It is also a question, however, that has been only briefly and tangentially addressed in the literature to date.

Research Questions

Three key questions guided the conduct of this study:

1. What factors affect the decisions of high school students – especially those in the academic middle – to take or not to take college-level courses?
2. What strategies could be put in place to increase the number and diversity of students who take college-level courses?
3. What findings from this study, if any, could inform other efforts to move students in the academic middle to higher levels of educational performance?

Significance

An extensive body of research has shown that the courses high school students decide to take or that they are placed in can have a significant effect on students' attitudes, achievement, aspirations, and attainment (Heck, Price, & Thomas, 2004). In fact, research has demonstrated that students' educational trajectories can be changed by taking a single high school course at a decisive moment in their academic and personal development (McFarland, 2006).

The college-level courses that are the focus of this study can and often do have a particularly large influence on students' attitudes and actions because they promise financial, educational and other benefits beyond high school. Given the promise of those benefits, it is not surprising that college-level course taking has become a pervasive practice in American high schools today. Wruck, Warren and Arbeit (2008) estimated that fully 30 percent of the undergraduate class of 2003 earned some type of college credit while in high school. Data also indicate that while the practice is already widespread, it continues to grow at a rapid pace. For example, over just the two year period between 2007 and 2009, the College Board (which administers the Advanced Placement program) reported that the percentage of American 11th and 12th grade students who took at least one AP test rose from 11% to 26% (Wruck, Warren, & Arbeit, 2008). While most students who take college-level courses in high school do so during their junior and senior years, the practice is increasingly occurring earlier than that. In 2012, for example, Minnesota passed legislation requiring schools to allow 10th grade students who meet certain criteria to take college classes through the state's Postsecondary Enrollment Options Program.

Allen's comprehensive literature review and bibliography (2010) summarized the outcomes that proponents of taking college-level courses in high school argue the practice will help to increase:

- Facilitating the transition between high school and college
- Allowing students to complete a college degree faster

- Reducing the cost of a college education
- Decreasing high school dropout rates
- Preparing students for college work and reducing the need for remedial coursework
- Enhancing the high school curriculum
- Making more effective use of the senior year of high school
- Developing the connection between high school and college curricula
- Raising students' motivation and desire to attend college
- Acclimatizing students to the college environment
- Freeing space on college campuses
- Improving relationships between colleges and their communities
- Enhancing educational opportunities for underserved student populations.

Although the body of research on college-level course taking is significant and growing, a number of researchers have suggested that insufficient attention is being paid to why students choose to take or not to take such courses in the first place (Michelau, 2006; Johnstone & Del Genio, 2000). Several prominent scholars have suggested that this insufficient attention is the result of seeing students as passive participants in the course taking process. For example, Schneider, Kirst and Hess (2003) observed that, "When researchers have examined student course choices, some have concluded that students have little agency in determining what classes they will take in high school," but based upon their own study, Schneider, Kirst and Hess concluded that, "if researchers

place students entirely on the receiving end of school policies, teacher and counselor predilections, and parent influence, they underestimate the role students play in their own educational careers" (p. 60). Similarly, Adelman (2006) concluded his landmark study of high school course taking patterns by arguing that both scholars and policy makers should "respect students as active players, seeking and discovering paths to their education goals" (p. xvii).

Data that Orfield and Paul collected in Indiana in the 1990's also illustrates why it is important to better understand the factors that influence students' decisions about course taking. When the researchers asked high school seniors and their parents across the state who had the greatest influence over the students' choice of an academic program in high school, 88% of the students and 89% of their parents said it was the students themselves (Orfield & Paul, 1994).

Taken together, these observations by leading scholars underscore the importance of examining not only what might be called the *demand* side of the college-level course taking equation, but the *supply* side as well. This study attempts to help balance that equation through its examination of student and staff attitudes and actions in seven Twin Cities high schools.

Limitations

While this study makes a valuable descriptive and exploratory contribution to understanding how and why high school students choose to take college-level courses, four limitations should be kept in mind while reviewing its findings and should be addressed through subsequent research.

First, the study focuses on factors that influence students' decisions about taking their *first* college-level course. As such, it does not examine factors that influence how hard students work or how well they perform in that initial college-level course, nor does it examine what leads some students to take additional college-level courses. This limitation of the study is important to note because the greatest educational and economic benefits of college-level course taking appear to accrue to students who take more than one such course. David Conley (2005), for example, notes that it is completing a coherent *sequence* of college-level courses in high school that most effectively builds academic momentum and leads to college readiness. Adelman's calculations have also found that it is taking *more than one* Advanced Placement course among a broader battery of college preparatory courses that improves the chances a high school student will complete college (Adelman, 2006).

Although the average Advanced Placement student takes only one AP exam, 25 percent of all AP students take two tests, and almost 20 percent take three or more (Conley, 2010). Readers of this study should therefore keep in mind that while a student's decision to take an initial college-level course is a significant educational event, taking that single step does not, in itself, confirm that the student will reach college readiness. The strategies and structures that a high school must use to help students persist through multiple college-level courses may be different from those that are needed to convince the student to get on the college preparatory path for the first time. In other words, this study is the story of students considering and sometimes starting a new

academic journey, but it does not tell the important tale of how that journey progresses and ends.

The second important limitation of this study is that it combines three different types of courses into the single category of *college-level courses.* The first type is Minnesota's Postsecondary Enrollment Options Program (PSEO), though which high school funding covers the cost of participation in a course at a postsecondary institution. The second type is an Advanced Placement (AP) course, and the third is a College-in-the-Schools (CIS) course. None of the schools in the study offer the International Baccalaureate (IB) program, which is the other major high school program for which U.S. colleges and universities frequently award credit.

There are significant differences in the content and structure of AP, IB, PSEO, and CIS courses. Most notably for the purposes of this study, many colleges and universities require students to achieve at or above a predetermined score on the AP exam offered at the end of each Advanced Placement course in order to receive college credit for taking the course. AP exams are developed and scored by the College Board and therefore neither the student's high school nor the college he or she attends can influence the content or results of the exam. In contrast, a student who takes a College-in-the-Schools course is only required to complete the requirements that the sponsoring postsecondary institution sets for the course. Given this difference, a student who takes an Advanced Placement class and successfully completes all the course requirements but who does not achieve the required score on the final exam may not receive college credit for taking the course from the postsecondary institution that he or she attends. A student

who successfully completes all of the requirements of a CIS class would receive such credit.

It is beyond the scope of this study to examine college-level course taking through the granular lens that would make it possible to examine differences between these program types. Future studies of college-level course taking in high school should take such differences into account, particularly because such an inquiry could help researchers and practitioners better understand which types of college-level courses most effectively motivate students to take their first college-level class.

A third limitation of this study is that despite the best efforts of the author and of staff in the participating schools, it did not prove possible to recruit a sufficient number of parents to participate in the interviews that were included in the original research design. The author worked with school staff to recruit parent participants through letters, phone calls and conversations with the high school students who participated in the study. Despite those efforts, the number of parents who ultimately agreed to participate was insufficient to inform conclusions about parents' influence on high school students' course taking decisions.

This is a major gap in the study because parents must sign students' course registration forms and, as many students made clear during the focus groups they participated in for the study, parents play a large role in some (though by no means all) students' course taking decisions. In addition, studies of school change have shown that parents play a significant role in shaping school culture (Kruse & Louis, 2009). Unfortunately, the influence of parents is only indirectly included in this study through

the survey and interview/focus group responses of students and school staff. Future studies should seek to fill this void by examining parents' understanding of and involvement in the course selection process.

The fourth limitation of this study involves the two schools at which qualitative data were gathered, which are identified in this paper as Thomasville High School and Adamstown High School. Both schools are located in relatively homogenous although demographically changing suburbs of Minneapolis-Saint Paul. That geographic and demographic similarly makes the schools good points of comparison for each other, but limits the conclusions that can be reached from the qualitative data gathered at those schools. It is reasonable to expect, for example, that the experiences and perspectives of students and staff at two large suburban high schools are different from the experiences and perspectives of students and staff in urban and rural schools, or in high schools with higher poverty rates or more students of color. Additional analysis can and should be conducted at those types of educational settings in the future.

Chapter 2

Literature Review

Most researchers who have studied curricular choice in education have posited that students (and/or their parents) are rational actors who compare what they can potentially gain from choosing an educational option with the costs and risks that option also could incur at each step in their educational journeys (Limor, Shavit, & Yaish, 2009). Using such a rational conceptual frame, a high school student trying to decide if he or she should take a college-level course might consider the benefits of doing so to include an

improved chance of admission to a competitive college and an improved chance of entering a lucrative profession. Conversely, the same student might consider the risks of taking a college-level class to include failing to perform well in or complete the course, thereby reducing his or her GPA and chance of admission to a desired postsecondary institution.

Though their study is now more than twenty-five years old, Powell, Farrar and Cohen's book, The Shopping Mall High School: Winners and Losers in the Educational Marketplace (1985), still accurately describes the environment within which most students evaluate the costs and risks of taking different educational pathways through high school. The study found that students' course taking decisions were based on a broad and disparate set of priorities, including how well they liked the subject being studied, how difficult they considered that subject, how they viewed their own intelligence, and how many of their friends were planning to take the class. The study also found that some students choose classes for no reason at all.

The Shopping Mall research paid particular attention to the ways that students in the academic middle (what the authors called the "unspecial" students) chose their courses. The researchers found that those students' course choices were often random and incoherent and were not guided by any framework for sequential learning. The study concluded that the unspecial students did not know their teachers as well as students on the top track in their schools, and that they lacked basic information about school organization and career requirements. Those gaps in student information and

understanding formed what the study called “a major barrier to informed self-direction” (Powell, Farrar & Cohen, 1985, p. 182).

Since the publication of The Shopping Mall High School, few other major studies have examined the decisions that students in the academic middle make about choosing courses in general or choosing college-level courses in particular. Instead, the studies that have examined course choices since the 1980’s have generally focused on the most academically successful students in America’s high schools. For example, Immerwahr and Farkas (2006) examined the ways that gifted students in 24 high schools in seven states made decisions about taking AP and IB classes. The study found that those students perceived the following as benefits of taking an AP or an IB course: (a) a better class atmosphere than in general education courses, (b) a special bond among participants, and (c) pride and self-confidence from completing more challenging coursework. The study also found that gifted students saw the following disadvantages of taking an AP or IB class: (1) being linked to unflattering stereotypes of AP and IB students, (2) heavy workload and (3) stress and fatigue.

Given that the body of literature that examines student decisions about taking college-level courses is not large, the literature review conducted for this dissertation also examined relevant strands from recent research in the related fields of high school reform, college readiness, and adolescent decision making. Through that review, ten factors that have the potential to influence the decisions that high school students make about to taking a college-level course were identified. Those ten factors are:

1. Access: The degree to which the students have access to college-level classes

2. Economic Incentives: The degree to which students understand the economic and other benefits of college and/or the potential financial benefits of taking a college-level course in high school
3. Signals From Higher Education: The degree to which students receive, understand and act upon signals about college admissions and success
4. The Course Registration Process: The way the school provides students with information about college-level courses
5. College-Going Orientation: The degree to which students are inherently oriented toward attending and completing college
6. Effort: The amount, type and duration of effort that students put into succeeding in school
7. Academic Readiness: The degree to which students believe that they posses the knowledge and skills to succeed in a college-level course
8. Interaction with Adults: The frequency and the character of interaction that students have with adults about college-level course taking and related subjects
9. Interaction with Peers: The frequency and character of interaction that students have with peers about college-level course taking and related subjects
10. Outside Commitments: The frequency and intensity of students' commitments to extracurricular activities, jobs and other activities outside school.

Relevant insights from research on each of these ten factors are presented below.

Factor 1: Access

Students cannot take a college-level course, of course, if they do not have access to one. According to the most recent comprehensive national survey of college-level high school courses, 71 percent of all U.S. high schools offered at least one such course during the 2002-2003 school year. 67 percent of high schools offered Advanced Placement courses and 2 percent offered International Baccalaureate courses. The survey found that, in general, the larger the high school, the more likely it is to offer college-level coursework. The data showed that 40 percent of small high schools (with enrollments below 500 students) offered AP courses, while 82 percent of medium-sized high schools (with enrollments between 500 and 1,100 students) and 97 percent of large high schools (with enrollments of over 1,200 students) did. 50 percent of high schools in rural areas, 72 percent of high schools in towns, 77 percent of high schools in urban areas and 87 percent of high schools in suburbs reported offering AP courses. The rates of participation in college-level courses other than Advanced Placement were 70 percent in rural high schools, 79 percent in towns, 65 percent in cities and 74 percent in suburbs (Planty, Provasnik, & Daniel, 2007).

Because the Institute for Education Sciences (IES) conducted its national survey of college-level course taking nearly a decade ago, and because the emphasis on accelerated coursework and on college readiness in U.S. high schools has increased since that time, it is reasonable to assume that college-level courses are even more broadly available in American high schools today. Moreover, for students whose schools do not offer college-level courses, it is increasingly possible to enroll in such a course at a nearby institution of higher education through vehicles such as Minnesota's

Postsecondary Enrollment Options (PSEO) program. Students who do not have access to a college-level course at their high school or a nearby college can take one on-line through the distance learning programs that are being offered by a growing number of colleges and universities.

Studies show, however, that even if a college-level course is available at a student's high school or a nearby college or university, other structural barriers to participation may still keep the student from enrolling in it. Lack of transportation to and from colleges, for example, often makes it impossible for students to enroll in courses there (Allen, 2010).

Research has also found that the rigidity of many high school schedules makes it very difficult for some students to enroll in college-level courses (Flores & Gomez, 2011). In addition, many high schools have entrance requirements for college-level courses that are challenging for some students to meet, such as requiring students to score at or above a particular level on a standardized test (Kirst & Reeves Bracco, 2004). A student who was interviewed for a case study of high schools in Oregon captured the selectivity of advanced coursework in many high schools when he noted that, "It is not something that you just get in. You have to be asked in" (Bueschel & Venezia, 2004, p. 164).

Factor 2: Economic Incentives

A seminal study by Barbara Schneider and David Stevenson (1999) showed that today's teenagers aspire and expect to obtain high-paying jobs and to attain high-levels of social status as adults. The study found that more than 90 percent of high school seniors expect to attend college and more than 70 percent expect to work in professional jobs.

The researchers note that during the 1950's, in contrast, only 55 percent of all seniors expected to attend college and only 42 percent expected to hold professional jobs. As a result, Schneider and Stevenson called the cohort of students they examined America's most ambitious teenage generation ever.

The fact that students in that generational cohort had high aspirations for both college and career suggests that many of them may understand that education and earnings are increasingly closely connected in the global Information Age. Since 1983, for example, the earnings of high school dropouts between the ages of 25 and 34 have fallen by 2 percent while the earnings of high school graduates have grown by 13 percent, the earnings of people with bachelor's degrees have grown by 34 percent and the earnings of people with graduate degrees have grown by 55 percent (Carnevale, Smith, & Strohl, 2010). Economists and other experts now clearly agree that completion of a postsecondary credential or degree is the best – and in many cases the only – path to a middle- or upper-class income and standard of living (Kirst & Reeves Bracco, 2004; Goldin & Katz, 2008; Carnevale, Smith, & Strohl, 2010; Sawhill, 2008).

There is some weak but very interesting empirical evidence that bolsters the idea that economic incentives influence students' educational decisions and actions. Morgan (1998) showed that from 1976 to 1990, the trend line for the educational expectations of high school seniors adjusted for family background loosely followed the trend line for the rate of return on years of education for young people in the labor market. This rough correlation held true across patterns of race and gender, suggesting that people's

educational aspirations may rise with the gains that increased learning affords them in the labor market.

If high school students today are raising their educational expectations in rough response to changes in the labor market, then it follows that many of those students should be willing to take high school courses that increase their chances of college and career success. In fact, they should be interested in taking college-level courses not only because it improves their ability to gain admission to and succeed in college, but also because it can reduce the actual cost of college attendance. A recent study of dual credit programs in California concluded that, "the opportunity to receive credit for both high school and college is a significant incentive for students to participate in dual enrollment programs, as doing so can save money and time" (Hughes, 2012, p.6). Other researchers, however, have concluded that while financial incentives can get students' attention, they are in themselves insufficient to motivate the type of sustained effort that is necessary to succeed in rigorous coursework and to stay on track to college readiness throughout high school (Savitz-Romer and Bouffard, 2012).

One reason that the financial incentive to work hard in school may not be adequate to animate sustained effort on the part of some students is perhaps that they believe that lower levels of skill will be adequate to succeed in the economy and society of the future. Evidence that a significant share of the students included in this study may hold that view can be found in a statistically representative poll of 800 Minnesota adults that the University of Minnesota's College Readiness Consortium and the Minnesota Private College Council conducted in 2011. In that poll, 89% of the respondents either

somewhat agreed or strongly agreed that "the number one goal of high schools should be preparing almost all students to enter and succeed at some type of education after high school."

However, when respondents were asked to agree or disagree with the statement that, "There will always be plenty of ways for people with only a high school education to make a decent living in Minnesota," 44% either somewhat agreed or strongly agreed. It is possible that the adults who agreed with that statement might encourage their children or other young people in their lives to hold similar views, and that those children might therefore believe that additional effort in high school is not necessary because low-skill jobs that pay middle class wages will always be available (Minnesota Center for Survey Research, University of Minnesota, 2012).

Factor 3: Signals From Higher Education

A number of studies have highlighted the gap between students' high aspirations for college and careers and the effort they put forward in high school. Schneider and Stevenson (1999), for example, found that a large percentage of the current ambitious generation of American teenagers – students the researchers call "drifting dreamers" – are taking classes and exerting levels of effort in school that are misaligned with their goals for college and careers.

Signaling theory as applied in economics and other fields suggests an important reason for this disconnect between aspirations and actions. That body of theory holds that if taking an action would benefit an individual economically or otherwise and that if

that individual receives clear messages – or *signals* – about the value of taking that action, then he or she will generally do what it is in his or her self-interest to do.

In the field of education, scholars have argued that providing students with signals of the benefits of success in school and especially in college will enhance student motivation and effort and improve student learning (Bishop, 1989; Kirst, 2004). Those researchers have also concluded, however, that unclear or contradictory signals could have the opposite effect, confusing students about what they should do to realize the benefits of education and potentially prompting or legitimating behaviors that undermine students' chances of graduating from high school ready for success in college (Kirst & Reeves Bracco, 2004; Orfield & Paul, 1994). Morgan (2002) finds that if an individual receives information that is essentially accurate but that is not detailed enough or received often enough, he or she is unlikely to invest the level of effort required to realize the benefits of taking that action.

A number of researchers have found that American students receive highly confusing and contradictory signals about what it takes to gain access to and succeed in college, and that as a result they make decisions and put forward levels of effort that undermine their chances of postsecondary success (Kirst & Reeves Bracco, 2004; Schneider, Kirst, & Hess, 2003; Bishop, 1989). For example, multiple studies have found that many students who are not on the college prep track in American high schools believe they can gain admission to college even if they do not take rigorous high school classes (Kirst, Venezia, & Antonio, 2004; Immerwahr & Farkas, 2006).

Kirst, Venezia and Antonio (2004) conclude that unclear signals about what it takes to enter and succeed in college most negatively impact students in the regular track in American high schools because those students lack access to and relationships with teachers, counselors and others who can provide them with accurate signals about college readiness and access. Students on the college prep track in those high schools, in contrast, receive such accurate signals throughout their progress through school.

For students in the academic middle, the standardized test results that are the main measure of performance in high schools today are a major source of confusing signals about college readiness. Because the required assessments in most states are not aligned with tests that high school students take to earn college credit (such as Advanced Placement Tests) or to gain admission to college (such as the ACT or the SAT), a student could interpret a score in the proficient range on a state test as evidence that he or she is academically on track for college and not in need of academic assistance or acceleration (Kirst & Reeves Bracco, 2004).

Unfortunately, in most cases that student would be wrong. The current generation of state assessments measure mastery of academic standards that are lower than those required for success in college. The gap between the standards for success in high school and for success in higher education is illustrated by the fact that approximately 50 percent of all students in the United States who enter postsecondary education each year must take remedial courses (Kirst & Reeves Bracco, 2004).

Factor 4: The Course Registration Process

Another factor that that could influence students' decisions about taking college-level courses in high school is the course registration process. When The Shopping Mall High School was published in 1985, the average American high school offered around 400 courses. At that time, elective options were greater and requirements were fewer than they are today. Most high schools only required four years of English, two years of social studies, one year of science, one year of math and between one and four years of physical education. With the exception of American history and sometimes American government, few specific courses were mandated (Powell, Farrar, & Cohen, 1985).

The Shopping Mall researchers concluded at that time that, "Schools assume responsibility for providing opportunities, but most often they place the responsibility for involvement on the students. The opportunities are there, schoolpeople say, but only if you take them…This restricted notion of schools' responsibility—they will press themselves to offer great variety but will not press students to choose wisely or engage deeply—is a deliberate approach to accommodating diversity so that students will stay on, graduate, and be happy. In educational and moral matters, high schools are remarkably wary of telling students what to do (Powell, Farrar, & Cohen, 1985, p. 3)."

Over a quarter century later, after the publication of A Nation at Risk and other reforms, the curriculum in most American high schools is more constrained. Still, larger comprehensive high schools today still generally offer between 200 and 350 courses, even though as few as 24 are required to earn a diploma (Schneider & Stevenson, 1999). And a great deal of individual choice remains, notably including the flexibility to take or not to take a college-level course.

The format in which students are given information about their choices – the course catalog or the registration guide – is almost always complex and very often highly confusing for some students. In the era of the Shopping Mall study, those guides were printed on paper, and the researchers noted that, "High school catalogs often resemble an amalgam of elementary education, university instruction, technical education, and adult education, plus the offerings of mental health and social service agencies" (Powell, Farrar, & Cohen, 1985, p. 2).

In many high schools today, the registration guides are printed and posted on-line, but they are still often confusing and hard to read, not only for the students but also for parents who may have lower reading levels and lack the educational background needed to understand some of the terms and content. For example, the extensive surveys that Orfield and Paul (1994) conducted in Indiana found that over 90 percent of the parents of 8th graders reported that they needed information and assistance to help their son or daughter design a high school program. They were particularly interested in lists of classes that would put their children on clear paths toward four-year colleges, technical or vocational schools or direct entry into the workforce.

The clarity of course registration guides matters because a growing body of research is demonstrating that decision making can be deeply influenced by the number of options a person is given and the way that information about those options is presented. For example, Iyengar (2010) showed that too much choice can lead to bad decisions, and that providing the right information at the right time can dramatically improve the quality of decisions. As Thaler and Sunstein wrote in their book, Nudge: Improving Decisions

About Health, Wealth and Happiness (2009), "Drawing on some well-established findings in social science, we show that in many cases, individuals make pretty bad decisions—decisions they would not have made if they had paid full attention and possessed complete information, unlimited cognitive abilities, and complete self-control" (p. 5).

Research does not suggest that the solution to this dilemma is to eliminate choice altogether. A large number of psychological studies have shown that when students' opportunity and capacity for self-determination is limited, motivation decreases and learning frequently suffers as well (Ryan & Deci, 2009; Stipek, 1999). The alternative to eliminating or expanding choice is to retain but creatively constrain it. This is the approach that Thaler and Sunstein (2009) recommend in Nudge. A nudge, in the sense that they use the term, is an approach to helping someone make a decision through which the decision maker is given a limited number of options to choose from – all of which are good options, but the best of which is explicitly or implicitly singled out. Often that preferred option will be made the default option, which the decision maker must consciously reject in order to make another choice.

Recent studies of choice have also shed light on other aspects of the decision making process that could influence high school students' course taking decisions. Psychologists and neuroscientists have found that humans have two related but still distinct systems for considering information and arriving at judgments. In her book The Art of Choosing (2010), social psychologist Sheena Iyengar noted that the first of these systems – for which scientists use several different terms including the automatic, the hot,

and the heuristic system – operates quickly and subconsciously and helps humans make decisions based largely upon their senses and interactions in the moment. Iyengar noted that the second system – varyingly called the reflective, cold, and analytic system – is used to consider abstract ideas and longer-term implications. Iyengar concluded that when the two systems are in agreement about a choice, both short and longer-term concerns are likely to be factored into the decision. When the two systems are in conflict, however, the decision will be made using only one of the two systems:

> If there's no time to be lost, we'll probably go with the automatic response; if there's no rush, we're more likely to rely on our reflective powers. In the case of temptation, we may be aware that our desire is being fueled by the automatic system and that we'd be better off if we followed the reflective system, but just because we know the "right" answer doesn't mean we can bring ourselves to chose it (p. 115).

A student's use of either the automatic or the reflective system to make a decision about taking a college-level course in high school could be highly influenced by the process the school uses to register students for classes. If the student enters the registration process with a formal college and career plan already in place, and if the registration process is extended over several meetings and involves conversations with educators, parents and peers, the reflective system might be more likely to prevail. If, however, the student approaches the registration process with no longer-term goals in mind and is asked to choose courses quickly during a single advisory period or assembly, the automatic system might be more likely to win out. In other words, the way in which the registration process unfolds is likely to have a significant influence on the choice that is ultimately made.

Miller and Byrnes (2001) identify three fundamental phases of decision making that schools could consider in helping students develop academic plans and choose classes. In their model, an initial *generation phase* includes defining the goals that are to be advanced by the decision and creating options for achieving those goals. An *evaluation phase* involves weighing the pros and cons of those options, and once the decision is made, a *learning phase* focuses the decision maker on the consequences of the decision and its implications for future decisions.

While the literature on decision making described above confirms that adults often make bad decisions if they have too many choices or insufficient information, studies suggest that adolescents may face even greater challenges in making good decisions. Byrnes (2002), for example, observed that while the literature on adolescent decision making is not conclusive, it suggests that teenagers have lower decision making competence than adults in certain key areas, such as advice-seeking, evaluation, adaptive goal-setting and learning from decisions. Osterman (2000) notes that adolescence is a time when the need for autonomy is a powerful developmental priority. As such, it is likely that students might make some decisions more to demonstrate their growing independence from parents and other authority figurers than because they believe they are actually choosing the best course of action.

Factor 5: College-Going Orientation

For many students, going to college and taking the steps in high school that are necessary to achieve that goal never seemed like a choice – they just always knew they were headed in that direction. Grodsky and Riegle-Crumb (2010) conclude that this

college-going is the result of a "largely unconscious constellation of preferences, behaviors, and styles of self-presentation shaped during childhood" (p. 15). Other researchers have also emphasized the powerful influence that a "college-going identity" can have on students' lifetime aspirations and academic behaviors in high school (Savitz-Romer, 2012, p. 67).

Grodsky's and Riegle-Crumb's study used a large national data set and found that while middle-income and affluent white students are more likely to possess an instinctive college-going orientation, such an orientation can be found in students at all income levels and from all racial and ethnic backgrounds. Most important for the purposes of this study, they find that students with a college-going orientation are more likely to engage in academically productive behaviors such as taking advanced coursework in high school, earning good grades and taking college entrance tests.

Similarly, Morgan (2002) found that what he termed "preparatory commitment" is also linked to many of the same positive educational outcomes that Grodsky and Riegle-Crumb identify. Morgan defines "prefigurative commitment" as, "an attachment to a future course of behavior" and defines preparatory commitment as, "the potentially observable course of everyday behavior that positions an individual to realize his or her prefigurative commitment" (Morgan, 2002, p. 103). He notes that, "A student with maximal preparatory commitment toward the prefigurative commitment "I will enroll in college" will enact all possible behavior that prepares him or her for enrolling in college and then successfully obtaining a college degree. While in high school, such students will take college preparatory classes, complete their homework diligently, focus their

attention when taking tests, sign up early for college entrance examinations, and investigate their range of realistic college alternatives" (Morgan, 2002, p. 103).

One option that many schools and systems have embraced in recent years to help students develop a college-going orientation is to require the development of formal plans for college and a career. Schneider and Stevenson (1999) suggest that the development of such plans increases the chances that students will have aligned ambitions, while Orfield and Paul (1994) found that students with such plans are much more likely than students without them to take classes that lead to success in college and the workforce. Both Schneider and Stevenson and Orfield and Paul found, however, that a majority of students who aspire to attend college lack effective academic and career plans and that high school staff report they lack the funds and the people to help students develop them.

Factor 6: Student Motivation and Effort

A number of studies have suggested that the absence of significant improvement in American high school students' academic achievement over the past two decades is the result of insufficient effort on the part of many American students. For example, Rosenbaum's survey of over 2000 high school seniors in 12 urban and suburban schools in the 1990's found that almost 40 percent of students who were headed for college believed that how hard they worked in high school had little relevance to their future careers (Rosenbaum & Person, 2003). Other scholars have also concluded that the low levels of investment in school that many high school students demonstrate is both caused and reinforced by the fact that it is very easy to get into many two- and four-year colleges

(Bishop J. H., Bishop, M., Gelbwasser, L., Green, S., Zuckerman, A., Schwartz, A.E.; 2003; Kirst & Reeves Bracco, 2004).

Steinberg's decade-long study of American teenagers concluded that the effort American students put into education has declined markedly in recent decades:

> The achievement problem we face in this country is due not to a drop in the intelligence or basic intellectual capability of our children, but to a widespread decline in children's interest in education and in their motivation to achieve in the classroom; it is a problem of attitude and effort, not ability. Two decades ago, a teacher in an average high school in this country could expect to have three or four "difficult" students in a class of thirty. Today, teachers in these same schools are expected to teach to classrooms in which nearly half of the students are uninterested. And only a very small proportion of the remaining half strives for excellence (184).

The gap between students' aspirations and actions is evident in data that we have collected in the Twin Cities metropolitan area through the Ramp-Up to Readiness™ project. On a student survey developed and administered by the University of Minnesota's Center for Applied Research and Educational Improvement (CAREI) during the 2008-2009 school year, 97% of 4,040 students in thirteen Minnesota secondary schools indicated that they plan to attend college after high school. 97% also said that their parents expect them to attend college. 75% of those students, however, reported on the same survey that they do not check homework for accuracy before handing it in. 67% said that they do not give up socializing to complete school work, and 41% said that they do not ask for help when they don't understand something in class (Center for Applied Research and Educational Improvement, 2009).

Low motivation appears to be a particular problem as students enter adolescence. Studies have found that student interest, enthusiasm and intrinsic motivation all continuously decline with every step students take upward through the K-12 system (Skinner, Kindermann, Connell, & Wellborn, 2009). As a result, during the final years of high school – at precisely the time when students have the opportunity to take college-level courses – many of them are actually *less* engaged and motivated than at any previous point in their K-12 careers.

Given the challenges of motivating many American teenagers today, a number of schools have begun to use extrinsic incentives to encourage greater student effort. Most notably for the purposes of this study, initiatives are being implemented across the nation to pay students – either directly or though college scholarships – to take Advanced Placement classes and exams and to achieve scores that earn college credit. Studies of this approach are inconclusive to date and been found to be both effective and ineffective in improving student performance (Jeong, 2009; Jackson, 2009).

Another extrinsic incentive that is being used to motivate American students to take dual credit and other advanced classes is assigning additional weight to those classes in the calculation of students' grade point averages and class rank. In one of the few rigorous studies that has been conducted of this widespread practice, Sadler and Tai (2007) found that assigning additional wait to AP and honors science courses is appropriate given that the grades students receive in those high school courses is strongly correlated with their later performance in introductory science classes in college.

But while the assignment of weighted honor points for participation in accelerated classes may be a valid reflection of the greater rigor that students who take them encounter, studies have also found that using measures such as GPA and class rank for comparative purposes is a major drag on the motivation of many American students. Those studies have found that students who do not succeed in achieving goals that measure their performance against that of other students – what researchers call performance goals – quickly come to recognize that any amount of increased effort they put forward is unlikely to be recognized because they will never achieve at the levels of their more academically successful peers (Watkins, 2010; Dweck & Master, 2009). Studies have demonstrated that when students repeatedly fail to achieve performance goals, they become less likely to seek help, less likely to feel competent and less likely to continue working hard in school (Maehr & Akane, 2009). Bishop and Bishop conclude from their research that, "an anti-learning peer culture is likely to develop if students perceive academic classrooms to be zero-sum games that pick winners and losers but cannot make everyone better off" (Bishop & Bishop, 2007, p. 54).

In contrast, researchers have found that when goals are focused on learning outcomes such as mastering a certain subject or skill, students are more likely to use adaptive learning strategies, report higher enjoyment of class, seek help, persist through difficulties and believe that their success or failure was due to the level of effort they invested in the task (Maehr & Akane, 2009; Dweck & Master, 2009; Maehr & Zusho, 2009). Kirst and Reeves Bracco (2004) observed that a mastery focus is particularly important when seeking to motivate high school students to prepare for success in college.

They concluded that, “Since many postsecondary institutions are minimally selective or nonselective, students need to be motivated to meet a preparation standard rather than beat the competition. This enhances motivation because success is attainable, and effort will have a payoff in postsecondary attainment” (p. 20).

Research has also demonstrated that just as the types of goals that schools set for students can influence their motivation and effort, the ways that schools conceptualize and convey the nature of intelligence can also have significant effects. Multiple studies in the United States have demonstrated that many educators and other adults view intelligence and ability as characteristics that are largely fixed from birth and that are distributed unequally across the population (Nelson-Le Gall & Resnick, 1998).

Fortunately, a large and growing body of research is confirming that intelligence is *not* fixed, and that when students are explicitly taught that effort enhances intelligence, the quality of student learning improves in significant ways (Dweck & Master, 2009). For example, studies have shown that when students are praised for the amount and quality of the effort they put forth rather than the ease with which they complete a task or for being inherently “smart,” their interest in and willingness to work hard to master challenging academic material improves (Stipek, 1999). Studies have also demonstrated that when students do not see their level of intelligence in general or in a particular subject area as fixed (i.e. “I’m just not good at math”), they are much more likely to regard educational failures and struggles not as confirmation of their limited abilities but as opportunities to learn and grow (Blackwell, Trzesniewski, & Dweck, 2007).

Researchers Deci and Ryan have articulated a motivational framework that lies between intrinsic and extrinsic approaches and may be particularly relevant for the task of preparing high school students for success in higher education. They refer to this type of motivation as *internalized regulation*, and note that it occurs when a person is willing to pursue activities that have no intrinsic motivational value but that lead to the achievement of a broader goal that the individual views as desirable and important. Under this framework, a student might take a dual credit course even though he or she is not intrinsically motivated to study the subject or to work hard in school because it advances his or her desire to get into a particular type of college (Savitz-Romer and Bouffard, 2012).

Potential Factor 7: Academic Readiness

In many high schools today, students are engaged in a program of study that is either too easy or too difficult. Unfortunately, education at both of those extremes leads to diminished student interest and motivation (Stipek, 1999; National Research Council and the Institute of Medicine, 2004). In contrast, when students are required to master material and perform tasks that are beyond their current capacities but that are also attainable with effort and support, they develop a sense of competence, which in turn leads to increased interest and motivation (Stipek, 1999). Vgotsky famously described this balance between what a child can do on his or her own and what he or she can do with assistance as the zone of proximal development.

For college-level courses to fall within a high school student's zone of proximal development, he or she must have been exposed to significant academic rigor in middle

school and the first years of high school. That happens naturally on the traditional college prep track that exists in many American secondary schools. For example, in a series of focus groups that were conducted in Colorado in 2006, high school students who were enrolled in college-level courses reported that one of the main reasons they enrolled in those classes was because they were the next logical step in the academically rigorous sequence of courses that most of them began taking in junior high (Immerwahr & Farkas, 2006). In other words, they took college-level courses because it seemed like the natural next step in their academic progression.

But for students who did not choose to get on or who were not placed on that accelerated track early enough in their educational careers, a different type of academic scaffolding is needed. The following observation from a student interviewed for a case study of Texas junior and senior high schools (Venezia, 2004) describes the difference between the honors and non-honors tracks that such scaffolding must help students bridge:

> You're around almost a totally different environment, a totally different teacher, and totally different attitudes toward, like, school and, like just everything. [Non-honors] classes are, like, read a book and answer questions. I took non-honors, like, World Geography, and all I ever did was worksheets and, like, if I had taken Honors I would have done, like projects…It was a really big difference [between the tracks] (p. 99).

Unfortunately, the classes and other supports that students need to move between such different academic environments are often unavailable in most U.S. high schools. Flores and Gomez (2011) found that the absence of a curricular infrastructure that scaffolds students up to increased levels of academic rigor is a major barrier to increasing

the participation of students in the academic middle in dual credit courses. Conley (2010) writes that the absence of such academic scaffolding is in part the result of the way high schools have added college-level courses to their schedules over the past two decades:

> The unfortunate reality is that AP courses and the IB program have been grafted onto existing middle and high school programs without concomitant redesigns of the prerequisite courses necessary for students to take full advantage of higher challenges programs of this nature offer. Rather than a design-down model that begins with AP and IB and then considers everything that occurs beforehand in terms of what it takes to be ready for courses in these programs, most high schools have added AP courses one or two at a time without any clear plan for preparing students to succeed in them (213).

This study will examine the presence of adequate academic opportunities and supports to scaffold students in the academic middle to the levels of knowledge and skill they need to succeed in college-level courses in their high schools.

Factor 8: Interaction with Adults

A majority of the high school students in Colorado who participated in a series of focus groups on college-level courses in 2006 reported that it was a single adult in their lives who first encouraged them to consider taking a dual credit course (Immerwahr & Farkas, 2006). They identified teachers, coaches, parents and counselors as the people who made a decisive difference in their decision to enroll. Interaction with counselors was a major subject of discussion and often disagreement among those focus group participants. Some students reported that their counselors were advocates for increased rigor who proactively urged them to take a dual credit class. Other students said their counselors were gatekeepers who tried to dissuade them from enrolling, generally

arguing that the course would be too difficult for them. Still other students reported that they had counselors who never raised the question of dual credit classes in their discussions with the students.

The responses of those students in the Colorado focus groups illustrate the important role that guidance counselors can play in students' decisions about college-level course taking. Given that average the student-to-counselor ratio in American high schools is approximately 500-1, however, counselors are often unable to work closely with students to help them choose classes that will advance their goals for life after high school (Symonds, Schwartz, & Ferguson, 2011). Studies have also shown that many guidance counselors must focus their time on issues such as discipline and changing course schedules and do not have time to focus on postsecondary planning and support – especially for students from backgrounds that are underrepresented in higher education (McDonough, Korn, & Yamasaki, 1997; Orfield & Paul, 1994). An extensive survey of counselors across the country in 1997 found that even when they do have time to talk with students about college, they are reluctant to be honest with those students about their level of readiness for higher education (Rosenbaum & Person, 2003). That reluctance stems in part, the counselors reported, from a desire not to discourage students from pursuing their dreams and in part because they believe parents will complain about negative feedback and that principals will support parents rather than counselors if disagreements arise.

This review of the literature did not identify any significant studies of the role that teachers play in student decisions about dual credit course taking, but Venezia's case

study (2004) of high school students in Texas did find that teachers are students' most direct sources of information about education. Unfortunately, the study also found that teachers were very unlikely to engage in discussions about college admissions and placement.

Beyond school, parents are the adults in students' lives who have the greatest affect on their aspirations for the future and the steps they take to achieve those goals (McDonough, Korn, & Yamasaki, 1997). Despite the importance of parents, however, this literature review did not discover major studies of the affect that they have on students' decisions to take dual credit courses or on course taking in general. In fact, the literature on parental involvement in any aspect of preparing students for college success is not large. For example, researcher David Conley's highly regarded book, College and Career Ready: Helping All Students Succeed Beyond High School (2010), devotes exactly four paragraphs to parental engagement out of more than 300 pages of text.

Factor 9: Interaction with Peers

The desire to belong to a group of people is a phenomenon that has been confirmed in a broad array of psychological studies (Osterman, 2000). Byrnes (2002) concluded that when an individual has goals that are different from his or her peers, coordination of efforts to reach that goal is more difficult and peers become a significant distraction from moving toward the goal. Bishop and his colleagues (2003) note that multiple laboratory studies using experimental designs have found that strong pressures to conform exist among adolescents.

Pressure to conform to the norms of a peer group could both encourage and dissuade students from enrolling in college-level courses. The road that a student would take, of course, would depend upon his or her perspective on the importance of education and the value of working hard in school. Bishop & Bishop (2007) concluded from their study of largely white students in middle class communities that the peer culture in most schools "discourages many students from trying to be all that they can be academically" (p. 48). Steinberg's research (1996) found that nearly 20 percent of all American high school students say they do not try as hard as they could in school because they are worried that their friends might disparage or reject them for that additional effort. That study concluded that peers were "far more influential" than parents in influencing student achievement and in shaping the seriousness with which students approach key aspects of learning such as doing homework and concentrating in class (Steinberg, 1996).

When students from the academic middle cross over into the college preparatory track in a high school, they are joining not just a different structure but also a different culture. Studies have shown that students who choose to join or who are placed in homogeneous groups of advanced students worry that they will be singled out by students outside the group and treated differently, that they will feel isolated from a larger circle of friends and that they will face rejection from the school as a whole (Foust, Hertberg-Davis, & Callahan, 2009). Other studies have demonstrated that students who participate in AP and IB programs form their own subcultures that are often defined by common goals, mutual support and a sense of accomplishing difficult tasks together (Foust, Hertberg-Davis, & Callahan, 2009).

Numerous studies have found that the educational tracks that students are placed upon or choose to join in American high schools are highly segregated by race, ethnicity and income (Kirst & Reeves Bracco, 2004). One particularly influential study by Fordham and Ogbu (1986) found that an African-American student or a student from another minority group who succeeds in school and embraces the school's standard practices will often be described as "acting white" by other students in his or her racial group. If such a dynamic is in force within a school, it is possible that a student of color might decide *not* to take a college-level class populated primarily by while students because doing so could be viewed as rejecting his or her cultural and family heritage. Although research by Diamond, Lewis and Gordon (2007) confirmed that being the only student of color in an accelerated class of white students can cause African-American students to feel significant performance anxiety, they did not find that African-American students oppose academic achievement in the ways that Fordham and Ogbu suggested.

Factor 10: Commitments Outside School

Given that the teenage years are full of priorities beyond school, another reason that students might decide not to take a dual credit course is the fear that the demands of the course would detract from extracurricular activities, holding a job or socializing. Several students who participated in a series of focus groups on dual credit course taking in Colorado reported that the pressures of work and extracurricular activities kept them from taking an Advanced Placement class or another dual credit course (Immerwahr & Farkas, 2006). Students who participated in another focus group study, however, reported that taking AP and IB classes did not lessen their participation in extracurricular

activities or socializing, though they did agree that it significantly reduced the amount of sleep they got each night (Foust, Hertberg-Davis, & Callahan, 2008).

Summary

While a significant body of research exists on high school course taking in general and on taking college-level courses in particular, few studies have been conducted that focus on the factors that influence the decisions that high school students make about taking those courses. Given the limited research that has been conducted on that question, for this study the author examined the literature in several fields that are related to high school students' course taking decisions, including college readiness, high school reform, academic motivation and adolescent decision making. Based upon that literature review, 10 factors that could plausibly influence students' decisions were identified.

Of those ten potential factors, the literature of relevance to this study is largest and strongest for the following four:

- The economic incentives of taking college-level courses to prepare for entrance to and success in higher education
- The signals from higher education that tell students what they need to do to gain admission to and succeed in college or another form of postsecondary education
- The influence that effort has on the personal investment that students make in learning

- The ways that the presentation of information influences decision making, which takes place in high schools through the course registration process

The available body research is not as large nor as directly focused on the research questions of this study for the following six potential factors:

- The level of access that students in different types of high schools have to college-level courses
- The impact that an inherent college-going orientation has on students' attitudes and behaviors in high school
- The influence that students' actual or perceived academic readiness for college-level courses has on their decisions to take or not to take them
- The ways that the frequency and character of students' interaction with adults affects their course taking decisions
- The ways that the frequency and character of students' interaction with peers affects their course taking decisions
- The impact that outside commitments such as jobs, extracurricular activities and family responsibilities have on students' behavior in and choices about school.

Chapter 3

Research Methods

General Overview of the Study Instruments, Samples, and Methods of Analysis

This study utilizes both quantitative and qualitative data to analyze factors that influence the decisions that high school students make about taking college-level courses. The quantitative component of the study is based upon the results of surveys that were given to all students and staff in seven Twin Cities high schools during the spring of 2012. The qualitative component of the study is based upon focus groups of students and individual interviews of school staff in two of the study sites during the spring of 2012. Both schools at which qualitative data were collected are comprehensive suburban high schools with approximately 1,500 students each. The original study design also included interviews with parents, but it did not prove possible to arrange a sufficient number of those interviews to merit their inclusion in the research.

The study seeks to understand decisions about taking college-level courses through two lenses, one that is broad and that encompasses all students in the participating schools and one that is more specific in its focus on students in the academic middle. Flores and Gomez (2011) aptly described those students in the academic middle as young people who are "often neglected, to the detriment of education in general: the group of students who perform adequately or well in regular academic courses yet are never invited or encouraged to challenge themselves with AP coursework" (p. 66).

The source of data for this study's broader analysis is the student survey, which was completed by students whose prior academic performance spans the full distribution

of student achievement in their schools, from the highest to the lowest performing on measures such as standardized test scores and grades. The data source for this study's analysis of students in the academic middle were twelve student focus groups conducted in two suburban schools. The prior academic performance of the students who participated in those groups placed them in the 30th to the 70th percentiles of the distribution of achievement in their schools as measured by grade point averages (GPA).

The study sample was drawn from seven high schools in the Twin Cities metropolitan area and included schools of different sizes and demographic compositions. To ensure the confidentiality of the data collected for this study, the participating schools are referred to using the following pseudonyms in the text and the accompanying appendices:

1. Thomasville Area Learning Center: An alternative program that serves a student population in a second-ring suburb that is primarily white and middle class.
2. Thomasville High School: A large comprehensive high school serving a largely homogenous though gradually diversifying group of students in a second-ring suburb.
3. Adamstown High School: A large comprehensive high school serving a mostly socioeconomically and racially homogeneous group of students in a second-ring suburb.
4. Cityspan Academy: A small charter high school located in an urban neighborhood in Minneapolis that is focused on preparation for technical

careers and that serves a student population comprised almost exclusively of students of color and low-income students.

5. Mollyside High School: A large comprehensive high school serving a socioeconomically and racially diverse group of students in a first-ring suburb.
6. Victorian Academy: A small charter high school located in an urban neighborhood in Saint Paul that is focused on citizenship and college readiness and that primarily serves students of color and low-income students.
7. Tristero Tech: A large technology-focused comprehensive high school serving a diverse population of students of color, almost all of whom are low-income.

All seven of the schools in the study were participants in the development of Ramp-Up to Readiness™, a school-wide guidance program designed to provide students with the information and support they need to get and stay on track to college readiness by the end of 12th grade. The data for this study were gathered in the final year of a three-year design process, during which the schools partnered with faculty and staff at the University of Minnesota to develop a curriculum and supporting tools and processes that could be integrated into the Ramp-Up to Readiness program. While many of the students who completed the survey or attended a focus group for this study participated in some of the design activities that led to the creation of Ramp-Up to Readiness, none of the seven high schools in the study had implemented the full program at the time those data were collected. As such, while readers should be aware that the data in this study are drawn

from a set of schools that share a commitment to college readiness, it is likely that the development of Ramp-Up had at most an indirect effect on most of the students in the study. The study's conclusions should therefore be relevant to high schools beyond those that have launched school-wide college readiness programs such as Ramp-Up to Readiness.

Permission to conduct the study was obtained from the Institutional Review Board of the University of Minnesota and through the approval process of each participating school district. School staff signed consent forms confirming their willingness to participate in the individual interviews conducted for the study and the parents of students who were under the age of eighteen also provided written consent.

Student Survey Instrument, Sample and Method of Analysis

The student survey items that were written for this study were integrated into a longer student survey that was used in the developmental evaluation of the design of Ramp-Up to Readiness™ that was conducted by researchers at the University of Minnesota's Center for Applied Research and Educational Improvement (CAREI). While the study's author worked with CAREI researchers on the design of the larger student survey, the author wrote the survey items that focus on college-level course taking and issues related to that subject. The author also conducted all analysis of the student survey data without assistance from CAREI researchers with the exception of three questions for which those researchers calculated the statistical significance of differences in the responses of two student subgroups, such as differences in the responses of students who do and do not qualify for free or reduced price lunch. The

three survey questions on which CAREI researchers performed those subgroup analyses were questions 13, 33, and 38. The contributions of CAREI researchers to analyses of data on those three questions are noted on the charts summarizing the student survey data in Appendix A.

The full text of the student survey is included as Appendix B of this study. The survey questions that were written for and used in this study are identified be in Table 1 on the following pages. In the table, the factors that were examined through data collected on each survey question are identified. No questions on the student survey aligned directly with the factor of inherent college-going orientation and no questions asked directly or indirectly about outside commitments. As a result, those factors are not directly examined through the student survey, thought they are considered through the staff survey and the interviews and focus groups that were conducted for the study.

Student survey items that asked respondents to identify their grade, gender and race are omitted from Table 1 but were used for subgroup analyses of student responses to several questions on the survey.

Table 1: *Student Survey Questions Organized by Study Factor*

Student Survey Question	Factors Analyzed Using Data from this Question
1. At my school, all students are expected to go to some type of college.	Interaction with Adults
2. I know the subject areas and skills that I need to work on if I am going to graduate from high school ready for success in college.	Signals from Higher Education
5. I know which high school classes I should take to get into the college I want.	Signals from Higher Ed
9. I am willing to take hard classes even though I may get a lower grade.	Effort
11. At registration time, school staff assist me in choosing classes that will help me reach my goals for education after high school.	The Course Registration Process
12. At my school, any student can take an honors course or a course for college credit if they want to.	Access
13. An adult at my school has encouraged me to take advanced classes, such as Advanced Placement (AP), International Baccalaureate (IB), Post Secondary Enrollment Options (PSEO), or College-in-the-Schools (CIS) courses.	Interaction with Adults
21. There is a school staff member who has taken a special interest in preparing me for college success.	Interaction with Adults
22. My teachers have high expectations for me.	Interaction with Adults
23. Succeeding in school depends more on how hard you work than on how naturally smart you are.	Effort

Student Survey Question	Factors Analyzed Using Data from this Question
25. My friends show respect for others who work hard and do well.	Interaction with Peers
26. Students in this school show respect for others who work hard and do well.	Interaction with Peers
27. If, on a scale of 1-6, a 1 is the laziest student you know, and a 6 is the hardest working, what number are you?	Effort
28. How often do you discuss going to college with your family?	Interaction with Adults
29. How often do you talk with adults at school about your plans for life after high school?	Interaction with Adults
30. How often do you work hard in class and on assignments, even when you don't like the class?	Effort
32. How often do you give up on TV, video games, or time with friends to study for a test or do an assignment for school?	Effort
33. Have you taken one or more courses for college credit?	Access
34. If you answered "yes" to question 33 above, what is the MOST IMPORTANT reason why you took a high school course(s) that offers college credit? (MARK ONLY ONE) a. Free college credit b. To be challenged c. To prepare myself for college-level work d. Counselors/teachers e. My parents f. My friends g. Other	Economic Incentives Academic Readiness Signals from Higher Ed Interaction with Adults Interaction with Peers

Student Survey Question	Factors Analyzed Using Data from this Question
35. If you answered "no" to question 33 above, what is the MOST IMPORTANT reason why you have NOT taken a high school course that offers college credit? (MARK ONLY ONE) a. I do not need college credit b. The course would be too challenging c. I do not need to prepare myself for college-level work d. No one encouraged me e. I want to keep my GPA high f. My friends g. Other	Economic Incentives Signals from Higher Ed Academic Readiness Interaction with Adults Interaction with Peers
36. I have taken the following number of courses that offer college credit in high school, such as Advanced Placement, International Baccalaureate, Post Secondary Enrollment Options and College-in-the-Schools courses: a. 0 b. 1 c. 2 d. 3 or more	Access
37. I have received information from school staff on…(Mark all that apply) a. Choosing advanced courses b. Requirements for getting into college c. Requirements for succeeding in college d. Scholarships and financial aid e. Careers	Interaction with Adults Signals from Higher Ed

Student Survey Question	Factors Analyzed Using Data from this Question
38. I have received the most advice about how to prepare for college from: (MARK ONLY ONE) a. Counselors b. Deans c. Teachers d. Principals/Assistant Principals e. Family members f. Classmates	Interaction with Adults
39. Which of the following have you visited to learn about what it is like to be a student there (MARK ALL THAT APPLY): a. Four-year college or university b. Community college c. Technical college d. I have visited a college, but I don't know what kind e. I have not visited any colleges	Signals from Higher Ed
40. What are your pans for the year after high school graduation? (MARK ONLY ONE) a. Attend a four-year college or university b. Attend a community college c. Attend a technical college d. Get a job e. Enter the military f. Take a year off g. Unknown	College-going orientation (indirect measure)
41. What is the **highest** level of education you plan to complete? (MARK ONLY ONE) a. High school graduate b. 2-year community or technical college c. 4-year college or university d. Graduate or professional school (medical or law, masters, doctorate, etc.) e. I don't know yet	College-going orientation (indirect measure)

Student Survey Question	Factors Analyzed Using Data from this Question
42. Have your parents/guardians completed a college degree? a. No b. Yes	College-going orientation (indirect measure)

In the aggregate, the sample of students who responded to the survey is reflective of the demographic composition of the Twin Cities as a whole and of many other metropolitan areas across the United States. Of approximately 4,000 high school students who completed the survey, 61.8% were white, 13.3% were Asian or Asian American, 12.5% were Latino, 10.0% were Black or African American, 2.7% were African, 3.3% were American Indian, and 5.7% identified themselves as other. Respondents were evenly distributed between grades 9 and 12. 51.6% of the respondents were female while 49.4% were male. Of all the students surveyed, 62.4% reported that they have at least one parent or guardian who has completed a college degree, while 37.6% say they do not have a parent or guardian who completed a college degree.

Given that this study focuses on college-level course taking in high school, the views of students and staff on preparing for and attending college provide helpful contextual information. A substantial majority of the students surveyed – 59.4% – say they plan to attend a four-year college or university after graduating from high school, while 10.5% say they plan to attend a community college and 4.3% plan to attend a technical college. 5.5% say they plan to get a job, 5.1% say they plan to enter the

military, and 4.3% say they plan to take a year off. 12.3% say they do not know what they will do after high school graduation.

After the administration of the student survey in the seven participating high schools, data from the survey were coded using a method that was adapted for both the quantitative and qualitative components of this study from Charmaz's work on grounded theory (2000). While this study did not utilize all or even most components of grounded theory analysis, the focused coding technique the Charmaz describes proved to be very useful for this exploratory, descriptive, and interpretive investigation. Using that approach, only the data that address questions being investigated for the study are assigned codes and analyzed. For this study, student survey data that addressed one or more of the 10 factors that were identified through the literature review were considered relevant. When it was determined that a piece of data from the student survey addressed one of those 10 factors, that data element was assigned a code that connected it to the factor in question. Whenever possible, those codes also captured either the perspective that the students expressed on the potential factor (i.e. did they agree or disagree that it was important) or the frequency with which they practiced or experienced the factor (i.e. did they experience it rarely or often).

Staff Survey Instrument, Sample, and Method of Analysis

A survey of licensed staff in the seven study schools was another important instrument in the study. The primary purpose of the staff survey was to capture the perspectives of educators who work directly with students on the factors that influence their course taking decisions. Charts summarizing the data collected through the staff

survey are included as Appendix C of this study and the full text of the staff survey is included as Appendix D. The staff survey questions that were used in this study are identified in the table below and are aligned with the factors that the questions were designed to assess. A question that asked respondents to identify the type of work they perform at the school (i.e. teacher, counselor or administrator) has been omitted from this table.

Table 2: *Staff Survey Questions Organized by Study Factor*

Staff Survey Question	Factors Analyzed Using Data from this Question
4. How often do you talk with students about taking advanced courses?	Interaction with Adults
15. At registration time, school staff assist students in choosing classes that will help them reach their goals for education after high school.	Interaction with Adults
16. Staff at my school encourage students to take advanced classes such as Advanced Placement (AP), International Baccalaureate (IB), Post Secondary Enrollment Options (PSEO), and College-in-the-Schools (CIS) courses.	Interaction with Adults
17. Most students should consider taking at least one class in which they would earn college credit.	Interaction with Adults Signals from Higher Ed
23. School personnel believe that all students can earn a college degree.	Interaction with Adults
25. The curriculum at this school is focused on helping students get ready for college.	Academic Readiness

Staff Survey Question	Factors Analyzed Using Data from this Question
26. Teachers expect most students in this school to go to college.	Interaction with Adults
31. I can imagine most of my students as successful college students.	Interaction with Adults
33. The number one goal of high schools should be preparing almost all students to succeed at some type of postsecondary institution.	Signals from Higher Ed
34. There will always be plenty of ways for people with only a high school education to make a decent living in Minnesota.	Economic Incentives
35. Most parents in this school expect children to go to college.	Interaction with Adults
45. How influential do you believe the following factor is in shaping students' decisions to take a course that offers college credit: The degree to which the student possesses the knowledge and skills to succeed in a dual credit course.	Academic Readiness
46. How influential do you believe the following factor is in shaping students' decisions to take a course that offers college credit: The number of dual credit courses offered at the student's high school or at an accessible postsecondary institution.	Access
47. How influential do you believe the following factor is in shaping students' decisions to take a course that offers college credit: The student's expectation of and commitment to attending college as shaped by his or her family, community, and other influences	College-going orientation

Staff Survey Question	Factors Analyzed Using Data from this Question
48. How influential do you believe the following factor is in shaping students' decisions to take a course that offers college credit: The student's awareness of the courses and the knowledge and skills that are necessary for access to and success in postsecondary education.	Signals from Higher Ed
49. How influential do you believe the following factor is in shaping students' decisions to take a course that offers college credit: The degree to which the student understands the gains in lifetime income that result from higher levels of educational attainment	Economic Incentives
50. How influential do you believe the following factor is in shaping students' decisions to take a course that offers college credit: The student's level of participation in extracurricular activities, jobs, and other activities outside of school.	Outside Commitments
51. How influential do you believe the following factor is in shaping students' decisions to take a course that offers college credit: The amount of effort that the student generally puts into schooling and learning.	Effort
52. How influential do you believe the following factor is in shaping students' decisions to take a course that offers college credit: The influence of significant adults in the student's life at home and at school.	Interaction with Adults
53. How influential do you believe the following factor is in shaping students' decisions to take a course that offers college credit: The influence of the student's friends and classmates.	Interaction with Peers
54. How influential do you believe the following factor is in shaping students' decisions to take a course that offers college credit: The process that the school uses to register students for courses.	Course Registration Process

A total of 281 school staff members returned the staff survey for this study and response rates ranged from moderate to high. 50% of all licensed staff at Thomasville Senior High responded to the staff survey, while 100% of the staff at Victorian Academy and Cityspan Academy did so. Overall, 61% of licensed staff in the seven study schools returned the staff survey. 88% of the staff survey respondents identified themselves as teachers, 6% as other, 4% as counselors and 2% as administrators.

Just as questions about plans for life after high school provide useful information on the context within which data from the student survey should be interpreted, questions about preparing students for higher education provide useful context for the staff survey data that will be reported and discussed in subsequent sections of this paper. 92.7% of all staff in the study schools somewhat agreed, agreed or strongly agreed that the number one goal of high schools should be preparing all students to succeed in some type of postsecondary education. Notably, most staff report that they believe that college attendance is not only advisable but also possible for their students. 73.6% of them somewhat agreed, agreed or strongly agreed that the personnel in their schools believe that all students can earn a college degree. It is worth noting that 26.4% of all staff disagreed with that proposition, indicating that a substantial group of staff do not believe that all students can succeed at a 4-year institution.

Data also indicate that staff in the study schools understand the economic importance of completing a degree beyond high school. 79.8% of all staff strongly disagreed, disagreed or somewhat disagreed with the statement that “There will always

be plenty of ways for people with only a high school education to make a decent living in Minnesota." That percentage is significantly higher than the 64% of a representative sample of Minnesota adults who disagreed with that same statement on the Minnesota State Survey in 2011 (Minnesota Center for Survey Research, 2012).

Data from the staff survey were analyzed using the same focused coding process (Charmaz, 2000) that was used to code data from the student survey. Staff survey data were initially analyzed for connections to one or more of the 10 factors that the study's literature review suggested could influence students' course taking decisions. When such a connection was found, the frequency with which school staff reported that they practiced or encountered that factor was noted. For questions that asked respondents to indicate their degree of agreement with a statement about the importance of the factor, the degree of importance was also noted.

Student Focus Group Protocol, Sample and Method of Analysis

The protocol for the student focus groups conducted at two suburban high schools as the qualitative component of this study is included in Appendix E of this dissertation. The protocol was used to guide a semi-structured approach to both the focus groups, through which the focus group facilitator focuses the conversation on particular themes but is not limited to the use of strictly structured around standardized questions (Kvale, 1996; Fontana & Frey, 2000). This approach enables the facilitator to probe for additional information through follow-up questions and by restating points that participants have made for clarification, response and further dialog.

The questions raised in the student focus groups were general in nature, asking students to reflect upon the ways that they choose courses in general and the factors that influence their thinking about taking college-level courses in particular. When a student in a focus group responded to one of those general questions with an observation that was aligned with one of the 10 factors being examined in the study or when a student identified a potential new factor, the facilitator asked the student to expand upon that observation and then invited other students in the group to share their thoughts on the factor that the student had raised. For the most part, the facilitator did not proactively bring up factors for student response but instead waited and listened for students to mention and discuss the factors themselves.

The author of the study sought to conduct student focus groups that were comprised entirely of either students who had taken a college-level course or students who had not taken a college level course. The intent of this homogenous design was to provide students with an environment in which they could speak candidly about their own educational experiences and share observations about the experiences of students who are on the opposing side of the college course taking divide in their high schools.

In general, the author was able to implement this homogeneous design, and of the twelve student focus groups that were conducted for this study, six were comprised primarily of students who had not taken a college-level course and six were comprised of students who had taken one. In a number of cases, however, students who were recruited for focus groups comprised of students who had not taken a college-level course had, in fact, taken one at their current or a previous school. When this situation occurred, the

facilitator followed the same focus group protocol but was cognizant of the heterogeneous nature of the group in guiding the discussion. In both the heterogeneous and homogeneous focus groups, the facilitator sought to avoid giving students who had not taken a college-level course the impression that they had failed to take advantage of an educational opportunity that was necessarily right for them.

Taken together, 66 students participated in focus groups for this study, 38 of whom were girls (58%) and 28 of whom were boys (42%). Many focus groups included students of color, though participants were not asked to identify their racial or cultural backgrounds and the researcher did not have an alternative means of collecting demographic data on the focus group participants. 32% of the focus group participants were high school seniors, 24% were juniors, 36% were sophomores and 8% were freshmen.

All of the student focus groups were recorded and transcribed verbatim. After each interview and focus group, the author reviewed field notes from the sessions and identified key themes and questions for further study. Each transcript was closely read at least twice and data were again coded using the focused technique outlined by Charmaz (2000). A code was assigned to each comment that aligned with one of the 10 factors identified through the literature review for this study. Codes were also assigned to new potential factors that emerged through the focus group process. Whenever possible, the frequency with which the student practiced or experienced the factor was also recorded through the coding process, as was the student's perspective on the factor, such as

whether he or she agreed or disagreed that it plays an important role in course taking decisions.

Staff Interview Protocol, Sample and Method of Analysis

Interviews of individual staff members were conducted in the two high schools where student focus groups were held in order to gain a more detailed understanding of educators' perceptions of the factors that influence students' course taking decisions. The protocol for the staff interviews is included in Appendix F. In contrast to the student focus groups, during the interviews staff members were proactively presented with a list of the 10 factors that the literature suggests could influence course taking decisions and asked to react to that list. This more proactive approach to soliciting feedback on the potential factors was adopted because the interviews were relatively short in duration, lasting approximately 30 minutes each. Had the interviewer posed only general questions and waited to see what factors staff members chose to mention, it is likely that only a limited number of the factors being studied would have arisen during the limited time available.

Purposive sampling was used to determine which individuals to interview, which enabled the author of the study to identify subjects based upon their roles, expertise or experience relative to the study's research questions (Teddlie & Tashakkori, 2009). Using that approach and through collaboration with school administrators, the author conducted interviews with 21 school staff members in the job categories of classroom teacher, principal, assistant principal, counselor and dean. The subjects taught by the classroom teachers that were interviewed included biology, mathematics, physics,

marketing, English, reading intervention, business, choir, physical science, biology, U.S. History, social studies, environmental science, chemistry and psychology. Approximately half of the teachers were currently teaching or had taught a college-level course.

Data collected through the staff interviews were analyzed and coded using the same focused process that was used to explore and categorize data collected through the student focus groups (Charmaz, 2000). Data were reviewed first for alignment with the 10 factors identified through the literature, and subsequently for new factors that educators view as influential. The findings from the staff interviews and from the other research methods utilized in this study are summarized in the section that follows.

Summary

Using both quantitative data collected through a student and staff survey and qualitative data collected through focus groups and interviews in two of the study schools, this study uses a mixed methods design to explore, describe and interpret the factors that influence students' decisions about taking college-level courses in high school. This combination of methods was selected both for its capacity to generate data on the 10 factors identified through the literature review, and to produce data that might help to identify additional factors that were not found through the review of research.

Chapter 4:

Findings

Student Survey Findings

Questions on the student survey asked respondents to indicate the degree to which they value a range of factors that might influence student decisions about course taking and other academic endeavors. All of the potential factors identified through the literature review proved possible to analyze using student survey data with the exceptions of the *Outside Commitments* factor and the *College-going Orientation* factor. No items on the student survey were aligned with the factor of Outside Commitments, which measures time spent on activities beyond the school day, such as extracurricular activities and jobs. For the college-going orientation factor, although a number of items on the survey asked about students' expectations for education after high school, those items did not directly address the degree to which students' possessed an inherent college-going orientation that originated with their families or other forces beyond schools.

Most items on the survey asked participants to indicate the degree to which they agreed or disagreed with statements asserting that the factor in question influences students' course taking decisions. A limited number of questions forced students to choose one factor from a longer list of related factors. Based upon one of these two criteria – degree of agreement or ranking in a forced choice exercise – each important data point was placed into one of the following three categories: high influence, moderate influence, or low influence. The criteria for placement in one of those categories were:

High Influence: The factor was valued by 75-100% of the survey respondents or was the highest ranked factor among a list of several related factors.

Moderate Influence: The factor was valued by 40-75% of the survey respondents.

Low Influence: The factor was valued by 0-40% of the survey respondents.

Using those criteria, the data from the student survey suggest that the factors identified through the literature review have the following degrees of influence on students' course taking decisions:

<u>High Influence</u>

- Economic incentives
- Signals from higher education
- Effort

<u>Moderate Influence</u>

- The registration process
- Academic readiness

<u>Low Influence</u>

- Access
- Interaction with adults at school
- Interaction with parents
- Interaction with peers

<u>Not Measured on the Student Survey</u>

- College-going orientation
- Outside Commitments

Staff Survey Findings

Before summarizing data obtained from the staff survey, it is important to note that a limitation of an important item on the survey became apparent as analyses were conducted on all of the data sets collected for this study. The factor *Interaction with Adults* on the staff survey did not specify with whom that interaction took place. Question 52, for example, asks about the influence of significant adults in a students' life at home *and* at school. As a result, it is not possible to know if the staff members who completed the survey were evaluating the influence of interaction with adults at school or at home or in other arenas of students' lives. As a result, the data gathered through the staff survey on the influence that adults have on students' decisions about taking college-level courses is imprecise and limits the conclusions that can be reached. If this study is replicated in the future, the impact of adults at home and adults at school should be investigated and evaluated separately.

With that caveat, the results of the staff survey are listed below using the same criteria that were used to evaluate results on the student survey described above:

<u>High Influence</u>

- Signals from higher education
- College-going orientation
- Effort
- Interaction with adults at school (home and school combined)
- Interaction with peers

<u>Moderate Influence</u>

- Access

- Economic incentives
- The registration process
- Academic readiness
- Outside commitments

Low Influence

- (none)

Key Conclusions from the Student and Staff Survey Data

When the student and staff survey data collected for this study are combined, they paint a more comprehensive picture of the factors that influence students' decisions about taking college-level courses. Toward that end, the following narrative summaries of the findings on each factor bring together data from both the student and the staff surveys to highlight issues on which the student and staff surveys agree and disagree.

Access: Obviously, students' decisions about taking a college-level class are significantly influenced by the number of such classes that offered in their high schools and that are available at local postsecondary institutions and online. A significant majority of students in the seven high schools included in this study reported on the student survey that they have adequate access to college-level courses. 78% of them somewhat agreed, agreed or strongly agreed that any student at their school can take an advanced or honors course or a course for college credit if they want to. But while most students agreed that they *could* take a college-level course in the study high schools, only 59% reported that they had done so. 41% reported that they had not yet decided to enroll in a college-level class. Those data suggest that

college-level course taking has not yet reached its peak in high schools of the kind included in this study.

Student survey data indicate that the rates of college-level course taking vary significantly by school. The school with the lowest percentage of students who reported having taken a college-level course was Thomasville Area Learning Center (ALC) at 9.8%, while the school with the highest percentage was Adamstown High School at 47.5%. The comparatively low percentage at Thomasville ALC is not surprising given that area learning center programs in Minnesota are intended to serve students who have not succeeded in traditional high school settings. The school with the next lowest share of students who have taken a college-level course was Cityspan Academy at 18.9%.

The student survey data also indicate that socioeconomic disparities in college-level course taking are significant but not gaping in the study schools. 34% of students who reported that they would be the first in their families to attend college indicated that had taken a college-level course, while 46.8% of students with at least one college-experienced parent said they had done so. The fact that more than a third of the students whose families have no prior experience with higher education report having taken a college-level course indicates that schools are having some success in broadening access to such courses.

If, as research suggests, college readiness is most effectively advanced when students take more than one college-level course in high school, then a relatively small group of students is realizing the full benefit of college-level course taking in the study schools. Of the students who reported that they have taken a college-level

course, 19.6% said they had taken a single course, 11.6% said they had taken two, and 13.2% said they have taken three or more.

School staff appear to view access to college-level courses as a moderately significant factor in students' decisions about taking such courses. 51% of staff in all schools rated the degree to which students have access to dual credit classes as somewhat influential, while 21% rated it as very influential in shaping students' decisions. When the percentages who rated this factor somewhat influential or very influential are combined, 73% of school staff rated this factor as influential, making it the sixth most influential among the factors included on the staff survey.

In sum, a significant majority (78%) of students in the study schools reported that they had access to college-level classes, although a large group of students (41%) also reported that they had not chosen to take one. Staff rated access to college-level classes as a moderately influential factor.

Economic Incentives: The literature review for this study identified the degree to which students understand the economic benefits of taking a college-level course in high school and of earning a college degree as potentially influential factors in high school students' decisions about taking college-level courses. Data from the student survey suggest that this factor does, in fact, play a significant role in shaping those decisions. 38% of the students in all seven study high schools who had taken a college-level course identified earning free college credit as the top reason they took the class. That percentage makes this factor the most influential factor of those examined on the student survey. Students' next-highest priority was "to prepare

myself for college-level work", which 30% of the respondents identified as influential.

The responses of school staff on the staff survey suggest that educators view the economic incentive of college-level course taking as a moderately influential factor. 70% of all school staff rated the degree to which the student understands the gains in lifetime income that result from higher levels of educational attainment as somewhat or very influential, making this factor the eighth most influential among those included on the staff survey.

In sum, the student and staff survey data indicate that students regard the economic incentives of taking a college-level class and of earning a college degree as a highly influential factor in their course taking decisions, while staff see the factor as moderately important.

Signals from Higher Education: This factor focuses on the degree to which students understand and act upon the signals that they receive about college readiness from institutions of higher education and from society at large. Data from the student survey suggest that students in the study schools regularly receive signals about college admission and success. For example, 63% of all students surveyed reported receiving information from school staff on the requirements for getting into college, while 53% reported receiving information on careers, 44% reported receiving information on choosing advanced courses, 41% reported receiving information on scholarships and financial aid, and 40% reported receiving information on the requirements for succeeding in college.

Almost all of the students surveyed (94%) reported that they know the subjects and skills they need to graduate from high school ready for success in college, and 84% of the students surveyed somewhat agreed, agreed or strongly agreed that they know which high school classes they should take to get into the college they want to attend.

The connection between academic rigor in high school and readiness for higher education is also apparent to many students. "To prepare myself for college-level work" was the second most frequently cited reason for taking a college-level class among students who took one, and 80% of the students reported that they are willing to take hard classes even though they may receive a lower grade as a result. That said, the survey data also indicate that students can interpret signals from higher education as a reason *not* to emphasize academic rigor. 10% of the respondents in all of the study schools reported that their desire to maintain a high GPA was the reason they had not taken a college-level course.

Visits to the campuses of postsecondary institutions can be powerful vehicles for providing students with signals of the actions they should take to reach college readiness. When students who were surveyed for this study were asked what type of postsecondary institution they had visited to learn what it is like to be a student there, 43% said that they had not visited any colleges, 41% said they had visited a four-year college or university, 16% said they had attended a community college, 11% said they had attended a technical college and 9% said that they have visited a college but don't know what kind it was.

The survey data also indicate that there are significant differences among schools in the percentages of students who had visited various types of postsecondary institution. At Thomasville ALC, for example, 40.3% of students had been to a technical college, while only 8.9% of students at Thomasville Senior High had been to one. 51.4% of students at Tristero Tech had been to a four-year college or university, but only 32.9% of students at Adamstown had been to one. 56.9% of Adamstown students had not visited any college while only 13.3% of students at Tristero Tech had not visited any college.

Educators who responded to the staff survey had differing opinions on the importance of providing students with information on the courses and the knowledge and skills that are necessary for access to and success in postsecondary education. Over half (53%) of those school staff members rated awareness of the criteria for admission to and success in higher education as somewhat influential and 33% rated it as very influential in shaping students' decisions about taking a college-level class. If those percentages are combined, 86% of school staff rated this factor as influential, making it the fourth highest rated among the factors included on the staff survey.

In sum, students who responded to the student survey administered for this study reported that they are receiving and paying attention to signals about admission to and readiness for postsecondary education. The data also suggest that signals of the requirements for *admission* to higher education are being received and acted upon more strongly than signals for *success* in higher education. Slightly more than half of the educators who responded to the staff survey reported that they regard signals from higher education as a moderately influential factor in shaping students' course taking

decisions, while a third of the staff who responded rated that factor as highly influential.

The course registration process: The literature review conducted for this study also identified the way that high schools provide students with information about college-level courses as a potentially influential factor in the decisions that students make about taking such courses. While 80% of the students who completed the student survey agreed that school staff assist them in choosing classes that will help them reach their goals for life after high school, 20% of the students who responded said that they do not receive such assistance.

School staff indicated that they are deeply engaged in the course registration process. 87% of the educators who completed the staff survey indicated that they help students choose classes that will help them reach their goals for education after high school. A slight majority of those educators – 51% – said that the process that schools use to register students for courses is somewhat influential in the decisions that students make about taking college-level courses, while 16% rated the registration process as very influential. When the percentages of students who rated this factor as somewhat or very influential are combined, 67% of school staff agreed that this factor has a significant influence, making it the 9th most influential among the factors included on the staff survey.

In sum, the student survey data collected for this study suggest that students have extensive interaction with staff during the registration process, but those data do not yield significant insight on the degree to which students see that process as influential in their course taking decisions. The data from the staff survey indicate

that most educators in the study schools believe that the registration process has a significant impact on course taking decisions.

College-going orientation: The literature review conducted for this study also identified the degree to which students are oriented toward college success and have clear plans for higher education as a potential factor in students' course taking decisions. This factor proved to be very difficult to capture and evaluate through the staff and student surveys conducted for this study. As a result, the survey data do not suggest generalizable conclusions about the influence of an inherent college-going orientation.

A significant majority of the students in the study schools reported that their families have had prior experience with higher education. Of the students surveyed, 62% indicated that they have at least one parent or guardian who has completed a college degree, while 38% report that their parents have not attempted or have not been able to attain that objective.

The survey data indicate that students talk to their parents about going to college at widely varying degrees. Of the students who completed the survey, 5% reported that they never talk to their parents about going to college, 11% said they rarely do it, 27% said they sometimes do it, 30% said they often do it, 15% said they almost always do it and 14% said they always do it.

Data from the staff survey suggest that educators generally regard the student's expectation of and commitment to attending college as a moderately influential factor in shaping students' course taking decisions. 53% of the educators who responded to the staff survey indicated that they see a college-going orientation

as very influential in shaping students' decisions about taking a college-level class. When this percentage was combined with the percentage of students who rated this factor as somewhat influential, 2/3 of all staff agreed that students' college-going orientation is an influential factor in shaping students' course taking decisions. When the percentages who rated this factor as somewhat influential and very influential are combined, 66% of school staff rated it as influential, making it the 10th most influential among the factors included on the staff survey. School staff also differed in their perception of parents' aspirations for their children's education after high school. 2/3 (66%) of the school staff disagreed with the statement that "Most parents of students in this school expect children to go to college", while 34% agreed.

In sum, the student survey did not include items that directly asked about the influence of a college-going orientation, and so it is not possible to draw conclusions about the influence of that factor based upon data from that instrument. Data from the staff survey suggest that educators consider students' college-going orientation to be very influential.

Effort: In general, the students who responded to the survey agree that the amount, type and duration of effort that students put into academic success is extremely important. The vast majority of those students – 89% – somewhat agreed, agreed or strongly agreed with the statement that succeeding in school depends more on how hard you work than on how naturally smart you are. That high degree of agreement suggests that many students believe that with hard work and support they can overcome academic challenges such as taking a college-level course.

The survey data also suggest that students do not see themselves as lazy. When the students in all the study schools were asked to rate themselves on a scale of one through six with one being the laziest person they know and six the hardest working, the mean response was 4.23. Of the students who completed the survey, 76% reported that they work hard in class and on assignments even if they don't like the class. Students were evenly split in their responses to a question about how frequently they give up TV, video games, Facebook, texting, or time with friends to study for a test or do an assignment. While 47% said they never, rarely or sometimes give up those things, 54% said they often, almost always or always do. "To be challenged" was the third most frequently cited reason for taking a college-level course by students who have taken one.

The school staff members that responded to the staff survey identified the amount of effort that students are willing to exert to achieve their educational objectives as one of the most influential factors considered in the study. Approximately one third (32%) of all staff rated the amount of effort a student generally puts into school and learning as somewhat influential, and 59% rated it as very influential. When the percentages who rated this factor as somewhat influential and very influential are combined, 91% of school staff rated this factor as influential, making it the second most important among the factors included on the staff survey.

In conclusion, both students and staff agreed that the quantity and quality of effort that at student is willing to expend on education is a major factor in his or her willingness to take a college-level class in high school.

Academic readiness: The student survey also asked high school students to evaluate the degree to which their readiness for high-level academic work influences their course taking decisions in high school. Over a quarter of the students (27%) said that "The course would be too challenging" was a major reason they had not taken a college-level class in high school.

Exactly half of the staff (50%) who responded to the staff survey rated possessing the knowledge and skills for success in a college-level course as a somewhat influential factor in shaping students' decisions about taking a college-level class, while 19% rated it as a very influential factor. When the percentages who rated academic readiness as somewhat influential or very influential are combined, 79% of school staff rated the factor as influential, making it the fifth most influential among those included on the staff survey.

In sum, the survey data collected for this study suggest that for some students, their perceived or actual academic readiness for a college-level course is a moderately influential factor in their course taking decisions. School staff also rated students' level of academic readiness for college-level courses as moderately influential.

Interaction with adults: The study's literature review hypothesized that the interaction that students have with adults about college-level course taking and related subjects also has a significant effect on students' course taking decisions. A small but still significant group of students reported that have little or no interaction with adults about college-level course taking and related issuers. For example, 31% of the students who completed the survey reported that no adult in their school had ever encouraged them to take a college-level course. Similarly, 19% of the students who

had not taken a college-level course reported that no one had encouraged them to do so. Only 4% of all the students surveyed reported that their parents had encouraged them to take a college-level course.

Beyond the question of taking college-level courses, the data also indicate that a significant percentage of the students in the study schools rarely talk with adults about their lifetime goals and aspirations. For example, 31% of the students said that they never or rarely talk with adults in their schools about their plans for life after high school, and 46% of the students in the study schools somewhat disagreed, disagreed or strongly disagreed with the statement that there is a school staff member who has taken a special interest in preparing them for college success. Students indicated that they have received the most advice about how to prepare for college from the following types of individuals: family members (42%), teachers (20%), deans (12%), counselors (8%), Get Ready staff (7%), advisors (7%), classmates (5%), and principals/assistant principals (.3%).

Students who completed the survey also reported that they talk with their parents about going to college to greatly varying degrees. While a small number of students (5%) said they never do it, 11% said they rarely do, 27% said they sometimes do, 29% said they often do, 15% said they almost always do, and 14% said they always do.

The student survey data collected for this study also illustrate the fact that students from different backgrounds interact with adults about college readiness in very different ways. For example, correlational analysis conducted by the University's Center for Applied Research in Education (CAREI) found that 29% of

students who would be the first in their families to attend college received information from a family member about preparing for college, while 49% of students whose parents had been to college received such information from a member of their family.

When evaluators at CAREI conducted statistical analysis of the student survey results, they found a significant link between encouraging students to take college-level courses and actually taking such courses. The Pearson product-moment correlation between the item "Have you taken one or more courses for college credit" and the item "An adult encouraged me to take college courses" was .35. The correlation was statistically significant at $p < .001$, though an effect size of .35 is considered small.

Other subgroup analyses conducted by CAREI found that students who would be the first in their families to attend college were significantly less likely to be encouraged to take a college-level course than students from college-experienced families, though the effect size was also small at d = .33. Similarly, students who qualified for free or reduced-price lunch were significantly less likely to be encouraged to take college-level classes than students who did not qualify for free or reduced price lunch, though this effect size was also small at d = 0.42.

Larger effects were found between student achievement and student course taking. Students who met or exceeded standards in both reading and mathematics on the Minnesota Comprehensive Assessments (MCAs) were significantly more likely to be encouraged to take college-level courses than students who did not meet or who partially met standards. This effect size was moderate at d = .63 for proficiency in reading and .72 for proficiency in mathematics.

Educators who completed the staff survey clearly believe that adults play a large role in shaping the decisions that high school students make about course taking. Approximately one third (36%) of the respondents to the staff survey rated the influence of significant adults in the student's life at home and at school as somewhat influential, and 58% rated the influence of those adults as very influential. When the percentages who rated this factor as somewhat influential and very influential are combined, 94% of school staff rated this factor as influential, making it the most highly ranked factor on the staff survey.

School staff members also reported on the survey that they regularly encourage students to challenge themselves academically. Almost all of the school staff members who responded to the survey (92%) somewhat agreed, agreed, or strongly agreed that they encourage students to take advanced classes such as AP, IB, PSEO and CIS. Nearly two thirds of the staff (61%) said they often, almost always or always talk with students about taking advanced classes in general (not limited to college-level courses), while only 11% said they never or rarely do. A large majority of the staff (87%) somewhat agreed, agreed, or strongly agreed that students should consider taking at least one class in which they would earn college credit.

In sum, while many students report that adults at school and at home play a large role in their course taking decisions and in shaping their plans for life after high school, about one third of the students who were surveyed report that they have very little interaction with adults about those issues. Students who would be the first in their families to attend college are less likely to report that they have been encouraged to take a college-level class than their peers from college-experienced families.

School staff report that they regard interaction with adults as the single most influential factor in shaping students course taking decisions, and that they frequently encourage students to consider taking a college-level class.

Interaction with peers: A large body of research on adolescent development suggests that students' interaction with their peers should be a highly influential factor in their course taking decisions. The data from the student survey do not, however, suggest that peers play such a significant role. Only 1% of the students who had taken a college-level class cited encouragement from their friends as a reason for doing so, and only 1% of the students who had *not* taken a college-level class cited their friends as a reason they had not taken a college-level class.

The survey data do not indicate that an anti-academic peer culture is a cause of the relatively low importance that students place on the influence their peers have on course taking decisions. The vast majority of students (89%) said that their friends show respect for others who work hard and do well, and 77% of the students agreed that students in their schools show respect for others who work hard and do well. Students at Thomasville ALC and Cityspan Academy were more likely to strongly agree or disagree with this statement, with more than 20% of students at both schools suggesting that students in their schools don't show respect for others who work hard and do well compared to approximately 10% of students in the other schools.

In contrast to data from the student survey, data from the staff survey indicate that educators regard interaction with peers as a highly influential factor in students' course taking decisions. Almost half (47%) of the respondents to the staff survey rated interaction with peers as somewhat influential and 43% rated it as very

influential. When the percentages who rated this factor somewhat influential or very influential are combined, 90% of school staff rated this factor as influential, making it the third most important among the factors included on the staff survey.

In sum, data from the student survey suggest that students do not regard interaction with peers as an important factor in the decisions they make about taking a college-level class. In contrast, educators regard such interaction as very influential.

Outside commitments: The final factor identified through the literature review conducted for this study was the nature and frequency of students' commitments to extracurricular activities, jobs and other activities outside school. Unfortunately, no items examining this factor were included on the student survey, and so data is not available from that source that can be used to examine its influence. The staff survey did include a question on outside commitments, however, and 70% of the educators who were surveyed reported that they regard participation in extracurricular activities, jobs and other activities outside school as somewhat or very influential in shaping students' decisions about taking a college-level class.

Section Summary

For the purposes of this study, factors that influence student decisions about taking a college-level course were considered highly influential if a large majority of the respondents on the student and staff surveys (approximately 75% or higher) emphasized the importance of the factors. Factors were considered moderately influential if a smaller but still significant proportion of the respondents (approximately 40%-75%) emphasized their importance. Factors were categorized as having a low influence on students' course taking decisions if fewer than 40% of the

respondents saw them as influential. Of the factors examined for this study through the student survey, three were categorized as highly influential, two were categorized as moderately influential and four were categorized as having a small influence on students' course taking decisions. Two factors were not directly addressed on the student survey. On the staff survey, five factors were categorized as having a high influence, five were categorized as having a moderate influence and no factors were categorized as having a low influence on students' course taking decisions.

Focus Group and Interview Findings

To complement the data gathered through the student and staff surveys, additional qualitative data were gathered at two of the study schools. As noted above, those schools are referred to in this paper as Thomasville and Adamstown High Schools. Both are comprehensive suburban high schools with student populations of approximately 1,600 students.

Over the course of conducting the student focus groups, two factors that could influence students' course taking decisions emerged that were not identified through the literature review. Those factors were:

- Interest in the Subject: The degree to which students take a college-level course because they are interested in the subject being studied
- The Learning Environment: The degree to which the instructional techniques and classroom practices used in college-level courses cause students to enroll in those courses.

Qualitative data on these two new factors and on the 10 factors identified through the literature review for this study are summarized below. Because many

students who participated in the focus groups reported that school staff and parents have very different levels and kinds of influence on their course taking decisions, the qualitative data gathered on the Interaction with Adults factor is summarized in two separate categories below: Interaction with Adults at School and Interaction with Parents.

As an indicator of the importance that students and staff place on each of the potential factors being examined through this study, the number of times that each factor was cited as important or influential during the student focus groups and staff interviews was tabulated through analysis of the transcripts. The total number of times that each factor was cited as influential was then calculated for both the student survey and the staff interviews. Each factor was then placed into the following categories based upon the data collected from the student focus groups and the staff interviews. A total of 66 students participated in the focus groups and 21 staff members participated in individual interviews.

- High Influence: The factor was mentioned and valued by a majority (50-100%) of the participants
- Moderate Influence: The factor was mentioned and valued by a significant share (30-50%) of the participants
- Low Influence: The factor was mentioned and valued by some (0-20%) of the participants.

In summarizing key findings from the qualitative data below, the terms *majority, a significant share,* and *some* are used to describe the frequency with which focus group and interview participants cited each factor. While the number of people

who mention a subject during a semi-structured interview or focus group is a highly imperfect indicator of the value those people place on that subject, that measure makes it possible to create a framework within which the issues and opinions gathered through the focus groups and interviews can be considered. Using such a framework, data collected through the qualitative component of this study suggest that students and staff assess the influence of the factors that are the focus of this study in the following ways:

Student Focus Group Factor Rankings

High Influence

- The learning environment

Moderate Influence

- Economic incentives
- Signals from higher education
- Effort
- Interaction with adults at school
- Interaction with parents
- Interaction with peers
- Outside commitments
- Interest in the subject

Low Influence

- Access
- The registration process
- College-going orientation

- Academic readiness

Staff Interview Factor Rankings

High Influence

- Signals from higher education
- The registration process

Moderate Influence

- Economic incentives
- College-going orientation
- Effort
- Academic readiness
- Interaction with adults at school
- Interaction with parents
- Interaction with peers
- Outside commitments
- Interest in the subject

Low Influence

- Access
- The learning environment

Key Findings from the Qualitative Data

Access: Students who participated in focus groups for this study reported little difficulty gaining access to college-level courses at Adamstown and Thomasville senior high schools. No students mentioned that there were an insufficient number of college-level courses available within or beyond their schools, although some students

who had taken college-level classes did mention that they had often had trouble fitting the classes they wanted to take into their course schedules.

Some staff members at both schools said that because their schools offered college-level courses and many sections of those courses, access is not a major factor in student decisions about course taking. However, some staff members at Thomasville said that fitting college-level courses into students' schedules is often a challenge.

Staff members at both Adamstown and Thomasville noted that their schools have revised the criteria for admission to college-level courses to increase the number of students who can choose to take them. A history teacher at Adamstown noted that the school previously required teacher recommendations for admission to college-level courses, but he said that in an effort to promote greater access the school has moved away from that practice. That teacher went on to describe how Adamstown uses achievement data to open the doors to college-level classes rather than to close them. He contrasted Adamstown's strategy with the approach being used in another high school in Minnesota:

> There was another school, I was talking to a teacher of AP U.S. History two summers ago. And they were using [NWEA tests], same as we were, and we both independently arrived at about the same number. But they used it as a prerequisite: "If you're above this, you can get in." Because that was the number we figured out most kids were successful over that number. So what they were doing was they were determining in advance who was going to be successful, and then only allowing those kids to take it. Whereas, we used that as a recruiting target and said, "If there's anybody that has this and is not in there, we need to go find them." So that's where I kind of look at prerequisites sometimes as a screening mechanism, as keeping kids out."

Some teachers at both schools said that while they personally support efforts to broaden access to college-level courses, they also believe it is important to limit participation in those courses who have the knowledge, skills and habits to succeed in them. If schools do not do that, one of the teachers argued, students will struggle and teachers will be pressured to water down the academic rigor of their classes.

A teacher at Adamsville who was interviewed predicted that in the years ahead on-line learning will further expand access to college-level courses at her school and at all high schools in Minnesota. She noted that this will make the issue of access to college-level courses even less of a factor in students' course taking decisions that it is today.

Economic Incentives: A majority of the students who participated in focus groups for this study said that the financial benefits of taking a college-level course in high school have a significant influence on their course taking decisions. This viewpoint was expressed both by students who had and had not taken a college-level course. A significant share of staff members from both high schools who were interviewed also said that the economic incentive of taking a college-level class was a major factor. Some staff members at Adamstown High School said that they did not see this factor as influential.

Signals from Higher Education: Students and staff members who commented on this factor during interviews and focus groups were more likely to speak about the influence of life beyond high school in general than about the influence of higher education in particular. A significant share of the students said in various ways that their plans for life after high school play a significant role in their

course choices. This view was expressed by students who had and who had not taken a college-level class in both high schools. A significant share of the staff members in both high schools also said that students' aspirations to get into and succeed at college or to enter a particular career field have an influence on the courses they choose.

A few students at Thomasville High School who had never taken a college-level course said that because their goals for life after high school do not include college, they choose courses based only on the requirements for earning a high school diploma. An administrator at one of the schools shared his view of the way those students connect their performance in school to their goals for the future:

> But you have those kids that they are just here, no matter what we say, do or whatever, they are just here to get a high school diploma, they might go to a two-year school or their real plan is "I'm gonna go to Dad's whatever business and I'm gonna just jump right in with him and I'm gonna start working". Manual labor. No matter what I say, they're not gonna do anything unless their dad comes in and says, "You need to go to a two-year school before you're gonna start with me." Those kids are finding the easiest path they can to get through high school. Probably our most frustration laden group, trying to get them to look at "What is that next step?"

The administrator went on to describe the way that many of those students' parents react when they are urged to enroll their son or daughter in an advanced or college-level course: "The parents don't see the benefit of it. I've had conversation after conversation with parents: "Why should my kid take that course? I never took it."

Both students who had taken a college-level course and students who had not reported that they valued classes that were clearly connected to their goals for the future. A student who had taken a college-level course at the urging of one of his teachers reflected on the experience in this way: "I felt like it was kind of a waste of

my time personally -- just because the teachers want us to learn it, I'm not gonna use this and don't have a need for it."

Other students were similarly focused on choosing courses to advance their longer-term goals, but they reached a different conclusion about the value of taking college-level classes in high school. A significant share of the students who participated in focus groups said they think about how the classes they take will look on a college application when they register for courses. Not surprisingly, students who had taken college-level courses made that observation more frequently than students who had not taken a college-level class.

Some students at both schools also said they considered academic readiness for college when choosing courses. Most of those students had taken a college-level course. A teacher summarized the motivation of many students in that group when she shared this observation about they way she starts her college-level language arts class each semester: "We always go around the first day and I ask: 'Why are you here?' And many will say, 'I need to be able to do this. I need to try a college class.'"

A student at Adamstown High School who had taken a college-level course said that emphasizing college admissions requirements during the registration process would have significant impact on her course decisions:

> Mm-hm. Yeah. That would influence. Like, that's something deans should do. Like, they should like tell you like… That would be helpful, to like tell you more of the requirements to get into college like that. Like, I mean if they told me, "You absolutely need to take these three years to get into these colleges" and if I really wanted to do that, then yeah I'd take the three years.

Some students said that their career plans had influenced their course choices, but they did not mention college. For example, a student at Adamstown who had not

taken a college-level course said that, “I’m in advanced math…because I want to like go into more like mathematical jobs.” A dean at Thomasville also described career goals as highly influential for some students.

A student at Adamstown High explained that she thinks a lot about the future in choosing her classes, but that her objective is not to reach a particular educational or career goal, but to find one. “At least for me,” she observed about taking college-level classes, “I think it’s more so like I do them because I don’t really have a plan for my future! Like, I don’t know where I’m going! And almost everything interests me. Like, I like English. I like science. And I like history. And so this allows me to like see the like highest areas of those subjects. And maybe eventually decide where I actually want to go.”

A student who had taken college-level courses noted that she couldn’t understand why some of her peers were not more focused on the future. The following exchange with the focus group facilitator captures some of her questions:

> Student: I almost feel like some students aren’t looking far enough ahead. They’re just thinking about “right now”. Like, “I want to be with my friends” or “I just don’t want to do it.” But if you think into your future, why would you not do something that’s gonna benefit you like so immensely in the future?
>
> Facilitator: Where did you… Again, I’m asking you guys to say simple statements about these really complex things. But why do you think about the future? What led you to be kind of future-focused?
>
> Student: Um, I know that…I mean like the future is like bigger and more important than high school. Like, the things that happen in high school aren’t that important. You make friends, you lose friends, the things you do aren’t that important. But the classes that you take in high school, even though you might not get to spend as much time with your friends, it’ll have a huge impact on your future. Whereas, other things in high school—like

> taking the easy classes—that won't benefit you like in your future at all.

Staff members at both schools reported during interviews that helping all students understand the connection between the actions they take each day and their long-term goals for the future has become a major emphasis of the guidance and advisory efforts their schools have put in place. For example, a teacher at Thomasville described her school's efforts to help students develop clear and compelling goals for the future in this way:

> In advisory we do days where we talk about our career clusters. We have a poster of those. And it's online and all that sort of thing. And in ninth grade they work very hard towards career interests and talent and such. So they come to advisory having done some thinking about it. And then we talk about career clusters. And we also talk about what colleges are looking for. And we talk about community colleges and technical schools and then four-year. You know, we broadly define "college". So we talk about what those institutions like to see on a transcript.

A physics teacher at Adamstown described a similar advisory effort that is underway at his school and stressed that if the school as a whole had not made a decision to emphasize postsecondary planning, he would be unlikely to include it in his class. "Just naturally I guess it doesn't enter my thinking," he said. "Like, when I'm planning out the week, like I don't think, "Oh! I think I'll add some lessons about college to my physics curriculum." Some staff members stressed that this intentional process of exposing students to college and career requirements should begin in middle school so that students arrive in high school with academic momentum already underway.

Some staff members at both high schools noted that in order to help students plan for life after high school, they need to be updated on current requirements. A

teacher at Adamstown described the challenge of responding to student questions about college admissions: "And they come to us. And we often know, but not always. Like, for me, my knowledge is 25 years out of date." Some teachers at Adamstown said that taking students to visit colleges is a good way to both motivate and inform them.

Participants in the staff interviews and student focus groups had differing opinions about whether it is better for students to take the most challenging courses they can handle and potentially lower their grade point averages (GPA) as a result, or to take courses in which they know they will do well in order to maintain strong GPAs. Some students who had never taken a college-level class said that it is better to take easier courses and to get better grades. One of those students described that viewpoint in this way:

> I remember like my teacher told me sophomore year that like when they're going through transcripts in college, like, they circle all your Cs and stuff that you've gotten throughout. Like, that's just what she told me. And so like I never want to have a C like on a report card. Like, I have. Like, I've had some. But I never want to intentionally get one. Like, I'd rather get a B in a regular class than a C in an AP class.

In contrast, some students who had taken a college-level class said that it was better to take harder classes even if it results in a lower GPA.

A science teacher at Adamstown articulated a viewpoint that was also expressed by two other teachers when he argued that educators need a much clearer understanding of how colleges evaluate the courses that students take and the grades they earn in those courses. He suggested that educators should tell students that they can succeed in advanced courses and that they should not be afraid of challenging

themselves, but that urging students to embrace academic rigor is often undermined by college's focus on students' grade point averages:

> I think that a huge barrier that needs to be worked out is this misplaced value on high GPA versus challenging yourself. And this goes across the board, this goes with colleges. Colleges say, "Oh yeah, GPA doesn't matter." But then GPA does matter. You know. They've done that to our kids before. They've said, "No, we want your kids to take these AP/CIS courses." And so deans have advised them to do that. And then they get Cs and Bs in them, and then colleges don't recognize the difference. And so I think there's this need to have staff tell these kids, "You know what? You should challenge yourself. You need this challenge if you're really planning to go to college."

An administrator at Thomasville High School agreed that this is an issue that needs to be addressed. He noted that his school has chosen not to grant weighted honor points to students who take advanced courses because, "the first thing colleges are going to do is un-weight absolutely everything." In contrast, at Adamstown High School Advanced Placement classes in which students receive a C or higher carry a weighted grade value of 1.25. All transcripts show a weighted and unweighted GPA and class rank.

The Course Registration Process: Conversations with students and staff at both Thomasville and Adamstown high schools provided evidence of the importance of the registration process. From varying perspectives, those students and educators agreed that the days and even the hours when students are engaged in registering for classes are times when complex and often far-reaching decisions are made. A student captured the importance of this decision point when she said that, "You pick up information all the time, but you really think about it when you're doing registration…Probably like the whole week before you actually do it, you kind of discuss every little part of your schedule." A science teacher a Adamstown High

School also noted that, “Right around registration time kids start to ask, “Well what class are *you* taking? What class are *you* taking?”

Some students said that the registration process concentrates too many important decisions into a time period that they considered too brief. One student who had not taken any college-level classes described her view of the process this way:

> Because like they don’t give you time. It’s like, “Okay.” Say you’re in third hour today. Then they tell you, “At third hour we’re gonna go to the library and you’re gonna sign up for classes.” To me that’s not enough time to like analyze every class and like look at everything that I want to look at.

A significant share of the staff members who were interviewed agreed that the registration process can be complex. An administrator at Thomasville High School pointed out that a student can have as many as 12 courses to choose from in a core academic subject such as English. A science teacher said that for the most part, students and parents are largely left to navigate this relatively complex process on their own.

Some students confirmed that they do, in fact, complete the registration process without significant help from adults at home or at school. Other students, such as the one quoted below who had taken a college-level course, said that their parents are intensely involved.

> And my mom usually is the one that like brings it up, ‘cuz she’s like on me. Like, I have to get this done by this time. Like, she’s the one that knows all the dates. I’m completely the opposite. Like, yeah. She’s the one that’s like, “You need orientation. You need like registration. You need this if you want to do this in college.” That’s her. She’s very *there*.

A male student who had also taken college-level courses described the way that his father uses the course registration guide that the high school sends out each year:

> Actually, the book— he has it. He would look through it and he would ask me which courses I'm taking or I want to take. And then when I tell him, he would go back to the book and read about it. Like, "Oh, this class is an AP class. It teaches blah blah blah." And then he would see how it would fit into my schedule. And then he would go through and say, "Okay, are you *sure* this is the class you want to take? It seems kind of rigorous. It's hard. Are you sure?" And I say, "Yes." And he's like, "Okay! Let's sign up for it."

Other students such as the young woman quoted below said their parents were largely uninvolved in the course selection process, leaving them to digest the registration guide on their own.

> Well, me being the first person through Adamstown, I think a lot of people like have older siblings who go through so they kind of know about the courses already from what they've heard. Where, for me… And like both my parents don't have a college degree, so this is like all really new to me. And with me taking all these college classes, I'm pretty much teaching myself what I need to do and what I need to look for. So that guide book almost becomes a little bible or something [*laughs*].

While some students agreed that the registration guide is as important resources in the course selection process, another student who had not taken a college-level course had this to say about the guide that his school produces each year in an exchange with the focus group facilitator:

> Student: That's *such* a waste of time. I flip through it, look at what classes I want, and then I'm done with it.
>
> Facilitator: But you can imagine. Probably they spend all this time getting it ready—
>
> Student: Oh, I know they do. And I look at it. It's like, "You guys are wasting so much time and effort on this little handbook that *nobody* looks at—besides you guys."

Some students in both high schools – including students who had and had not taken a college-level class – said that they frequently had trouble understanding the names and descriptions of courses that are included in registration guides and other materials. The following three students make this same point in different ways:

> Male student who had taken a college-level course: "Well like some AP classes, I don't even know what they are! Like, they have like these weird names that I've never heard of. So like I'm not gonna take it if I don't know what it's about."
>
> Female student who had not taken a college-level course: "I think it'd be like better if on the booklet they give about the courses, give like a more descriptive thing, because… So when I decided to take Child Psychology I thought it was going to be more like a hands-on thing. But it's more like just notes. And I really like working, not just like sitting and writing notes. So it was really kind of a bummer."
>
> Male student who had not taken a college-level course: "What they do now, they kind of just like tell you "You should take this class" or "Have you thought about taking this class?" But they don't really tell you what the class *is*. They just say, "Take it."

A student in one of the focus groups said that he thought better course descriptions should include at least four component parts: (1) an understandable description of the content that will be taught in the course, (2) a description of how the teachers will teach that content, (3) how much work teachers will assign for the course and (4) what career path the course could lead to.

Both staff and students described an array of initiatives that are underway in their schools to enhance the registration process. Staff members emphasized the advisory periods their schools have created in recent years to achieve that objective. A science teacher at one high school reported that she has about 20 students in her advisory group, which she said she sees as a manageable number. A science teacher at the other high school said that the value of the advisory period is almost entirely

dependent on how effectively teachers use the time. In his view, "If you don't have a teacher who doesn't put time into that advisory relationship, then the kids look somewhere else for information." Some other teachers noted that students talk with their advisors about registering for classes to widely varying degrees. Some seek them out early and often, while others, as a psychology teacher put it, "just want my signature on the line so they can go register."

A significant share of the students and teachers said that advisors who are primarily classroom teachers are not well-positioned to advise students about choosing classes in subject areas they do not teach. Some teachers suggested that deans were better positioned to provide guidance across the curriculum. A student who had taken a college-level class said she encountered this problem during registration night one year:

> And then like when it was like registration night I was asking my teacher like, "Do you think this would be too much? Or do you think like I should take this class instead of that?" And she was like, "Um, I'm not really sure. Ask your dean. Ask your dean." It was like again and again. Like, kind of clueless of like what classes.

One teacher of an elective subject argued that if deans in her school were going to provide students with guidance about choosing courses in a broad array of subject areas, they needed to understand what happens in each of those areas equally well. She clearly felt strongly about this point and expressed it this way:

> I think, number one, the deans here need to be much better informed on what happens in every single class. I don't think that they are. I think that they read the registration guide and then spit that out to kids. They don't have a personal connection with our classes. And it's hard. I mean that's not an easy job: to know every single class. That's almost an impossible task.

Some students and teachers at both high schools raised another aspect of the role that deans and counselors play in the registration process. They pointed out that individual deans regularly make different decisions and recommendations about the courses that students should take or be placed in. As one administrator put it, "we already know that we're getting mixed messages from the deans to the kids. So what Dean A says and Dean B says can be quite different." Some students in both schools reported that if they did not like the decision or recommendation that one dean made about a course taking issue, they could go to another dean and would often find a more favorable opinion. A student who had not taken a college-level course she described how this happened to her during her school's registration process:

> She was just like saying like, "Are you sure? I don't think you should do this. These are kind of hard." I'm just like, "Okay." So she kind of talked me out of taking something that I was gonna take before. And then I told my dean about it. And she checked my grades and saw that they were good and told me that I should go for it.

In addition to providing students with course taking advice during advisory periods, both schools are taking other steps to provide students with more information before they register for classes. A significant share of the students at Adamstown said that they greatly appreciated it when teachers from certain departments visited their classes to describe future course options within their departments. One student who said he had not previously taken a college-level course reported that after such a presentation in his social studies class, "I knew I wanted to take one of the AP classes, either Euro or World. I decided World."

Some participants in the student focus groups and staff interviews highlighted ways that advances in digital technology are changing the registration process. One

student said that it is increasingly common to Google a subject before taking the class to find out what it is. He said that this is especially valuable for Advanced Placement classes because the same classes are taught across the United States. Another student said she texted her older brother throughout the registration process in order to find out which classes and teachers she should take. In addition, a teacher suggested that because students currently register on-line in computer labs supervised by deans, she no longer has the chance to help students fill out registration forms on paper in her classroom. As a result, she said, she is no longer able to advise students at the moment of decision. Another teacher argued that all courses should have detailed syllabi on-line so that students and parents can read and discuss those detailed descriptions of the course content along with reading the school's registration guide.

College-Going Orientation: The idea that some students possess an inherent college-going orientation looms large in a body of theory and research and in the minds of many educators, but it did not arise in any of the student focus groups conducted for this study. Some staff members who were interviewed did cite it as a highly influential factor in motivating some students to take college-level courses and to work hard in school. One of those educators explained the power of a college-going orientation by noting its absence in some students:

> I think if we're talking about that academic middle, I would say like the "college going orientation" is a big factor for them. Especially when you combine that with the economic stuff. So I think that is a big influence that matters. I definitely think kids that are not interested in going to college, a lot of them are just writing these [college-level classes] off like it's not even… they wouldn't even consider it.

Effort: Both students and staff strongly agreed that students' work ethic plays a large role in shaping a teenager's willingness to take and work hard in college-level

classes. A significant share of the students who participated in a focus group cited it as a major influence, often mentioning procrastination as a particularly persistent problem. In fact, at one school several students said that their unofficial motto is "due tomorrow, do it tomorrow."

Somewhat paradoxically, some students said that they make a point of planning far ahead to exert as little effort in school as possible. Those students said that their top priority in selecting classes for all four years of high school was having the lightest possible schedule during their senior year. None of the students who shared that priority had taken a college-level course. Another student said that although she had initially wanted to study French to fulfill her foreign language requirement, she had instead elected to study American Sign Language because "there is no written language to learn that way."

A significant share of students in the focus groups conducted for this study said that even though they had decided to take a college-level class, they didn't work hard enough in the course to succeed in it. One of those students explained his poor performance in a college-level class this way: "It's my own fault, because I didn't keep up with it."

But while a group of students who participated in the focus groups said that putting effort into in school is not a priority, many more students said they are willing to take and work hard in rigorous classes in order to prepare for college. Still other students said they seek out academic rigor simply for its own sake. Some students, for example, said they take college-level classes just because they enjoy the challenge.

Some students said that they see motivation and effort as things that neither their parents nor the school can mandate. For example, a student who had taken a college-level class said that, "My parents know that if I choose my own classes then I'm more likely to work harder in them—versus whether they make me take a class." Similarly, another student underscored that students cannot be forced to work hard in a challenging course after they enroll in it. "It is their *choice* to not like raise their hand, to not get involved," he argued. "Like, if you want to get involved, it's *your* choice. Like, *you* have to do it. Like, no one can raise your hand for you. It's *you*! *You* have to do it!"

In most of the focus groups that were conducted for this study, one or two students said they saw themselves at neither end of the continuum of effort in their schools. Instead, they described themselves as occupying the middle ground between laziness and extreme exertion. One student, for example, says that when faced with choosing between easy courses and hard courses, "…usually I take one of each. So I took one hard one and then, because I know it's hard, I took an easy class."

A significant share of the staff members who were interviewed said that the level of effort students put forward in school is a major influence on the decisions they make about taking a college-level course. One administrator talked about this group of students in fairly stark terms:

> They've never had to work for a thing in their life. It's the "me" generation. Everybody goes to soccer, everybody gets a trophy. No matter what, we're gonna pass all the way up through. And now all of a sudden you get into a course like this as a sophomore or eleventh-grader or even a twelfth-grader, and "I actually have to do homework. I have to come home and I have to sit down and I have to do an hour of homework a night just for AP Bio." Kids are afraid to do that. And, more so, parents are afraid to structure their time to allow them to do it.

Some of educators remarked that they were regularly shocked at how self-aware some students are about the fact that the effort they put into school is insufficient. One teacher described this dynamic this way:

> Because I have a two-term course with AP Psych. So I do lose kids from term one to term two. And usually those are the kids that I can tell very clearly they aren't reading, they aren't doing the back work, they aren't studying, they aren't working at the level that I told them "You need to work at this level to be successful." And most of them openly admit that. They say, "Yep. I haven't done what I needed to do." And that's where they end up falling short.

Some of the students who participated in focus groups said that the reason they had not taken and would probably never take a college-level course was that they weren't smart enough to do so. As one girl put it, "I don't really see myself like putting myself in more challenging courses, 'cuz I've always thought of like challenging courses for people that are just like smarter than me. And I don't know if I could do it." Another student also identified her level of intelligence as a major factor in her decision not to continue taking college-level courses after her first attempt:

> We had to do this partner project once. And I was paired up with a smart kid. And I'm like… He's like asking me questions. And I'm just sitting there like, "I don't even know." And he's like kind of pushing me to… like the teachers, they push you to get the answer… he was kind of pushing me. And he was like kind of pushing me. And I'm like… I just like stopped. I'm like, "I don't know what we're talking about right now." And he just was like sitting there like… 'Cuz he just knows that I'm not smart…

Some other students did not cite their level of intelligence as a reason for not taking a college-level class or working hard at school, but they did raise the potentially related issue of being afraid to fail. One student who held this view said

she is highly stressed by just the *thought* of taking a college-level course. "Well like it's overwhelming thinking that it could be overwhelming," she said. "Like, you're just thinking like, 'What if this class is too hard? What if something happens? What if the difficulty of the class is just way too high?' And it's overwhelming to just think about how overwhelming the class could be."

Another student noted, however, that not all college-level courses have the same instructional or social environment, and that while she had struggled in one Advanced Placement class, she found her academic footing in another.

> Like, in my AP World class it got to me. And I was like, "I'm done with this. I'm done with everyone. Like, you guys talk down to me too much." But in my College Chem class, like, it was not anything like AP World. Like, it started out that I felt like I wasn't supposed to be there. But then after awhile I got the hang of things. And then like it turns out like I'm getting better grades than the kids I thought were the smart kids. And then…I don't know. It all just depends on like how your mind is set towards this and like how well you think you'll succeed. It's just a lot of factors.

Some staff members also drew a connection between the amount off effort that a student is willing to put into school and the student's perception of his or her own intelligence. A science teacher noted that when she suggests that students in her regular track classes take a college-level class, she often has to address the student's ideas about intelligence and effort before he or she will consider taking the course.

> And when I've tapped some students on the shoulder, and especially when I think about those who are kind of that B/C borderline, they're not the high flyers, they're not my strong A students, but if I've tapped them on the shoulder and said, "Have you ever thought about…?" "Oh, well I couldn't do that. You know? That's for the smart people." I'm like, "What do you think makes them smart? It's their willingness to work hard! You could do that if you're willing to put in the time. And, yes, it will take some work. But they aren't getting the As in those AP courses because they just know it." We had a speaker—I think it was at the beginning of this year—in our pre-service stuff—that talked

about “smart isn’t what you are, it’s what you do or what you work to become”. And really trying to help students realize that, that if they choose to work hard, a lot of them are going to be able. But those two are tied together.

The following exchange between another student and the focus group facilitator demonstrates that it is not just encouraging a student to enroll in a college-level class that can fundamentally change his or her mindset, but actually helping the student to succeed in one.

STUDENT: Well like I always felt like I was the dumb kid in like my English classes. ‘Cuz I always took like the higher classes. But I talked to the teacher one day about it, and she was like, “No. You’re actually like up there with them.” So I guess it depends on how you think about yourself, like everyone’s been saying. Like, if you think you are the dumb kid. Like, you might not even be the dumb kid. It’s just all perception. Like, these smart kids come off so smart--- but they might be dumber than you are.

FACILITATOR: Mm-hm. And that teacher, did that have a big impact on you when that teacher said that?

STUDENT: It did. Yeah.

FACILITATOR: It sounds like it did!

STUDENT: It did. ‘Cuz it really made me think about it. Like, “Oh! Maybe I’m *not* as dumb as I think I am.”

FACILITATOR: And literally, if that teacher hadn’t said that, there was no particular reason you would’ve gotten that idea yourself.

STUDENT: Yeah, no, you wouldn’t. ‘Cuz you would think, “I’m so dumb. Why am I here?” But then you talk to the people in the class and it changes.

Academic Readiness: Significant shares of the students who participated in a focus group and the staff members who participated in an interview said that academic readiness is a major factor in their decisions about taking college-level courses. But while there was significant agreement that academic readiness is important, there was also significant agreement that schools lack a common definition

of readiness for entrance to and success in many college-level courses. Some of the educators who were interviewed said that in the absence of school-wide criteria for admission to college-level courses, they were left to create their own. A history teacher, for example, said that one of the criteria he uses to assess readiness for a college-level course is the student's reading level because the history textbooks that he or she will be expected to understand are much more difficult than the ones that are used in high school history courses. An English teacher said that his department uses the NWEA and MCA standardized test scores of incoming 8th graders to identify students who might be able to succeed in a college-level course. A chemistry and physics teacher reported that she looks to see if a student has previously earned good grades in the subject area of the college-level course he or she is considering. Earning an A or B in a science course, she said, suggests readiness, as does intense interest in the subject. A math teacher said that he watches for students who are earning 95% or higher in his class, who are interested in math or science and have a good work ethic, "even though they aren't necessarily being challenged in that class as much as they could be." Given that such varied criteria for entrance to college-level courses often exist within the same school, it is not surprising that some students would have trouble assessing their ability to take and succeed in their first college-level course.

Some teachers said in interviews that they believe that academic readiness should not be the only criteria for admission to a college-level course. They argued that it is also important to be sure the student is at an appropriate point in the continuum of adolescent development. Along those lines, a biology teacher in one of

the high schools included in the qualitative component of this study shared this observation:

> It's really a maturity….I mean I think the kids have to be mature enough to handle it and realize how serious it is. And it does *not* fit a lot of kids if they're not quite ready to make that step. And I think parents and kids need to be well informed that this *is* a college level course, this it is going to be rigorous. Like, it's not… It still needs to be difficult and still needs to challenge them. And it shouldn't be watered down."

A language arts teacher from the other school in the study made the same point when she said that, "What we do is so developmental. I have had students that in sophomore year were just not ready for high school and pretty much blew it off, and then kicked it in junior year…! The problem is that if they start that late they're *not* going to be where they need to be."

Some staff members who were interviewed for this study said that student perceptions of their academic readiness for a college-level class are often inaccurate and sometimes simply wrong. One teacher stressed that in her view the critical question is not how objectively ready students are for college-level courses, but how ready the students *perceive* themselves to be. She observed that the connection between perceived readiness and actual readiness may be self-reinforcing.

> I do think that for that academic middle, their self-perceived readiness is a huge factor. I think there are a lot of kids that could do it that don't realize they could. And it may be that these two are tied together: they don't know they can do it because they've never worked hard enough to realize that potential.

Another science teacher agreed that "self-awareness of academic readiness" and the "*fear* of not being academically prepared" are issues that must be addressed to convince many students to embrace new educational challenges.

While some school staff members agreed that high school students may be more ready than they think they are for college-level courses, others suggested that some students are probably *less* ready as they think they are. A dean at one of the high schools observed that when, "kids come out of junior highs, they think 'I'm accelerated. I'm accelerated. I'm accelerated.' Well, 'accelerate' in our junior highs is just 'We're gonna go faster and a little farther than the regular ed.' It's not an AP-level course."

A significant share of the students who participated in focus groups underscored the need for clearer and more actionable definitions and measures of readiness for college-level courses. One of those students suggested that standardized tests could play this role:

> Like, in my opinion, I think that before even like taking a hard class like AP Bio, like, there should be some sort of placement test before. Kind of like they do in college. Like, a placement test before you get in there. Like, based on just like things in middle school. Or like even in middle school start like the process even earlier. Like, offering classes like that. 'Cuz I think it's pretty hard just to jump from like "Okay, you're in high school now. Now this means you can just start jumping right into AP classes." You know what I mean? Like, there kind of has to be like a transition level into it. I don't think that it's okay just for someone, no matter how smart you were in eighth grade or ninth grade or whatever, that you could just jump into like a hard class like that. I mean unless you know you're that smart—like, you just get 100 in everything.

Some teachers who were interviewed for this study said that they valued the flexibility they currently have to decide which students should be admitted to the college-level courses that they teach. One of those teachers noted that while he believes that measuring academic readiness using standardized tests and other more objective criteria are important, "on the other hand, I've had kids who thought they

could never possibly make it, and they did it because they were forced in or they were advised in….And they realized, 'Whoa! I actually *do* have a talent for this information.' So you have that dual piece."

A student in one of the focus groups agreed that the discovery of competence in a subject can lead to the development of interest in it:

> 'Cuz like usually when you're good at something they'll be like, "Oh, this is easy. I kind of want to learn more about it 'cuz I like it." When you get good at something you kind of… I don't know, it just happens. Like, you just get more interested in it.

An issue related to academic readiness that arose repeatedly during the focus groups and interviews was the tension between urging students to challenge themselves by taking an Advanced Placement class and the fact that in most cases many colleges will not award credit for the class unless the students takes the AP exam at the end of the course and earns a score of three or higher. An administrator who was interviewed for the study said that teachers, parents, and others at his school regularly urge the leadership resolve this tension by the school's current practice of requiring all students who take an AP course to take the AP exam at the end of the course. He described the leadership team's response to those requests in the following terms:

> Our numbers of students taking AP courses have gone up since we started covering the cost of the test. Kids don't want to take a class that is that hard if there's not something at the end for them. Our teachers would argue, "Why does every kid have to take the test? Let's push them into the course, but let's only test those that we know are gonna do well. Why put a student through that test if we know right up front just because of their coursework that they're not gonna do well?" Our stand is: it's good practice to take a high stakes college level course and test to finish out that whole learning curve on "What is it really like to take a college course?"

Some teachers who said they were working very hard to develop the Advanced Placement programs in their schools noted that the lower scores that can result from expanding the number of students who take AP tests has created political and organizational challenges for their schools. One teacher – who stressed that she is deeply committed to broadening the circle of students who take college-level courses – described that challenge this way: "And it hurts! You know? Because we get somewhere between 40 and 60% pass rate. You know? So it doesn't look pretty."

A significant share of the staff members who were interviewed and some of the students said that the best way to resolve concerns about some students' readiness for college-level courses is to begin preparing students for this courses much earlier in their educational careers. For example, a high school physics teacher articulated the importance of building academic momentum in middle school in the following terms:

> I think for a student that comes along in ninth grade, probably a lot depends on how their ninth grade year is going and the success that they're having as a ninth-grader. And if they're struggling with the ninth grade science class, the idea of… you know, not even knowing what Chemistry is or Physics is—just something out there that they might take in the future—the idea of taking… if they're having a hard time with their ninth grade science, the idea of taking that on… I mean I think that would be a huge obstacle.

When asked for an example of the type of knowledge and skills that students should begin to master earlier in their high school careers in order to be ready for a college-level class in 11th or 12th grade, an English teacher said that all 9th graders should begin to encounter college-level vocabulary and learn to use a "minimalistic" college-level writing rubric. He noted that in his school they were already working toward that end:

> So we spent a lot of time working on our goals and a lot of time working on vertical teaming with the AP courses. We all set a goal to be trained in that in the summers. Most of us have been trained in AP. So even the ninth grade teachers are thinking about AP down the line. So that student might be sitting in a regular English class learning some grammar, but hopefully the language that we use or maybe the focus that we have on that skill is building that student's readiness for success in Advanced Placement down the road.

Some of the teachers who teach college-level courses in their schools said during interviews that if the school's objective is to increase the number and diversity of students who take college-level courses, then schools will need to offer a range of such classes so that students can begin taking college-level courses at an appropriate level of difficulty. That means, one of those teachers argued, that less rigorous college-level courses should not be described or seen as less important than the most challenging college-level classes.

> What concerns me… 'cuz I mean a lot of kids really like the class—and that's great!—I'm happy about that!... but what concerns me is when that word of mouth gets around… and I've even occasionally heard some adults and teachers say, "Well it's easy AP." You know? Or, "Oh, well, you should take at least one AP. You don't think you're AP capable? Well do AP Psych. You can do AP Psych."
>
> So I think sometimes there's that matter of comparison where they look at other ones that are really super-hard, so they consider us easy. But then students get that wrong message where they think, "Oh, this is easy!" So I get a lot of kids coming in thinking, "If I'm just present 80% of the time, things will go fine!" So they don't read, they don't do their homework, they don't study. They don't work. At least not at the level that they need to be and that I'm telling them they need to be.

In addition to offering more courses that scaffold students up to the level of knowledge and skill they need to succeed in the most rigorous college-level classes, some students and staff said they hoped their schools could provide greater academic support for students in the academic middle who enroll in such courses. When the study facilitator described one such program to a focus group of students (the

Advancement for Individual Determination Program, or AVID), one student in the group literally jumped up and said, "I wish we had that!"

When asked what messages would move students who were unsure of their academic readiness to decide to take a college-level course, some students and staff said that the key message should be not only, "You *should* do it," but also: "You *can* do it!" For example, a student who has taken a college-level course said that educators who seek to increase student participation in college-level courses should emphasize the support they will receive:

> They could stand with the kids. Instead of, "Okay, this is going to be really hard. We're going to give you a bunch of homework", instead they could be like, "Don't be afraid to ask questions. I'll be there if you need help."

Another student who has taken college-level courses suggested that the most powerful way to encourage students to embrace academic rigor would be to highlight the voices of other students:

> I almost think just student testimonial would be best. Like, it can either help or harm. Because I think AP has such a intimidating connotation to it. Like, it's college-level. And especially like going in as a sophomore, it's like, "Ehhh, I don't know if I want to take college level classes. I mean I'm in tenth grade and this is meant for people like three years-four years older than me." But knowing that it's approachable and it's doable and it's not gonna take up all your time. It's… I don't know.

Interaction with Adults at School: A significant share of the students who took part in a focus group said that the person who teaches a college-level course plays a significant role in whether or not they will decide to take the course. A majority of the educators who were interviewed also said that the person who teaches

a college-level is a very important factor in determining students' willingness to enroll and work hard in the course.

When students were asked to name the qualities of a teacher from whom they would like to take a college-level course, they suggested the following:

- Possess strong academic content knowledge
- Get to know students one-on-one
- Have a good personality
- Use humor and make class run
- Use personal experience
- Make the content relatable
- Make students feel that they all have an equal right to be there
- Relate well to students
- Be willing to provide help
- Be laidback
- Tell students what courses to take
- Be young.

Ultimately, setting high expectations for all students was the most commonly-cited characteristic of the kind of teachers from whom students would like to take a college-level course. An Adamstown student emphasized that characteristic when he described the teacher of his favorite college-level course. "The way she taught the class made it interesting and relatable to our lives," he said, "and she taught it like we were actually good enough to understand it. She just didn't expect us to not understand it."

Another student who agreed that teacher effectiveness is a major factor in students' course taking decisions worried that the best teachers in the school were not working with the students who need them the most. "I think part of it is like the teachers at the higher level often are like more experienced and stuff," she said, "which is really lucky for me—'cuz I love it. But I also feel like I'm already at this higher level. Shouldn't they be helping people who need it more? So it's like I feel like I'm kind of taking away the cream of the crop."

Other differences in the opportunities and support that students receive emerged through the student focus groups. For example, a significant share of the students who had not taken a college-level course said that they rely on school staff for information about going to college. Students who had taken a college-level class were more likely to say that they receive information about preparing for college from their families.

Some teachers reported that they regularly "tap students on the shoulder" in their regular track classes to suggest they enroll in a college-level course. One of those teachers said that those taps are intended to help students move across the relatively rigid tracks that exist in the mathematics program in his school district.

> I do this regularly with about a handful of kids every year from my freshman class… there's a group of kids that are in my freshman class, and because of the way our system *tracks* kids (I hate to use the word, but I'm gonna use it) from middle school, you get put in that Honors program between fifth and sixth grade. Now, a lot can happen… But then you're in that program sixth, seventh and eighth grade. A lot can happen in those three years. And so there's kids that may not have been ready for that Honors class when they came to middle school, and now they're in a regular run-of-the-mill class and they're getting a 98% in my class and they're bored out of their mind.

All of the teachers who said they urge students to take college-level courses said they only do so in the subject areas they teach. They reported that they limit their advice to those subjects because they know the academic content and the courses that are available in those areas. One teacher said that, "I teach science, so it's usually just on my radar for the science classes. And I mean that's pretty… I wouldn't probably say, "Hey, I think you'd be great in Honors Social Studies."

Some of the teachers who said they regularly recommend that students take a college-level class observed that doing so is not a standard or standardized practice in their schools, and that they have colleagues in their departments who do so less frequently than they do or who base their recommendations on different criteria.

Some students said during the focus groups that they appreciated efforts by teachers and deans to place them in more rigorous courses. One described a time when her dean changed her course schedule and interrupted the "senior slump" she had planned to take during her final year of high school.

> This year I looked at my schedule, saw the rigorous activity, knew I was gonna…you know, it's my senior year, I didn't want to kill myself. So I signed up for regular Physics. But my dean, who's a big pusher for AP classes, switched me into AP without me knowing. But it turned out to be my favorite class of all four years, and all this stuff. But like I would have never gotten that push from like my parents— being kind of new to this whole college thing in my family. So I think it's also just if your family experience… you don't get that push.

In contrast, another student said that he did not like it when staff members tried too hard to place students into advanced classes:

> And I just don't like sometimes the way they like try and push you to take those harder classes— when like if you fail, it doesn't really reflect you, it reflects your teacher. Like, "How come your teacher lets you do that in this class? Or like how come this teacher has a certain percent like failing or has Cs or Ds?" or whatever. I just… That

> whole like thing to me is just like you can't so much push, but guide. You know?

Some students who participated in the focus groups said that they had never been encouraged to take a college-level class but that had they might taken one if they had been prompted to do so.

A social studies teacher at Adamstown said that in order to encourage more staff members to recommend more students for college-level classes, it is important to change educators' perceptions of both the classes and the students:

> Well I think a huge barrier that I think we've done a lot to get rid of is the idea that only a certain group of kids can be in that AP group. And I think with Early College it's changing. But we've already kind of chipped away at that. And changing staff perception as far as "what is an AP student?" I think is really an important piece to opening this up to a lot more students.

Interaction with Peers: A significant share of the students who participated in the focus groups said that other students influence their decisions about the courses they take in high school. That view of the importance of peers was held approximately equally by students who had and had not taken a college-level course. A majority of school staff said that peers play an important role in shaping students' course taking decisions.

Students in both schools said that they regularly talk to their friends about the classes they should take, and noted that they often try to take classes with friends for both social and academic reasons. One student said, however, that because it is not possible to register for specific sections of a course in his school, it usually is not possible to insure that friends take in the same class at the same time. Another

student said that the opportunity to take a college-level course with his friends motivated him to enroll in the course, but that he later regretted the decision:

> Well, I was gonna say that another reason students take classes is because of their friends, 'cuz then they get together and they say like, "Oh! We could take this class together. We'll do our work together. Blah blah blah." And that's kind of why I took AP U.S. History. And I really regret that because, yeah, we started out together, but then they accelerated and I stayed behind while they continued to learn and like be able to stay up with it and I just couldn't catch up and I couldn't stay up with them. And then so I've kind of regretted taking that class.

A significant share of the students in both schools said during the focus groups that a major benefit of taking a college-level class is joining a more academically-oriented group of students who interact with the curriculum, the teacher and each other in ways that are different from classes in the regular track. "People actually study and prepare," one female student observed, while another said that she, "always found it more interesting to be around people who try than people who don't try. When I was in AP classes, like, I was around these kids with interesting thoughts and they were willing to express it." Another female student said that the peer dynamic in college-level classes helps to motivate hard work. "When you're in a class with others that want to make themselves better and improve," she said, "then you have a higher chance at pushing your own self to like be at that point. When you're in like a regular class, then like you have those students that can bring you down."

A male student said that the peer dynamic that drives many students to take and work hard in college-level classes also keeps some students from wanting to take those classes:

> And especially because a lot of the kids who…actually, pretty much all of the kids who are taking AP classes, like, regardless of how rigorous their daily lives are, they're the type of kids who push themselves to

> get those A's—through their sports, through their jobs, like, through taking care of kids at home. And I think for kids who don't think they can get As, like, they're gonna be surrounded by all these kids who are doing amazing in the class. And they may not feel up to that challenge, to like looking like less than who they really feel like they are. You know what I mean?

A psychology teacher noted that when a high school student takes his or her first college-level course, he or she is breaking into a peer group that has often been together for many years, and leaving another group where students have been together for just as long:

> You have, especially in a lot of the AP courses, advanced courses, you really have almost a cohort of students that have been moving through the system together. And my impression is that they all know each other, they have the same classes together. And that might serve as a unifier to keep them taking those courses. But I almost wonder if that also prevents some students from joining in that, because they see kind of a defined group—and, likewise, they've been moving through with the same sort of group in (we'll just call them) regular classes. And then all of a sudden to take that leap into an advanced course, whatever it might be, is not just a leap intellectually of risking "Oh, this is a more challenging course. Am I going to succeed? And how am I going to do? Can I handle it?" but also into perhaps a group of students that they're not as familiar with.

A biology teacher at Thomasville noted that some students see taking a college-level class as nothing less than an effort to change their socioeconomic status.

> I have one student who has told me a number of times that her parents did not graduate from high school. And so… And she's rough. But she works hard. She's getting a B—and she'll pass the AP Exam. She should. She should get a 3 or 4. She's that capable and that motivated. And so she's flung herself into a new population.

In addition to their friends and classmates, a significant share of the students said that their brothers and sisters are important sources of information and advice about course choices. One student noted that even though she doesn't get along well

with or even like her brother very much, she trusts his recommendations about courses and teachers.

Outside Commitments: A significant share of the students said during the focus groups that the commitments they have outside of school were an important factor in their high school course taking decisions. Most of the students who expressed that opinion were students who had not taken a college-level class. A significant share of the educators who were interviewed agreed that outside commitments are a major factor in students' course taking decisions.

Students most frequently mentioned following types of outside commitments:

- Jobs
- Sports
- Artistic programs such as marching band
- Extracurricular academic programs such as Robotics League

A significant share of the students who said that they had such outside commitments reported that they chose classes that would enable them to finish all of their homework during the school day. The following observation by a student who had never taken a college-level class captures both the breadth of her commitments beyond school and the way she sought to compensate for those commitments through her approach to academics.

> Well I was in marching band and soccer at the same time. So it was really difficult to do like hard classes. 'Cuz like there wasn't… 'Cuz I would be done with school, have to go to soccer practice, and right after soccer I would have to go to marching band—which ended at 8:30. So there was like no time for me to eat in between there. So I was running on empty. And then I would go home and want to shower and go to bed. So I learned that I need to start paying attention in class so I can do my homework in class.

While extracurricular activities such as band and soccer were mentioned often during focus group discussions, jobs were mentioned even more frequently. Many students reported working between 20 and 40 hours per week and some said they had two or three jobs that they had to juggle with school. Some of those students said that their jobs paid for extras such as a car or for nicer clothes. Other students said that their jobs were important for their families' bottom lines. One of those students shared that the two most important things in her life were education and her family. When she had to choose between taking college-level courses and earning money for her family through her job, she chose the job:

> [Family and school] are equal for me—just because, you know, in my perspective it's always been family and education. There has never been, you know, one more than the other. Because I grew up in a family that didn't necessarily graduate from college. Like, or high school rather. My mom dropped out when she had me, which was 15 or 16. So it's always been important to my family. And since my grandpa, who came from Mexico, didn't necessarily get the education he needed, he probably got like middle school education. So it's always been important. And family because, you know, that's the people that's gonna be there at the end of the day for me. I've always valued that. And I don't choose one over the other. So I have to take into consideration them both. Like, whether or not I'm gonna work this into my schedule. Like, AP classes, if you think about it, you get a lot of reading assignments. I've had an AP class. And it's very time-consuming. I didn't have time for work, I didn't have time for family. And considering I had a job, I couldn't keep up with that. And also considering that I couldn't be like, "Can I stay after school to get help?"

Interaction with Parents:

Some of the students who participated in focus groups reported that parents are very influential factor in their decisions about the courses they choose in high school. Those students were evenly divided among those who had and had not taken

a college-level class. Some school staff members also said that parents are an important factor.

Some students said that they intensively involve their parents in deciding what courses to take, while others said they do everything possible to keep their parents out of the process. One student who had taken a college-level class said that it was better not to involve parents in choosing classes because, "Your parents might push you too far and make you take too many hard classes."

An intriguing difference in the ways that different types of students talk with their parents about school emerged during the discussions about course taking in the focus groups. Students who have taken a college-level course were much more likely to say that they talk with their parents about choosing classes than students who have not taken one. Those students were more likely to say that the subject they discuss with their parents is their grades. While this finding needs to be explored much more extensively before it could be reported with greater confidence, it suggests that students who are on the college-preparatory track in high school are more likely to talk with their families about leading indicators of success such as the courses they choose to take, while their less academically successful peers are more likely to talk about lagging indicators such as grades.

An administrator at one of the schools said that he often needs to make the economic argument for taking a college-level class to parents who themselves did not go to college. He said that he frequently tells those parents that, "High school is not the same as it was back in the '80s. It's totally different. Or the '70s" for some of our parents. It's a whole different ballgame now. Stakes are higher."

In contrast, some students said during the focus groups that although their parents did not do well or advance very far in school, they are still strong advocates for taking college-level courses and working hard. One student made that point this way:

> My parents are not exactly the best people to talk about like school with—because they didn't finish high school. So. But they do push me. And they know that if I'm taking an AP class it's something I want to do. And they know it's a harder class. So they do encourage and say, "Oh, okay. So what do you need to do for this?" or "How's this class going?" Although they can't help, they still ask and encourage.

As noted above in the section summarizing findings on interaction with adults at school, students rely on school staff to give them information and support about school and preparing for college because their parents are not able to do so. One student described that dynamic this way:

> My family's kind of… they're kind of slackers. My brother went to college for a week. And my mom or my dad didn't go. So they just kind of don't really care what I do really for school-wise. They want me to go to college, but they don't ever talk about like AP or anything. And so my dean was the one that kind of mentioned it.

A teacher at Adamstown High School talked at length during an interview about parents who did not go to college or take college-level classes in high school. He said that it is critical to help students from those families understand that preparing for and going to college does not constitute a betrayal of their backgrounds.

> I'm mulling over how to explain it, but…you'll have parents who will say, "I want my kid to go to college even though I didn't go to college." And the kids will be in a peer group of people that live in their neighborhood, in the trailer park or wherever else they are. And there is a question of validating their own life. So there's a very strong psychological pull that says, "I love my parents. I like where I live. The people I live with are good people. If I go to college, I'm rejecting the things that I feel are good." And I don't know that that gets

> captured here, because I don't know whether or not people can necessarily name it. But you can certainly see people behaving in ways that when you have their… Even though their parents and family members will be in here saying, "You've got to go. You've got to get this done. You've got to do the next thing," there is their perception of the broader community.

Interest in the Subject: A significant share of the students from a broad range of backgrounds said during focus groups that their interest in the subject being studied is a major factor in the courses they choose to take. Several of those students shared examples of times when their interest in a particular subject motivated them to take a class that they otherwise would not have taken. For example, a student who had not taken a dual credit course at Thomasville High School said that she took advanced Spanish despite her reluctance to work hard because she was interested in the subject. Once she was in the class, she said that she formed a close bond with the teacher and that she now plans to become a Spanish language translator. "So that really opened doors for me," she said in a focus group. "And it was because I signed up for a class that I wasn't sure of. And at the end I was sure."

Some teachers also saw a connection between interest, effort and encouraging students to take a college-level class. A science teacher from Thomasville High School said that she watches students in her regular track classes to see if a student has a "spark of interest" in the subjects she teaches. "Even if their grade isn't fantastic, if I see that they are really engaged in the content, if they're asking good questions, if they're making great observations in the lab, if I see in one-on-one conversations that they're excited about the material, I will also tap them on the shoulder and say, "Have you thought about taking…?"

The Learning Environment: During the focus groups conducted for this study, the majority of students mentioned the mode of instruction and the nature of teacher-to-student and student-to-student interaction as important reasons to enroll in a college-level course. Those students said they were drawn to the learning environment in college-level courses because it is:

- Challenging
- More interactive than regular classes
- Filled with students who want to work hard
- Discussion-based
- Focused on skills that can be used in many different courses and subjects

Some school staff members said in interviews that students tell them they value the following aspects of the learning environment in college-level courses:

- It is challenging
- There is "a little more culture and fewer distractions"
- Teachers emphasize "big concepts"
- Students are there because they *want* to be there
- Students can talk about more complex and controversial topics
- They include frequent class discussions.

One student described the regular education classes he had taken in very different terms:

> It was boring really 'cuz it wasn't very challenging. Like, I may not have knew the subject or what they were talking about, but it was just… hmm… it was kind of more of basic knowledge. Like, but… And I know my brain doesn't want basic knowledge. It wants to go more in detail than what was given in just the regular courses. So I decided this year to take some AP classes.

Another student compared the learning environment in regular and college-level courses this way: "Well, I noticed with the AP class that I'm in now, we actually are able to have discussions and talk about everything. Whereas, in a regular class, the other classes I have, it's like teachers asking questions and maybe one student answering all the time."

A student who had not taken a college-level class said that he had heard that the learning environment in such classes is not very different from the one in regular classes. "From a lot of my friends," he said in a focus group, "the class is the same; just you're going through it faster, you're going through more tests faster. And, basically, you go through more topics." One teacher who teaches both regular and college-level classes at one of the high schools agreed that the need to cover a lot of content in Advanced Placement classes makes it difficult for the teacher to take enough time to be sure that all students master that content.

One male student said that the challenging and supportive learning environment that he had experienced in college-level classes should extend to other subject areas:

> Yeah. Like, I bet if they had AP Shop, I bet kids would take AP Shop. Because like people like working with cars. So they could become like really good mechanics. But it's like, you know, we don't offer that kind of stuff – or advancement in that.

Cumulative Summary of Findings

As outlined above, findings from this study of factors that influence high school students' decisions about taking college-level courses were grouped into three categories: high influence, moderate influence and low influence. The placement of

factors into those categories generally corresponded with the frequency with which they were cited on the student and staff surveys and during the student focus groups and staff interviews that comprised the qualitative component of the study.

Table 3: Influence of Factors Based on Qualitative Data

1. Access	
Student Survey	Low
Staff Survey	Moderate
Student Focus Groups	Low
Staff Interviews	Low

2. Economic Incentives	
Student Survey	High
Staff Survey	Moderate
Student Focus Groups	Moderate
Staff Interviews	Moderate

3. Signals from Higher Education	
Student Survey	High
Staff Survey	High
Student Focus Groups	Moderate
Staff Interviews	High

4. The Registration Process	
Student Survey	Moderate
Staff Survey	Moderate
Student Focus Groups	Low
Staff Interviews	High

5. College-going Orientation	
Student Survey	--
Staff Survey	High
Student Focus Groups	Low
Staff Interviews	Moderate

6. Effort	
Student Survey	High
Staff Survey	High
Student Focus Groups	Moderate
Staff Interviews	Moderate

7. Academic Readiness	
Student Survey	Moderate
Staff Survey	Moderate
Student Focus Groups	Low
Staff Interviews	Moderate

8. Adults at School	
Student Survey	Low
Staff Survey	High (home and school combined)
Student Focus Groups	Moderate
Staff Interviews	Moderate

9. Interaction with Parents	
Student Survey	Low
Staff Survey	High (home/school combined)
Student Focus Groups	Moderate
Staff Interviews	Moderate

10. Interaction with Peers	
Student Survey	Low
Staff Survey	High
Student Focus Groups	Moderate
Staff Interviews	Moderate

11. Outside Commitments	
Student Survey	--
Staff Survey	Moderate
Student Focus Groups	Moderate
Staff Interviews	Moderate

12. The Learning Environment	
Student Survey	--
Staff Survey	--
Student Focus Groups	High
Staff Interviews	Low

13. Interest in the Subject	
Student Survey	--
Staff Survey	--
Student Focus Groups	Moderate
Staff Interviews	Moderate

Chapter 5:
Discussion

Three research questions guided the conduct of this exploratory and descriptive study, and I conclude with a discussion of how the study's findings provide answers to those key questions and also offer suggestions for future research. Those three research questions are:

1. What factors affect the decisions of high school students – especially those in the academic middle – to take or not to take college-level courses?
2. What strategies could be put in place to increase the number and diversity of students who take college-level courses?
3. What findings from this study, if any, could inform other efforts to move students in the academic middle to higher levels of educational performance?

To arrive at answers to these questions, this study utilized four separate research methods to collect data in seven high schools – a survey of students, a survey of school staff, focus groups with students and individual interviews with school staff. The strongest of those measures is the student survey given its length, breadth and the number and diversity of students (4059) who completed it. The staff survey provides valuable additional information, but because it captures the opinions of adults rather than the students themselves it should be seen as an indirect measure of the factors that influence high school students' decisions about taking college-level courses. The data from the student focus groups and staff interviews add valuable detail to the study and led to the identification of several new factors that were not found in the initial review of the literature. That said, both of those qualitative methods involved relatively small samples of students and adults in two large suburban high schools.

As a result, it is not possible to draw conclusions from the qualitative components of the study that can be extrapolated with confidence to most high schools in the Twin Cities or in other metropolitan areas.

Given the relative strength of the student survey, I rely primarily on the data gathered through that instrument to answer to the study's first research question. Based upon that data, I conclude that the factors that have the greatest impact on the decisions that students make about taking college-level courses are the following:

1. Economic Incentives: The degree to which students understand the economic and other benefits of college and/or the potential financial benefits of taking a college-level course in high school
2. Signals From Higher Education: The degree to which students receive, understand and act upon signals about college admissions and success
3. Effort: The amount, type and duration of effort that students put into succeeding in school.

Students ranked each of these three factors as highly influential on the student survey, and other data collected for the study generally bolster the case for their importance. School staff members rated two of the three factors – signals from higher education and effort – as highly influential, and ranked the third factor – economic incentives – as moderately influential. The student focus group data suggest that each of those three factors is at least moderately influential as measured by the frequency with which students mentioned and said that they valued them. The data collected through individual interviews with school staff suggest that educators regard signals from higher education as a highly influential factor, and view economic incentives

and effort as moderately influential. No data collected through the staff survey, the student focus groups or the individual interviews contradict the finding from the student survey data that the most influential factors are economic incentives, signals from higher education and effort.

In addition to those three factors, ten other potential factors that could influence students' decisions about taking college-level courses were also examined through this study. Taken together, the data suggest that only one of those additional factors – the level of *access* that students have to college-level courses – does not have a significant influence on students' decisions. In the seven schools that were studied, most students and staff clearly believe that students who want to take a college-level course have the means to do so either at their schools or through institutions of higher education. This finding illustrates the significant investment that schools and policy makers have made over the past decade in increasing access to college-level courses, at least in the Minneapolis/St. Paul metropolitan area. As is noted below in the section on suggestions for future research, if this study were conducted in rural areas and in other types of communities where high schools are smaller and there are fewer postsecondary institutions in close proximity the data might suggest that access to college-level courses is a much more pressing concern.

In addition to the three factors that were found to be highly influential and the one factor that was found to have low influence, this study also examined nine other factors that could influence students' decisions about taking college-level classes in high school. Those factors are:

- The course registration process

- An inherent college-going orientation
- Students' actual and perceived level of academic readiness
- Interaction with adults at school
- Interaction with parents
- Interaction with peers
- Commitments outside of school
- The learning environment in college-level courses
- Interest in the subject being studied.

The findings of this study clearly demonstrate that each of these factors plays a role in the course taking decisions of many students. The data from this study do not, however, support more precise conclusions about when, where, how and for whom these factors matter. As is noted in the section below proposing ideas for further research, each of these factors merits further exploration in future studies of students' course taking decisions.

We turn now to the study's second research question: *What strategies could be put in place to increase the number and diversity of students who take college-level courses?* The best answers to that question come from the data that were collected on the three factors that were found to be highly influential in student's decisions about taking college-level classes: economic incentives, signals from higher education and effort. The study's findings on each of those three factors suggest concrete ideas for improvement that could form the basis for new efforts to increase and diversify the number of students in American high schools who take a college-level class.

For example, the study clearly demonstrates that most students understand the economic incentives for taking college-level courses in high school. Financial gains were the top reason that students reported taking a college-level class on the student survey. But the qualitative data collected through the student focus groups suggest that while students understand the economic incentives for taking a college-level course, many students who participated in the focus groups assumed that those incentives apply equally to all of the college-level courses that are available within and beyond their high schools.

The problem with that broad application of the financial incentive is that not all college-level courses lead to college credit. In many of those courses, such as Advanced Placement classes, credit will not be awarded unless the students score at or above a pre-determined score on a standardized test. For still other courses, students may score high enough on the test but the postsecondary institution may not award credit for the course if it is not aligned with the students' major or program.

The finding that most students value the potential economic benefit of taking college-level courses but that many students do not understand the ways in which that benefit can be secured suggests a change in the way that many high schools advise students about taking a class that potentially offers college credit. Whereas many high schools today urge students to take Advanced Placement, College-in-the-Schools or other such classes in order to reduce the cost of college, students should also be told that not all college-level courses will earn college credit at the type of postsecondary institution they are likely to attend. Still further, high school students

should be told before they take a college-level course if they will need to achieve at a certain level on an end of course exam in order to earn college credit.

In other words, students should understand that financial benefits do not result from taking any course that is labeled as college-level in their high school course catalog. Instead, it must be the *right* college-level course and students must perform sufficiently well in it. Helping students understand and act upon this distinction will be increasingly important as the number of college-level courses offered in high schools continues to grow in the years ahead and as the cost of higher education continues to increase.

A second strategy for increasing the number and diversity of high school students who take college-level courses that is suggested by the findings of this study involves clarifying two potentially contradictory signals that postsecondary institutions send to high school students, families and educators. Both the quantitative and qualitative data collected for this study demonstrate that students are receiving and acting upon the signal that taking college-level courses and a rigorous academic program increases students' chances of gaining admission to a competitive college. The data also indicate, however, that students know that postsecondary institutions value high grade point averages. Especially for many students in the academic middle, these two potentially contradictory messages result in confusion that greatly complicates their decisions about taking a college-level class. If the goal is to get into college, is it better to stretch academically or build a better high school record?

A science teacher at Adamstown who was interviewed for this study suggested a strategy for helping students in the academic middle find the right balance between these two priorities:

> I think that a huge barrier that needs to be worked out is this misplaced value on high GPA versus challenging yourself. And this goes across the board, this goes with colleges. Colleges say, "Oh yeah, GPA doesn't matter." But then GPA does matter. You know. They've done that to our kids before. They've said, "No, we want your kids to take these AP/CIS courses." And so deans have advised them to do that. And then they get Cs and Bs in them, and then colleges don't recognize the difference. And so I think there's this need to have staff tell these kids, "You know what? You should challenge yourself. You need this challenge if you're really planning to go to college."

Informed by the insight gained from this educator and others who were interviewed for this study, high schools should encourage students in the middle to embrace rigor within reason, challenging themselves by taking college-level classes that are broadly aligned with their interests and abilities, and colleges should reward those students for doing when they apply for admission.

One opportunity to strengthen the signals that higher education sends to high schools about the right balance between reaching for rigor and maintaining a high GPA would be for higher education systems to provide high schools with recommended approaches to adding weighted honor points to the grade point averages of students who take and perform sufficiently well in advanced courses. As demonstrated through the staff interviews that were conducted for this study, many school districts determine whether or not to offer weighted honor points and which classes to attach them to with little or no feedback from institutions of higher education. As a result, some school districts award them for *any* advanced class, such

as the third year of a foreign language or advanced band or choir, while others restrict them to certain types of college-level classes, such as those offered through the Advanced Placement program. Adamsville High School awards them for Advanced Placement courses, while Thomasville High does not award them at all. Given that the primary purpose of awarding weighted honor points is to incent students to take the more challenging courses that will prepare them for admission to and success in higher education, it is likely that many high schools would welcome guidance from postsecondary institutions on whether they should award those points and, if so, for which types of courses.

The findings of this study regarding the factor of effort suggest a third and final strategy that high schools could adopt to increase the number and diversity of college-level courses that students take. That strategy focuses on providing both educators and students with opportunities to encounter and understand recent research on the connections between intelligence and effort. That research refutes the widely held belief that intelligence and ability are largely fixed from birth and are unequally distributed across the population (Nelson-Le Gall & Resnick, 1998). Studies by psychologist Carol Dweck and other motivational researchers, for example have shown that when students are explicitly taught that effort increases intelligence, their willingness to embrace academic challenge increases, as does the quality of student learning (Dweck & Master, 2009; Stipek, 1999).

Providing professional development for school staff and learning experiences for students to help them understand the connection between intelligence and effort could be a powerful component of a strategy for increasing college-level course

taking because it might help students who do not think they are smart enough to succeed in a college-level course to believe that they could do so with effort and support. Dweck's work (2007) has also shown that when people adopt an effort-based theory of intelligence, they are more willing to embrace new academic challenges because they know that even if they fail, they will still have an opportunity to grow smarter by trying.

The data from this study suggest that an emphasis on the role that effort plays in increasing intelligence would be most effective if accompanied by messages of high expectations and support. When a student in one of the focus groups was asked, for example, what messages would move students who were unsure of their academic readiness to take a college-level course, he said that the key message should be "You *can* do it!" rather than "You *should* do it!." When another student was asked the same question, she also suggested that staff should reframe the ways they try to convince students to take a college-level class. She argued that instead of telling students, "Okay, this is going to be really hard. We're going to give you a bunch of homework," school staff members should tell them, "Don't be afraid to ask questions. I'll be there if you need help."

The third and final research question that has guided this study asks which of its findings, if any, could inform broader efforts to move students in the academic middle to higher levels of educational performance. I conclude that the most compelling and relevant answer to that question is this: the data from this study clearly demonstrate the need for comprehensive and proactive systems of advising and guidance in high schools of every size, curricular focus and demographic

composition. This study examined student decisions through the lens of taking college-level courses, and demonstrated that absent such coherent advising and guidance systems, many students – especially those who generally perform in the middle – will not receive the information they need to realize their aspirations for postsecondary education. The absence of systems for providing students with that information and support early and often in their high school careers almost certainly has negative consequences in other areas of high school life, from reducing course failures to preventing substance abuse.

While some prominent researchers and practitioners have described the components and benefits of comprehensive and coherent systems of guidance and student support (see, for example, Louis and Gordon, 2006), my experience working with high schools across Minnesota over more than a decade suggests that such systems are extremely rare. This may in part be the result of the high student-to-counselor ratios that exist in this state and others, but even when the number of counselors in a school is above average, those ratios are still almost always too high to provide students with ongoing individual guidance and support. Student-to-adult ratios in most high schools only begin to reach reasonable levels when all or most staff are involved in the act of advising and when information technology is used to breakdown the barriers of time and proximity that would otherwise greatly limit the frequency and duration of interaction hat can realistically occur during the school day.

In my experience, coherent and comprehensive advising and guidance systems are also rare because they are difficult to create and even more difficult to sustain and continually improve. The data from this study illustrate many of the challenges of

creating and operating such systems in high schools today. For example, designing and implementing an advisory structure that meaningfully engages *all* students in a school is extremely difficult given the courses, assessments, and other externally-imposed requirements that high schools must include in their master schedules. That said, this study shows that if time for advising and guidance are *not* built into that master schedule, they will not happen in other times and places. As one physics teacher who was interviewed for the study noted, neither he nor other teachers are likely to decide on their own to stop teaching physics or other subjects in order to advise students about college as part of their regular classroom instruction. The survey data also demonstrate in other ways that if school-wide structures do not exist, important opportunities will be missed and needs may not be met. The student survey results found, for example, that approximately one in five students had never been urged to consider taking a college-level class.

But while the results of the student survey support the idea that a coherent advising and guidance system must engage all students, the student survey data also indicate that all students do not need the same types of information and support. Of the students who were surveyed, for instance, 49% of those whose parents had been to college reported receiving information about preparing for college from a family member, while only 29% of students who would be the first in their families to attend college reported receiving such information from a relative. To address such differences in student needs, successful school-wide advising strategies need to provide students with different types of advising and support. In some cases, that means grouping students with similar needs together in the same advisories or other

groups. In other cases, it means that an advisor must differentiate his or her advising within the same group of students. Differentiation is not easy to do, of course, but teachers are expected to do it in every class and subject that they teach. The same expectation can and should extend to the advisory structures in which they help students navigate high school and prepare for success in some type of postsecondary education.

If teachers and other educators are to provide students with the advising and support their students need, then they themselves will also need high-quality professional development and support. As one teacher who was interviewed for this study noted in describing the difficultly of providing students with information about college admissions, "…they come to us, and we often know, but not always. Like, for me, my knowledge is 25 years out of date." In addition to high-quality professional development, the data form the study also demonstrate that advisors need high-quality curriculum and activities in which they can engage students during advisory periods.

The findings of this study also illustrate the fact that school-wide advising and guidance systems require school-wide coordination and support. In practice, that means that the school's principal and other key leaders must be actively engaged in the design and ongoing operation of those systems, and that they cannot be the sole responsibility of the counseling department or of a single staff member who serves as the advisory program coordinator. The importance of that school-wide coordination and leadership was especially evident at one of the two high schools were student focus groups and staff interviews were conducted. Both students and administrators at that school said that the deans there regularly made very different decisions about

students' course schedules and other issues. In fact, students said that when they didn't like the answer they received from one dean, they would go to another and would often get the decision they desired. Such differential treatment risks sending the message to students that their goal should be to game the system rather than to meet expectations that are clearly, fairly and consistently applied to all students. Administrators at that school noted during individual interviews that they were aware that the school's deans were "not on the same page," and were planning to address the situation through staff changes and other adjustments the following school year.

The study data also indicate that even if all of the deans or counselors in a school are on the same page, however, a coherent school-wide advising and guidance system also requires high levels of awareness and communication across the school community. As one classroom teacher noted during an individual interview, deans and counselors need to be informed about what happens in "every single class" in order to accurately advise students about the courses they should take. That teacher also noted, however, that for a single dean to understand every course offered in a comprehensive high school would be "an almost impossible task."

This study suggests a number of ways that high schools could provide more and better information about courses to students that would not require counselors, deans or others to do the impossible. At one of the schools where students participated in focus groups, for example, many students said that the practice of having teachers from the English department visit their current English class to make presentations on the range of English courses that they should consider taking in the future was extremely valuable. The study also identified specific ways that high

school course registration guides and the process through which students register for courses could provide students, parents, and advisors with more understandable and actionable information about the courses offered at the school.

A final challenge of creating coherent school-wide advising and guidance systems is illustrated by the study's finding that teachers often develop their own criteria for recommending that a student consider taking a college-level course. A history teacher reported that his primary indicator of readiness for a college-level class in his subject is a student's reading level, while an English teacher in the same school said she focuses on students' standardized test scores in 8th grade. A chemistry and physics teacher said that she looks to see if a student has previously earned good grades in the subject area or has an intense interest in the subject, while a math teacher shared that he watches for students who are 95% or higher in his class, who are interested in math or science, and have a strong work ethic.

All of these approaches may be valid criteria for admission to a college-level course in the academic subjects those teachers teach, but those diverse criteria also make it difficult for students to understand what they need to do to gain admission to and succeed in a college-level class. In contrast, a coherent school-wide system might identify a common set of criteria that students can understand and act upon, but that still reflect differences in the knowledge and skills students need to succeed in different types of college-level courses. That coherent system would seek, to paraphrase a quote that is usually attributed to Albert Einstein, is to make the criteria for taking a college level course as simple as possible, but not one bit simpler.

Suggestions for Further Research

Because this study was designed to be an exploratory and descriptive exploration of a subject that is increasingly important to both policy makers and practitioners but that has not been adequately addressed in the literature to date, all of its conclusions are preliminary and almost every aspect of the study could be productively replicated in other schools and with other types of students. Many improvements in the focus of the study and in its methodology could, of course, be made, some of which include:

1. The two additional factors that were identified through the qualitative component of the study but that were not included on the student survey – interest in the subject being studied and the character of the learning environment in college-level courses – should be included on future student surveys and in other aspects of the study design.
2. The influence of adults at school and adults at home should be explored separately. Those two types of adults were problematically combined in aspects of this initial investigation.
3. Similarly, the influence of peers on students' course taking decisions should be more granularly explored as the influence of *friends* and the influence of *peer groups*. In this version of the study, respondents to the student and staff surveys and participants in the interviews and focus groups could have been thinking of either "my friends" or "students like me" when they were responding to questions on the influence of peers. The two types of peer groups should be explored separately in future

studies because while students may not literally register for courses based upon the classes their friends plan to take (not least because in many high schools it is difficult or impossible to register for the same section of a class), but they might be highly influenced by their perceptions of the kinds of courses that students in their cliques or social groups usually choose to take.

4. Future studies should include much more fine-grained subgroup analyses of the data than were possible given the scope of this initial investigation. The finding from the current study that students who would be the first in their families to attend college receive information about choosing courses and preparing for higher education differently from students whose families have had prior college experience suggests that future studies should include better measures and more sophisticated statistical analyses of differences among student subgroups as defined by race, class, gender and other classifications. Of particular importance will be finding a better measure with which to identify and analyze students who perform in the "academic middle" of their high schools than was available for the initial descriptive and exploratory study.
5. For this study, students and staff were asked to share their perspectives on college-level course taking in general. Because the broad category of "college-level courses" encompasses classes offered by very different types of programs – from Advanced Placement to College-in-the-Schools to Postsecondary Enrollment Options and International Baccalaureate –

differences among those types of courses were not examined. As a result, it is not possible for this study to assess the degree to which there are different factors that influence students' decisions about taking particular kinds of college classes. The data from the current study suggest that such differences may exist because some students and staff who participated in the focus groups and interviews expressed an awareness of the fact that many colleges only grant credit for Advanced Placement courses in which the student earns a 3 or higher on the Advanced Placement test, while students can earn credit for successfully completing all of the work in a College-in-the-Schools or Postsecondary Enrollment Options class.

6. The initial design for the current study included interviews with parents to capture their perspectives on students' course taking decisions. Unfortunately, it proved to be beyond the scope of the current study to complete a sufficient number of those parent interviews, and so that component of the study was eliminated. The unused protocol for the planned parent interviews is included in Appendix G. Future studies should attempt to understand parents' opinions on and involvement in the decisions their children's course taking decisions.
7. In future studies, the sample of schools in which the research is conducted should include schools rural areas in order to examine the factors that influence students' course taking decisions in regions where high schools are generally smaller and fewer postsecondary institutions are located. It is particularly important that the factor of access to college-level courses

be examined in schools beyond metropolitan areas such as Minneapolis-Saint Paul.

8. Whereas this study asked what factors influence students' decisions about taking their first college-level class, future studies should also examine the factors that influence students' decisions about continuing to take college-level classes after their first attempt. As noted at the outset of this paper, the factors that influence a student's decision to take an initial step toward college readiness by taking a college-level course may be different from the ones that influence his or her decision to continue the journey.

A Concluding Thought

As I have investigated the factors that influence student decisions about taking college-level courses over the past several years for this study, my belief that taking such a course can be very beneficial and even life-changing for students in the academic middle has been reinforced. I have also grown concerned, however, that in many American high schools today efforts to improve the educational achievement of students in the academic middle are limited to helping a relatively small number of them get off the regular track in their schools and into college-level courses. While such a college-level course taking strategy benefits the students who participate in it, in itself it does nothing to improve the educational experience and outcomes of students who remain on that regular track. For too many of them, school remains overwhelmingly focused on understanding and remembering only the kind of information that can be reproduced on a worksheet and evaluated on a standardized test.

In contrast, one of the staff interviews conducted for this study provides a glimpse of what can happen when all students are provided with the kinds of challenging and engaging educational experiences that make college-level classes so valuable for the high school students who take them. The interview was with a classroom teacher who teaches reading intervention classes at Adamstown High School. As it happens, the teacher's husband is the head of the undergraduate honors program at the University of Minnesota. During our interview, I asked the teacher if she engages her students in the academic middle of a large high school in the kind of critical thinking that is the primary objective of her husband's work with college students. Here is her response:

> They don't even know what it is. They haven't been exposed to it. And when they get exposed to it, it's really interesting. They get excited! I use this book that my husband gave me. It's actually the text of a freshman level course at Cambridge. And so last year I used bits and pieces, kind of trepidatiously. I wasn't sure how my middle kids were going to respond. They loved it. They absolutely loved it. And they did well with it. And so…you know. And it gives them a lot of confidence—because it's an approach. You know, "How do I think for myself about a text or about a problem or anything?" And they just… That opens the whole world to them.

As we open the doors to new worlds for more students by helping them move from the regular track and into college-level courses in the years ahead, we must also find ways to raise academic rigor for the friends and classmates that they will be leaving behind in the academic mainstream of America's high schools.

Bibliography

Adams-Byers, J., Whitsell, S., & Monn, S. (2004). Gifted Students Perceptions of the Academic and Social/Emotional Effects of Homogenous and Heterogeneous Grouping. *Gifted Child Quarterly , 48*, 7-20.

Adelman, C. (2006). *The Toolbox Revisited: Paths to Degree Completion from High School Through College.* U.S. Department of Education. Washington, D.C.: U.S. Department of Education.

Allen, D. (2010). *Dual Enrollment: A Comprehensive Literature Review & Bibliography.* The City University of New York, CUNY Collaborative Programs Office of Academic Affairs.

Appleton, J. J., Christenson, S. L., Kim, D., & Reschly, A. (2006). Measuring cognitive and psychological engagement: Validation of the Student Engagement Instrument. *Journal of School Psychology , 44*, 427-445.

Bishop, J. H. (1989). *Incentives for Learning: Why American High School Students Compare So Poorly to Their Counterparts Overseas.* CAHRS Working Paper Series, Cornell University, Center for Advanced Human Resource Studies.

Bishop, J. H., & Bishop, M. M. (2007). *An Economic Theory of Academic Engagement Norms: The Struggle for Popularity and Normative Hegemony in Secondary Schools.* CAHRS Working Paper Series. Paper 471, Cornell University , Center for Advanced Human Resource Studies. `

Bishop, J. H., Bishop, M., Gelbwasser, L., Green, S., Zuckerman, A., Schwartz, A. E., et al. (2003). *Nerds and Freaks: A Theory of Student Culture and Norms.* Washington, D.C.: The Brookings Institution .

Blackwell, L., Trzesniewski, K., & Dweck, C. (2007). Implicit Theories of Intelligence Predict Achievement Across an Adolescent Tradition: A Longitudinal Study and an Intervention. *Child Development , 78*, 246-263.

Bleske-Reechek, A., Lubinski, D., & Benbow, C. P. (2004). Meeting the Educational Needs of Special Populations: Advanced Placement's Role in Developing Exceptional Human Capital. *Psychological Science , 15* (4), 217-224.

Bowen, W. G., Chingos, M. M., & McPherson, M. S. (2009). *Crossing the Finish Line: Completing College at America's Public Universities* . Princeton: Princeton University Press.

Bueschel, A. C., & Venezia, A. (2004). Oregon's K-16 Reforms: A Blueprint for Change? In M. W. Kirst, & A. Venezia (Eds.), *From High School to College: Improving Opportunities for Success in Postsecondary Education.* Jossey-Bass.

Byrnes, J. P. (2002). The Development of Decision-making. *Journal of Adolescent Health* , 208-215.

Carnevale, A. P., Smith, N., & Strohl, J. (2010). *Help Wanted: Projections of Jobs and Education Requirements Through 2008.* Georgetown University, Center on Education and the Workforce.

Center for Applied Research and Educational Improvement. (2009). *Ramp-Up to Readiness Evaluation 2009.* University of Minnesota, Center for Applied Research and Educational Improvement, Minneapolis-St. Paul.

Charmaz, K. (2000). Grounded Theory: Objectivist and Constructivist Methods. In N. K. Denzin, & Y. S. Lincoln (Eds.), *Handbook of Qualitative Research* (2 ed., pp. 509-535). Thousand Oaks: Sage.

Christenson, S. L. (2003). The Family-School Partnership: An Opportunity to Promote the Learning Competence of All Students . *School Psychology Quarterly , 18* (4), pp. 454-482.

Committee on Increasing High School Students' Engagement and Motivation to Learn, Board on Children, Youth, and Families, Division of Behavioral and Social Sciences and Education. (2009). *Engaging Schools: Fostering High School Students' Motivation to Learn.* Washington, D.C.: The National Academies Press.

Conklin Bueschel, A., & Venezia, A. (2004). Oregon's K-16 Reforms: A Blueprint for Change? In K. M. W., & K. Reeves Bracco (Eds.), *From High School to College: Improving Opportunities for Success in Postsecondary Education* (pp. 151-182). San Francisco: Jossey-Bass.

Conley, D. T. (2010). *College and Career Ready: Helping Students Succeed Beyond HIgh School.* San Francisco: Jossey-Bass.

Conley, D. T. (2005). *College Knowledge: What It Really Takes for Students to Succeed and What We Can Do to Get Them Ready.* San Francisco: Jossey-Bass.

Cunningham, C., & Matthews, R. S. (2007). Lessons from the Field: A Tale of Two Early College High Schools. In N. Hoffman, J. Vargas, A. Venezia, & M. S. Miller (Eds.), *Minding the Gap: Why Integrating HIgh School with College Makes Sense and How to Do It.* Cambridge: Harvard Education Press.

Deci, E. L., Koestner, R., & Ryan, R. M. (2001). Extrinsic Rewards and Intrinsic Motivation in Education: Reconsidered Once Again. *Review of Educational Research , 71* (1), 1-27.

Demerath, P. (2009). *Producing Success: The Culture of Personal Advancement in an American High School* . Chicago: University of Chicago Press.

Diamond, J. B., Lewis, A. E., & Gordon, L. (2007). Race and School Achievement in a Desegregated Suburb: Reconsidering the Oppositional Culture Explanation. *International Journal of Qualitative Studies in Education , 20* (6), 655-679.

Dunham, C., & Frome, P. (2002). *Guidance and Advisement: Influences on Students' Motivation and Course-taking Choices.* Southern Regional Education Board.

Dweck, C. S. (2007). *Mindset: The New Psychology of Success.* New York: Random House .

Dweck, C. S. (1999). *Self-Theories: Their Role in Motivation, Personality, and Development.* Philadelphia: Psychology Press.

Dweck, C., & Master, A. (2009). Self-Theories and Motivation: Students' Beliefs About Intelligence. In *Handbook of Motivation in School.* New York: Routledge.

Educational Policy Improvement Center. (2009). *Creating College Readiness: Profiles of 38 Schools That Know How.* Educational Policy Improvement Center.

Flores, S., & Gomez, M. O. (2011 йил May). Strategies for Increasing Advanced Placement Participation for Underrepresented Students: Barriers, Practices, and Positive Outcomes. *NASSP Bulletin , 95* (1), pp. 65-79.

Fontana, A., & Frey, J. (2000). The Interview: From Structured Questions to Negotiated Text. In N. K. Denzin, & Y. S. Lincoln (Eds.), *Handbook of Qualitative Research* (2 ed., pp. 645-672). Thousand Oaks: Sage.

Fordham, S., & Ogbu, J. (1986). Black Students' School Success: Coping with the Burden of "Acting White". *The Urban Review , 18*, 176-206.

Foust, R. C., Hertberg-Davis, H., & Callahan, C. M. (2008). "Having it All" at Sleep's Expense: The Forced Choice of Participants in Advanced Placement Courses and International Baccalaureate Programs. *Roeper Review , 30*, 121-129.

Foust, R. C., Hertberg-Davis, H., & Callahan, C. M. (2009). *Students' Perceptions of the Social/Emotional Implications of Participation in Advanced Placement and International Baccalaureate Programs.* The National Research Center on the Gifted and Talented. The National Research Center on the Gifted and Talented.

Fryer, R. (2010). *Financial Incentives and Student Achievement: Evidence from Randomized Trials.* National Bureau of Economic Research, Cambridge.

Goldin, C., & Katz, L. F. (2008). *The Race Between Education and Technology* . Cambridge: The Belknap Press of Harvard University Press.

Grodsky, E., & Riegle-Crumb, C. (2010). Those Who Choose and Those Who Don't: Social Background and College Orientation. *The Annals of teh American Academy of Political and Social Science , 627* (14), 14-35.

Heck, R. H., Price, C. L., & Thomas, S. L. (2004). Tracks as Emergent Structures: A Network Analysis of Student Differentiation in a High School. *American Journal of Education , 110*, 321-353.

Hoffman, N. (2007). Using Dual Enrollment to Build a 9-14 System. In *Minding the Gap: Why Integrating High School with College Makes Sense and How to Do It.* Cambridge: Harvard Education Press.

Hughes, Katherine L.; Rodriguez, Olga; Edwards, Lindsey & Belfield, Clive (2012). *Broadening the Benefits of Dual Enrollment*: *Lessons Learned from the Concurrent Courses Initiative*, Community College Research Center, Teachers College, Columbia University.

Immerwahr, J., & Farkas, S. (2006). The View from Inside: Students Discuss Accelerated Learning. In W. I. Education, *Acclerated Learning Options: Moving the Needle on Access and Success* (p. 4756). Western Interstate Consortium of Higher Education.

Iyengar, S. (2010). *The Art of Choosing.* New York: Twelve.

Jackson, C. (2009). *A Little Now or a Lot Later: A Look at a Texas Advanced Placement Incentive Program.* ILR Collection Working Papers, Cornell University , ILR School.

Jeong, D. W. (2009). Student Participation and Performance on Advanced Placement Exams: Do State-Sponsored Incentives Make a Difference? *Educational Evaluation and Policy Analysis , 31* (4), 346-366.

Johnson, D., & Johnson, R. (1985). Motivational Processes in Cooperative Learning Groups. In C. Ames, & R. Ames (Eds.), *Research on Motivation in Education* (Vol. 2, pp. 249-286). Orlando: Academic Press.

Johnson, T. E., & Brophy, M. (2006). Dual Enrollment: Measuring Factors for Rural High School Student Participation. *The Rural Educator , 28* (1), 25-32.

Johnstone, B. D., & Del Genio, B. (2000). *College-Level Learning in High School: Purposes, Policies, and Practical Implications.* University of Buffalo, Graduate School of Education, Learning Productivity Network, Buffalo.

Jones, S. (2007). Raising Expectations for Academic Achievement . In N. Hoffman, J. Vargas, A. Venezia, & M. S. Miller (Eds.), *Minding the Gap: Why Integrating High School with College Makes Sense and How to Do It.* Cambridge: Harvard Education Press.

Kvale, S. (1996). *Inter-Views: An Introduction to Qualitative Research Interviewing.* Thousad Oaks, CA: Sage Publications, Inc.

Karp, M., Calcagno, J. C., Hughes, K. L., Jeong, D. W., & Bailey, T. R. (2007). *The Postsecondary Achievement of Participants in Dual Enrollment: An Analysis of Student Outcomes in Two States.* Teacher's College, Columbia University, Community College Research Center.

Kirst, M. W., & Reeves Bracco, K. (2004). Bridging the Great Divide: How the K-12 and Postsecondary Split Hurts Students, and What Can Be Done About It. In M. W. Kirst (Ed.), *From High School to College: Improving Opportunities for Success in Postsecondary Education* (1st ed., pp. 1-30). San Francisco, CA: Wohn Wiley & Sons.

Kirst, M. W., Venezia, A., & Antonio, A. L. (2004). What Have We Learned, and Where Do We Go Next? In M. W. Kirst, A. Venezia, M. W. Kirst, & A. Venezia (Eds.), *From High School to College: Improving Opportunities for Success in Postsecondary Education* (pp. 285-319). San Francisco : Jossey-Bass.

Kruse, S. D., & Seashore Louis, K. (2009). *Building Strong School Cultures: A Guide to Leading Change.* Thousand Oaks: Corwin Press.

Kulik, J., & Kulik, C. (1992). Meta-analytic Findings on Grouping Programs. *Gifted Child Quarterly , 36*, 73-76.

Labaree, D. F. (1997). *How to Succeed in School Without Really Learning: The Credentials Race in American Education.* New Haven: Yale University Press.

Lavoie, R. (2007). *The Motivation Breakthrough: 6 Secrets to Turning On the Tuned-Out Child.* New York: Touchstone.

Limor, G.-E., Shavit, Y., & Yaish, M. (2009). Curricular Choice: A Test of the Rational Choice Model of Education. *European Sociological Review , 26* (4), 447-463.

Louis, K.S., & Gordon, M.F. (2006). *Aligning Student Support with Achievement Goals: The Secondary Principal's Guide*. Thousand Oaks: Corwin.

Maehr, M. L., & Midgley, C. (1991). Enhancing Student Motivation: A Schoolwide Approach. *Educational Psychologist , 26* (3 & 4), 399-427.

Maehr, M., & Akane, Z. (2009). Achievement Goal Theory: The Past, Present, and Future . In K. R. Wentzel, & A. Wigfield (Eds.), *Handbook of Motivation at School* (1st Edition ed.). New York: Routledge.

McDonough, P. M. (1997). *Choosing Colleges: How Social Class and Schools Structure Opportunity.* Albany: State University of New York Press.

McDonough, P. M., Korn, J., & Yamasaki, E. (1997). Access, Equity, and the Privitization of College Counseling. *The Review of Higher Education , 20* (3), 297-317.

McFarland, D. A. (2006). Curricular Flows: Trajectories, Turning Points, and Assignment Criteria in High School Math Careers. *Sociology of Education , 79* (3), 177-205.

Merchant, B. (2004). Roadblocks to Effective K-16 Reform in Illinois. In M. W. Kirst, & A. Venezia (Eds.), *From High School to College: Improving Opportunities for Succcess in Postsecondary Education* (pp. 115-150). San Francisco : Jossey-Bass.

Michelau, D. K. (2006). A Review of the Literature. In W. I. Education, *Accelerated Learning Options: Moving the Needle on Access and Success* (pp. 91-97).

Miller, D. C., & Byrnes, J. P. (2001). To Achieve or Not to Achieve: A Self-Regulation Perspective on Adolescents' Academic Decision Making . *Journal of Educational Psychology , 93* (4), 677-685.

Minnesota Center for Survey Research, University of Minnesota. 2011 Minnesota State Survey: Results and Technical Report, January, 2012.

Morgan, S. L. (2002). Modeling Preparatory Commitment and Non-Repeatable Decisions: Information-Processing, Preference Formation and Educational Attainment. *Rationality and Society , 14* (14), pp. 387-429.

Morgan, S. L. (2005). *On the Edge of Commitment.* Stanford , CA: Stanford University Press.

National Research Council and the Institute of Medicine. (2004). *Engaging Schools: Fostering High School Students' Motivation to Learn.* Washington, DC: National Academies Press.

Nelson-Le Gall, S., & Resnick, L. (1998). Help Seeking, Achievement Motivation, and the Social Practice of Intelligence in School. In S. Karabenick (Ed.), *Strategic Help Seeking: Implications for Learning and Teaching* (pp. 39-60). Mahwah, NJ: Erlbaum.

Orfield, G., & Paul, F. G. (1994). *High Hopes, Long Odds: A Major Report on Hoosier Teens and the American Dream.* Indiana Youth Institute.

Organisation for Economic Co-operation and Development. (2008). *Education at a Glance 2008: OECD Indicators.* Paris: Organization for Economic Co-operation and Development.

Osterman, K. F. (2000). Students' Need for Belonging in the School Community. *Review of Educational Research , 70* (3), 323-367.

Osumi, J. M. *The Influence of Counselors and High School Organization on the Selection of Participants for a Dual Credit Program-Credit* . Unpublished Dissertation, University of Southern California, Rossier School of Education.

Palaich, R., Augenblick, J., & Maloney, M. (2007). Return on Investment Analysis of Integrating Grades 9-14. In *Minding the Gap: Why Integrating High School with College Makes Sense and How to Do It.* Cambridge: Harvard Education Press.

Papay, J. P., Murnane, R. J., & Willett, J. B. (2011). *How Performance Information Affects Human-Capital Investment Decisions: The Impact of Test-Score Labels on Educational Outcomes.* NBER Working Paper Series, National Bureau of Economic Research, Cambridge.

Pink, D. H. (2009). *Drive: The Suprprising Truth About What Motivates Us.* New York: Riverhead Books.

Planty, M., Provasnik, S., & Daniel, B. (2007). *High School Coursetaking: Findings from The Condition of Education 2007.* U.S. Department of Education, National Center for Education Statistics, Washington, D.C.

Powell, A. G., Farrar, E., & Cohen, D. K. (1985). *The Shopping Mall High School: Winners and Losers in the Educational Marketplace.* Boston: Houghton Mifflin Company.

Reid, M. J., & Moore, J. L. (2008). College Readiness and Academic Preparation for Postsecondary Education: Oral Histories of First-Generation Urban College Students. *Urban Education , 43* (2), 240-261.

Reigle-Crumb, C., & Grodsky, E. (2010). Racial-Ethnic Differences at the Intersection of Math Course-taking and Achievement . *Sociology of Education , 83* (3), 248-270.

Resnick, L. B. (1995). From Aptitude to Effort: A New Foundation for Our Schools. *Daedalus , 124* (4), 55-62.

Roderick, M., Nagaoka, J., Coca, V., Moeller, E., Roddie, K., Gilliam, J., et al. (2009). *From High School to the Future: Potholes on the Road to College.* Consortium on Chicago School Research, Chicago.

Rodrick, M., Nagaoka, J., Coca, V., & Moeller, E. (2009). *From High School to the Future: Making Hard Work Pay Off.* Consortium on Chicago School Research, Chicago.

Roeser, R. W., Urdan, T. C., & Stephens, J. M. (2009). School as a Context of Student Motivation and Achievement . In K. R. Wentzel, & A. Wigfield (Eds.), *Handbook of Motivation at School* (pp. 381-410). New York: Routledge .

Rosenbaum, J. E., & Person, A. E. (2003 йил April). Beyond College for All: Policies and Practices to Improve Transitions into College and Jobs. *Professional School Counseling* , pp. 253-260.

Ryan, R. M., & Deci, E. L. (2009). Promoting Self-Determined School Engagement: Motivation, Learning, and Well-Being. In K. R. Wentzel, & A. Wigfield (Eds.), *Handbook of Motivation at School.* New York: Routledge.

Sadler, P. M., & Tai, R. H. (2007). Weighting for Recognition: Accounting for Advanced Placement and Honors Courses When Calculating High School Grade Point Average. *NASSP Bulletin , 91* (1), 5-32.

Savitz-Romer, M., & Bouffard, S. M. (2012). *Ready, Willing and Able: A Developmental Approach to College Access and Success.* Cambridge, MA : Harvard Education Press.

Sawhill, I. V. (2008). *Getting Ahead or Losing Ground: Economic Mobility in America.* The Brookings Institution , Economic Mobility Project. Washington, D.C.: The Brookings Institution.

Schiefele, U. (2009). Situational and Individual Interest. In *Handbook of Motivation at School* (pp. 198-222). New York: Routledge.

Schneider, B., & Stevenson, D. (1999). *The Ambitious Generation: America's Teenagers, Motivated But Directionless.* New Haven: Yale University Press.

Schneider, B., Kirst, M., & Hess, F. M. (2003). Strategies for Success: High School and Beyond. *Brookings Papers on Education Policy, No. 6 , 6*, pp. 55-93.

Schroeder-Davis, S. (1999). Brains, Brawn or Beauty: Adolescent Attitudes Toward Three Superlatives. *Journa of Secondary Gifted Education , 10* (3), 134-147.

Seashore Louis, K., & Gordon, M. F. (2006). *Aligning Student Support With Achievement Goals: The Secondary Principal's Guide.* Thousand Oaks: Corwin Press.

Skinner, E. A., Kindermann, T. A., Connell, J. P., & Wellborn, J. G. (2009). Engagement and Disaffection as Organizational Constructs in the Dynamics of Motivational Development. In K. R. Wentzel, & A. Wigfield, *Handbook of Motivation at School* (pp. 223-246). New York: Routledge.

Smith, D. (2007). Why Expand Dual Credit Programs? *Community College Journal of Research and Practice , 31*, 371-2007.

Steinberg, L. (1996). *Beyond the Classroom: Why School Reform Has Failed and What Parents Need to Do.* New York: Simon & Schuster Paperbacks.

Stipek, D. J. (1999). Motivation and Instruction. In D. C. Berliner, & R. C. Calfee (Eds.), *Handbook of Educational Psychology.* New York: Simon & Schuster Macmillian.

Sunstein, C. R., & Thaler, R. H. (2009). *Nudge: Improving Decisions About Health, Wealth, and Happiness.* New York: Penguin.

Symonds, W. C., Schwartz, R. B., & Ferguson, R. (2011). *Pathways to Prosperity: Meeting the Challenge of Preparing Young Americans for the 21st Century*. Harvard Graduate School of Education, Pathways to Prosperity Project.

Teddlie, C., & Tashakkori, A. (2009). *Foundations of Mixed Methods Research: Integrating Quantitative and Qualitative Approaches in the Social and Behavioral Sciences* . Thousand Oaks, CA: Sage Publications.

Venezia, A. (2004). K-16 Turmoil in Texas. In M. W. Kirst, & A. Venezia (Eds.), *From High School to College: Improving Opportunities for Success in Postsecondary Education* (pp. 77-114). San Francisco: Jossey-Bass.

Wahlstrom, K. (2002). Changing Times: Findings From the First Longitudinal Study of Later High School Start Times. *NASSP Bulletin , 86* (633), pp. 3-20.

Watkins, C. (2010). *Learning Performance and Improvement.* International Network for School Improvement. London : Institute of Education .

Wentzel, K., & Wigfield, A. (2007). Promoting Motivation at School: Interventions That Work . *Educational Psychologist , 42*, 187-194.

Wruck, P. J., Warren, J. R., & Arbeit, C. (2008). *The Blurry Line Between Secondary and Post-Secondary Schooling in the United States: Contours and Consequences.* Paper Prepared for the Annual Meeting of the American Sociological Association.

Appendix A: Student Survey Results by Question and School

Question 1: At my school, all students are expected to go to some type of college

School	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree	*M*	*SD*
Thomasville ALC (n = 62)	8.1	12.9	9.7	29.0	30.6	9.7	3.90	1.43
Thomasville Senior High (n = *1097)*	4.0	5.3	5.4	19.8	41.8	23.8	4.61	1.27
Adamstown (n = 1324)	3.1	4.1	4.4	17.4	41.5	29.5	4.79	1.21
Cityspan (n = 57)	5.3	14.0	5.3	15.8	31.6	28.1	4.39	1.56
Mollyside (n = 922)	6.0	11.6	9.9	31.7	29.1	11.8	4.02	1.37
Victorian Academy (n = 139)	4.3	5.0	2.2	12.2	38.8	37.4	4.88	1.31
Tristero Tech (n = 458)	4.6	8.1	5.2	20.1	38.4	23.6	4.50	1.37
All High Schools (n = 4059)	4.3	6.9	6.0	21.6	38.0	23.2	4.52	1.33

Question 2: I know the subjects and skills that I need to work on if I am going to graduate from high school ready for success in college.

School	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree	*M*	*SD*
Thomasville ALC (n = 62)	4.8	6.5	3.2	16.1	53.2	16.1	4.55	1.28
Thomasville Senior High (n = *1093)*	0.5	1.3	1.8	12.7	51.4	32.2	5.10	0.85
Adamstown (n = 1324)	0.7	1.6	1.9	14.3	45.2	36.3	5.11	0.91
Cityspan (n = 56)	0.0	1.8	1.8	8.9	33.9	53.6	5.36	0.86
Mollyside (n = 926)	1.0	1.1	3.9	17.7	47.0	29.4	4.97	.94
Victorian Academy (n = 139)	0.0	0.7	4.3	15.1	46.8	33.1	5.07	0.85
Tristero Tech (n = 454)	2.4	7.9	4.2	19.6	43.8	22.0	4.61	1.24
All High Schools (n = 4050)	.09	2.1	2.7	15.2	47.2	31.8	5.01	.96

Question 4: I know which high school classes I should take to get into the college I want to go to.

School	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree	*M*	*SD*
Thomasville ALC (n = 60)	3.3	13.3	13.3	30.0	35.0	5.0	3.95	1.24
Thomasville Senior High (n = *1081)*	1.8	2.8	5.3	21.6	43.5	25.1	4.78	1.08
Adamstown (n = 1306)	1.8	5.7	7.5	23.2	37.5	24.3	4.62	1.19
Cityspan (n = 56)	0.0	5.4	12.5	23.2	35.7	23.2	4.59	1.14
Mollyside (n = 923)	1.6	7.0	9.9	25.8	36.1	19.6	4.46	1.21
Victorian Academy (n = 138)	4.3	7.2	9.4	29.7	29.0	20.3	4.33	1.34
Tristero Tech (n = 446)	5.4	12.3	11.7	34.1	25.8	10.8	3.95	1.34
All High Schools (n = 4010)	2.2	6.1	8.1	24.9	37.1	21.5	4.53	1.21

Question 9: I am willing to take hard classes even though I may get a lower grade

School	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree	*M*	*SD*
Thomasville ALC (n = 61)	3.3	13.1	21.3	23.0	32.8	6.6	3.89	1.28
Thomasville Senior High (n = *1087)*	2.1	3.3	7.7	23.7	40.1	23.0	4.65	1.14
Adamstown (n = 1314)	3.7	6.5	9.4	20.5	33.3	26.5	4.53	1.35
Cityspan (n = 55)	7.3	7.3	9.1	29.1	20.0	27.3	4.29	1.51
Mollyside (n = 915)	3.3	7.2	12.1	25.7	29.2	22.5	4.38	1.33
Victorian Academy (n = 139)	2.2	8.6	6.5	22.3	34.5	25.9	4.56	1.30
Tristero Tech (n = 450)	6.2	13.8	13.8	21.8	25.8	18.7	4.03	1.50
All High Schools (n = 4021)	3.5	6.8	10.1	22.9	33.2	23.4	4.46	1.32

Question 11: At registration, school staff assist me in choosing classes that will help me reach my goals for education after high school.

School	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree	*M*	*SD*
Thomasville ALC (n = 60)	3.3	6.7	6.7	2-6.7	45.0	11.7	4.38	1.20
Thomasville Senior High (n = *1093)*	1.7	2.7	7.7	23.3	45.6	19.0	4.65	1.06
Adamstown (n = 1311)	2.8	6.2	8.5	24.9	37.7	19.9	4.48	1.24
Cityspan (n = 56)	3.6	16.1	12.5	32.1	17.9	17.9	3.98	1.42
Mollyside (n = 917)	3.4	8.0	14.8	30.8	32.3	10.8	4.13	1.23
Victorian Academy (n = 137)	5.8	12.4	17.5	32.8	25.5	5.8	3.77	1.28
Tristero Tech (n = 446)	4.9	9.6	13.2	28.7	31.8	11.7	4.08	1.32
All High Schools (n = 4020)	3.0	6.4	10.6	26.7	37.4	16.0	4.37	1.23

Question 12: At my school, any student can take an advanced or honors course or a course for college credit if they want to.

School	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree	*M*	*SD*
Thomasville ALC (n = 58)	5.2	6.9	17.2	24.1	39.7	6.9	4.07	1.27
Thomasville Senior High (n = *1090)*	2.3	3.9	8.0	21.2	40.4	24.3	4.66	1.17
Adamstown (n = 1321)	3.0	7.4	10.1	24.1	32.7	22.6	4.44	1.31
Cityspan (n = 57)	3.5	15.8	17.5	14.0	29.8	19.3	4.09	1.49
Mollyside (n = 918)	3.7	9.7	12.1	28.3	28.5	17.6	4.21	1.34
Victorian Academy (n = 135)	3.0	8.9	7.4	28.9	31.9	20.0	4.38	1.30
Tristero Tech (n = 447)	5.4	12.3	17.2	31.3	23.0	10.7	3.87	1.34
All High Schools (n = 4026)	3.3	7.7	10.9	25.1	32.8	20.3	4.37	1.31

Question 13: An adult at my school has encouraged me to take advanced classes, such as AP, IB, PSEO or CIS courses.

School	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree	*M*	*SD*
Thomasville ALC (n = 61)	11.5	31.1	11.5	8.2	32.8	4.9	3.34	1.59
Thomasville Senior High (n = *1092)*	6.4	9.0	9.2	19.1	35.3	21.0	4.31	1.46
Adamstown (n = 1321)	5.8	9.7	10.3	17.8	29.4	26.9	4.36	1.50
Cityspan (n = 57)	7.0	19.3	17.5	15.8	21.1	19.3	3.82	1.61
Mollyside (n = 921)	8.5	15.0	13.2	21.3	24.9	17.2	3.91	1.56
Victorian Academy (n = 138)	8.7	26.8	8.7	14.5	26.8	14.5	3.67	1.64
Tristero Tech (n = 449)	12.2	14.9	11.4	27.4	21.4	12.7	3.69	1.56
All High Schools (n = 4039)	7.5	12.3	10.8	19.7	29.0	20.6	4.12	1.54

Question 21: There is a school staff member who has taken a special interest in preparing me for college success.

School	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree	*M*	*SD*
Thomasville ALC (n = 60)	6.7	16.7	10.0	23.3	36.7	6.7	3.87	1.42
Thomasville Senior High (n = *1089)*	10.6	12.3	16.2	21.0	28.2	11.8	3.79	1.52
Adamstown (n = 1311)	12.3	20.4	20.5	20.7	16.2	9.8	3.38	1.52
Cityspan (n = 57)	3.5	15.8	5.3	22.8	31.6	21.1	1.46	1.46
Mollyside (n = 921)	2.4	3.8	9.4	29.0	33.9	21.5	4.53	1.18
Victorian Academy (n = 136)	11.0	17.6	15.4	25.0	17.6	13.2	3.60	1.56
Tristero Tech (n = 441)	8.4	17.9	13.2	27.2	19.7	13.6	3.73	1.51
All High Schools (n = 4015)	10.7	17.1	17.8	22.5	20.9	11.0	3.59	1.52

Question 22: My teachers have high expectations for me.

School	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree	*M*	*SD*
Thomasville ALC (n = 60)	3.3	6.7	1.7	36.7	46.7	5.0	4.32	1.08
Thomasville Senior High (n = *1082)*	1.8	4.5	5.9	23.4	42.1	22.3	4.66	1.13
Adamstown (n = 1311)	2.4	3.7	8.2	25.4	38.0	22.3	4.60	1.17
Cityspan (n = 56)	0.0	3.6	3.6	12.5	25.0	55.4	1.05	1.05
Mollyside (n = 915)	2.4	3.8	9.4	29.0	33.9	21.5	4.53	1.18
Victorian Academy (n = 137)	0.0	1.5	5.8	25.5	36.5	30.7	4.89	0.96
Tristero Tech (n = 457)	2.9	4.7	8.1	23.5	34.2	26.6	4.61	1.25
All High Schools (n = 4008)	2.2	4.0	7.6	25.4	37.7	23.1	4.62	1.16

Question 23: Succeeding in school depends more on how hard you work than on how naturally smart you are.

School	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree	*M*	*SD*
Thomasville ALC (n = 59)	1.8	1.8	10.5	26.3	49.1	10.5	4.51	1.00
Thomasville Senior High (n = *1094)*	1.2	2.8	4.8	20.3	43.2	27.6	4.84	1.05
Adamstown (n = 1318)	1.6	3.0	6.5	22.8	35.6	30.4	4.79	1.13
Cityspan (n = 55)	0.0	0.0	18.2	21.8	18.2	41.8	1.17	1.17
Mollyside (n = 922)	1.2	3.2	5.8	26.1	35.1	28.6	4.77	1.10
Victorian Academy (n = 139)	1.4	2.2	3.6	21.7	36.2	34.8	4.93	1.07
Tristero Tech (n = 447)	2.7	5.1	6.5	22.1	33.8	29.8	4.68	1.26
All High Schools (n = 4024)	1.5	3.1	6.0	22.8	37.3	29.2	4.79	1.11

Question 25: My friends show respect for others who work hard and do well.

School	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree	*M*	*SD*
Thomasville ALC (n = 58)	3.4	6.8	5.1	33.9	42.4	8.5	4.31	1.15
Thomasville Senior High (n = *1091)*	1.3	1.9	5.3	24.6	45.9	21.0	4.75	0.99
Adamstown (n = 1319)	1.4	2.6	6.4	25.3	41.8	22.5	4.71	1.05
Cityspan (n = 57)	5.4	8.9	14.3	23.2	32.1	16.1	1.40	1.40
Mollyside (n = 921)	2.2	2.7	9.0	27.8	39.3	19.0	4.56	1.11
Victorian Academy (n = 136)	2.2	2.2	6.6	17.6	47.8	23.5	4.77	1.09
Tristero Tech (n = 452)	2.5	3.1	8.3	26.0	42.5	17.7	4.56	1.12
All High Schools (n = 4021)	1.8	2.6	7.0	25.6	42.5	20.5	4.66	1.07

Question 26: Students in this school show respect for others who work hard and do well.

School	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree	*M*	*SD*
Thomasville ALC (n = 58)	8.6	12.1	8.6	29.3	37.9	3.4	3.86	1.37
Thomasville Senior High (n = *1091)*	3.2	4.5	10.6	31.7	36.0	13.9	4.35	1.17
Adamstown (n = 1319)	3.3	5.6	11.8	30.4	36.5	12.5	4.29	1.19
Cityspan (n = 57)	10.5	12.3	22.8	22.8	19.3	12.3	1.51	1.51
Mollyside (n = 925)	4.2	6.8	17.7	35.9	25.9	9.4	4.01	1.21
Victorian Academy (n = 136)	5.1	5.1	8.1	25.7	43.4	12.5	4.35	1.26
Tristero Tech (n = 452)	5.8	6.9	12.8	31.0	33.4	10.2	4.10	1.29
All High Schools (n = 4038)	4.0	5.9	12.9	31.8	33.6	11.8	4.21	1.29

Question 27: On a scale of 1-6, a one is the laziest student you know, and a six is the hardest working, what number are you?

	Laziest 1	2	3	4	5	Hardest Working 6	*M*	*SD*
Thomasville ALC (n = 61)	3.3	9.8	16.4	45.9	21.3	3.3	3.82	1.09
Thomasville Sr. (n = 1000)	1.5	3.8	10.4	36.9	38.0	9.4	4.34	1.02
Adamstown HS (n = 1231)	.8	4.1	14.2	39.5	35.3	6.2	4.23	.96
Cityspan HS (n = 50)	0.0	2.0	16.0	34.0	40.0	8.0	4.36	0.92
Mollyside HS (n = 835)	1.7	3.6	14.5	41.4	32.2	6.6	4.19	1.00
Victorian (n = 139)	2.9	3.6	15.8	51.8	20.9	5.0	3.99	0.99
Tristero Tech (n = 411)	1.9	2.9	16.8	39.2	29.4	9.7	4.20	1.05
All HS (n = 3727)	1.3	3.5	12.5	36.3	31.1	6.8	4.23	1.00

Question 28: How often do you discuss going to college with your family?

School	Never	Rarely	Sometimes	Often	Almost Always	Always	*M*	*SD*
Thomasville ALC (n = 60)	13.3	16.7	28.3	31.7	8.3	1.7	3.10	1.23
Thomasville Senior High (n = *1070)*	2.1	6.5	22.5	33.1	18.4	17.3	4.11	1.24
Adamstown (n = 1305)	3.8	10.8	26.8	29.0	15.7	13.9	3.84	1.32
Cityspan (n = 53)	5.7	9.4	30.2	22.6	17.0	15.1	3.81	1.40
Mollyside (n = 904)	4.9	12.2	29.9	28.1	12.5	12.5	3.69	1.32
Victorian Academy (n = 138)	2.9	18.1	37.7	27.5	8.0	5.8	3.37	1.13
Tristero Tech (n = 446)	12.6	15.7	30.5	20.9	9.9	10.5	3.31	1.46
All High Schools (n = 3976)	4.7	10.8	27.2	28.9	14.7	13.7	3.79	1.33

Question 29: How often do you talk with adults at school about your plans for life after high school?

School	Never	Rarely	Sometimes	Often	Almost Always	Always	*M*	*SD*
Thomasville ALC (n = 58)	6.9	25.9	34.5	20.7	10.3	1.7	3.07	1.15
Thomasville Senior High (n = *1070)*	3.8	16.7	27.6	26.4	15.4	10.1	3.63	1.31
Adamstown (n = 1298)	10.7	25.5	27.8	19.5	9.4	7.1	3.13	1.37
Cityspan (n = 53)	1.9	17.0	28.3	20.8	15.1	17.0	3.81	1.40
Mollyside (n = 901)	8.8	23.4	29.2	20.8	10.7	7.2	3.23	1.35
Victorian Academy (n = 137)	8.0	24.1	35.0	26.3	5.1	1.5	3.01	1.08
Tristero Tech (n = 443)	14.0	20.8	28.7	18.7	9.3	8.6	3.14	1.44
All High Schools (n = 3960)	8.5	22.0	28.5	21.8	11.2	8.0	3.29	1.36

Question 30: How often do you work hard in class and on assignments, even when you don't like the class?

School	Never	Rarely	Sometimes	Often	Almost Always	Always	*M*	*SD*
Thomasville ALC (n = 60)	0.0	10.0	26.7	45.0	10.0	8.3	3.80	1.04
Thomasville Senior High (n = *1071)*	0.7	2.5	15.3	27.7	32.7	21.1	4.53	1.10
Adamstown (n = 1294)	.8	3.7	21.0	25.5	28.1	20.9	4.39	1.18
Cityspan (n = 53)	1.9	3.8	15.1	26.4	28.3	24.5	4.49	1.23
Mollyside (n = 897)	.7	5.2	20.6	25.2	27.3	21.0	4.36	1.21
Victorian Academy (n = 137)	0.0	5.8	16.8	27.0	30.7	19.7	4.42	1.16
Tristero Tech (n = 439)	1.8	4.6	17.5	19.6	25.7	30.8	4.55	1.31
All High Schools (n = 3951)	0.8	4.0	18.8	25.8	28.7	21.9	4.43	1.18

Question 32: How often do you give up TV, video games, Facebook, texting, or time w/ friends to study for a test or do an assignment?

School	Never	Rarely	Sometimes	Often	Almost Always	Always	*M*	*SD*
Thomasville ALC (n = 61)	11.5	18.0	42.6	19.7	3.3	4.9	3.00	1.20
Thomasville Senior High (n = *1070)*	4.4	10.4	26.2	25.5	20.8	12.7	3.86	1.33
Adamstown (n = 1303)	5.4	13.3	27.9	22.9	21.0	9.5	3.69	1.34
Cityspan (n = 53)	9.4	15.1	35.8	11.3	18.9	9.4	3.43	1.45
Mollyside (n = 905)	6.1	15.2	28.1	23.4	18.2	9.0	3.59	1.35
Victorian Academy (n = 139)	2.2	15.8	32.4	28.8	15.8	5.0	3.55	1.15
Tristero Tech (n = 443)	11.3	10.4	25.7	19.0	16.7	16.9	3.70	1.57
All High Schools (n = 3974)	6.0	12.8	27.7	23.3	19.4	10.9	3.70	1.37

Question 33: Have you taken one or more courses for college credit?

School	% No	% Yes
Thomasville ALC (n = 61)	90.2	9.8
Thomasville Senior High (n = *1070)*	54.3	45.7
Adamstown (n = 1307)	52.5	47.5
Cityspan (n = 53)	81.1	18.9
Mollyside (n = 884)	65.2	34.8
Victorian Academy (n = 138)	66.7	33.3
Tristero Tech (n = 434)	64.3	35.7
All High Schools (n = 3947)	58.6	41.4

Question 34: If you answered "yes" to question 33 above, what is the MOST IMPORTANT reason why you took a high school course(s) that offers college credit?

Reason	Thomasville ALC (n = 17)	Thomasville Sr (n = 475)	Adamstown (n = 620)	Cityspan (n = 13)	Mollyside (n = 316)	Victorian Academy (n = 49)	Tristero Tech (n = 160)	All High Schools (n = 1650)
Free college credit	29.4	48.2	36.5	30.8	36.4	32.7	19.4	37.9
To be challenged	11.8	13.1	21.3	7.7	17.1	14.3	15.0	17.1
To prepare myself for college-level work	11.8	26.3	27.3	38.5	32.9	40.8	45.0	30.1
Counselors/teachers encouraged me to	0.0	2.1	3.5	7.7	3.2	6.1	6.3	3.4
My parents encouraged me to	5.9	4.6	2.9	15.4	2.8	2	6.9	3.9
My friends encouraged me to	0.0	.6	1.3	0.0	1.9	0.0	0.6	1.1
Other	41.2	5.1	7.3	0.0	5.7	4.1	6.9	6.5

Question 35: If you answered "no" to question 33 above, what is the MOST IMPORTANT reason why you have NOT taken a high school course that offers college credit?

Reason	Thomasville ALC (n = 45)	Thomasville Sr (n = 539)	Adamstown (n = 672)	Cityspan (n = 43)	Mollyside (n = 556)	Victorian Academy (n = 87)	Tristero Tech (n = 267)	All High Schools (n = 2209)
I do not need college credit	6.7	3.5	3.4	4.7	3.6	0.0	1.9	3.3
The course would be too challenging	17.8	27.5	30.7	14	26.6	10.3	27.0	27.0
I do not need to prepare myself for college-level work	4.4	2.4	1.3	2.3	2.2	3.4	0.4	1.9
No one encouraged me	13.3	20.0	18.5	14	19.8	26.4	11.6	18.5
I want to keep my GPA high	2.2	14.3	6.7	7	9.9	10.3	12.4	10.1
My friends	6.7	1.7	1.6	0.0	0.5	0.0	1.1	1.3
Other	48.9	30.6	37.8	58.1	37.4	49.4	45.7	38.0

Question 36: I have taken the following number of courses that offer college credit in high school:

Number of Courses	Thomasville ALC (n = 54)	Thomasville Sr (n = 1060)	Adamstown (n = 672)	Cityspan (n = 53)	Mollyside (n = 879)	Victorian Academy (n = 130)	Tristero Tech (n = 433)	All High Schools (n = 3912)
Zero	74.1	52.3	50.6	75.5	60.9	61.5	61.0	55.5
One	13.0	22.0	19.7	13.2	18.3	26.2	15.9	19.6
Two	5.6	11.4	14.4	7.5	9.3	10.8	9.9	11.6
Three or more	7.4	14.3	15.3	3.8	11.5	1.5	13.2	13.2

Question 37: I have received information from school staff on…

	Thomasville ALC (n = 62)	Thomasville Sr (n = 1098)	Adamstown (n = 1329)	Cityspan (n = 57)	Mollyside (n = 955)	Victorian Academy (n = 139)	Tristero Tech (n = 459)	All High Schools (n = 4071)
Choosing advanced courses	24.2	44.0	56.6	15.8	35.2	38.8	26.6	43.5
Requirements for getting into college	62.9	57.0	67.0	63.2	63.1	84.2	55.1	62.5
Requirements for succeeding in college	61.3	36.7	35.9	42.1	39.5	77.7	35.9	38.9
Scholarships and financial aid	53.2	37.6	35.5	63.2	55.9	70.5	41.8	40.6
Careers	58.1	56.9	44.2	70.2	48.7	69.1	64.3	52.9

Question 38: I have received the MOST advice about how to prepare for college from…

	Thomasville ALC (n = 59)	Thomasville Sr (n = 879)	Adamstown (n = 1134)	Cityspan (n = 44)	Mollyside (n = 743)	Victorian Academy (n = 133)	Tristero Tech (n = 364)	All High Schools (n = 3356)
Counselors	15.3	1.7	1.9	6.8	15.2	38.3	14.6	7.9
Deans	11.9	10.6	25.0	0.0	0.7	0.0	0.3	11.6
Teachers	33.9	19.5	16.2	38.6	26.5	22.6	9.9	19.5
Principals/Assistant Principals	1.7	.2	.4	0.0	0.4	0.0	0.0	.3
Family Members	8.5	53.4	47.7	29.5	37.6	27.8	17.0	41.9
Classmates	5.1	4.6	6.3	2.3	4.7	2.3	1.4	4.7
Get Ready Staff	16.9	.6	1.2	4.5	1.2	4.5	54.9	7.3
Advisors	6.8	9.6	1.2	18.2	13.7	4.5	1.9	6.7

Question 39: Which of the following have you visited to learn about what it is like to be a student there?

	Thomasville ALC (n = 96)	Thomasville Sr (n = 1194)	Adamstown (n = 1417)	Cityspan (n = 86)	Mollyside (n = 1190)	Victorian Academy (n = 180)	Tristero Tech (n = 687)	All High Schools (n = 4850)
Four-year college or university	41.9	40.8	32.9	38.6	46.2	43.9	51.4	40.7
Community college	32.3	10.3	7.6	35.1	24.3	23.7	31.6	16.2
Technical college	40.3	8.9	3.8	31.6	14.1	7.9	21.8	10.7
I have visited a college, but I don't know what kind	12.9	4.1	5.4	21.1	8.1	7.9	31.6	9.0
I have not visited any colleges	27.4	44.6	56.9	24.6	35.4	46	13.3	42.5

Question 40: What are your plans for the year after high school graduation?

	Thomasville ALC (n = 61)	Thomasville Sr (n = 1031)	Adamstown (n = 1279)	Cityspan (n = 52)	Mollyside (n = 857)	Victorian Academy (n = 138)	Tristero Tech (n = 423)	All High Schools (n = 3841)
Attend a four-year college or university	9.8	62.0	64.5	36.5	59.3	57.2	48.5	59.4
Attend a community college	16.4	10.1	10.9	15.4	11.0	9.4	8.3	10.5
Attend a technical college	19.7	5.1	3.0	11.5	5.0	2.9	2.1	4.3
Get a job	14.8	4.6	3.5	19.2	6.7	5.1	9.0	5.5
Enter the military	6.6	5.7	4.8	0.0	4.9	5.1	5.4	5.1
Take a year off	11.5	2.6	2.5	3.8	2.1	2.	4.3	2.8
Unknown	21.3	9.9	10.7	13.5	11.1	17.4	22.5	12.3

Question 42: Do you have at least one parent or guardian who has completed a college degree?

	Thomasville ALC (n = 61)	Thomasville Sr (n = 1041)	Adamstown (n = 1276)	Cityspan (n = 52)	Mollyside (n = 873)	Victorian Academy (n = 138)	Tristero Tech (n = 431)	All High Schools (n = 3872)
No	42.6	28.8	27.6	42.3	47.9	29	68.7	37.6
Yes	57.4	71.2	72.4	57.7	52.1	71	31.3	62.4

Question 43: What grade are you in?

	Thomasville ALC (n = 61)	Thomasville Sr (n = 1071)	Adamstown (n = 1311)	Cityspan (n = 54)	Mollyside (n = 898)	Victorian Academy (n = 139)	Tristero Tech (n = 444)	All High Schools (n = 3978)
9	14.8	.2	27.7	1.9	26.7	35.3	52.3	22.5
10	9.8	36.4	28.8	18.5	28.2	34.5	36.0	31.3
11	34.4	34.5	21.6	38.9	23.4	15.1	11.3	24.5
12	41.0	28.9	21.7	40.7	21.7	15.1	0.5	21.6

Question 44: Are you…

	Thomasville ALC (n = 58)	Thomasville Sr (n = 1069)	Adamstown (n = 1309)	Cityspan (n = 55)	Mollyside (n = 899)	Victorian Academy (n = 138)	Tristero Tech (n = 444)	All High Schools (n = 3972)
Female	50.0	53.6	50.7	50.9	51.2	52.2	50.2	51.6
Male	50.0	46.4	49.3	49.1	48.8	47.8	49.8	48.4

Question 45: Please indicate your race or ethnicity

	Thomasville ALC (n = 62)	Thomasville Sr (n = 1098)	Adamstown (n = 1328)	Cityspan (n = 57)	Mollyside (n = 929)	Victorian Academy (n = 139)	Tristero Tech (n = 459)	All High Schools (n = 4072)
African	0.0	.6	3.8	1.8	3.1	2.9	4.4	2.7
Black or African American	3.2	1.5	9.3	73.7	13.9	15.8	15.9	10.0
American Indian	6.5	2.5	3.5	5.3	3.6	3.6	3.5	3.3
Asian or Asian American	1.6	3.5	10.5	3.5	7.9	12.2	59.3	13.3
Hispanic or Latino	0.0	3.5	8.4	7.0	29.1	15.8	13.7	12.5
White	72.6	88.7	72.4	22.8	43.6	55.4	8.9	61.8
Other	3.2	3.9	6.9	8.8	7.6	2.2	3.7	5.7

Question 13: An adult in my school has encouraged me to take advanced classes, such as Advanced Placement (AP), International Baccalaureate (IB), Post-Secondary Enrollment Options (PSEO), or College-in-the-Schools courses

	Mean	Standard Deviation	*t test*[*]	*p*	Effect size *d*	Effect measure
Not First-in-Family To Attend College	4.32	1.49	9.94	<.001	0.33	Small
First-in-Family To Attend College	3.81	1.57				
Qualifies for Free/Reduced Price Lunch	3.86	1.58	9.34	<.001	0.42	Small
Does Not Qualify for Free/Reduced Price Lunch	4.49	1.42				
MCA Reading: Meets/Exceeds Standards	4.56	1.40	13.68	<.001	0.63	Moderate
MCA Reading: Does Not/Partially Meets Standards	3.63	1.53				
MCA Math: Meets/Exceeds Standards	4.77	1.27	14.71	<.001	0.72	Moderate
MCA Math: Does Not/Partially Meets Standards	3.76	1.53				

[*]Note: The *t* test assesses whether the means of two groups are statistically different from each other. *p* values that are equal to or less than .05 are considered statistically significant. The effect size *d* indicates the degree to which group differences are meaningful. The higher the effect size, the larger the differences between groups. Statistical analyses conducted by the Center for Applied Research and Educational Improvement at the University of Minnesota.

Question 33: Have you taken one or more courses for college credit? -- Breakdown by school of students who report they will be the first in their families to attend college vs. students who report they have a parent with a college degree

School	First in Family % No Courses	First in Family % One or More Courses	Parent w/ College % No Courses	Parent w/ College % One or More Courses
Thomasville ALC (n = 61)	80.8	19.2	97.1	2.9
Thomasville Sr High (n = 1031)	56.6	43.4	52.6	47.4
Adamstown (n = 1266)	66.1	33.9	46.8	53.2
Cityspan (n = 49)	81	19	82.1	17.9
Mollyside (n = 839)	70.9	29.1	58.9	41.1
Victorian Academy (n = 124)	70.3	29.7	63.9	36.1
Tristero Tech (n = 228)	67.5	32.5	57.0	43.0
All High Schools (n = 3808)	66.5	33.5	53.2	46.8

Question 38: I have received the MOST advice about how to prepare for college from…-- Breakdown of students in all high schools of students who report they will be the first in their families to attend college vs. students who report they have a parent w/ a college degree

Source of College Preparation Information	First in Family % (N)	Parent w/ College % (N)
Counselors	9.7 (113)	6.8 (141)
Deans	10.4 (122)	12.3 (255)
Teachers	23.4 (273)	17.3 (359)
Principals/Assistant principals	0.4 (5)	0.3 (6)
Family members	28.7 (335)	49.4 (1027)
Classmates	6.3 (74)	3.9 (80)
Get Ready staff	13.7 (160)	3.7 (76)
Advisors	7.4 (86)	6.4 (133)

Questions 13 and 33: Comparison of being encouraged by an adult to take a dual credit course and having taken a dual credit course.

Note: For this analysis, strongly disagree, disagree, and somewhat disagree were combined into a single category as "disagree" and somewhat agree, agree and strongly agree were combined into a single category as "agree."

		Q33 Have you taken one or more courses					
		No		Yes		Total	
		N	%	*N*	%	*N*	%
Q13 Adult encouraged me	Disagree	978	81.6%	220	18.4%	1198	100.0%
	Agree	1317	48.4%	1406	51.6%	2723	100.0%
	Total	2295	58.5%	1626	41.5%	3921	100.0%

Appendix B: Student Survey

Student Survey

To what extent do you agree or disagree with the following statements?						
	Strongly Disagree	**Disagree**	**Somewhat Disagree**	**Somewhat Agree**	**Agree**	**Strongly Agree**
1. At my school, all students are expected to go to some type of college.						
2. I know the subject areas and skills that I need to work on if I am going to graduate from high school ready for success in college.						
3. I know the tests I need to take to get into the college I want to go to.						
4. I know which kind of college would help me reach my career and life goals.						
5. I know which high school classes I should take to get into the college I want to go to.						
6. I know the steps that I need to take to apply to and get into the type of college that I want to attend						

To what extent do you agree or disagree with the following statements?						
	Strongly Disagree	**Disagree**	**Somewhat Disagree**	**Somewhat Agree**	**Agree**	**Strongly Agree**
7. I have talked with people from families like mine who have been successful in college.						
8. Staff at my school have provided my parents/guardians with information about getting into college.						
9. I am willing to take hard classes even though I may get a lower grade.						
10. I take notes in class that help me learn.						
11. At registration time, school staff assist me in choosing classes that will help me reach my goals for education after high school.						
12. At my school, any student can take an honors course or a course for college credit if they want to.						

To what extent do you agree or disagree with the following statements?						
	Strongly Disagree	**Disagree**	**Somewhat Disagree**	**Somewhat Agree**	**Agree**	**Strongly Agree**
13. An adult at my school has encouraged me to take advanced classes, such as Advanced Placement (AP), International Baccalaureate (IB), Post Secondary Enrollment Options (PSEO), or College in the Schools courses.						
14. I know the kinds of careers that would best fit my strengths and skills.						
15. I know the education required for the career I am most interested in.						
16. I have a plan for paying for college.						
17. Staff at my school have provided my parents/guardians with information about paying for college.						
18. School staff have explained to me the ways that students cover the cost of college.						

To what extent do you agree or disagree with the following statements?						
	Strongly Disagree	**Disagree**	**Somewhat Disagree**	**Somewhat Agree**	**Agree**	**Strongly Agree**
19. I use a budget to manage the money I spend.						
20. It will be possible to cover the cost of my college education from various sources.						
21. There is a school staff member who has taken a special interest in preparing me for college success.						
22. My teachers have high expectations for me.						
23. Succeeding in school depends more on how hard you work than on how naturally smart you are.						
24. I've learned to manage my time and meet deadlines.						
25. My friends show respect for others who work hard and do well.						
26. Students in this school show respect for others who work hard and do well.						

	Laziest					Hardest Working
27. If, on a scale of 1-6, a one is the laziest student you know, and a six is the hardest working, what number are you?	1	2	3	4	5	6

How often do you…	Never	Rarely	Sometime	Often	Almost Always	Always
28. Discuss going to college with your family?						
29. Talk with adults at school about your plans for life after high school?						
30. Work hard in class and on assignments, even when you don't like the class?						
31. Ask for help when you don't understand something in class?						
32. Give up TV, video games, or time with friends to study for a test or do an assignment for school?						

	No	Yes
33. Have you taken one or more courses for college credit?		

If you answered YES, to question 33, please skip to question 34.
If you answered NO to question 33, please skip to question 35.

34. **If you answered "yes" to question 33 above,** what is the MOST IMPORTANT reason why you took a high school course(s) that offers college credit? (MARK ONLY ONE)

    a. Free college credit
    b. To be challenged
    c. To prepare myself for college-level work
    d. Counselors/teachers
    e. My parents
    f. My friends
    g. Other

35. **If you answered "no" to question 33 above,** what is the MOST IMPORTANT reason why you have NOT taken a high school course that offers college credit? (MARK ONLY ONE)

    a. I do not need college credit
    b. The course would be too challenging
    c. I do not need to prepare for college-level work
    d. No one encouraged me
    e. I want to keep my GPA high
    f. My friends
    g. Other

36. I have taken the following number of courses that offer college credit in high school, such as Advanced Placement, International Baccalaureate, Post Secondary Enrollment Options (PSEO) and College-in-the-Schools courses:

    a. 0
    b. 1
    c. 2
    d. 3 or more

37. I have received information from school staff on… (Mark all that apply)

    a. Choosing advanced courses
    b. Requirements for getting into college
    c. Requirements for succeeding in college
    d. Scholarships and financial aid
    e. Careers

38. I have received the **most advice** about how to prepare for college from: (MARK ONLY ONE)

a. Counselors
b. Deans
c. Teachers
d. Principals/Assistant Principals
e. Family members
f. Classmates

39. Which of the following have you visited to learn about what it is like to be a student there (Mark all that apply):

a. Four-year college or university
b. Community college
c. Technical college
d. I have visited a college, but I don't know what kind
e. I have not visited any colleges

40. What are your plans for the year after high school graduation? (MARK ONLY ONE)

a. Attend a four-year college or university
b. Attend a community college
c. Attend a technical college
d. Get a job
e. Enter the military
f. Take a year off
g. Unknown

41. What is the **highest** level of education you plan to complete? (MARK ONLY ONE)

a. High school graduate
b. 2-year community or technical college
c. 4-year college or university
d. Graduate or professional school (medical or law, masters, doctorate, etc.)
e. I don't know yet

42. Have your parents/guardians completed a college degree?

a. No
b. Yes

43. What grade are you in?

a. 9th
b. 10th
c. 11th

d. 12th

44. Are you:

a. Male
b. Female

45. Please indicate your race/ethnicity (Mark all that apply):

a. African
b. Black or African American
c. American Indian
d. Asian or Asian American
e. Hispanic or Latino
f. White
g. Other _____

Appendix C: Staff Survey Results By Question and by School

Number and Percentage of High School Staff Who Completed the Staff Survey

	Thomasville ALC	Thomasville Sr	Adamstown	Cityspan	Mollyside	Victorian Academy	Tristero Tech	All High Schools
Number of Survey Respondents	14	45	66	12	41	11	29	218
Total Number of School Staff[†]	15	90	95	12	71	11	65	359
Percentage of School Staff Responding	93%	50%	69%	100%	58%	100%	45%	61%

Job Categories of Staff Survey Respondents

- Teacher: 88%
- Other: 6%
- School Counselor: 4%
- Administrator: 2%

[†] For the large comprehensive high schools (Forest Lake Sr., Adamstown, Mollyside, and Washington) this figure does not include non-licensed staff such as custodians. For smaller schools (Thomasville ALC, Cityspan and Victorian Academy), all staff were asked to complete the survey and so are included in the total number of staff for those schools. Data for the Total Number of School Staff calculation were taken from the Minnesota Department of Education Data Center at www.education.state.mn.us/MDEAnalytics/Reports.jsp

Question 4: How often do you talk with students about taking advanced courses?

School	Never	Rarely	Sometimes	Often	Almost Always	Always
Thomasville ALC	0.0	38.5	38.5	15.4	0.0	7.7
Thomasville Senior High	2.2	8.9	31.1	44.4	6.7	6.7
Adamstown	4.5	4.5	27.3	31.8	22.7	9.1
Cityspan	0.0	10.0	40.0	20.0	20.0	10.0
Mollyside	2.5	10.0	37.5	32.5	12.5	5.0
Victorian Academy	0.0	0.0	0.0	81.8	18.2	0.0
Tristero Tech	3.4	3.4	27.6	44.8	6.9	13.8
All High Schools	2.5	8.4	28.1	38.9	13.8	8.4

Question 15: At registration time, school staff assist students in choosing classes that will help them reach their goals for education after high school.

	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
Thomasville ALC	0.0	0.0	9.1	27.3	36.4	27.3
Thomasville Senior High	0.0	0.0	2.2	13.3	46.7	37.8
Adamstown	1.6	4.7	4.7	14.1	45.3	29.7
Cityspan	20.0	20.0	20.0	20.0	10.0	10.0
Mollyside	2.7	8.1	13.5	32.4	29.7	13.5
Victorian Academy	0.0	0.0	0.0	18.2	54.5	27.3
Tristero Tech	0.0	0.0	7.4	18.5	44.4	29.6
All High Schools	2.0	4.0	6.6	20.2	40.9	26.3

Question 16: Staff at my school encourage students to take advanced classes such as Advanced Placement (AP), International Baccalaureate (IB), Post-Secondary Enrollment Options (PSEO), and College-in-the-Schools (CIS) courses.

	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
Thomasville ALC	0.0	27.3	9.1	54.5	9.1	0.0
Thomasville Senior High	2.2	0.0	2.2	24.4	44.4	26.7
Adamstown	0.0	1.6	3.1	15.6	46.9	32.8
Cityspan	20.0	20.0	0.0	30.0	20.0	10.0
Mollyside	0.0	7.9	7.9	31.6	42.1	10.5
Victorian Academy	0.0	0.0	0.0	9.1	72.7	18.2
Tristero Tech	0.0	0.0	0.0	20.7	41.4	37.9
All High Schools	1.5	4.0	2.5	23.5	43.0	25.5

Question 17: Most students should consider taking at least one class in which they would earn college credit.

	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
Thomasville ALC	0.0	9.1	18.2	63.6	9.1	0.0
Thomasville Senior High	2.2	4.4	8.9	22.2	37.8	24.4
Adamstown	0.0	3.1	1.6	21.9	40.6	32.8
Cityspan	0.0	0.0	10.0	10.0	40.0	40.0
Mollyside	0.0	12.8	10.3	20.5	38.5	17.9
Victorian Academy	0.0	0.0	0.0	9.1	72.7	18.2
Tristero Tech	0.0	0.0	17.2	41.4	20.7	20.7
All High Schools	.5	3.9	8.9	26.1	36.0	24.6

Question 23: School personnel believe that all students can earn a college degree.

	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
Thomasville ALC	9.1	0.0	18.2	45.5	27.3	0.0
Thomasville Senior High	0.0	4.4	26.7	35.6	26.7	6.7
Adamstown	1.6	4.7	3.1	35.9	45.3	9.4
Cityspan	0.0	10.0	30.0	30.0	20.0	10.0
Mollyside	2.6	15.8	28.9	31.6	18.4	2.6
Victorian Academy	0.0	0.0	0.0	20.0	30.0	50.0
Tristero Tech	0.0	17.2	17.2	27.6	27.6	10.3
All High Schools	1.5	8.0	16.9	33.3	30.3	10.0

Question 25. The curriculum at this school is focused on helping students get ready for college.

	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
Thomasville ALC	0.0	18.2	36.4	45.5	0.0
Thomasville Senior High	4.4	2.2	24.4	48.9	20.0
Adamstown	1.6	0.0	9.4	60.9	28.1
Cityspan	20.0	10.0	20.0	50.0	0.0
Mollyside	2.6	13.2	36.8	42.1	5.3
Victorian Academy	0.0	0.0	0.0	40.0	60.0
Tristero Tech	0.0	3.4	24.1	48.3	24.1
All High Schools	3.0	4.5	20.4	51.7	20.4

Question 26: Teachers expect most students in this school to go to college.

	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
Thomasville ALC	0.0	0.0	18.2	54.5	27.3	0.0
Thomasville Senior High	0.0	4.4	4.4	26.7	51.1	13.3
Adamstown	0.0	0.0	1.6	17.5	61.9	19.0
Cityspan	10.0	20.0	20.0	40.0	10.0	0.0
Mollyside	0.0	5.3	31.6	39.5	18.4	5.3
Victorian Academy	0.0	0.0	0.0	0.0	20.0	80.0
Tristero Tech	3.4	3.4	17.2	27.6	37.9	10.3
All High Schools	1.0	3.5	11.5	27.0	41.5	15.5

Question 31: I can imagine most of my students as successful college students.

	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
Thomasville ALC	0.0	0.0	9.1	81.8	9.1	0.0
Thomasville Senior High	0.0	2.3	15.9	47.7	29.5	4.5
Adamstown	1.6	1.6	11.3	38.7	37.1	9.7
Cityspan	0.0	10.0	10.0	40.0	30.0	10.0
Mollyside	2.6	26.3	28.9	21.1	13.2	7.9
Victorian Academy	0.0	9.1	9.1	27.3	36.4	18.2
Tristero Tech	3.4	13.8	24.1	31.0	20.7	6.9
All High Schools	1.5	8.0	17.5	38.0	27.0	8.0

Question 33: The number one goal of high schools should be preparing almost all students to succeed at some type of postsecondary education.

	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
Thomasville ALC	8.3	0.0	25.0	33.3	33.3
Thomasville Senior High	4.4	2.2	15.6	48.9	28.9
Adamstown	0.0	3.2	20.6	38.1	38.1
Cityspan	0.0	0.0	20.0	60.0	20.0
Mollyside	2.6	10.5	15.8	42.1	28.9
Victorian Academy	0.0	9.1	27.3	18.2	45.5
Tristero Tech	0.0	10.3	27.6	20.7	41.4
All High Schools	2.0	5.4	20.2	36.5	36.0

Question 34: There will always be plenty of ways for people with only a high school education to make a decent living in Minnesota.

	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
Thomasville ALC	8.3	41.7	33.3	8.3	0.0	8.3
Thomasville Senior High	11.4	31.8	36.4	11.4	6.8	2.3
Adamstown	17.7	32.3	25.8	16.1	3.2	4.8
Cityspan	0.0	50.0	30.0	20.0	0.0	0.0
Mollyside	10.5	23.7	47.4	5.3	7.9	5.3
Victorian Academy	9.1	45.5	36.4	9.1	0.0	0.0
Tristero Tech	27.6	31.0	20.7	17.2	0.0	3.4
All High Schools	14.3	33.5	32.0	12.3	3.9	3.9

Question 35: Most parents of students in this school expect children to go to college.

	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
Thomasville ALC	0.0	54.5	18.2	18.2	0.0	9.1
Thomasville Senior High	0.0	7.1	40.5	38.1	11.9	2.4
Adamstown	0.0	0.0	9.7	32.3	51.6	6.5
Cityspan	10.0	40.0	20.0	20.0	10.0	0.0
Mollyside	0.0	7.9	42.1	23.7	23.7	2.6
Victorian Academy	0.0	0.0	0.0	27.3	63.6	9.1
Tristero Tech	0.0	10.3	31.0	31.0	27.6	0.0
All High Schools	.5	8.0	25.5	31.0	31.0	4.0

Questions 45-54: How influential do you believe the following factors are in shaping students' decisions to take a course that offers college credit:

Question 45: The degree to which the student possesses the knowledge and skills to succeed in a dual credit course

	Not at All Influential	Slightly Influential	Somewhat Influential	Very Influential
Thomasville ALC	0.0	9.1	72.7	18.2
Thomasville Senior High	5.1	20.5	53.8	20.5
Adamstown	0.0	17.7	53.2	29.0
Cityspan	10.0	30.0	30.0	30.0
Mollyside	0.0	18.4	52.6	28.9
Victorian Academy	9.1	18.2	27.3	45.5
Tristero Tech	7.1	14.3	42.9	35.7
All High Schools	3.1	17.9	50.0	29.1

Questions 45-54: How influential do you believe the following factors are in shaping students' decisions to take a course that offers college credit:

Question 46: The number of dual credit courses offered at the student's high school or at an accessible postsecondary institution

	Not at All Influential	Slightly Influential	Somewhat Influential	Very Influential
Thomasville ALC	0.0	9.1	72.7	18.2
Thomasville Senior High	9.8	26.8	43.9	19.5
Adamstown	0.0	13.1	59.0	27.9
Cityspan	20.0	30.0	40.0	10.0
Mollyside	2.7	24.3	54.1	18.9
Victorian Academy	10.0	40.0	40.0	10.0
Tristero Tech	6.9	27.6	41.4	24.1
All High Schools	5.1	22.3	51.3	21.3

Questions 45-54: How influential do you believe the following factors are in shaping students' decisions to take a course that offers college credit:

Question 47: The student's expectation of and commitment to attending college as shaped by his or her family, community and other influences

	Not at All Influential	Slightly Influential	Somewhat Influential	Very Influential
Thomasville ALC	0.0	9.1	54.5	36.4
Thomasville Senior High	0.0	9.8	39.0	51.2
Adamstown	0.0	4.8	35.5	59.7
Cityspan	11.1	11.1	11.1	66.7
Mollyside	0.0	13.5	35.1	51.4
Victorian Academy	0.0	9.1	63.6	27.3
Tristero Tech	3.4	10.3	27.6	58.6
All High Schools	1.0	9.1	36.9	53.0

Questions 45-54: How influential do you believe the following factors are in shaping students' decisions to take a course that offers college credit:

Question 48: The student's awareness of the courses and the knowledge and skills that are necessary for access to and success in postsecondary education

	Not at All Influential	Slightly Influential	Somewhat Influential	Very Influential
Thomasville ALC	0.0	0.0	72.7	27.3
Thomasville Senior High	0.0	17.9	56.4	25.6
Adamstown	1.6	6.6	49.2	42.6
Cityspan	10.0	30.0	40.0	20.0
Mollyside	0.0	13.5	59.5	27.0
Victorian Academy	0.0	18.2	54.5	27.3
Tristero Tech	3.4	13.8	48.3	34.5
All High Schools	1.5	12.8	53.1	32.7

Questions 45-54: How influential do you believe the following factors are in shaping students' decisions to take a course that offers college credit:

Question 49: The degree to which the student understands the gains in lifetime income that result from higher levels of educational attainment

	Not at All Influential	Slightly Influential	Somewhat Influential	Very Influential
Thomasville ALC	0.0	20.0	60.0	20.0
Thomasville Senior High	4.8	21.4	54.8	19.0
Adamstown	0.0	25.0	46.7	28.3
Cityspan	10.0	40.0	10.0	40.0
Mollyside	2.8	41.7	36.1	19.4
Victorian Academy	0.0	27.3	36.4	36.4
Tristero Tech	3.4	24.1	44.8	27.6
All High Schools	2.5	27.4	45.2	24.9

Questions 45-54: How influential do you believe the following factors are in shaping students' decisions to take a course that offers college credit:

Question 50: The student's level of participation in extracurricular activities, jobs, and other activities outside of school

	Not at All Influential	Slightly Influential	Somewhat Influential	Very Influential
Thomasville ALC	0.0	10.0	90.0	0.0
Thomasville Senior High	0.0	12.2	65.9	22.0
Adamstown	1.6	21.3	47.5	29.5
Cityspan	20.0	20.0	30.0	30.0
Mollyside	2.7	35.1	29.7	32.4
Victorian Academy	0.0	18.2	45.5	36.4
Tristero Tech	3.4	24.1	48.3	24.1
All High Schools	2.5	27.4	45.2	24.9

Questions 45-54: How influential do you believe the following factors are in shaping students' decisions to take a course that offers college credit:

Question 51: The amount of effort that the student generally puts into schooling and learning

	Not at All Influential	Slightly Influential	Somewhat Influential	Very Influential
Thomasville ALC	0.0	0.0	54.5	45.5
Thomasville Senior High	2.4	2.4	33.3	61.9
Adamstown	0.0	8.2	32.8	59.0
Cityspan	10.0	30.0	20.0	40.0
Mollyside	0.0	8.3	27.8	63.9
Victorian Academy	0.0	9.1	27.3	63.6
Tristero Tech	3.4	6.9	31.0	58.6
All High Schools	1.5	7.5	32.2	58.8

Questions 45-54: How influential do you believe the following factors are in shaping students' decisions to take a course that offers college credit:

Question 52: The influence of significant adults in the student's life at home and at school

	Not at All Influential	Slightly Influential	Somewhat Influential	Very Influential
Thomasville ALC	0.0	0.0	50.0	50.0
Thomasville Senior High	0.0	7.3	39.0	53.7
Adamstown	0.0	0.0	40.7	59.3
Cityspan	10.0	20.0	10.0	60.0
Mollyside	0.0	8.1	18.9	73.0
Victorian Academy	0.0	0.0	36.4	63.6
Tristero Tech	3.4	3.4	44.8	48.3
All High Schools	1.0	4.6	36.2	58.2

Questions 45-54: How influential do you believe the following factors are in shaping students' decisions to take a course that offers college credit:

Question 53: The influence of the student's friends and classmates

	Not at All Influential	Slightly Influential	Somewhat Influential	Very Influential
Thomasville ALC	0.0	0.0	70.0	30.0
Thomasville Senior High	0.0	7.1	59.5	33.3
Adamstown	0.0	4.9	41.0	54.1
Cityspan	10.0	20.0	30.0	40.0
Mollyside	0.0	8.1	48.6	43.2
Victorian Academy	0.0	18.2	54.5	27.3
Tristero Tech	0.0	17.2	31.0	51.7
All High Schools	.5	9.0	47.2	43.2

Questions 45-54: How influential do you believe the following factors are in shaping students' decisions to take a course that offers college credit:

Question 54: The process that the school uses to register students for courses

	Not at All Influential	Slightly Influential	Somewhat Influential	Very Influential
Thomasville ALC	0.0	9.1	90.9	0.0
Thomasville Senior High	14.6	24.4	53.7	7.3
Adamstown	6.6	23.0	54.1	16.4
Cityspan	10.0	50.0	20.0	20.0
Mollyside	0.0	35.1	40.5	24.3
Victorian Academy	9.1	27.3	45.5	18.2
Tristero Tech	6.9	24.1	44.8	24.1
All High Schools	7.0	26.1	50.8	16.1

Appendix D: Staff Survey

Staff Survey

How often do you engage in the following?

Never, Rarely, Sometimes, Often, Almost Always, Always (6-Point Scale)

1. Conversations with students about college
2. Integrate the subject of college and careers into your lessons
3. Discuss college options with parents of students
4. Talk with students about taking advanced courses
5. Talk with the students in your advisory class about college and careers

Please rate your own level of knowledge in the following areas:

None, Limited, Basic, Moderate, Proficient, Advanced (6-Point Scale)

6. The range of postsecondary options available to students
7. Level of academic skills (e.g., reading, writing, math) necessary for college work
8. Tests that students need for admission to college
9. The college application process
10. Financing a college education
11. Partnerships that this school has with local colleges, technical schools, or universities

To what extent do you agree or disagree with the following statements?

Strongly Disagree, Disagree, Somewhat Disagree, Somewhat Agree, Agree, Strongly Agree (6-Point Scale)

12. All teachers should be able to advise students on college options
13. At my school, staff provide families with information about paying for college
14. School personnel share a common goal to prepare all students for college
15. At registration time, school staff assist students in choosing classes that will help them reach their goals for education after high school
16. Staff at my school encourage students to take advanced classes such as Advanced Placement (AP), International Baccalaureate, Post-Secondary Enrollment Options (PSEO), college in the schools courses.
17. Most students should consider taking at least one class in which they could earn college credit

School's Expectations

Strongly Disagree, Disagree, Somewhat Disagree, Somewhat Agree, Agree, Strongly Agree (6-Point Scale)

18. All students in this school receive a rigorous curriculum in core content areas
19. There is an expectation in this school that all teachers will provide college information to students
20. Students are encouraged to take a full course load in their senior year
21. Our school's administration expects that all students will graduate ready to do college-level work
22. Our school's administration communicates their expectations that all students will graduate ready to do college-level work
23. Schools personnel believe that all students can earn a college degree
24. Teachers in this school feel that it is part of their job to prepare students to succeed in college
25. The curriculum at this school is focused on helping students get ready for college
26. Teachers expect most students in this school to go to college
27. Most of the students in this school are planning to go to college

Personal Beliefs/Expectations

Strongly Disagree, Disagree, Somewhat Disagree, Somewhat Agree, Agree, Strongly Agree (6-Point Scale)

28. I am familiar with the Ramp Up to Readiness project in our school
29. I believe that our school should prepare all students to go on to college
30. College counseling is the job of school counselors, not teachers
31. I can imagine most of my students as successful college students
32. I know what my student's goals are for after high school
33. The number one goal of high schools should be preparing almost all students to succeed at some type of postsecondary education
34. There will always be plenty of ways for people with only a high school education to make a decent living in Minnesota

Student/Parent Understandings

Strongly Disagree, Disagree, Somewhat Disagree, Somewhat Agree, Agree, Strongly Agree (6-Point Scale)

35. Most of the parents of students in this school expect children to go to college
36. Students have the skills and background knowledge needed to do the work assigned to them in my classes
37. Struggling students get the help they need in this school
38. Parents know what is expected of their children academically in this school
39. Students know what is expected of them in order to be college-ready
40. Our school is welcoming to students of all cultures and family backgrounds
41. When students struggle with schoolwork, it is their responsibility to seek help
42. I know what college information and resources are available at my school
43. All students in this school are given information about college options
44. What percentage of students in your school sees college attainable

How influential do you believe the following factors are in shaping students' decisions to take a course that offers college credit?

Not at All Influential, Slightly Influential, Somewhat Influential, Very Influential (4-Point Scale)

45. The degree to which the students possesses the knowledge and skills to succeed in a dual credit course
46. The number of dual credit courses offered at the student's high school or at an accessible postsecondary institution
47. The student's expectation of and commitment to attending college as shaped by his or her family, community and other influences
48. The student's awareness of the courses and the knowledge and skills that are necessary for access to and success in postsecondary education
49. The degree to which the student understands the gains in lifetime income that result from higher levels of educational attainment
50. The student's level of participation in extracurricular activities, jobs, and other activities outside of school
51. The amount of effort that the student generally puts into schooling and learning
52. The influence of significant adults in the student's life at home and at school
53. The influence of the student's friends and classmates
54. The profess that the school uses to register students for courses

Appendix E: Protocol for Student Focus Groups

Protocol for Student Focus Groups

Introduction to the Student Focus Groups

I am studying the things that influence the decision that a student makes about taking a high school course that also offers college credit, such as an Advanced Placement (AP) class, an International Baccalaureate (IB) class, a Postsecondary Enrollment Options (PSEO) class, or a College-in-the Schools (CIS) class. I am interested in this subject so I can understand and share with others the reasons that students do and do not choose to take those classes in high school.

I have prepared an informed consent form that I would like you to sign if you agree to participate in the study. This form confirms that you understand the purpose of the study and are willing to participate in it. The form also asks you to tell me how you would like to be identified if I quote you in the paper I will write about for this study. I will be recording our conversation to be sure I can quote your comments accurately and in detail.

Focus Group Questions

1. (*This question will only be asked in heterogeneous groups comprised of students who have taken a dual credit course and students who have not taken a dual credit course).* Are you taking or have you ever taken a class that offers college credit, such as an AP, IB, PSEO or CIS class? If you have taken such a class, which type have you taken and approximately how many of those courses have you taken?

2. What is it like to go to school here? In your experience, what do the teachers and other adults think is important? What do the students think is important?

3. Tell me about how you choose the classes you take here. What things influence you to take or not to take a course? Do your friends or other students choose courses for reasons that are different from yours? If so, how are they different?

4. What do you think are the reasons that students choose to take high school courses that offer college credit, such as AP, IB, PSEO, or CIS?

5. What do you think are the reasons that students choose *not* to take high school courses that offer college credit?

6. Are there things that you think your school could do to increase the number of students from all backgrounds who choose to take a dual-credit course? If so, what are they?

Appendix F: Protocol for Individual Staff Interviews

Protocol for Individual Staff Interviews

Introduction to the Staff Interview

Thank you for agreeing to participate in this study. My purpose is to understand the factors that influence the decisions that students in the academic middle make about taking dual credit courses, such as those offered through the Advanced Placement, International Baccalaureate, College-in-the-Schools and Postsecondary Enrollment Options (PSEO) programs. As you know, increasing the number and the diversity of students who take such courses has become a major goal of educational policy at the local, state and national levels in recent years. Despite that fact, we know relatively little about the reasons that students do and do not take such courses. With a better understanding of the factors that influence those decisions, we may be able to design more effective strategies for helping high school students in the academic middle take the right courses at the right times.

I have prepared an informed consent form that I would like you to sign if you agree to participate in the study. This form confirms that you understand the purpose of the study and are willing to participate in it. The form also asks you to tell me how you would like to be identified if I quote you in the paper I will write about for this study. I will be recording our conversation to be sure I can quote your comments accurately and in detail.

Interview Questions

1. What is your role in the school?

2. Please describe the ways that students in this school choose courses. What people, experiences and other factors influence their decisions?

3. What connection do you have, if any, to students' decisions to take or not to take a dual-credit course at this school?

4. What do you think motivates most students in this school who take dual credit courses such as AP, IB, PSEO and College-in-the-Schools to do so?

5. Why do you think most students in this school – and in the vast majority of high schools – do not take a dual credit course?

[*Provide interviewee with a copy of the Interview Handout: Factors That May Influence a Student's Decision to Take a Dual-Credit Course in High School*]

6. Up to this point, we have been talking about students in general and the courses they choose to take. Please now think about students in what might be called the "academic middle" in your school, such as students whose test scores or grade point averages place them in between the 30^{th} and the 70^{th} percentiles. I am now going to show you a list of ten factors that studies suggest influence students' course taking decisions (attached below). Which

of these factors do you think have the greatest affect on the decision that a student in academic middle makes about taking or not taking a dual credit course?

7. Which of the factors on the sheet do you think has the least influence on the decision of a student in the academic middle to take a dual credit course?

8. Are there things that you think your school could and/or should do to increase the number of students from all backgrounds who choose to take a dual-credit course? If so, what are they?

Handout for Staff Interviews:

Factors That May Influence a Student's Decision to Take a College-Level Course in High School

1. Academic Readiness: The degree to which the student possesses the knowledge and skills to succeed in a dual credit course

2. Access: The number of dual credit courses offered at the student's high school or at an accessible postsecondary institution

3. College-Going Orientation: The student's expectation of and commitment to attending college as shaped by his or her family, community and other influences

4. College Knowledge: The student's awareness of the courses and the knowledge and skills that are necessary for access to and success in postsecondary education

5. Economic Incentives: The degree to which the student understands the gains in lifetime income that result from higher levels of educational attainment

6. Interaction with Adults: The influence of significant adults in the student's life at home and at school

7. Interaction with Peers: The influence of the student's friends and classmates

8. Outside Commitments: The student's level of participation in extracurricular activities, jobs and other activities outside school

9. Registration: The process that the school uses to register students for courses

10. Work Ethic: The amount of effort that the student generally puts into school and learning

Appendix G: Unused Template

<u>for Parent/Guardian Telephone Interviews</u>

Unused Template

for Parent/Guardian Telephone Interviews

Note: This template was used in only a few parent interviews because it proved impossible to arrange a sufficient number of such interviews to generate enough data to merit inclusion in the study.

Introduction to the Parent/Guardian Interviews

Thank you for agreeing to participate in this interview. Your son or daughter has already participated in a study of the things that influence the decision that a student makes about taking a high school course that also offers college credit, such as an Advanced Placement (AP) class, an International Baccalaureate (IB) class, a Postsecondary Enrollment Options (PSEO) class, or a College-in-the Schools (CIS) class. I am interested in this subject so I can understand and share with others the reasons that students do and do not choose to take those classes in high school.

I have prepared an informed consent form that I would like you to sign if you agree to participate in the study. This form confirms that you understand the purpose of the study and are willing to participate in it. The form also asks you to tell me how you would like to be identified if I quote you in the paper I will write about for this study. I will be recording our conversation to be sure I can quote your comments accurately and in detail.

Parent/Guardian Interview Questions

1. How does your student choose courses in general? Do you play a role in course selection?

2. If your son or daughter has taken a course that offers college credit, why do you think he or she chose to do so?

3. If your son or daughter has not taken a course that offers college credit, why do you think he or she chose not to do so?

4. Has your son's or daughter's school ever provided you with information on courses that offer college-level credit? If so, please tell me about what that information was and how it was provided.

5. Are there things that you think your child's school could do to increase the number of students from all backgrounds who choose to take a dual-credit course? If so, what are they?

6. Are there any other things that you think I should understand about why high school students do or do not choose to take classes that offer college credit?