

What should be the value added of high school and what does that mean  
for high school reform? A view from Chicago

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The views presented in this paper are my own and I take full responsibility for the flaws in the argument. In this paper I draw heavily on my colleagues' work on high schools at the Consortium on Chicago School Research, specifically Elaine Allensworth's work on school dropout and her new work with John Easton on the importance of being "on-track" freshman year. I also present data from my new study of the post-secondary transition of CPS students which is being conducted with Jenny Nagaoka and Elaine Allensworth. Many of the ideas presented in this paper have been generated through hours of conversation with my colleagues and reflect our joint analysis of problems. Specifically I want to thank John Easton, Elaine Allensworth, Jenny Nagaoka, Eliza Moeller, Ginger Stoker, Greg Darnieder, and Gudelia Lopez who have contributed more than research findings and data analytic support to this paper. The analysis presented in this paper has been supported by grants from the William and Melinda Gates Foundation, the Carnegie Foundation, the Spencer Foundation and the William T. Grant Foundation.

## Introduction

This first decade of the 21<sup>st</sup> century will most certainly be written into the history books as the era of high school reform. The consensus nationally is that high schools, particularly in urban areas, are broken institutions plagued by high dropout rates, persistently low performance, and disengaged students who are seldom challenged and held to high standards. The American high school is increasingly identified as the weakest link in our education system, a directionless ship, impervious to reform. The most recent results of the National Assessment of Educational Progress in which test scores among high school students showed little progress while those of younger students improved, has only added fuel to the fire (Perie, Moran & Lutkers, 2005).

But the hope on the horizon is that the American urban high school has become a central focus of reform. Initially spurred by the leadership of the foundation community, the Gates and Carnegie Foundations in particular, policymakers have turned their attention to high schools. New York, Chicago, Boston, and many other cities have begun major high school reform initiatives, initially focused on starting new schools and moving to small schools. The President pledged his commitment to passing the No Child Left Behind Act for high schools and the National Governors Association directed attention to high schools in its 2005 Education Summit.

The flurry of activity around high schools and the creation of new schools have initiated a market for new ideas at the school, district, state, and federal levels. Accountability will create even greater demand. As high schools around the country begin to struggle with the demands of accountability to raise test scores, administrators will be looking to the research and reform community for direction. School administrators and policymakers looking for solutions are faced with what appear to be a dizzying array of improvement models, many of which will be represented at this MDRC conference. The question that generates this conference and dominates much of the discussion I have daily with members of the reform community, district level

administrators, and high school principals is: What do we know about works in high schools? In this paper, I take a step back from that question and ask instead: Where are we trying to go? What are we trying to accomplish as we reform high schools and what do we currently know about what high schools will need to focus on in order to accomplish that task?

In the education research community, the answer to what we need to work on has coalesced around the topics of "instruction" and "personalism," or student support. But these are largely inputs in the education process not outcomes. Another approach is to ask: What are the outcomes that students are looking for? I have spent years working in and talking to students in Chicago high schools and in three longitudinal studies --one conducted in the early 1980's, one in the mid 1990's and one begun last year -- have witnessed first hand the rise in educational aspirations of students at virtually all achievement levels. Ask any Chicago student today what he wants out of high school and the answer is almost without fail, "to graduate and go to college." Parents and adolescents are keen economists. They know the facts. Rising economic payoffs to college and declines in the earnings of the non-college bound means that high school graduation and participation in college is seen as essential for effective participation in the economy. While we can debate whether college is right for everyone, the consensus on the part of students and parents seems to be a strong starting place for high school reform. The value added of high school then should be to take that desire (aspirations) and translate it into reality (achievement, high school graduation, and access to and preparation for college).

In this paper, I use data from Chicago as a case study for focusing a discussion around what it will take to reduce dropout rates and increase post-secondary preparation and access for urban students. I draw on my and my colleagues' research at the Consortium on Chicago School Research on school dropout and presents results from my new study of the post-secondary transition among CPS students. Some of the findings presented are preliminary and raise

research questions that we will be pursuing in further research. The goal of this paper is to use that data to provide a broad picture of the current state of one school system and to provoke discussion and debate over what it will take to change those outcomes. In doing so, I hope that this paper can provide a larger framework within which we can place evidence about specific reform efforts. In the conclusion, I summarize what issues this might raise as we move forward in designing and evaluating high school reform initiative and the implications for policy, particularly in area of accountability.

### **The Ambitious Generation<sup>1</sup>**

In the last two decades of the twentieth century, a dramatic change occurred in high schools. Their students changed their aspirations, reflecting a changed economic reality. Nationally, the percentage of 10<sup>th</sup> graders who stated that they hoped to complete a bachelors degree or higher doubled, from 40% in 1980 to 80% in 2002 (see Figure 1). These rising aspirations were shared across racial and ethnic groups with the largest increases occurring among low-income students. They are also reflected in urban populations. In our most recent 2005 Consortium surveys, 80% of Chicago high school seniors stated that they hoped to complete a bachelors degree or higher, similar to the national data, and an additional 14% aspired to attain a two-year degree or vocational degree.<sup>2</sup>

In my experience, educators often dismiss these statistics arguing that students are just saying they want to go to college because they think it's the right thing to say. Last year, I began a longitudinal study of 105 juniors in three Chicago high schools which serve primarily African-American and Latino students.<sup>3</sup> In our first interview, we asked students about their goals and plans after graduation. Over 90% of juniors stated that they hoped to attend a four-year college. The reasons students gave for wanting to go to college suggested that they saw college as an essential pathway to their future. Students emphasized the perceived economic utility of a

college degree. They talked about the realities of the labor market, the more immediate experience of their parents and family, and, in a first generation culture, the need for a college education to pay back their parents' sacrifices. When asked "what was the main reason" they wanted to go college, typical responses included

*"For my personal gain, because I want to live a good live and seeing the life that my parents are living because they didn't go to college, just went to high school. I see the kind of careers they have, so it doesn't seem like a very happy life."*

*"Cause you can't even work at McDonalds without a high school diploma, To get a job, gotta go to school."*

*"Like my dad says, he's working in the company, a metal company and he's always complaining about his back and everything like "I don't want to be suffering like this" And so he's the one that's motivating me."*

*"A good life and I also want a good life for my parents, cause they work for me and they work hard, they both work in factories, been working there like 20 years so I want to get a good job so they don't have to work anymore...If I don't get good grades, can't get into a good college. If I don't get into college then I can't get a career, no career, no good paying job, no white picket fence."*

### **The Aspiration-Attainment Gap**

The central policy problem is that these aspirations are not translating into high school completion and college access and success. The statistics are well worn but worth reciting. Increasing numbers of minority and low income high school graduates are making the transition to college, though their participation rates continue to lag behind that of middle and higher income students.<sup>4</sup> But, minority and low-income students are often going to college with lower levels of qualifications. In an analysis of the National Educational Longitudinal Study of 1988, Berker, Chavez, and Carroll (1997) estimated that less than half of 1992 African-American and Latino graduates compared to 68% of whites had test scores, GPA's and coursework that would even minimally qualify them for admissions to a four-year college.<sup>5</sup> There are many factors in addition to qualifications that shape what college students enter and the chances that they will persist to completion. But, these low levels of qualifications limit minority and low-income

students' access to four-year colleges and place them at risk of struggling academically. Even among students who plan to attend a four-year college, minority students are much more likely to end up going to a two-year college or not going at all (U.S. Department of Education 1997). And, once in college, minority and first-generation college students are much more likely to be placed in remedial courses that do not count for college credit (Chen, 2005, U.S. Department of Education, 2004)<sup>6</sup>. The bottom line is that rising enrollment is not translating into concomitant increases in attainment. From 1990 to 2004, the percentage of African-American young adults aged 25-29 who had graduated from high school and attended some college increased by 16 percentage points, so that by 2004 over half of African-American young adults had attended some college. But, only 17% of these African-American young adults had graduated from college, an increase of only 4 percentage points since 1990. The lack of progress in college completion is particularly dire for Latinos who lag both in college attendance and completion. In 2004, less than one third of Latino young adults had attended some college and only 11% of Latino young adults had completed a bachelor's degree or higher, a rate that was only slightly higher than nearly 15 years prior.

And all of these statistics are far worse in urban areas and far worse when we consider the high numbers of students in urban districts who do not make it to graduation. To do a broad overview of the problem, it is worth starting with a basic simulation. Consider a cohort of 13 year olds in the Chicago Public Schools (CPS). Of students who entered Chicago high schools in the 1998-1999 school year, only 46% graduated on time four-year later (Allensworth, 2005). If we take account of transfers and allow students more time to graduate, only 54% of Chicago 13-year-olds graduate by age 19 (by 2002-2004) (see figure 4). Among that graduating class, we identified 58% using data from National Student Clearinghouse as enrolled in a college within the year after graduation (see Table 1). We estimate that the proportion of CPS graduates who

might actually enroll in college may be approximately 5% higher though most of the difference would be made up by enrollment in two-year proprietary schools.<sup>7</sup> However, only 34% of CPS graduates enrolled in a four-year college. These students have not had time to graduate from college yet. Our analysis of the college progress of two previous cohorts (the 1998 and 1999 graduating cohorts) found that only 35% of CPS graduates who attended a four-year college in the year after graduation graduated within 6 years (see Figure 10).<sup>8</sup> Unless the completion rates of more recent cohorts are dramatically better than those of prior cohorts, which national trends suggests is not true, we would expect that, at the low end, approximately 65 out of every 1000 13-year-olds in the CPS, or only 6.5%, ultimately graduate from high school, enter a four-year college, and obtain a four-year degree within 6 years.<sup>9</sup> As seen in Figure 2, these rates are significantly lower for African-American and Latino students. The prospects are particularly dire for minority males among whom the comparable numbers would be close to 2.5%. This is an underestimate of the proportion of CPS students who might eventually graduate from a four-year college because students will delay enrollment, some students who enter two-year colleges will eventually complete four-year degrees and some students in four-year colleges take more than 6 years to graduate. But, this low end estimate suggests that only 6.5% of 13-year-olds in CPS can be expected to graduate from a four-year college by the time they enter their mid-twenties.

The recipe for high school reform seems clear. First, get students to graduate from high school. Second, get them to attend college and particularly four-year colleges. And, third, get students the preparation that will allow them to be successful once there. As I will argue in the remainder of this paper, attaining these three goals will require a set of very focused strategies that closely link instructional improvement with efforts to improve support for students and change the prevailing academic norms of high schools. Let me first turn to the question of school dropout and then to the more thorny question of what it takes to get students to college.

**What will it take to reduce dropout rates? The importance of entering skills and academic difficulty during the transition to high school.**

How is it that students who have high aspirations and are aware of the costs of dropping out would go to high school and leave before attaining a diploma? I would argue that seldom do students today decide to drop out of school. Too often, students are "dropped" from high school rolls because of non-attendance or are counseled out. Whether students are counseled out, decide to leave to try another angle, or just drift out, dropping out is most often a process centered around academic failure, with students falling farther and farther behind, eventually realizing that they simply cannot make it to graduation in their current school. And, I would argue, the bulk of this problem occurs in the transition to high school as students begin to struggle with the academic, social, and developmental demands of their high school environments. Reducing dropout rates then begins by building students' capacity to do high school level work, ensuring that they have the structures and academic supports to transition successfully, and ensuring that they continue to pass their classes and move through high school without falling behind.

This is a simple idea and one that is an important first step. There is a tendency among educators when talking about dropouts to immediately move to the extremes of the problem, most of which have nothing to do with students' experiences in school.<sup>10</sup> Students drop out because of home problems or child care responsibilities that compromise their capacity to attend school regularly. Students drop out because of social difficulties such as gang involvement or parenthood that are beyond a schools' reach. Addressing dropouts in this characterization does not mean changing existing practice or improving the core capacity of schools but adding on programs, alternatives, or special services to serve these students who do not fit the traditional high school model. Thus, the belief that students drop out because of non-educational problems leads high school educators to perceive dropping out as a problem they do not produce, cannot influence, and for which they are not accountable.



Such logic, that attention to dropout rates is outside of the traditional reach of high schools, while powerful, is largely unsubstantiated by the data. Getting beyond the rhetoric, data from Chicago and recent research on interventions during ninth grade demonstrate that significant progress in attacking the dropout problem can be done through a very focused approach on: (1) improving the achievement of students prior to high school and providing more transitional academic supports; and (2) ensuring that students are passing their courses and getting off to a good start through a combination of a focused instructional program, reduction in the academic and developmental demands placed on youth, and structured support. *Strategy 1: Increase students' skills to do high school level work.*

Since 1988, Chicago has been an epicenter for educational reform beginning with a series of decentralization reforms in the late 1980's and then followed by the mayoral takeover of the school system in 1995 (Hess, 1999). In the second wave of reform, roughly 1995-2002, the new administration implemented high stakes accountability, including ending social promotion in 3<sup>rd</sup>, 6<sup>th</sup>, and 8<sup>th</sup> grades (Roderick et. al. 1999). Most of these reforms were directed at Chicago's elementary and middle schools. Chicago is primarily a k-8 elementary school system. In 1996, the new administration also instituted tougher high school graduation requirements, raising the credits needed for graduation and requiring all students to take a college preparatory sequence including three years of mathematics and laboratory science (Miller & Allensworth, 2002).<sup>11</sup>

While there is much debate over which period of school reform and which particular elements of reform get the most credit, there is little debate over whether elementary schools improved (Bryk 2003; Roderick, Jacob & Bryk, 2003 ). Figure 3 presents the percentage of 8th graders whose reading test scores on the Iowa Test of Basic Skills (ITBS) placed them at or above national norms and the percentage that placed in the bottom quartile on national norms from 1993 to 2004. The chart shows two series of data because the CPS "renormed" the ITBS in

the middle of the period. The percent of students reading at or above national norms and the percent with test scores in the bottom quartile are crude indicators. However, these dramatic improvements are also observed if we move to more rigorous measures such as equated test scores, if we include special education students, or if we look at trends in test scores by age rather than grade to adjust for increases in grade retention that occurred after 1996 (Allensworth, 2004; Easton et. al. 2001, Easton et. a. 1998) They are also reflected performance on the state's standards based exam where, in 2004, the average 8<sup>th</sup> grader exceeded state norms in reading.

Chicago, then, provides an important case study of whether improving students' basic skills prior to high school will lead to improvement in graduation rates. Figures 4 and 5 show trends in dropout and graduation rates by race and gender in the CPS for successive cohorts of 13-year-olds.<sup>12</sup> Dropout rates were relatively flat in the period before 1997. Graduation rates improved modestly in the 1995 and 1996 cohorts and then began to rise rapidly after 1997 which, as seen in Figure 3, correlates with the increase in test scores among 8th graders. The positive trend is more marked in recent cohorts where we are not able to look at long term graduation rates but are able to assess dropout rates by age 16. Dropout rates by age 16 declined from 18% in the 1996-1997 cohort to 11% in the most recent cohort. Improvements have been much more pronounced among Latino and White students than among African-Americans, also reflecting test score trends. In the most recent cohort, only 38% of African-American 13 year old males graduated within 5 years.

These figures show a strong correlation between the rise in elementary school achievement in Chicago and graduation rates, but there was much happening in Chicago during this period.<sup>13</sup> Consortium researchers have looked carefully at the determinants of the decline in dropout rates using analyses that controlled for changes over time in the (1) entering test scores of students, (2) the average age, retention status, and racial, ethnic, socio-economic

characteristics of students; and (3) the distribution of students across schools because of the opening of magnet and charter school (Allensworth, 2005; Allensworth, 2004; Miller, Allensworth and Kochanek, 2002; Roderick, Allensworth, and Nagaoka, 2004). Contrary to predictions, the move to more academically oriented graduation requirements in 1996 was not associated with an increase in dropout rates. Graduation rates actually improved slightly because students were taking more classes and were getting through high school faster (Allensworth, 2005). In cohorts after 1996, most of the decline in dropout rates can be explained by improvements in the academic achievement of students leaving elementary school. To restate, with the exception of students who faced high probabilities of retention, the overall likelihood of drop out or graduation for students with a given level of achievement did not change dramatically during this period (e.g. a student who entered high school at national norms was not less likely to drop out before or after 1997).<sup>14</sup> But, students with higher achievement are less likely to drop out. Thus, the rise in achievement meant that more and more students were entering high school with achievement levels that suggested that they would be prepared to do high school level work and would be less likely to drop out.

This analysis suggests a clear strategy for improving dropout rates -- improve the ability of students to do high school level work. But there are multiple ways to do this. One, as demonstrated in Chicago, is to increase achievement before high school. Another approach is to provide extra support for students who are coming into high school with relatively weak skills, particularly in reading and mathematics. This is the approach used in the most recent U.S. Department of Education's initiative focused on adolescent literacy and that which is incorporated in the Talent Development's Ninth Grade Success Academy model, discussed below. The Success Academy model goes further, however, by combining academic support

with a focus on decreasing the developmental and academic demands students face in the transition. Data from Chicago suggests that this second approach is equally as important.

*Strategy 2: Its about course failure and its about ninth grade.*

The experience of Chicago serves as a hopeful and dramatic counter example to popular conceptions of drop out. Chicago did not change students' home lives, remove students from poverty, or create better neighborhoods for its adolescents. The administration also did little to change the academic environments or instructional practices within its high schools. Indeed, these dramatic improvements in elementary schools only made more distinct difference in the academic quality and environment of Chicago's elementary schools and high schools. As noted, most Chicago students remain in elementary school through 8th grade which are often more personal and structured learning environments than middle and junior high schools. Chicago students, as a result, face dramatic changes in the nature of their classroom and school environments as they move to high school (Roderick & Camburn, 1999). Students are faced with dramatic increases in the size and complexity of their school environment-- in the number of classes and teachers they interact with, in the complexity of academic demands in their classes, and in the size of their school and peer group -- while at the same time experiencing increasing independence and declines in academic support. Research on the importance of the transition to high school suggests that a significant piece of the remaining puzzle around dropout lies in the difficulty students encounter in this transition.

Figure 6 presents results from a recent Consortium on Chicago School Research report on the importance of being "on track" freshman year. The on-track measure is an indicator of freshman year performance that signifies whether students leave freshman year on-track to graduation. A student is considered on-track if she has accumulated five full course credits (the number needed to be promoted to 10th grade) and has no more than one semester F in a core

subject (English, math, science, or social studies).<sup>15</sup> Among freshman who entered CPS high schools in 2000, 58% were on-track at the end of freshman year and 81% of these students graduated within four years. Freshman who were not on-track (42%) were very unlikely to graduate. Thus, students who were on-track by the end of their freshman year were more than three and one-half times more likely to graduate in four years than off-track students. And, while academic difficulty was more prevalent among low achieving students, it was not isolated to these students. Of students who entered CPS with test scores in the third quartile (roughly equivalent to being at the third quartile on national norms), fully 35% were off-track at the end of freshman year and only one-quarter graduated, a rate over three times lower than their counterparts with similar test scores who had more successful transitions to high school. Thus, despite their skills many of these freshmen had difficulty in the transition and that difficulty was a significant predictor of whether they would graduate.

Differences in the entering characteristics of students explain little of the relationship between being on track freshman year and graduation.<sup>16</sup> The relationship between being on-track freshman year and the likelihood of graduation holds true, moreover, within race and ethnic groups. Thus, a student's freshman year performance is strongly associated with the likelihood of graduation independent of prior achievement. Figure 6 clearly demonstrates this finding. Many students with weaker skills do manage to be successful freshman year and, if they do so, they have much higher probabilities of graduating. Fully 42% of students who entered high school in the bottom quartile of the CPS achievement distribution were on-track for graduation at the end of freshman year. Of those who were on-track, 68% graduated four years later compared to only 14% of students who were off-track. This does not mean that entering test scores don't matter. Students with lower test scores are more likely to be off track freshman year and are less likely to graduate than their higher achieving counterparts regardless of whether they are on- or off-track.

But, as seen in Figure 6, and that which is confirmed in more rigorous analysis, the difference in the probability of graduation for students across achievement levels is not nearly as large as the difference in the probability of graduation between those students who are on and off track within achievement levels.

There is a common perception that students who are having difficulty freshman year are a group of problematic students who enter high school, become substantially disengaged, and have essentially dropped out. Central to understanding the importance of course failure, however, is recognizing that most students who are off track are only having difficulty in only or two courses and that even this level of course failure is strongly associated with increases in the likelihood of dropout. Figure 7 shows the relationship between dropping out and failing courses in major subjects by the number of semester F's students accumulate freshman year. Two semesters of a course equals one full year of a subject. If the "on-track" rate was simply an indicator of students who had fully disengaged from school and were essentially early drop outs, we would see a high proportion of students with multiple course failures and would see that failure would only be predictive of dropout among these high failure students. Rather, even one semester failure substantially increases the risk of dropping out and failure is widespread. Fully 49% of entering freshman failed one or more semesters in a major subjects but most of these students were failing only a limited number of courses. Looking only at those who failed courses, nearly half (46%) of freshman who had F's in a major subject had two or fewer F's (or up to one full subject) and nearly two-thirds failed four or fewer semesters. Most students in CPS take 8 semester credits (4 full courses). Students who are failing four or fewer semester credits, then, are students who are attending school regularly and are passing most of their other subjects. They are students who, for a variety of reasons, are struggling in a subject or subjects and need intervention to get back on track. Another one third of failures however, are students who are clearly struggling, 11% of

freshmen fail the majority of their courses and a small but important group (4%) is essentially failing all of their subjects. But the picture that emerges is that the majority of these off-track students are not students who are not in school.

This data raises a variety of questions about what is happening in the transition. Why is off-track and even one failure such an important predictor of graduation? And why are students with similar achievement failing courses while others are passing? These are questions that we are pursuing in follow up research. Part of the problem is that not only is failure commonplace in urban schools but that there is little recovery from failure. Once students have trouble, there is often a lack of coordinated response from adults to address their needs. Students who fail a course are immediately placed in a catch up position. They must attend summer school and students who fail more than two semesters cannot get back on track because summer school is not structured to allow students to make up more than one full course credit. Failure in a course, moreover, suggests that a student is struggling, and too often in high school, the student moves on to the next semester and to next year with mastering the earlier course and with little academic intervention, placing her at a high probability of failure in the next course. And, most importantly, failing courses is an flag that there is a problem -- a problem in a course or with a teacher or that the student is having problems managing the academic and social demands of their high school environment and with little help to turn that behavior around there is little prospect that a student will develop his own intervention. Eric Camburn and I (1999) found that students who failed courses in one semester were more likely to follow that failure with even greater academic difficulty the next semester. This was also the central pattern of behavior I observed in my linked qualitative longitudinal study of the transition. I watched as many students who had failed classes try to hold on to their aspirations, resolving each semester to turn themselves around, go to class and do their homework, while falling farther and farther behind,

ultimately dropping out. The central conclusion to be drawn is that, while there are a group of freshmen who appear to be not engaged in high school in any significant way, the bulk of the problem requires focusing on improving the support, structures, and probabilities of success for those students who are attending and are at the margin. One critique of this argument is that students who drop out are somehow different, despite their incoming test scores, and would have dropped out anyway. There must be something different between those low achieving students who manage to be successful in the transition and those who aren't that would explain why they pass their courses and graduate. This "unobserved" heterogeneity problem would suggest that simply getting these students on track will not actually address their problems. New data from MDRC's evaluation of Talent Development High Schools is demonstrating, however, that changes in the curriculum and structure of freshman year can get students on track and that such efforts lead to decreases in dropout rates (Kemple, Herlihy & Smith, 2005).

The Talent Development High School model brings together two high school reform approaches: (1) reforming the 9<sup>th</sup> grade through a Ninth Grade Success Academy, and (2) a whole school reform that breaks the 10th-12th grades into smaller learning communities focused on career themes, called Career Academies. Over the past several years, MDRC has been evaluating the Talent Development Model in seven low-performing high schools in Philadelphia. While there is less evidence that the 10th-12th grade model has been successfully implemented, the evaluation has found strong implementation and strong effects in the Ninth Grade Success Academies. Like all of MDRC's excellent work, the evaluation takes a rigorous approach, using an interrupted time series design and comparison of trends over time in treatment and matched control high schools to estimate effects.

The Ninth Grade Success Academy model is designed to increase structure and support for freshmen combining three approaches: (1) the development of smaller, more personalized



learning communities and reduction in the complexity of academic demands students face, (2) provision of curricular supports for students to transition to high school level work, and (3) development of professional development supports and structures for teachers. Freshmen attend a self-contained school-within-a-school where they share the same teachers in an interdisciplinary team. Students take double course offerings in English and mathematics and, in the first semester, participate in courses that are designed to provide students with transitional skills they need to move to high school level work. These courses include Strategic Reading, Transition to Advanced Mathematics, and Freshman Seminar, which focuses on study and developmental skills. In the second semester, students move to regular high school courses that are designed so that they can be on-track after freshman year. A twilight high school provides additional support for students who are having discipline problems or who are transferring in mid-year. Thus, from the first, Talent Development offers a curriculum that is focused on increasing students' readiness for high school while accelerating them (or catching them up) during their second semester. Teachers are offered professional development, curricular materials, and each team shares common planning time. An implementation support team provides curriculum coaches and a school-based facilitator.

In two recent reports, MDRC found strong impacts of the Ninth Grade Success Academy in improving attendance, academic course credits earned, and promotion rates (Kemple, et al. 2005; Kemple & Herlihy, 2004). Evidence from the first three 9th grade cohorts in Philadelphia suggest that freshman year improvements were sustained through 10th grade. And, early evidence from two schools demonstrates improvements in high school graduation rates. Schools in Talent Development showed a 28% increase in the percentage of students passing Algebra and a 9.5% increase in the percentage of students being promoted to 10th grade. While the Ninth Grade Success Academy produced significant declines in the proportion on students who were

repeating 9th grade, it had less positive impacts on students who still ended up repeating 9th grade. In the context of the above discussion, this might make sense. The fact that most students in Chicago were only failing a few of their courses suggests that much progress can be made by improving what high schools are doing now and the Talent Development Model provides a comprehensive approach to doing so. But, we also saw a group of students who were failing substantially in 9th grade and who may need much more sustained attention. The lack of progress among students who initially did not respond to the supports and intervention provided by the Success Academy model both their first and second time through 9th grade may confirm the importance of developing much more sustained interventions for students especially at risk.

In this section, I argued that the first step in reducing dropout rates is focusing on the high school transition -- improving students' skills before and initially upon entering high school, structuring 9th grade so that it is focused not on weeding out students but on transitioning students successfully, and monitoring progress so that intervention is immediate. This will not solve all of the dropout problem and does not dismiss the notion that school systems also need to develop strong alternative programs for students who have substantially academic difficulty or for those students who later may need alternatives<sup>17</sup> But the argument to be made is that high schools can make substantial progress in this critical area by focusing on early preventive efforts in high school; efforts that significantly reduce the magnitude of the problems, represent an efficient use of resources, and may resolve later problems. For example, in Chicago, the majority of dropouts, regardless of the age and grade in which they leave high school, have accumulated very few credits. Over half of dropouts leave high school with five or fewer credits, meaning that they have not completed freshman year. Fully 75% of dropouts have less than 11 credits. Low credit accumulation creates significant barriers to recovery for few alternative high schools are set up for students who essentially have never completed freshman year. Thus, working on

freshman year may both prevent drop out and make addressing the needs of students who have dropped out significantly easier. This is a straightforward but not so easy approach. Earlier efforts at reforming freshman year such as MDRC's own previous effort, Project Transition, had not been as successful (Cytron et. al., 1990). As a result we need to know much more about what makes the Ninth Grade Success Academy successful and how that differs from previous efforts that appeared to share similar approaches.

**What will it take to improve college access and performance? It is about creating a value added in high schools.**

Most students enter high school with the desire to graduate and go to college. In systems with high failure rates, it doesn't take long for students to find the strategy for graduation -- go to class and pass your courses. But while the path to graduation becomes quickly evident, the path to college is vague for most first generation college students. Thus, most urban students are looking to high school educators to fill in the details and to provide them the strategies they need to achieve that goal. A critical role for high schools is to fill in this picture by: (1) developing strong systems of guidance and information; (2) developing environments that foster academic goals, turn aspirations into plans, and set norms of performance; and, (3) engaging students in coursework and academic experiences that will develop the skills necessary for college access and success. In essence, the value added of high schools in this era is to move students from surviving in high school to preparing for life after high school.

And this is perhaps the central problem facing high school reform. To put it simply, the very institution that developed to support that survival strategy and make it successful is now the same institution that is failing that student as she attempts to get beyond graduation. The history of the American high school over the last century is that of an institution that evolved to allow more and more students to attend and graduate. The great irony of the current policy situation is that those statistics most often cited as demonstrating the failure of the American high school,

largely high dropout rates in urban areas, was for most of the last century the greatest accomplishment of the American high school and its most significant indicator of progress as it was transformed from an elite to a comprehensive institution. In part, the answer to the question, "what will it take to get students to college?" begins by asking: How can we get high schools to adopt an entirely new set of institutional structures and set of expectations for themselves and their students? For this reason, let me briefly digress by laying out the roots of the current crisis.

*The current crisis in historical perspective*

The history of the American high school in the 20<sup>th</sup> century was one of growing high school enrollments and concomitant increases in graduation rates. The growth in high school enrollment occurred in two periods. In the first period, roughly 1890 to 1920, booming immigration and social reform cut off the labor market to adolescents and created incentives for prolonged school attendance. From 1890 to 1920, the number of students enrolled in high schools grew from about 2,500 to over 14,000 (Dorn 1996). The second period was initiated by the Great Depression and continued, somewhat abated during the war, through the end of the 1950's. In this second period, enrollment became universal and high school graduation rates increased accordingly. Between 1910 and 1940 the proportion of 18-year-olds who graduated from high school increased from less than 10 to over 50% (Goldin & Katz, 2001). The economists Cladia Goldin and Michael Katz (2001) have argued that the rise of high school enrollment and completion during this period positively contributed to a narrowing of the wage structure. In a third period of the American high school, roughly the postwar period through the end of the 1970s, concerns shifted from a focus on attendance to graduation, and graduation from high school became the norm (Dorn, 1996). The rise in high school graduation rates and the extent to which increases in attainment were widely shared across racial and ethnic groups is one of the great success stories in the history of American education. Between 1950 and 1980, the

percent of native-born young adults aged 20 to 24 with a high school diploma or its equivalency increased from 54 to 86% for whites and from 22 to 73% for African-Americans (Dorn 1996).

How did high schools accomplish this increase in graduation rates? Educational historians generally agree that rising graduation rates were accomplished by focusing on accommodation rather than achievement --essentially trading off academic standards for equal access to schooling and the credentialing it afforded (Graham, 1993; Powell et al. 1985; Powell 1990; Ravitch 1983; Sedlak et. al., 1986; Wraga, 1994). First, accommodation meant making high schools very large. Between 1950 and 1970, the average high school size more than doubled from about two hundred to nine hundred students (Rury, 2002). Second, accommodation meant lowering academic standards and diversifying the curriculum so that it was easier for students of different ability levels to graduate (Angus & Mirel, 1995, 1999; Powell et al. 1985).

In general, this formula -- large high schools with weak curriculum and few academic standards -- worked well. High school teachers could have very high workloads and manage these workloads because they simply asked most of their classes to do little work. High school teachers did not need to have personal relationships with most of their students because students were generally not relying on them for guidance to make the transition to work. Most students and parents could get what they wanted, the high school credential, with little effort. The importance of graduation, moreover, provided a mechanism by which teachers could set norms for students to behave. Yes, high school for most students could be described as boring but, as Michael Sedlak (1986) argues, the focus on graduation provided an unwritten contract between students and teachers that said "put up with high school, do your seat time, and behave properly, and you will be rewarded." And, they were. Throughout the 1960's to the mid 1970's the average earnings of high school graduates increased dramatically compared to college educated workers,

leading some economists to query whether the United States had produced the "overeducated American." (Levy, 1987; Rumberger 1981).

Beginning in the 1970's, improvements in graduation rates leveled off. With the publication of *A Nation at Risk* policymakers and educators also began to focus on achievement outcomes. And, with this new lense, the old recipe for success -- large high schools in which most students took non-rigorous courses and had little connection to teachers and engagement in learning, faculty had large teaching loads, and students were not pushed to learn but were given credit for seat time -- became the culprit. In the early 1980's, several major studies of the American high school directly attacked the notion that the American high school was a "success" (Boyer, 1983; Powell, et. al., 1985;Sizer, 1984). Powell, Farrar, and Cohen (1985) issued perhaps the most virulent critique of what they described as the resulting "treatise" between students and teachers that learning was irrelevant and largely voluntary,

*"taking or teaching a course does not by itself imply any commonly-agreed upon commitments or responsibilities. Often the only common understanding is that passing and hence graduation is contingent on orderly attendance rather than on mastery of anything... Learning is not discounted or unvalued, but is profoundly voluntary (p. 4)*

The 1980's reports are dated, but little has changed in American high schools over the ensuing twenty years with the exception that increasing numbers of students are taking more rigorous coursework (Condition of Education, 2003, 2004). But, what seems to have changed is that students and families began to share this assessment of the general high school and began, as aspirations reflect, to value achievement that would lead to college. So with that historical digression let me know turn to the questions: What does it take to get a student prepared for college? And, where are we now?

#### *Translating Aspirations into Qualifications and Access*

If students are looking to high schools to develop the skills they would need to be successful in college, a first step is to be more explicit about what those set of skills would be. I

would identify three areas of skills development that are critical in determining college access and performance: (1) content knowledge and basic skills; (2) pre-collegiate academic skills; and, (3) non-cognitive skills and norms of performance.

*Content knowledge and basic skills:* Moving from high school to college level work requires that students have high levels of basic skills (mathematics and reading) and content knowledge in core academic subjects. There is now a growing body of research linking students' measured achievement in these areas and level of exposure to higher level content – e.g. the rigor of student's high school curriculum -- to post-secondary performance. Perhaps the the most well know work in this area is Clifford Adelman's (1999) *Answers in the Tool Box* in which he drew on transcript data from the U.S. Department of Education's high school longitudinal studies to examine the link between high school preparation and college performance. Not surprisingly, Adelman found strong links between a student's high school GPA and achievement test scores and the likelihood of college graduation. The most important findings were in the area of coursework. The rigor of students' coursework, including the total number of Carnegie units in the core subjects taken by students and participation in Advanced Placement, was significantly associated with a students' likelihood of graduation. Other studies have similarly documented strong associations between the level of coursework students take, particularly participation in advanced mathematics, and performance on standardized tests, the likelihood of placement in remedial coursework in college, and college performance (ACT, Inc, 2004; Berkner et al., 2002; Chen, 2005; Rose & Betts, 2001; Warburton, Bugarin, & Nuñez, 2001).

Most research on the effects of coursework is cross-sectional and although researchers statistically adjust for differences in prior achievement and background characteristics, studies have not yet controlled adequately for selection into coursework. As a result, the benefits of advanced coursework may be overstated because studies are comparing the college performance

of those students who are selecting into advanced courses, and thus may be more oriented toward college and have greater motivation, with those who are not. Even with this caveat, coursework makes sense. Students who take higher level courses are exposed to more advanced material. They stay on task longer which may be particularly important in mathematics where the lack of fourth year mathematics means that students enter college having been off task in mathematics for up to 13 months. And, it is often in advanced coursework that teachers are more likely to emphasis pre-collegiate academic skills. This is also the area in which we have made the most progress in high schools, particularly among minority youth.<sup>18</sup>.

*Pre-collegiate academic skills.* Content skills are important. But equally as important is developing the thinking, problem solving writing and research skills across subject areas that will allow students to engage in college level work. The distinction between core academic skills and content skills are often blurry. If one looks at the American Diploma's Project Standards for Collegiate Work, for example, many of the English standards relate to core academic skills across content areas that are not related to any particular subject area -- writing, research skills, oral communication, problem solving, and analytical thinking skills (Achieve, Inc. 2004). The distinction between content and basic skills and pre-collegiate academic skills is important, however, because high school courses, Algebra II, can emphasize content skills without emphasizing these core academic skills. In our own recent observations in classrooms, for example it was the level of emphasis on pre-collegiate academic skills that distinguished regular, honors, and AP/IB classes within subjects and often within courses of the same title. These are, moreover, soft skills, such as the ability to do oral presentations or to argue effectively, that traditional college entrance examinations do not measure. Yet, they are highly valued by colleges and are those areas most often cited by college professors and students as the weakest areas of



preparation in high school (Achieve, Inc. 2004). They are also cross-content areas skills that are not the domain of an individual department or grade level.

*Non-cognitive academic skills and norms of performance.* I borrow the term for this third area of skills from James Heckman's and Alan Krueger's (2003) characterization of skills that determine educational achievement but are not measured readily by standardized tests. Non-cognitive academic skills include study skills, work habits, time management, help-seeking behavior and social/academic problem solving skills. Just as in the transition to high school, as students move to college, they face increasing developmental demands and academic expectations in terms of their ability to study and prepare for class without test deadlines, manage multiple assignments, work on projects of longer duration, and manage work, academic, and other responsibilities. Doing well in college and in high school requires that students have strong norms for their work effort and achievement in class and develop effective coping and help seeking techniques that allow them to persevere when facing difficulty. Students need to move from becoming "attendees" in class to "learners" who can manage their own learning, assess their progress and status, and have a set of core strategies they can rely on for success. This is the also the area that has been the least developed in high schools. To be explicit, if the outcome that was valued was graduation, the path to that outcome was to reward students' seat time. In this respect, developing strong study skills, having students care about grades, or developing students' self-motivation and problem solving abilities was not a high priority for most students and was not the responsibility of high school teachers. As described above, high school has been about a developing a kind of "work effort" -- the ability to show up on time and to participate despite engagement -- but not a "performance and self-motivation ethic." Historically this made sense. If most students were using their high school diploma to get job on production lines, such work ethic would pay off since the traditional factory of the previous

century did not highly value critical thinking and problem solving ability. Yet these are attributes that are increasingly critical in both the workplace and college.

*How do we measure up?*

If the goal of high school is to develop students' qualifications in these three areas, how do we assess students' performance? Measures of college readiness primarily rely on three indicators of performance: (1) test scores on standardized tests or college admissions tests such as the ACT and SAT, (2) grade point average (GPA), and (3) coursework. College admissions tests are used primarily as a standardized indicator of students' college readiness compared to their peers nationwide. The tests are meant to provide an independent assessment of students' cognitive achievement -- measured level of basic skills, content area knowledge, and analytic thinking ability. Whether such tests really measure this, particularly for minority students, is hotly debated (Cloud, 2001; Kohn, 1999; Fleming & Garcia, 1998). Grades are also a measure of whether students have mastered the material in their classes and are used as a indicator of a different kind of college readiness -- whether students have demonstrated the work effort and study skills needed to meet the demands of a college environment.

Over the past year, we have begun taking a close look at this question in Chicago. In 2004, the Chicago Public Schools began to track and publicly report on the post-secondary outcomes of its graduates using data from the National Student Clearinghouse (NSC). The Consortium on Chicago School Research, in partnership with the CPS, is using the NSC data along with surveys of students and analysis of high school transcripts to examine the link between students' high school experiences and their college outcomes. A significant advantage of our work in Chicago is that since 2000, Illinois has required all juniors to take the ACT as part of its state high school test, the Prairie State Achievement Exam.<sup>19</sup> Thus, in Chicago, we can look at the performance on the ACT for most of the graduates in Chicago, not just students who have

decided to go to college. In this section, I present results from a forthcoming report that looks in detailed at the college going patterns and levels of preparation of CPS graduates, including grades, test scores and participation in honors and Advanced Placement courses (Roderick, Nagaoka, Allensworth, Stoker & Coca, 2005). I do not report our results for coursework, which are quite consistent with prior studies, because we are currently looking much more closely at the effect of Advanced Placement and participation in the International Baccalaureate Program in shaping students' access to college using more rigorous approaches to modeling selection.

#### *The college going patterns of CPS students*

Table 1 shows the percentage of CPS students from the graduating classes of 2002 and 2003 that we identified as being enrolled in a college that participated in the NSC within the year after graduation from high school by race/ethnicity and gender and by the types of colleges in which students enroll. Of those students who graduated in 2002 and 2003, nearly 60% were identified as being enrolled in a college in the NSC in the year after graduation.<sup>20</sup> With the exception of Latino's, the college enrollment rates of CPS students are only slightly lower than students of similar race/ethnicities in IL and nationally.<sup>21</sup> This was not true for CPS Latino graduates whose college participation rates are significantly lower than Latino students in IL and in the United States, as estimated by the Current Population Survey. Consistent with national trends, males, regardless of race or ethnicity, were significantly less likely to attend college.

As seen in Table 1, most of the racial and gender differences we observe in college-going rates are being driven by differences across groups in their enrollment in four-year colleges. Within four-year colleges, moreover, CPS graduates tend to enroll in less (non and somewhat selective colleges) when colleges are classified using Barron's Profile of American College rankings<sup>22</sup> Only 20% of African-American females and 13% of African-American males attended a selective or more selective college. In Chicago, the most commonly attended

selective colleges are the University of Illinois at Chicago and DePaul University. Asian CPS graduates were the most likely to attend selective or very selective colleges.

*College qualifications of CPS graduates.*

These college going rates highlight one of the central disjunctures between CPS students' aspirations and their college going patterns. In 2005, over 80% of CPS seniors on surveys stated that they hoped to complete a bachelors degree or higher and fully 93% hoped to complete some college or technical education. Yet, only 60% of CPS graduates in the previous class made the immediate transition to college and most were enrolled in two-year and non-selective colleges. The gap was largest among Latino's whose aspirations do not predict such low levels of college participation.<sup>23</sup> To what extent are urban students making different choices about the path they will take to attain those aspirations? Or to what extent do these college going patterns reflect the fact that CPS students faced constrained choices upon graduation? Our analysis of the high school performance of CPS graduates suggests that few students are leaving high school with qualifications that put them on the path to their goals.

Figure 8 shows the distribution of ACT scores for CPS graduates from the classes of 2002 and 2003. In these years, the average ACT score of CPS graduates was 17 compared to an average of 21 students nationally. As noted, the average Chicago ACT score is not directly comparable to the national average because we are comparing the performance of almost all Chicago juniors to a more select college-oriented group nationally.

By any standard these results are dismal. Fewer than 20% of CPS graduates in 2002 and 2003 were able to obtain ACT scores that placed them above the average for the US. In their junior year, nearly three-quarters of African-American and two-thirds of Latinos in CPS scored below 17 on the ACT compared to less than 40% of Asian and White students. The differences are just as extreme at the top end. Over 40% of Asian and White graduates in CPS scored above

a 21 on the ACT -- above the national average -- compared to only 9% of African-American students and only 13% of Latino's. Importantly, there were little differences in the performance of students within racial/ethnic categories by gender.

Chicago students' ACT scores then suggest that few African-American and Latino students are gaining in high school the kinds of basic skills and content they will need for college. This is particularly disturbing when one considers the rise in entering achievement test scores that occurred over this period and the fact that with high dropout rates, students who ultimately make it to graduation are those who are the survivors in the system. If we track those CPS students who graduated back to 8th grade, we find that the average graduate in these years entered high school with reading test scores that placed them at or above national norms. Thus, these ACT scores do not represent the fact that students came to high school, on average, with very weak test scores but the fact that between 8th grade and junior year, high schools were not building on that foundation and moving students to the content and basic skills they would need to gain and demonstrate for admission to college. The GPA of students, moreover, suggest that this is not simply a problem of whether students are being exposed to content and skills. CPS graduates' grades indicate that many students are minimally engaged in their high school work and are struggling academically throughout high school.

Figure 9 shows the distribution of unweighted GPA's in students' core classes for the graduates of 2002 and 2003. Most studies of college attendance rely on weighted GPA's that reflect a combination of students' performance in their class and the rigor of courses students took. Since both GPA and coursework may shape college access and performance, it is important to separate those effects. Thus, Figure 9 shows the unweighted GPA's of students in their core classes (English, Mathematics, Science, Social Science, and Foreign Language) which was calculated by re-analyzing each student's school transcript.

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As seen in Figure 9, fully one third of CPS graduates in 2002 and 2003 had less than a 2.0 GPA in their core classes on graduation from high school and fully 58% graduated with less than a 2.5 grade point average. Only 7% of CPS students graduated with a greater than 3.5 grade point average. As with ACT scores, we observe dramatic differences in GPA's by race, ethnicity and particularly gender. Over 65% of African-American and 60% of Latino students graduated with less than a 2.5 unweighted GPA in their core classes compared to 41% of Whites and only 27% of Asian students. Asian students were the most likely to excel in their courses. Fully 50% of Asian students graduated with a 3.0 or higher unweighted GPA in their core classes compared to only 14% of African-Americans and only 25% of Latinos. Low ACT scores among African-American and Latino CPS graduates are not happening in isolation. Low GPA's provide evidence that these students have not excelled in high school in other ways. Thus, racial and ethnic differences in college preparation reflect both low performance on standardized tests and the extent to which students are working hard throughout high school, are being challenged to excel in their courses, and are demonstrating mastery of material and the work effort, study skills, and engagement that signal to colleges that they are ready for college level work.

Poor performance and low engagement in high school, moreover, is the norm among minority males. While we found that there was little difference in the average ACT scores of males and females in CPS and, among graduates, in their entering 8th grade test scores, there are dramatic differences between males and females in their performance within their classes. Among the graduating classes of 2002 and 2003, 45% of males versus 26% of females had unweighted GPA's below 2.0 in their core classes. Over half of African-American male graduates, graduated with less than a 2.0 unweighted GPA in their core subjects. Across all ethnic/racial groups, females were much more likely to graduate with high GPA's. Over one-quarter of female graduates (26%) versus only 15% of male graduates had a B or better average

(3.0 or above) in their core classes. African-American female graduates were more than twice as likely as their male classmates (18% versus 8%) to graduate with a 3.0 or better.

How important are these low ACT scores and GPA's in shaping students' access to college? Table 2 presents the results of a series of multivariate analyses that examine how a student's likelihood of attending college, attending a four versus a two-year college, and attending a selective or more selective college vary by his or her ACT scores and unweighted GPA's once we have taken into account both grades and ACT scores as well participation in honors and AP courses, demographic characteristics and prior elementary school test scores, and the average demographic and achievement characteristics of the high school the student attends. Thus, the predicted probabilities in Table 2 represent the estimated probability of each of the three college outcomes for a student who attended an average CPS high school, had typical demographic characteristics and entering test scores, and was "average" on the other high school indicators, including grades and test scores.

These results suggest that poor performance in high school is not a significant barrier to enrolling in college but poor high school performance constrains students' options considerably. Students with ACT scores less than 17 were less but not dramatically less likely to enroll in college than their classmates with better than average ACT performance. But, these students were much less likely to enroll in a four year college and few attended selective or more selective four-year colleges such as the University of Illinois at Chicago. Students' grades emerge, moreover, as an important predictor of college participation. Among two students with similar ACT scores, a student with a high GPA was significantly more likely to enroll in college, to enroll in a four-year college, and to enroll in a selective or more selective college.

It is not surprising given CPS graduates' low GPA's and ACT scores that they are concentrated in two-year and non-selective four-year colleges. Within CPS, students with ACT



scores above 18 and with GPA's above 2.5 were much more likely to attend a four-year college and those with ACT scores above 24 and GPA's above 3.5 had significantly higher probabilities of attending a selective or very selective college. But few CPS graduates fall into these categories. What prospects then did CPS students face when they graduated?

Table 3 examines the types of colleges CPS graduates from the classes of 2002 and 2003 would likely have had access to given their high school performance. We identified cutoffs for each "qualification category" (e.g. access to a selective college) using our multivariate analyses, that allows us to identify the most likely college outcome for students with different GPA's and ACT scores, and by identifying descriptively the modal college attendance patterns of student with different GPA and ACT combinations. Thus, our rubric indicates the minimum GPA and ACT scores that CPS graduates would need to have a good chance of being accepted and enrolling in colleges given the experience of their classmates.<sup>24</sup> Because all high school graduates have the option of attending a two-year college, we categorized graduates with ACT scores and GPA's that fall even below the level necessary for likely admittance to a non-selective four-year college as being limited to attending two-year colleges. The GPA's and ACT cutoffs we used are generally lower than the definitions used in college ratings such as Barron's and other existing rubrics to measure qualifications.<sup>25</sup> This is largely because we are basing the rubric on the actual college-going patterns of CPS graduates and the GPA and ACT scores of those graduates who enrolled in these schools.

Table 3 illustrates that low levels of qualifications are a significant constraint for CPS students in gaining access to somewhat or selective four-year colleges. Over half of graduates had such low ACT scores and grades that they would only have access to a two-year or non-selective four-year college. Only 20% of CPS graduates graduated with ACT and GPA's that would allow them access to selective colleges and, if we include in that characterization whether

the student had taken an Advanced Placement course, the percent falls to 10%. White CPS graduates were more than three times as likely as African-American students and twice as likely as Latino students to graduate with the ACT scores and GPAs that would qualify them to attend colleges such as UIC and DePaul (selective colleges). Once again, gender differences occurred within every race/ethnic group, largely driven by the significantly lower GPA's of males. Nearly three-quarters of African-American males graduated from CPS with such low GPAs and ACT scores that they would only likely be admitted to a two-year or non-selective four-year college.

*College graduates rates of CPS graduates.*

Getting to college is important. But, as I argued at the beginning of this chapter, closing the aspirations-achievement gap requires that students attend college and are able to be successful once there. This look at the qualifications of CPS's graduates raises serious questions about what will happen to these students once enrolled. The 2002 and 2003 graduating classes have not yet had time to graduate from college. We can examine the college graduation rate of CPS students from prior cohorts (1988 and 1999) among students who made the immediate transition to a four-year college and thus who have had at least 6 years to graduate (Roderick et. al. 2005). Among these prior cohorts, our sample is limited to students who enrolled in four-year colleges that both participated in the NSC at that point and reported graduation data.<sup>26</sup>

Among students who graduated from CPS in 1998 and 1999 and entered a four-year college within the year after graduation, only 35% graduated in six years (Figure 10). This estimate is significantly lower than comparable national estimates of graduation rates from four-year colleges. For example, 64% of students who began four-year colleges in the Beginning Post-secondary Education study graduated within 6 years; 46% among African-Americans and 47% among Latinos. In comparison, as seen in Figure 10, only 31% of CPS African-American females and 22% of CPS African-American males who enrolled in four-year colleges graduated

in six years. Asian and White CPS graduates were more likely to complete college, yet their graduation rates also fell below national averages. Thus, while we found that CPS students, with the exception of Latinos, were only slightly less likely than their similar racial/ethnic counterparts nationally to enroll in college, their performance in college was substantially worse.

As with college access, our analysis suggests that the low GPA's and test scores of Chicago students are an important contributor to these differences and are severely handicapping them in college. Figure 11 presents that results of an analysis designed to disentangle how grades and test scores shape the likelihood of college completion among CPS graduates. Unfortunately because these earlier cohorts attended high school before the introduction of the new state tests, we do not have ACT scores. We do have a measure of achievement based on the Test of Achievement Proficiency which was given in 11th grade in the CPS prior to the new state PSAE.<sup>27</sup> The first bar for each indicator shows the predicted effect of each measure of preparation when only looking at the effect of that indicator not accounting for student characteristics, high school course taking and other measure of high school performance. Thus, students who entered a four-year college with a 3.0 unweighted GPA versus a 2.45 GPA were 20 percentage points more likely to graduate within 6 years. These students, of course, also had higher test scores and were more likely to participate in advanced coursework. The second bar shows the independent effect of each measure of preparation when accounting for students' TAP scores (achievement test scores), grades, course work and demographic characteristics. Thus, among two CPS students who entered a four-year college with similar TAP scores, the student who had a 3.0 versus a 2.45 unweighted GPA was 15% more likely to graduate. Consistent with prior research, we find that grades were a more important predictor of college graduation than test scores (Braddock & Dawsons, 1981; Noble & Sawyer, 2002).

In summation, grades and test scores are important because they get students into four-year and more selective four-year colleges. But, even within colleges, grades emerge as an important predictor of how students do. As a final and important look at the impact of preparation and of college choice, Figure 11 examines differences in estimated college graduation rates within colleges frequently attended by CPS graduates for students with different grade point averages. This within-college analysis demonstrates the importance of grades as well as college choice. There are three important points to take away from this graph which nicely summarizes the main points of this section. First, no matter what college CPS students attended, students who entered college with very low grades were unlikely to graduate. Second, within colleges, a student's chances of graduation differed dramatically by their high school grades. A student who entered the University of IL at Chicago with a 4.0 GPA was three times more likely to graduate within 6 years than a student in that same year who entered UIC with a 2.5 GPA. And, finally, and as a transition to my next section, this graph vividly illustrates that preparation without attention to college selection is not enough. Among students with high grades, their likelihood of graduating differed widely across these institutions and while we need to know more about what it is about these institutions or the kinds of students that attend them that can explain this wide variation in outcomes, what is clear and is emerging throughout our work is that college choice matters in whether preparation will translate into completion.

**Moving students from survival in high school to achievement and access: The challenge for instruction and the need for attention to guidance.**

The purpose of presenting all of this data was to both provoke and bring into focus the range of issues that high school educators and reformers must grapple with as we begin to develop and evaluate high school reform efforts. The policy debate too often centers around how to raise achievement test scores or reduce dropout rates and these goals are often presented as conflicting outcomes. But the problem is more complex. High schools must find a way to attack

prevailing norms on both the part of students and teachers and find means of developing instruction and school environments that deeply engage students in learning. Students who fail courses are not likely to graduate from high school. Working on dropout rates means moving students from F's to D's. But a D average is not an average that gets you to college and particularly gets you to graduate from college. And this institutional focus on graduation has created a central impediment for students in meeting new sets of aspirations. Going to school in a system with high dropout rates means that too often the pressure is on students to graduate and survive. A culture of passing. I witnessed the impact of this culture in my prior qualitative work on the transition to high school. In 8th grade, we asked students their goals for high school. Many students had lofty goals --to be the valedictorian, to be on the sports teams, to participate in extra curricular activities. But these were quickly erased by the reality of the confusion and need to graduate in an urban high school. At the end of freshman year, I asked students "Did you accomplish your goals this year." For those who didn't, the answer was nearly always the same. "No, I didn't go to class, I didn't pass." For those who did, regardless of their previous lofty goals, the answer was nearly always "Yes, I passed my classes." When we asked about goals for sophomore year, the most common answer, with the exception of the few who excelled was "To go to class and pass my classes."

For the survivors, this is a good strategy for graduation, but it is not a strategy that gets a student to college. The difference between an F and D as students explain is largely going to class and minimally doing the work. But the difference between a C and B and particularly between a B and A is doing homework and engaging in the class material enough to master it. It is also the difference between developing and not developing the kind of non-cognitive skills that I have argued are critical for students' success in college. It is not surprising, then, that GPA has emerged in our work and others' work as the most important determinant of student's access to

college and likelihood of graduating. GPA is not just important in predicting college access and performance, it also explains one of the most important differences we observe in student outcomes in Chicago – gender differences in college outcomes. The question then for high schools is not only how to improve instruction but how do we build instructional environments that address the achievement ethos, development of non-cognitive skills of students, and which move students from a focus on graduation to preparation for college?

Working on instruction is important. Low grades are as much an indicator of the quality of instruction and learning environments of high schools as they are an indicator of a student's individual motivation and skills. When you rank schools in Chicago by their ACT scores it roughly corresponds to the rank of average GPA's (Roderick et. al., 2005). Thus, contrary to popular wisdom, at least in Chicago, is it not easy to get straight A's in a low-performing high school and students in better performing high school are much more likely to have higher GPA's. Having instructional environments in which students can get A's means having classes that are organized, that hold high and clear expectations, and that have high quality teachers and curriculum that engage students in ways that they are motivated to learn material and can excel. Classes in which students seldom get homework or don't know what the homework is asking or when it will be collected, in which topics seem random and disconnected, and in which students are never asked to grapple with questions and push themselves to do better are not classes that students can easily get A's in.

A focus on instruction, however, is not enough. It must be accompanied by an equivalent emphasis on guidance and the development of normative environments, structures of supports, and attention to the development of relationships that will engage students and their families in the problem. Guidance and attention to creating strong relationships and supports for students must be closely linked to instructional improvement and must have a singular focus – coming

together to create environments that develop the social capital (information, norms and expectations, and concrete supports) that in this case is an essential precursor to developing the human capital (content knowledge, qualifications, core academic skills and non-cognitive skills) that students will need to be successful. There are three core areas of social norms, support, and guidance that become both precursors and essential supports for raising achievement in high schools: (1) helping students translate aspirations into concrete plans, (2) defining clearly what preparation means and translating that into day to day expectations and experiences, and (3) demonstrating for students that achievement pays off.

First, high schools cannot ask students to work hard, engage in more rigorous coursework, and focus on developing specific sets of skills if student and their families do not understand why this matters and if they do not aspire to post-secondary experiences that demand high performance (Bishop, 1990; Rosenbaum, 2001). Raising achievement norms for students begins with working with students to make concrete their aspirations. College to many urban first generation students is an aspiration and a path to a job. It is not a set of educational institutions that differ in their quality and their offerings. It is a not an educational experience that you need to “ready” for. Unless siblings or relatives have attended college and begin to communicate how much college choice matters, to most urban students college is college. As James Rosenbaum has argued, open admission policies have sent the message that all you need to do to go to college is to graduate from high school. This is true. Any high school graduate can go to college. But, as we’ve seen in this paper, it might not be college if what we mean by college is a path to a four-year degree or the ability to take courses for college credit. We also know that connecting performance in high school to college matters for students’ work effort. Rosenbaum (2001) found that 40% of urban students with college plans believed that how they performed in high school was irrelevant to their future; a belief that was associated with less

effort in high school and poorer college performance. Thus, engaging students in higher standards must begin by working to move students from college as an outcome to college as an institution in which they will need to plan for and be prepared for.

Second, high schools must then provide the information structures and academic experiences that will communicate to students and their families what “preparation” actually entails. Few minority families and students understand what is needed for entrance into college (Venezia, Kirst & Antonio, 2003). Students must consistently hear messages about what they will need to attain their goal, experience those expectations in their classrooms, and experience success in developing those skills. This problem of connecting skills and effort in high school to college is a general problem but it is most acute in urban environments. In a recent Achieve survey of college graduates, 65% of college students agreed or strongly agreed that given their experience in college they would have “worked harder and applied themselves more in high school” and “taken more rigorous courses” if they had known what college demanded (Achieve, Inc. 2005). Students at two-year colleges were more likely (75 versus 60%) than those at four-year colleges to agree that they would have changed what they had done in high school if they understood what college demanded, most likely reflecting the recognition that their high school performance limited their college access.

And third, as so vividly illustrated in data on the wide variation in college outcomes of students in Chicago even with similar grades, educators must realize that preparation will not necessary translate into access if high schools do not provide high level of structure and support for students in college search and preparation process (Cabrera & LaNaza, 2000; Gonzales, Stoner, & Javel, 2001; McDonough, 1997). Providing high levels of support in the college application and planning process may be critical in shaping motivation. Students and their families need to believe that high aspirations are attainable. In part “belief” occurs by developing



relationships between teachers and students so that students believe that they have the capability and supports they will need to achieve their goal (Ferguson, Howard, 2003; Wimberly, 2002). In part, belief occurs by high schools providing very concrete structures and supports for college so that students believe that they can rely on their high school for the information and guidance that they will need to manage the college application process. And, in part, belief occurs by the institution demonstrating performance. Each student who gets a "Gates Scholarship," each student who gets into a great college, each student who returns from college to talk to their younger classmates sends a message to current students that they should trust this institution and their teachers to do right by them. To preview findings we are currently exploring in our qualitative analysis, students in high schools who do not see these structures and outcomes as apparent approach their goals and plans with anxiety, indecision, and confusion. In contrast, students in high schools who see the structure and believe that "they (the staff) will tell me what to do when I need to do it," approach their goals with more connection to their high school achievement and less anxiety.

The need for guidance and information creates new roles for teachers and school staff that is as large a challenge for high school reform as the question of how to raise achievement. It is about having strong post-secondary guidance programs, but it is also about having teachers consistently make the link for students between what they are doing and their future and working hard to concretize their aspirations so that students understand the importance of achievement. It is about creating strong instructional programs that are explicitly working with students to develop shorter term goals (grades, participation in and mastery of advanced class work, high test scores), core academic skills, and their non-cognitive skills and consistently making the link between those skills and what they will need for performance in work and college. And it is about asking teachers and school staff to take on greater authority in their students' lives,

working with students and families to understand what colleges they can and should aspire to, and providing the concrete support they will need to accomplish that. In summation, it is about wrapping around students and instruction the normative environments and information structures they will need to aspire to work hard and understand the payoffs to that performance.

**The challenge for research and reform: Bringing a focus to "personalism" and "instructional improvement"**

At the beginning of this paper, I noted that discussions over high school reform have coalesced around the topics of "personalism" and "instructional improvement." In the end, one reading of this paper is that despite talking about a totally different set of issues -- problems of dropouts and college preparation -- I arrived at the same place. Addressing dropouts requires a singular focus on improving outcomes in freshman year and requires raising achievement, creating strong instructional programs that are developmentally appropriate, and wrapping around students strong supports and structures to ensure success. Improving college outcomes requires ratcheting up the instructional program and focusing instruction on pre-collegiate core academic and non-cognitive skills, while wrapping around students the guidance, norms, relationships, and concrete supports they will need to both aspire to and achieve at high levels. There is certainly nothing original about arguing that a focus on instruction (or academic press) needs to be combined with a focus on social support (Bryk et. al., 1998; Lee et. al., 1999; Phillips, 1997; Shouse, 1996). So, in the end, does this discussion get us to any place different than we were at the beginning of the paper?

First, I hope that this discussion of what it will take to get students to graduate and be prepared for college forces us to broaden the set of outcomes that we use to evaluate programs and seek to influence. The kinds of instructional improvement efforts that we might design if the goal is to raise test scores might be different if that goal also included improving the ability of teachers to develop students' skills in attaining high levels of performance. Effective programs to

improve outcomes in 9<sup>th</sup> grade, moreover, may effectively work on one problem – school dropout—but may leave unaddressed the question of how to take students to the next level in their development.

Second, I hope that this paper provides a framework with which to evaluate and develop new reform efforts. I have tried to make an explicit argument. Efforts at instructional improvement and increasing social and academic support for students (personalism) must be linked and explicitly focused on a common goal that brings teachers and students together, supports teachers' work in the classroom, and engages students' in their future. And, by this rubric most reform models, at least on paper, fall short. Many high school reform models, *First Things First* to take just one example, package together efforts at personalism (small learning communities) with efforts at instructional improvement (standard based instruction) with very little explicit attention to how each element supports the other and how the particulars of both are linked to one of the two critical outcomes we care about (graduation and preparation for post-secondary) (Quint, Bloom, Black & Stephens, 2005). Indeed, what strikes me in looking across reform models is how seldom models are directly linked to the core outcomes that matter for students and focused on building the capacity of educators to pursue those outcomes. Seldom are "personalism" efforts, moreover, which are most often structural changes such as small schools, explicitly incorporated into the instructional improvement strategy so that teachers are focused on developing their own capacity to incorporate issues of motivation, guidance, and development in their classrooms. The Ninth Grade Success Academy is one model where we have seen structural changes, student support, professional development, and curricular improvement linked together around common goals. The task for researchers, then are two fold. First, we need to learn much more about how to link these strategies and how to develop effective strategies in the area of post-secondary preparation and access. And, second, we need to design and conduct

rigorous evaluation of alternative models. If a small school called me today and asked me for a comprehensive strategy for improving college access for their students that links curricular improvement, instructional improvement, and strong guidance and support and that provides professional development and structures for teachers to work on the problem, I would be stymied. More rigorous coursework is a solution but clearly only part of the solution and we need to know more about why more rigorous coursework works and for whom, particularly in the area of Advanced Placement. I don't have a strategy or solution for how to address poor GPA's and low levels of non-cognitive skills, particularly study skills, and how that strategy may need to differ by gender. I can rely instead on the one case best practice model and send that school to a variety of programs and schools that seems to work well on parts of the problem. But I don't know if that solution being generated in particular small schools, charters, by innovative leaders, or by individual programs (AVID) is replicable, what it will take to replicate, and how different solutions may be packaged together in ways that work. Thus, I hope that this paper will provide a common framework to evaluate where different reform models fit in and will serve as a call to action to develop new models.

#### **The challenge for policy: Creating incentives and supports for change**

This above discussion assumes, however, that a principal calls me and asks how they can get freshman failure rates down or improve their students' GPA's, ACT scores and college outcomes. And, while I do sometime engage in these discussions with principals, with the exception of new schools and charters who are explicitly trying to create new models, most often the conversation is a personal one about an educator's concerns about her students rather than a discussion about a core reform effort in her school. Instead, the focus of most formal discussion in schools today centers around one question and one question only: How can we get our test scores up? What I hope is clear in the argument and evidence presented in this paper is that

policy needs to work to change the nature of that discussion. In policy terms this translates into the question of what policy mechanisms are available to motivate front line educators to change their behavior, invest in reform, and focus on the critical outcomes that matter for students?

One approach that districts are currently using is moving to small schools in the hope that smaller learning communities and new schools will create opportunities for educators to engage in problems together, invest in innovation, and provide the capacity and flexibility educators need to change. We need to understand more about whether this reform approach is accomplishing that objective. But in most high schools, the central policy mechanism that is providing incentives, signals to educators about what matters, and that is driving practice is test based accountability. Most states have strong test based accountability at some high school grades linked to No Child Left Behind and many states have adopted high school exit examinations. The Bush administration has pledged to go farther.

If one thinks about the problems outlined in this paper, I come to the strong conclusion that test based accountability will in fact not lead high schools in the right direction and will most likely to our eyes off the ball. This is a controversial stand given the evidence that I presented. During an era of test based accountability, Chicago elementary schools improved rapidly and it would be easy to conclude that what worked in elementary schools should work in high school. I would argue, however, that a singular focus on test scores is inappropriate when we think about pursuing the sets of outcomes laid out in this article. Test based accountability is a blunt instrument. After nearly two decades of research on accountability, the literature is unequivocal on one point-- educators are highly responsive to the incentives and signals created by testing, will align their curriculum with the test, and will spend significantly more time on test preparation (Firestone et al., 1998; Fuhrman, Clune and Elmore, 1991; Jones, Jones & Hargrove, 2003; Koretz, Barron, Mitchell and Stecher, 1996; Merhens, 1998; Roseholtz, 1987; Rowan,

1996). Alignment at the high school level will most likely mean a focus on core content and basic skills that are covered on standards based test. Content alignment and test preparation will generally produce positive effects and test scores might improve, which at the high school level will lead to illusory progress. In Illinois, where the state test incorporates a college admissions tests, this might have some derivative benefit in that higher test scores on the ACT will give students access to better colleges. Studies of high stakes testing and school level accountability at the high school level find, however, that higher test scores on state standards based exams do not translate into higher test scores on other measures of performance such as the ACT and SAT (Amrein & Berliner, 2002). Most importantly, test based accountability will most likely devalue a focus on grades, pre-collegiate academic skills such as writing and oral discussion, and non-cognitive skills for a focus on basic skills and content knowledge that are measured on tests. It will most certainly take resources away and devalue a focus on college guidance and preparation and on freshman failure. Thus, test based accountability at the high school level may not move us forward on one piece of the puzzle, leaving the other pieces to be put in place. The stress of test based accountability and the demands it will place on high schools will essentially move resources, commitment, and energy away from the two central problems that I outlined in this article to a focus on solving the immediate problem of meeting test score improvements.

The alternatives, however, are not readily transparent. One approach, and that which has recently been taken in Chicago, has been to move to broader and more comprehensive measures at the high school level. Chicago's accountability system for high school includes measures of the on-track rate and dropout rate as well as test scores and may include in the future post-secondary outcomes. We don't know yet whether high schools will respond to those measures and particularly whether the stress of sanctions from the state linked to Adequate Yearly Progress will trump the local accountability system. But if the task for the research community is

to invest in understanding what approaches may work to improve to the set of outcomes I have outlined in this paper, the task for the policy community is to develop approaches that will create a market for those solutions and new resources to support and not undermine them.

## Endnotes

<sup>1</sup> Schneider & Stevenson, 1999.

<sup>2</sup> Unpublished tabulations. The Consortium on Chicago School Research regularly conducts biannual surveys of high school students and teachers. In 2005, a new 12<sup>th</sup> grade survey was added. The results are based on the responses of 8,033 seniors.

<sup>3</sup> In this longitudinal study, we are following junior from 11<sup>th</sup> grade through their second year after high school graduation. The three high schools serve diverse populations of students on the South, West, and North Side of Chicago. All three schools have recently added new International Baccalaureate programs and AP courses. In each high school, half of these juniors were recruited from "regular" English classes, one quarter from honors and AP junior courses, and one quarter from the new IB programs. As a result, the college aspirations of students in our qualitative sample are higher than those of all CPS students.

<sup>4</sup> Estimates from the October Current Population Survey show that from 1980 to 2002 the percentage of recent high school graduates who were enrolled in college increased from 51 to 63% percent and among low income students from 32.2 to 51%. White high school graduates showed larger increases in college enrollment than African-American and, particularly, Latino graduates. In 2002, 66.4% of Whites, 57% of African-Americans and 54% of Latino recent high school graduates were enrolled in college (U.S. Department of Education, Condition of Education, 2005 Supplemental Table 20-1).

<sup>5</sup> These researchers examined the college qualifications of 1992 graduates who were part of the National Educational Longitudinal Study of 1988 (NELS88). They characterized students "qualifications" for four-year colleges using information on their GPA and class rank, scores on the ACT, SAT and NELS aptitude test, and academic coursework. Their analysis differs somewhat from our characterization of college access (see Table 3) because they did not use analysis of actual college going patterns, but used the highest qualification students had and their relative rank. This report also found that low-income students were over 30 percentage points less likely than higher income students to graduate from high school even minimally qualified for college. At the high end, white graduates were more than twice as likely as African-American seniors (35 versus 16%) to graduate "very or highly qualified," higher income students were over two and half times more likely to graduate "very or highly qualified" (U.S. Department of Education, National Center for Education Statistics, 1997)

<sup>6</sup> An analysis of graduates from class of 1992 as part of NELS88 found that fully 24% of African-American 12th graders and 20% of Latino 12th graders needed to take remedial reading in college compared to only 7 % of Whites. Less than 40% of Latino and African-American 12th graders in this cohort were able to enroll in college without taking remedial coursework compared to fully 64% of whites and 62% of Asian students. 1992 graduates who took remedial coursework, moreover, were less than half as likely to complete a four-year degree by 2000 (fully eight years after college enrollment). Of 12th graders who entered college in 1992 and needed to take remedial reading, only 30% graduated from college by 2000 compared to nearly 70% of students who were able to enter college without taking remedial coursework. This partly reflects that fact that students who enter two-year college are much more likely to be placed in remedial coursework and, even among students with aspirations for a bachelor's degree, students who enter two-year colleges are very unlikely to complete a four-year degree. (U.S. Department of Education, 2004.)

<sup>7</sup> The NSC is a non-profit corporation that began in 1993 to assist higher education institutions in verifying enrollment and degree completion. In 2004, NSC expanded its services to high school districts through its new program, "Successful Outcomes," is allowing school systems to follow their graduates. More than 2800 colleges currently participate in the NSC, covering 91% of college students in the United States. The undercount for Chicago graduates is most likely lower because most colleges in IL participate



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in the NSC and most CPS students enroll in local colleges. See footnote 19 for an explanation of how we calculated the potential undercount.

<sup>8</sup> One may argue that we are underestimating the proportion of CPS students who may complete four-year degrees because we are only looking at 6 year completion rates among students who entered four-year colleges in the year after graduation. We cannot, in these earlier cohorts, look at the progress of students who entered two-year colleges because the City Colleges of Chicago, which makes up the majority of two-year enrollment for Chicago students, did not enter the NSC until 2000. Yet, our 6 year bachelors' degree completion rates might not be very different if we had included students who immediately enrolled in two-year colleges because national data suggests that few students who enter two-year colleges complete bachelors degrees within six years. National data suggests that very few (less than 6%) of students who initially enroll in two-year institutions manage to complete a college degree within 6 years.

<sup>9</sup> In a recent analysis of the Beginning Postsecondary Students Longitudinal Studies, Horn and Berger (2004) compared 5 year degree completion and post-secondary persistence rates for the entering class of 1989-1990 and 1995-1996. Horn & Berger found that there was little change in the five year completion rates over this period, particularly in four-year colleges although they found a significant rise in 5 year persistence rates -- the percentage of students who were still enrolled after five years. This positive trend may indeed result in an increase in bachelor degree completion in the most recent cohorts.

<sup>10</sup> For a fuller discussion of how educators' conception of the drop out problem buffers high school educators from paying attention to drop out rates see Roderick, Allensworth, & Nagaoka, (2004).

<sup>11</sup> Prior to 1996, most CPS students faced few requirements for graduation. Students only needed to take 4 years of English, 2 years of mathematics, 1 year of science and three years of social studies with no specific course titles or laboratory requirements. The new graduation requirements, aligned with the college entrance requirements of state universities -- 4 years of English, 3 years of mathematics (i.e., algebra, geometry and advanced algebra/trigonometry), 3 years of social studies, 3 years of laboratory science (i.e., biology, earth and space /environmental and chemistry/physics) and 2 years of foreign language. In the late 1990's, the CPS did embark on a high school redesign initiative which called for increasing "personalism" and "academic press" at the high school level (Hess, 2004). High schools were to move to junior academies, implement an advisory model, and provide for structure support for credit recovery. There was substantial opposition from teachers to this initiative and the initiative never carried substantial resources. There was little evidence that these initiatives were implemented in any systematic way and no evidence that school restructuring had a substantial effect on students' experiences in school. Academic probation did have a significant effect on high schools. In 1996, 38 of the 66 high schools were placed on probation. While these consequences brought additional resources into struggling high schools, they also brought substantial stress and uncertainty, both of which could have affected the learning climate in schools and, therefore, students' likelihood of persisting in school. In their study of schools on probation, Hess and Cytrynbaum (2002) found no significant improvements in instruction or improvements in personalism in schools on probation. To the contrary, they concluded that the focus on reading that came about from probation status resulted in less attention paid to other curricular topics while not improving substantially the reading ability of high-school students. (Hess 2004.)

<sup>12</sup> There are several methods of calculating cohort dropout rates. A popular method in assessing high schools is to look at the proportion of entering freshman who graduate four or five years later. However, during the late 1980's, the Chicago Public Schools were retaining high numbers of eighth graders. Dropout rates could change in high school, then, because some students were dropping out earlier in elementary schools. For this reason, I present trends in dropout rates by age rather than by grade so that

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trends were not influenced by the removal of some students from the entering ninth grade cohort. For a more detailed discussion of various methods of calculating dropout rates see Allensworth (2005)

<sup>13</sup> The economy in Chicago was improving throughout the 1990's and an influx of immigrants changed the racial and ethnic composition of Chicago students. The 1996 reforms also brought larger initiatives in school infrastructure, governance, and expansions of magnet programs and schools as well as the opening of new charter schools which offered more options at the high school level. And, beginning with the 1996-1997 cohort, high school students were asked to complete a much more rigorous program of study, many critics of which predicted would force students to drop out of school. Finally, while 8<sup>th</sup> grade test scores improved during this period, the ending social promotion policy led to a dramatic increase in the proportion of 8th graders retained, from less than 1% to approximately 10% a year. Allensworth (2004) estimated that students who were retained under Chicago's policy faced an increased risk of dropping out that rise in dropout rates among the lowest achieving students was more than offset the reduction in drop out rates attributed to increased achievement, leading to a net reduction in dropout rates.

<sup>14</sup> Allensworth (2004) found that there was a significant shift upward in the likelihood of dropping out for students whose test scores placed them at risk of grade retention. One of the most consistent findings in the literature on school dropout is that students enter high school over age for grade are more likely to drop out. This was also true in Chicago. Students who were retained did face an increased risk of dropping out.

<sup>15</sup> The on-track indicator uses both failures in core subjects and core credit accumulation because in order to graduate students both need to accumulate the minimum number of credits (24) and need to pass specific courses in the major subject areas. This is a minimum indicator of freshman year performance because even if a student only accumulates 5 full credits in all their courses and if they fail one semester core course, they will still need to both make that credit up and make up even more credits to graduate.

<sup>16</sup> Allensworth & Easton (2005) estimate that, even after controlling for the demographic characteristics and entering test scores of freshmen, the predicted probability of graduation was 55 percentage points higher (81% versus 26%) for a student who was on track versus off track at the end of freshman year.

<sup>17</sup> For example, in Chicago, we found that approximately 9% of drop outs have have accumulated over 17 credits and are later grade dropouts (17-19 year old dropouts). These are students who are close to graduation and have demonstrated a capacity for high school level work. These may be students who because of premature transitions to adulthood such as work or child care responsibilities, are having problems attending school full time, or may be students who because of earlier failures are having problems making up credits for previous grades that they need for graduation. This small but important group of students may need alternatives such as flexible schedule high schools, the ability to attend part time, and the ability to take courses across grade levels to complete high school.

<sup>18</sup> Data from the U.S. Department of Education shows that throughout the past twenty years, there has been quite significant improvements in the percentage of students taking more advanced coursework. The percentage of graduates. For examples the percentage of high school graduates who have completed a course about the level of Algebra II has increased from 26% in 1982 to 45% in 2000. African-American and Latino students are significantly less likely to be in higher level courses, there has been substantial improvements in the percentage of minority students taking middle level science and mathematics courses. African-American and Latino students also lag significantly in enrollment in Advanced Placement and honors courses, although again the trend is showing improvement. (U.S. Department of Education, 2003, 2004.)

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<sup>19</sup> At the same time, because students' take the ACT in the spring of their junior year as part of the regular administration of the ACT, some students may decide to retake the test again. Research has found that, in general, students scores on the ACT improve the second time they take the test. Unfortunately, we do not know how many students in Chicago retake the ACT or the extent to which their scores might improve.

<sup>20</sup> The National Student Clearinghouse (NSC) collects college enrollment data on 91% of students enrolled in college in the United States. This does not mean that our analysis fails to capture 9% of CPS students who are enrolled in college. This is because most colleges in Illinois participate in the NSC and, at present, most CPS students attend colleges in Illinois. In order to get an estimate of how many CPS graduates who enroll in college we may miss by using NSC data, we compared the list of colleges that participate in the NSC to colleges that CPS seniors reported that they would be attending when they completed the CPS's new senior exit questionnaire in May of 2004. In this questionnaire, students were asked to report whether they had been accepted to a college, and which college they planned to attend. From this information, we were able to estimate the number of students planning to attend a college not included in the NSC data. At the high end, the NSC data will miss approximately 5% of CPS graduates who may be enrolled in college. Thus, it is possible that 64%, not 59%, of the 2002 and 2003 CPS graduates were enrolled in college within one year of graduation. The colleges that CPS students planned on attending that do not participate in the NSC are primarily local proprietary and technical institutions.

<sup>21</sup> If we compare these participation rates to similar estimates using NSC data from IL and national estimates from the Current Population Survey, we find that African-American, White and Asian CPS graduates were slightly less likely to make the immediate transition to college than students of similar race/ethnicity nationally and in Illinois. We do not have estimates from other large urban school districts that would allow us to compare the college outcomes of CPS graduates to a comparable group of students in a different city. Also, there is no national tracking system that provides comparable information for a nationwide cohort. We do have two important sources, however, to help place these results in context. First, we can obtain an estimate of national comparisons from a yearly survey conducted by the Census Bureau as part of the Current Population Survey. Second, we have an Illinois comparison based on data from the Illinois Education Research Council (IERC), which has been following the college participation rates of the Illinois graduating class of 2002 using data from the NSC. The national and IL estimates are based on Fall enrollment. If we look at the percentage of CPS graduates who enrolled in a college in the NSC by the fall after graduation, African-American students in CPS were as likely as African-American students in IL to enroll in college (52%) and less likely than estimates of participation for African-Americans nationwide (58%). The comparable numbers for White students based on fall enrollment is 63% for CPS, 67% for IL and 68% for the nation. Among Asians, the comparable numbers are 75% or CPS, 77% for IL and 74% using national CPS estimates. Latino's in CPS were significantly less likely (41%) to be enrolled in college the fall after high school graduation than Latino's in IL (46%) and Latino's nationally (56%) (Roderick, et. al. 2005 Figure 1-3).

<sup>22</sup> One of the most popular ways to rate colleges is by national college ranking systems such as U.S. News and World Report and the Barron's Profile of American Colleges. These college ranking systems rate use data on the academic qualifications of the students that attend and the percentage of students who get accepted. The Barron's selectivity system, which we use in this report, uses information on the average ACT or SAT, GPA, and class rank of incoming students, as well as the percentage of students who are accepted. In our analysis, we combined Barron's three top categories (very, highly, and most competitive) into a combined top category (very selective). For students in Illinois, very selective colleges would include schools such as the University of Illinois at Urbana-Champaign, the University of Chicago, and Northwestern University. Selective colleges include the University of Illinois at Chicago, DePaul University, and Loyola University. Less selective colleges include several large public universities such as Chicago State University, Northern Illinois University, and Southern Illinois University-Carbondale.

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Finally, non-selective colleges in Illinois include Northeastern Illinois University, DeVry University, Columbia College, and Roosevelt College.

<sup>23</sup> Latino seniors reports of their own and their parent aspirations do not suggest that Latino seniors in CPS are not going to college because they and their families are devaluing achievement. In our recent 2005 Consortium survey, only 9% of Latino seniors versus 7% of African-American seniors stated that they planned to only graduate from high school. Latino seniors were less likely, however, to report that they hoped to complete a four-year degree. Only 70% of Latino seniors in our 2005 surveys stated that they hoped to complete a bachelors degree or higher compared to over 80% of African-American and White seniors. Latino seniors were nearly twice as likely as African-American and White seniors (21 versus 12 and 11% respectively) to state that they hope to complete two-year or technical degree. Thus, differences in CPS Latino seniors' aspirations may help explain their higher concentration in two-year colleges but cannot explain their significantly lower college enrollment rates in comparison to their African-American and White and other ethnic classmates. Most importantly, Latino seniors were only slightly less likely than African-American and White and other ethnic students to report that their parents wanted them to go to college. When asked "What do you think your parent or guardian wants you to do next year?", fully 84% of Latino seniors in CPS versus 89% of African-American and White and other ethnic students reported that their parents wanted them to go to college.

<sup>24</sup> The GPA and ACT cutoffs that we used are generally lower than the definitions used in college ratings such as Barron's and other existing rubrics to measure qualifications. We use a lower cutoff for several reasons. College ratings (see Box 1-1) reflect median scores of the entering class not the minimum students need and CPS graduates may tend to fall at the low end of each individual colleges distribution of acceptable ACT and GPA's. Thus, we based the rubric on the actual college-going patterns of CPS graduates. Colleges may also weight other measures more heavily than simply test scores when admitting students who are minorities. And, finally, as we noted at the beginning of this chapter, we are using students' ACT scores taken during their junior year and some students may retake their ACT and thus we expect that we are underestimating some students' ACT scores that they used for college admissions.

<sup>25</sup> Barron's and other college rating systems report the average GPA, class rank, and ACT/SAT test scores of colleges. These "averages" do not reflect the minimum performance of students admitted however, and we might expect that CPS students might have GPA and ACT scores that fall in the lower end of the distribution of the students' actually admitted to a given college. Because this rubric reflects general patterns of college-going, some CPS graduates with ACT scores and GPAs that place them in a category enroll in a more selective college than indicated by their qualifications. However, our cutoffs also roughly align with the admissions requirements of in-state public universities: nonselective Northeastern Illinois University requires at least a 19 on the ACT or the top half of the graduating class; somewhat selective Chicago State requires an ACT score of 18 and a 2.5 GPA. The University of Illinois at Chicago does not post minimum requirements but students have an average ACT of 23 and GPA of 2.75. Over 90% of 2005 admitted students at the very selective University of Illinois at Champaign Urbana scored at least a 23 on the ACT and 80% were in the top 25% of their graduating class.

<sup>26</sup> Among the CPS graduates who attended a four-year college in the NSC in these cohorts, 74% attended a college that also reported diploma data to the NSC. Colleges for which we have graduation data tend to be slightly higher on quality indicators, suggesting that our estimates of completion are most likely overestimates of the overall graduation rates from four-year colleges.

<sup>27</sup> In 2002, juniors in CPS took the TAP in 10th grade and the ACT in 11th grade which allow us for this one year to gauge how similar students' performance would be on both these tests. Students' scores were highly correlated (.86) which suggests that TAP is a good proxy for students' overall achievement as would be indicated by the ACT.

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What should be the value added of high school and what does that mean for high school reform?

A view from Chicago  
(TABLES AND FIGURES)

Melissa Roderick

Figure 1: Percentage of U.S. 10<sup>th</sup> graders who expect to attain a bachelors degree or higher. 1980, 1990, 2002.

Figure 2: A summary of estimated progress towards a four-year college degree among a cohort of 13-year-olds in the Chicago Public Schools.

Figure 3: Performance of Chicago 8<sup>th</sup> graders on the Iowa Test of Basic Skills in Reading, 1993-2004

Figure 4: Graduates rates at Age 19 and dropout rates at age 16 for cohorts of CPS females by race/ethnicity.

Figure 5: Graduates rates at Age 19 and dropout rates at age 16 for cohorts of CPS males by race/ethnicity.

Figure 6: Four-year graduation rates by on-track status after freshman year by incoming reading and mathematics achievement.

Figure 7: Graduation rates by number of semester F's in core courses in freshman year.

Table 1: The percent of Chicago Public School's 2002 and 2003 graduating classes who attended a college that participated in the National Student Clearinghouse by the spring after graduation by college type and selectivity and race/ethnicity and gender.

Figure 8: Distribution of ACT scores of CPS graduates of 2002 and 2003 by race/ethnicity and gender.

Figure 9: Distribution of unweighted grade point average in major subjects for CPS graduates of 2002 and 2003 by race/ethnicity and gender.

Table 2: The effects of unweighted GPA and ACT scores on college participation for Chicago Public School students in the graduating classes of 2002 and 2003.

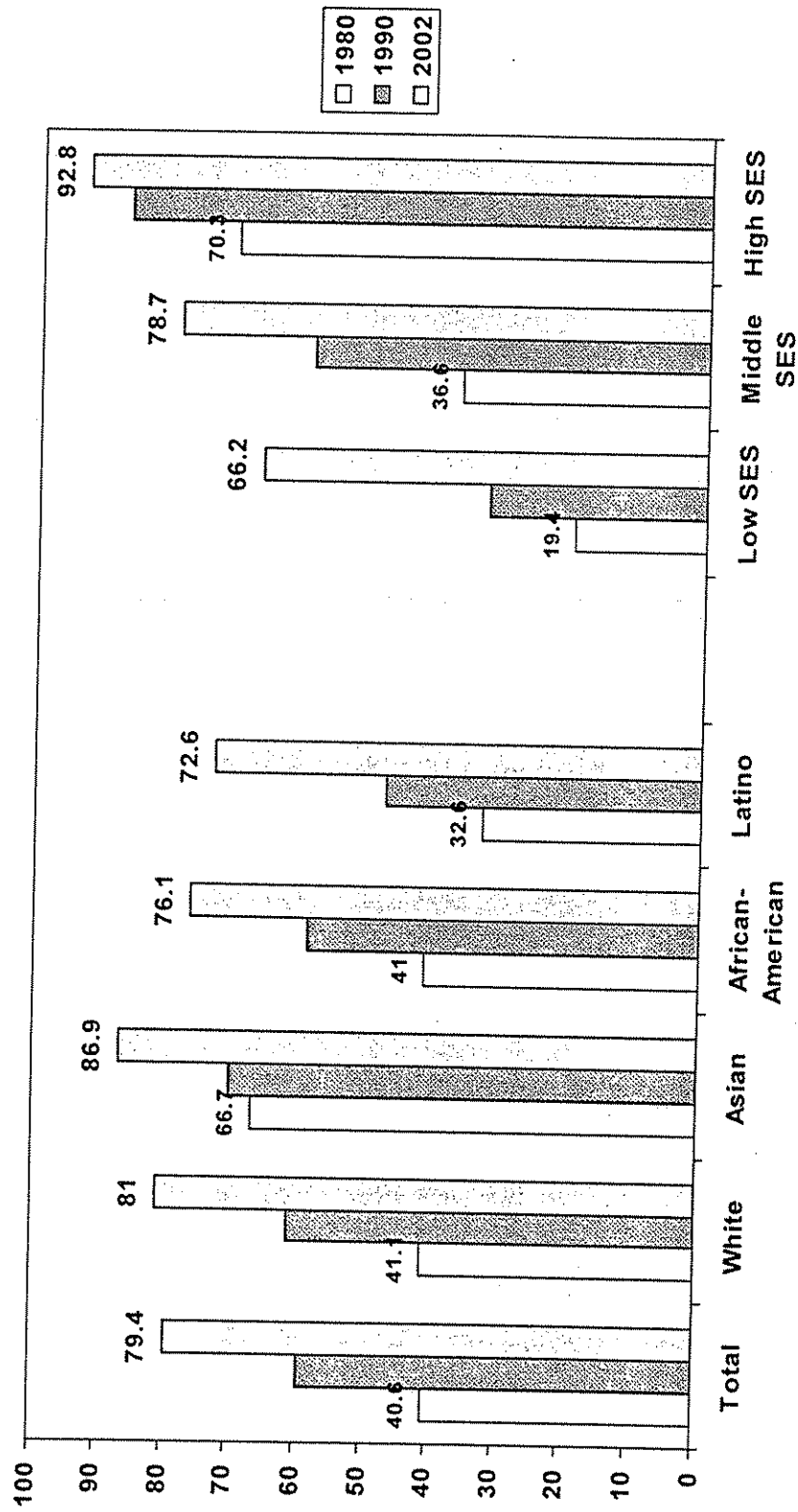
Table 3: The percentage of Chicago Public Schools' 2002 and 2003 graduating classes who have GPA's, ACT scores and coursework that would give them access to college by college type and selectivity.

Figure 10: Six year graduation rates from four-year colleges for CPS graduates from the classes of 1998 and 1999 who entered a four-year college immediately after graduation.

Figure 11: Predicted effect of unweighted GPA, high school test scores, and weighted GPA on the changes of graduating from a four-year college within six years for Chicago graduates from the classes of 1998 and 1999.,

Figure 12: Six year graduation rates among Chicago's 19988 and 1999 high school graduates who attended a four-year college by high school GPA for population CPS colleges.

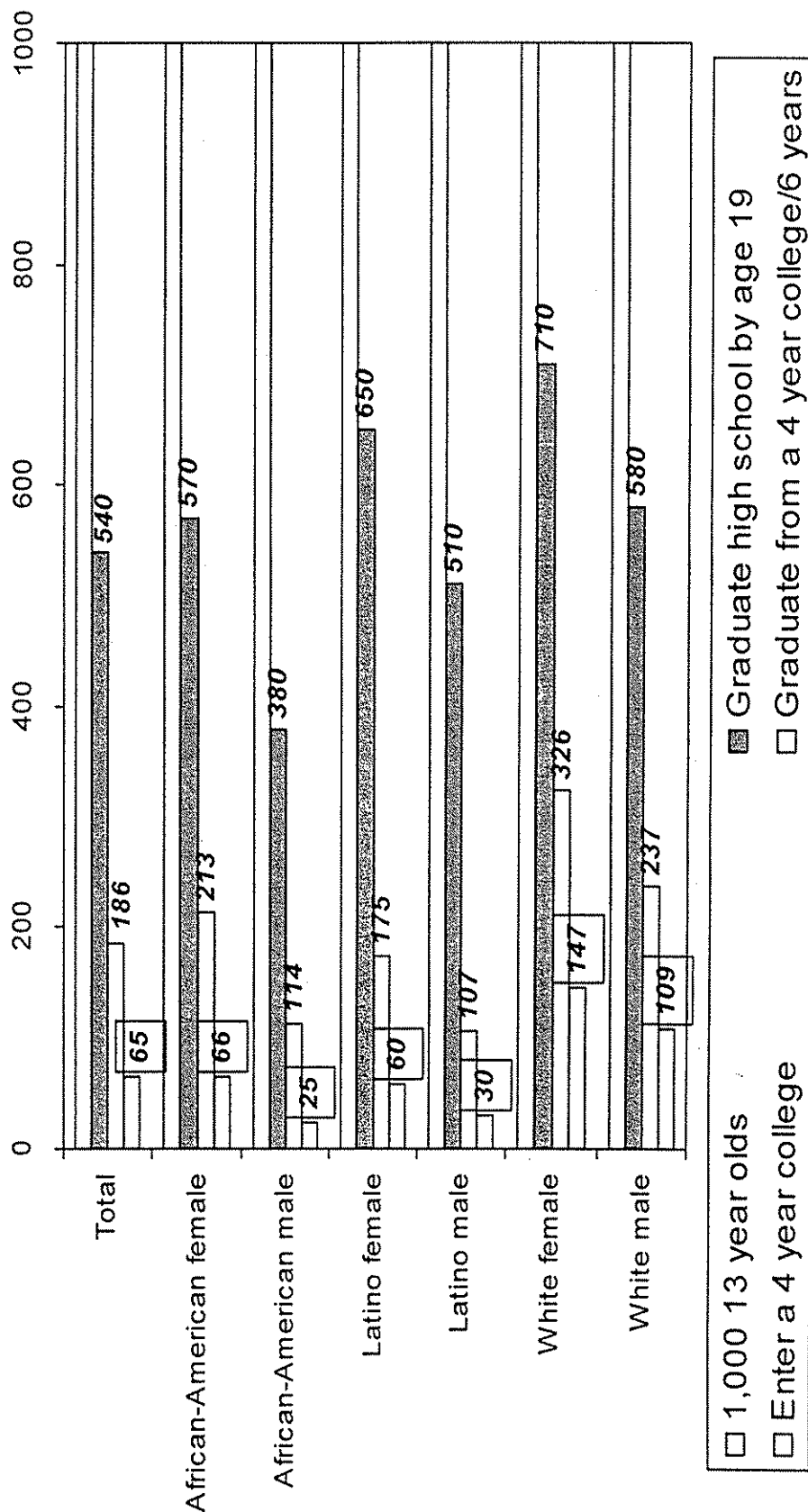
Figure 1: Percentage of U.S. 10<sup>th</sup> graders who expect to attain a bachelors degree or higher 1980, 1990, 2002



Source: U.S. Department of Education..National Center for Education Statistics (2004) *The Condition of Education 2004*. (NCES 2004-077) Washington, D.C.: U.S. Government Printing Office. Supplemental Table 15-1. A students socio-economic status was determined using parents and students report of their parent's educational attainment, occupation, and family income. (see Supplemental Note 11)

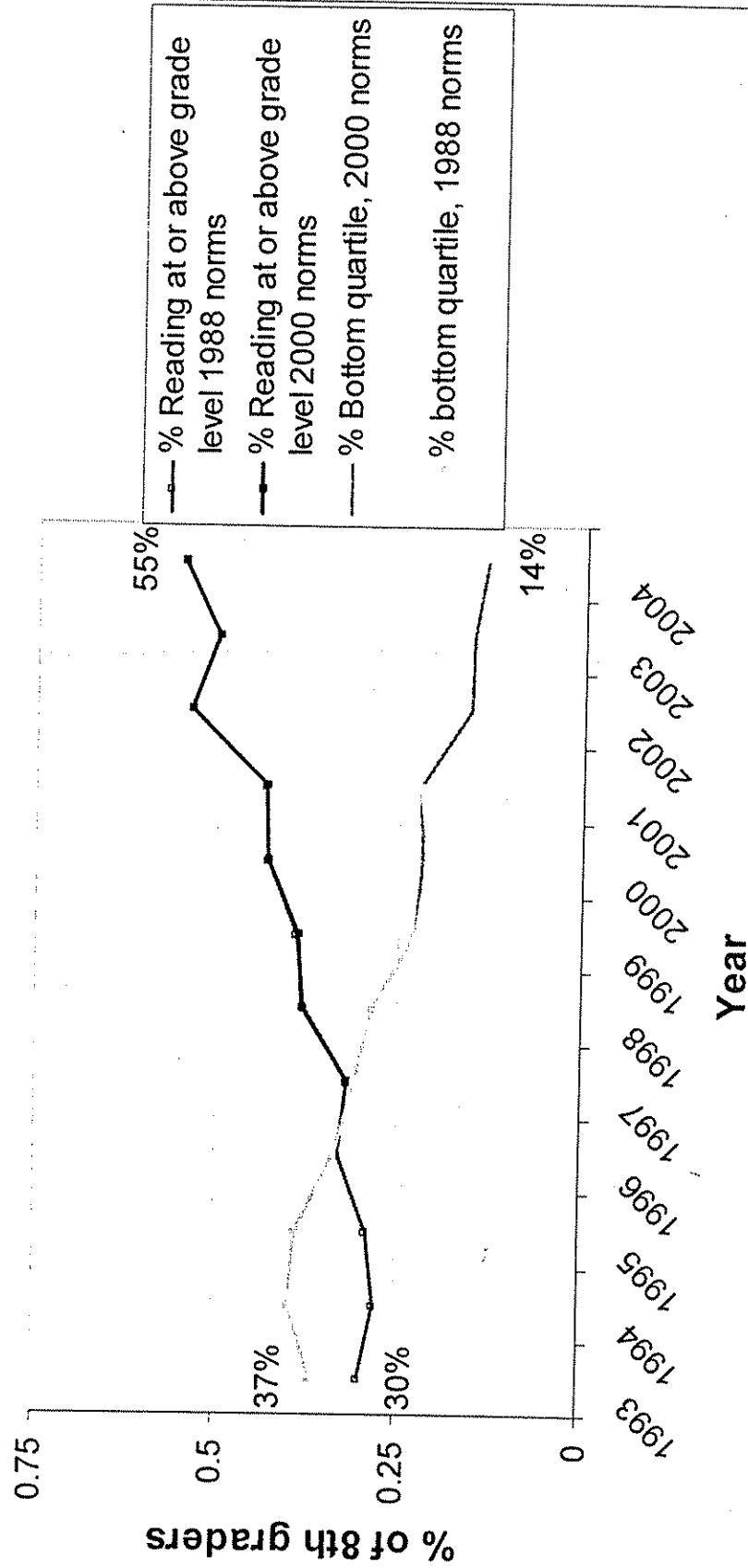
Figure-2: A summary of estimated progress towards a four-year college degree among a cohort of 13-year-olds in the Chicago Public Schools:

How many of every 1,000 13 year olds can be expected to graduate from high school by age 19, enter a four year college, and graduate from a four year college within 6 years (by age 24 or 25)



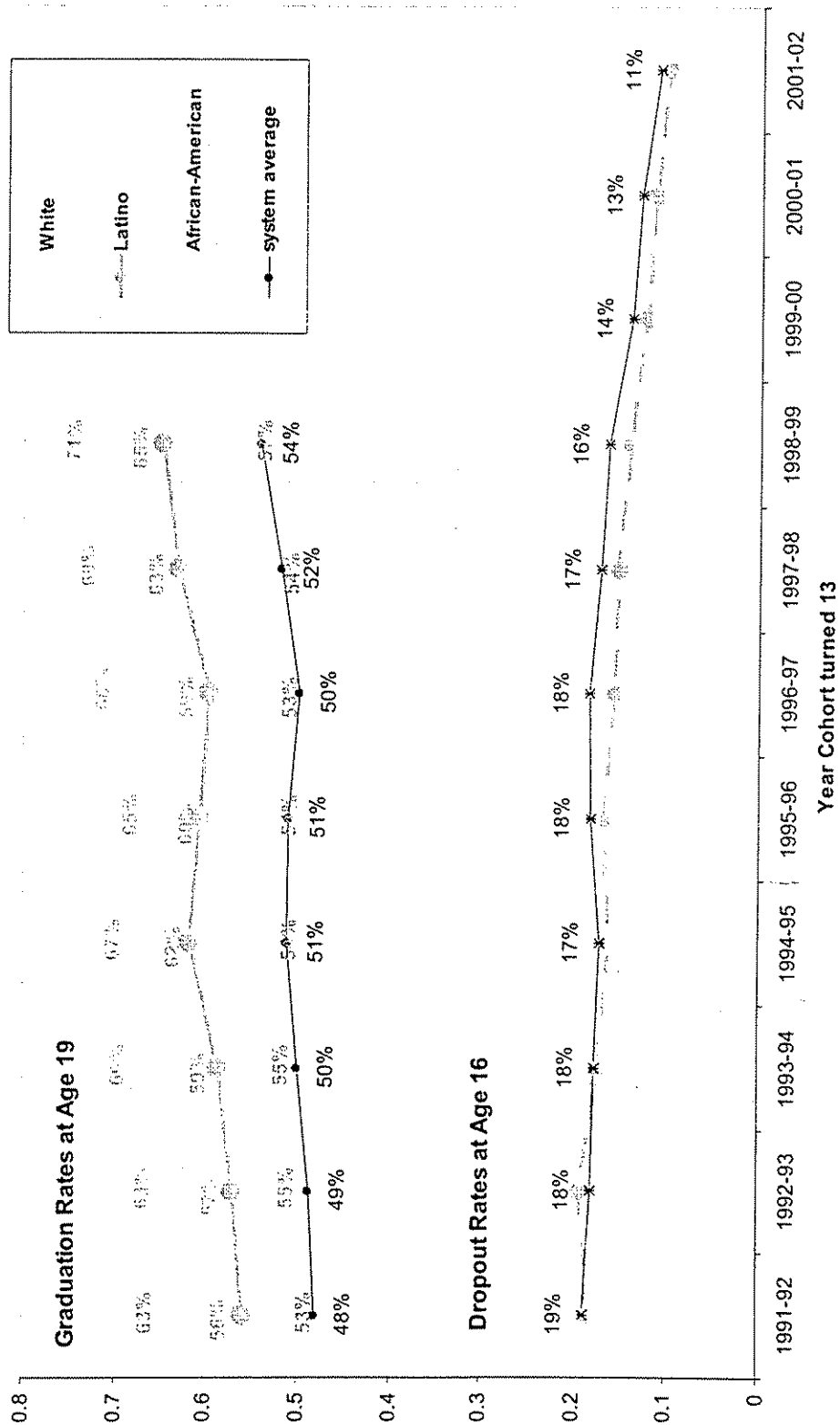
Estimates are derived from the proportion of 13 year olds in 1998-1999 who graduated (See Figures 4 and 5), the proportion of graduates in 2002-2003 who entered a four year college (see Table 1) and the proportion of CPS graduates from a previous cohort (1988) who graduated from college within 6 years (see Figure 10). The estimates vary by only 1 percentage point if we increase the proportion of students entering four year colleges by up to 5% or if we increase graduation rates from four year colleges by the same amount.

Figure 3: Performance of Chicago 8th Graders on the Iowa Test of Basic Skills in Reading, 1993-2004:  
 % Reading at or above grade level on national norms and % of 8th graders with reading scores in the bottom quartile



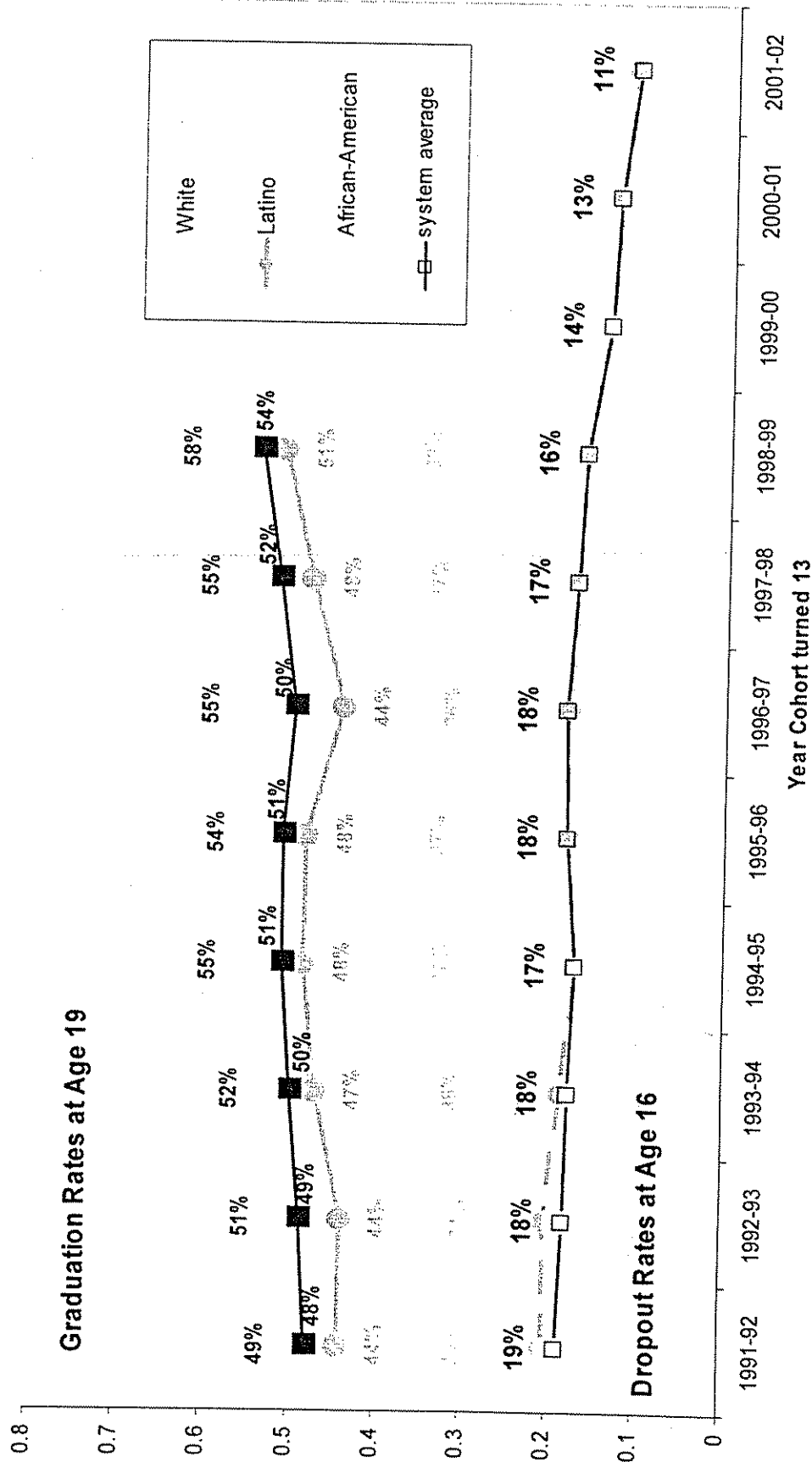
Note: The first series show trends in the ITBS when scored using 1988 national norms and the second trends using more recent, 2000 norms. In 2001, the CPS moved to 2000 norms and recalibrated students' scores back to 1997 to allow for analysis of trends.

Figure 4: Graduation Rates at Age 19 and Dropout Rates at age 16 for Cohorts of CPS Females by Race/Ethnicity



Source: Allensworth, Elaine (2005) *Graduation and dropout trends in Chicago: A look at students from 1991 through 2004*. Chicago, IL: Consortium on Chicago School Research

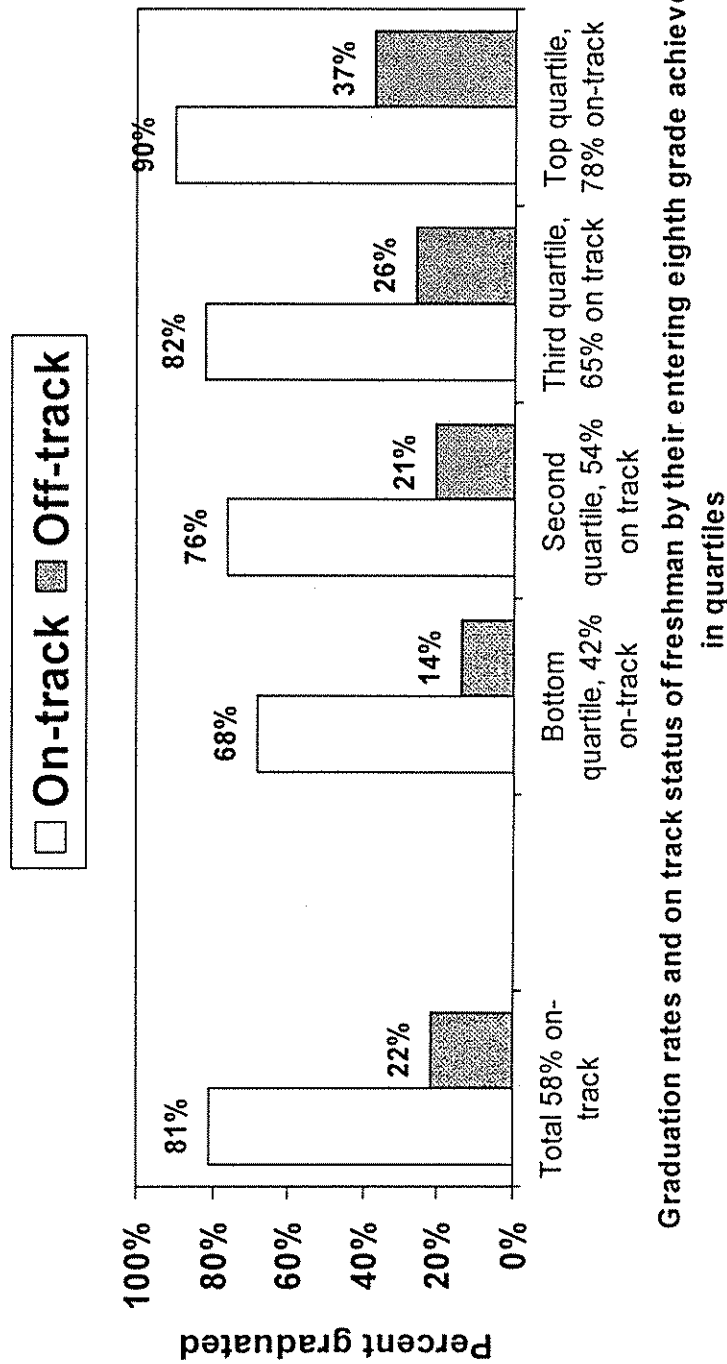
**Figure 5: Graduation Rates at Age 19 and Dropout Rates at age 16 for Cohorts of 13-year old Males in the Chicago Public Schools by Race/Ethnicity**



Source: Allensworth, Elaine (2005) *Graduation and dropout trends in Chicago: A look at students from 1991 through 2004*. Chicago, IL: Consortium on Chicago School Research



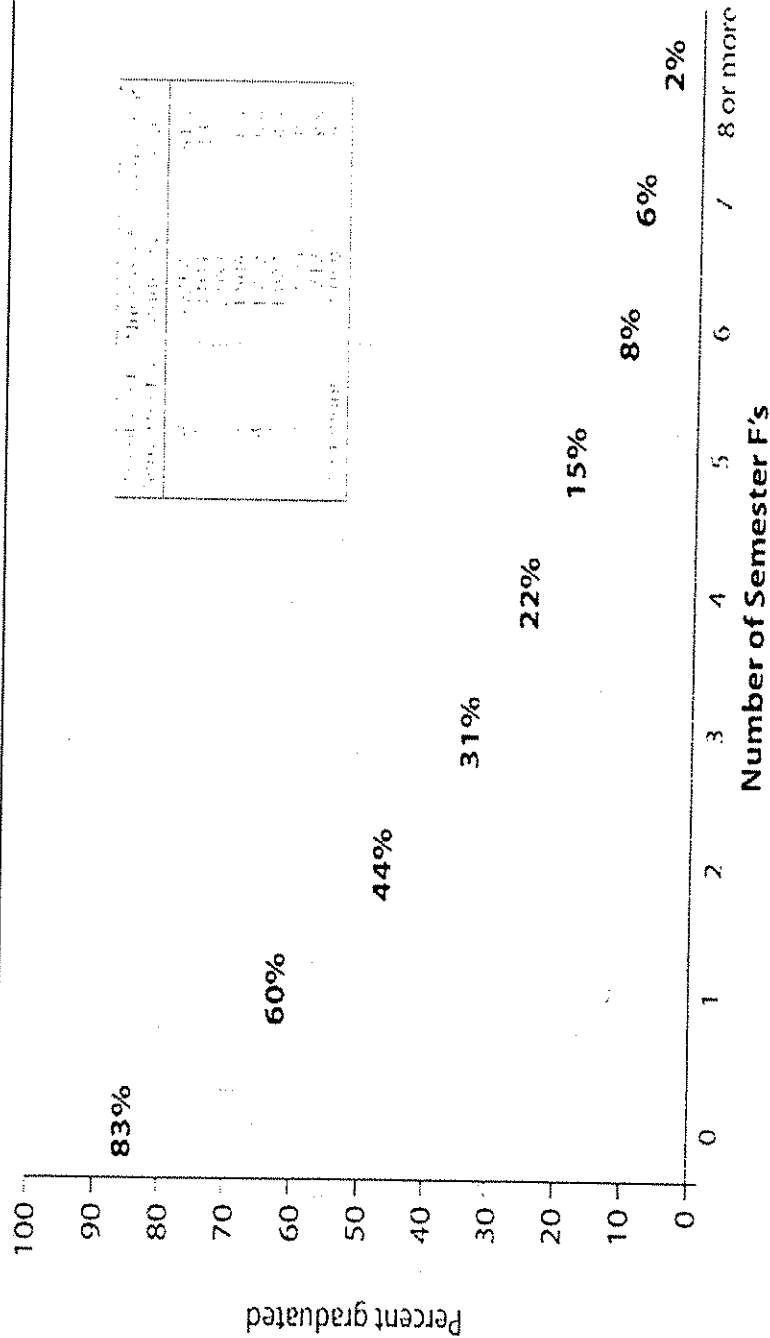
Figure 6: Four-year graduation rates by on-track status after freshman year by incoming reading and mathematics achievement: Students entering Chicago high schools in September, 2000



Source: Allensworth, E.M. & Easton, J.Q. (2005) *The on-track indicator as a predictor of high school graduation*. Chicago, IL: Consortium on Chicago School Research.p. 9 Note: Students who dropped out or transferred out of CPS before the end of the school year are not included in these calculations.

Figure 7

**Graduation Rates by Number of Semester F's in  
Core Courses in Freshman Year**  
*Students entering high school in September 2000*



**Note:** Students who dropped or transferred out of CPS before the end of the school year are not included in these calculations. These figures are based on students who were actively enrolled and received course grades in both the fall and spring semesters.

Source: Allensworth, E.M. & Easton, J.Q. (2005) *The on-track indicator as a predictor of high school graduation*. Chicago, IL: Consortium on Chicago School Research.

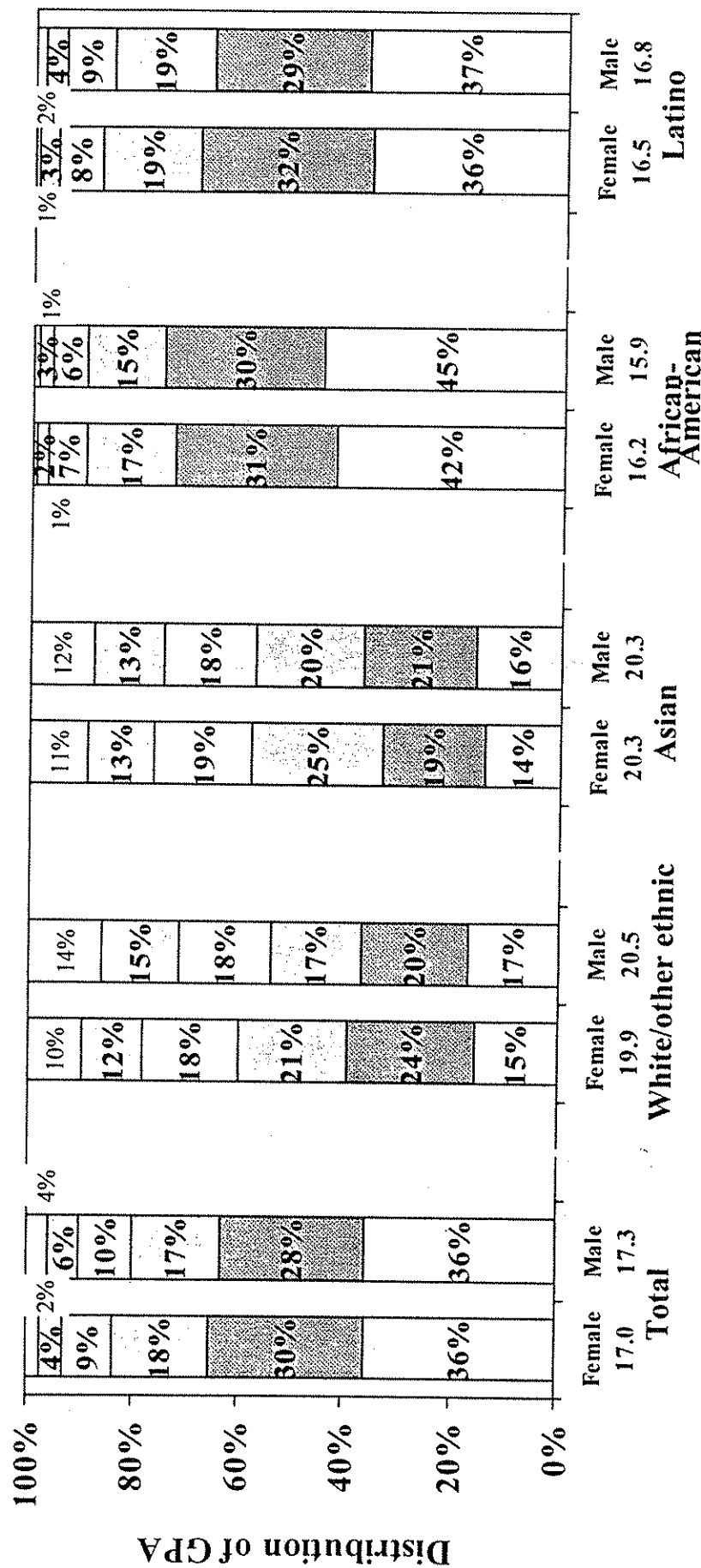
Table 1: The Percent of Chicago Public Schools' 2002 and 2003 graduating classes who attended a college that participated in the National Student Clearinghouse by the spring after graduation by college type and selectivity and race/ethnicity and gender.

	Total	<u>African-American</u>		<u>Latino</u>		<u>White and other ethnic</u>		<u>Asian</u>	
		Male	Female	Male	Female	Male	Female	Male	Female
<b>Enrolled in a college by the spring after graduation</b>	<b>59%</b>	<b>54%</b>	<b>63%</b>	<b>41%</b>	<b>49%</b>	<b>67%</b>	<b>72%</b>	<b>78%</b>	<b>83%</b>
- two year college	22%	21%	23%	18%	20%	24%	24%	21%	17%
- four year college	34%	30%	37%	20%	27%	41%	46%	54%	64%
- type unknown	3%	3%	3%	3%	2%	2%	2%	2%	2%
<b>College goes by selectivity of the college attended....</b>									
Two year college	39%	41%	38%	47%	44%	37%	34%	28%	20%
Four year	61%	59%	62%	53%	56%	63%	66%	72%	80%
Non-selective	17%	15%	13%	21%	20%	18%	18%	17%	16%
Somewhat selective	18%	30%	29%	7%	8%	11%	12%	4%	6%
Selective	17%	7%	12%	16%	21%	22%	24%	37%	44%
Very to most selective	9%	6%	8%	8%	7%	12%	12%	14%	13%

- Student's whose college type is unknown are students who records are "blocked" either by the institution of by the students. These students are identified as enrolled in college but are "blocked" by the NSC from identifying the college they are enrolled in.

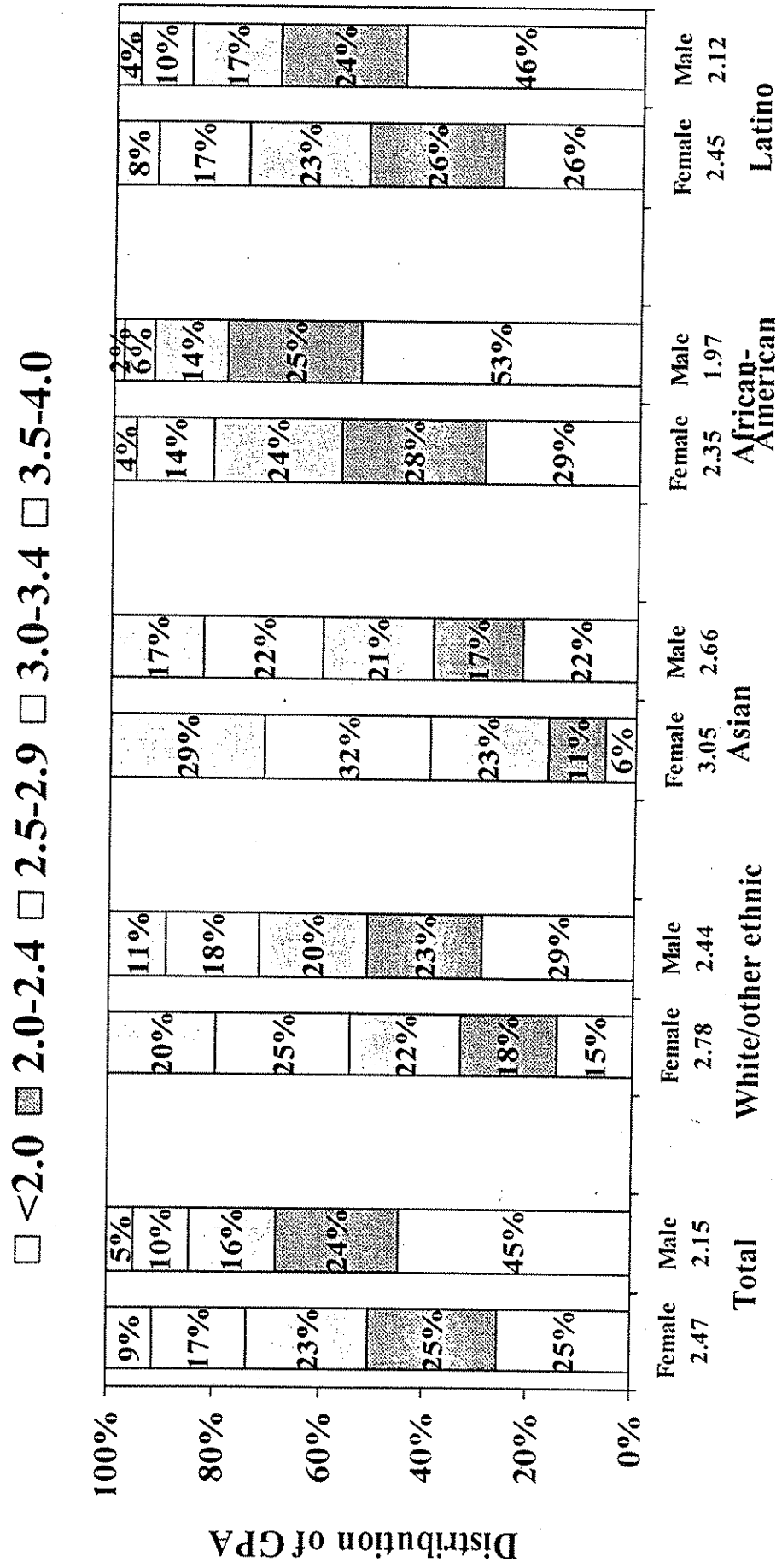
Figure 8: Distribution of ACT Score of CPS Graduates of 2002 and 2003 by race/ethnicity and gender.

☐ <15  
 ☒ 15-17  
 ☐ 18-20  
 ☐ 21-23  
 ☐ 24-26  
 ☐ 27+



Source: Roderick, Nagaoka, Allensworth & Coca (2005)

Figure 9: Distribution of Unweighted Grade Point Average in Major Subjects for CPS Graduates of 2002 and 2003 by race/ethnicity and gender.



Source: Roderick et. al. (2005)

Table 2: The effects of unweighted GPA and ACT scores on college participation for Chicago Public Schools students in the graduating classes of 2002 and 2003

Differences in the predicted probability for an "average" CPS student by students' level of high school performance and participation in honors and AP coursework.			
	Probability of attending college among all graduates	Probability of attending a two versus four year college among students attending college	Probability of attending a selective or more selective college among students attending four year colleges
<b>ACT</b>			
< = 14	.57*	.40*	.06*
15-17	.57*	.50*	.12*
18-20	.62*	.64*	.17*
<b>21-23 (omitted category)</b>	<b>.67</b>	<b>.69</b>	<b>.20</b>
24-26	.68	.70	.25*
27+	.64	.71	.22
<b>GPA</b>			
< 2.0	.46*	.30*	.05*
2.0-2.4	.57*	.53*	.14*
<b>2.5-2.9 (omitted category)</b>	<b>.66</b>	<b>.67</b>	<b>.27</b>
3.0-3.4	.72*	.75*	.35*
3.5-4.0	.81*	.82*	.47*

These predicted probabilities were calculated from a two-level hierarchical linear model. Each model included a student's ACT score, unweighted GPA, coursework (participation in honors and advanced placement), dummy variables for race, ethnicity and gender, a measure of the average poverty level and socio-economic status of the student's neighborhood, age of entry into high school, distance traveled to high school, and a measure of the students' incoming achievement level on the ITBS in reading and mathematics. We include both the summary achievement measure and a squared term because of non-linearity. At the school level, we include information on the average socio-economic status of graduates, average achievement level of graduates, and the racial and ethnic composition of the student body.

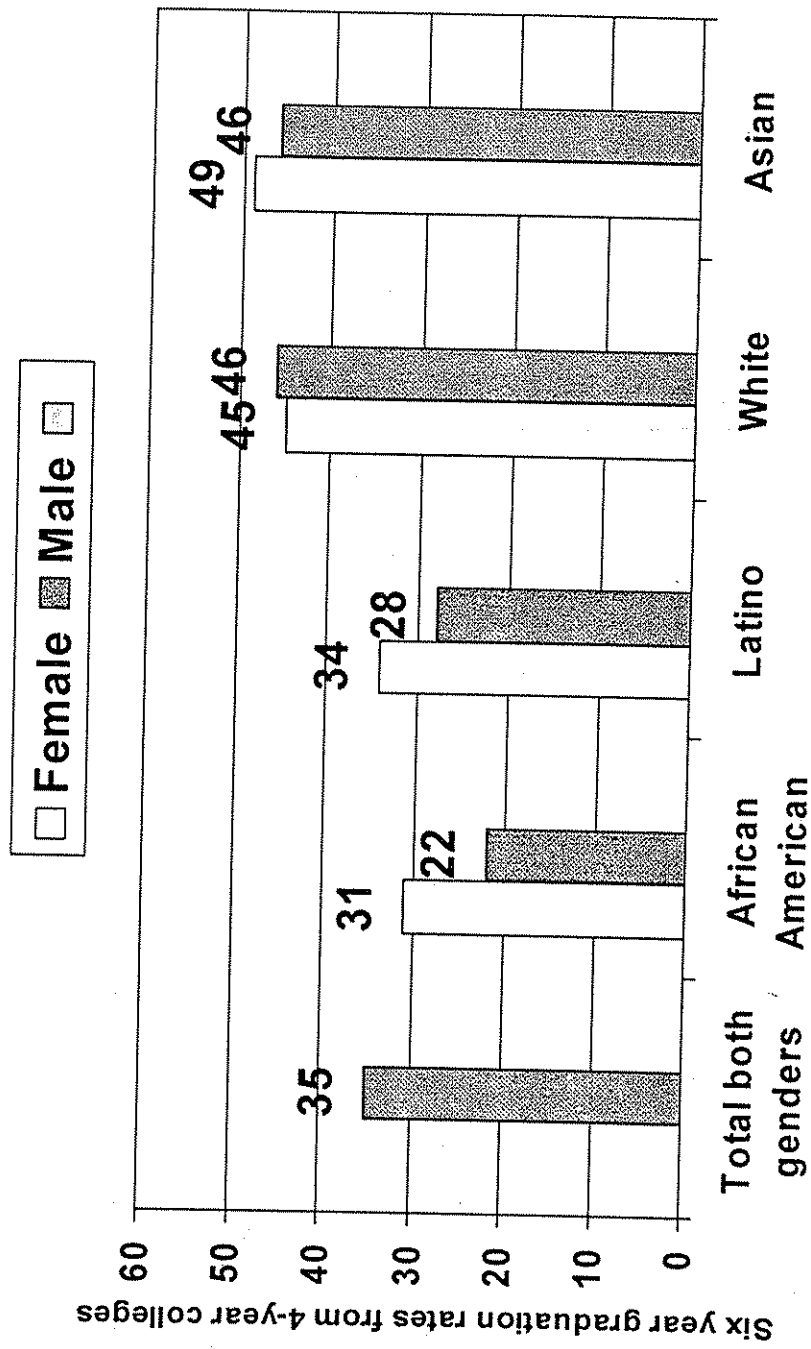
\* Statistically significantly from the omitted category. The omitted category for ACT is 21-23, for GPA is 2.5 to 2.9.

Table 3: The Percentage of Chicago Public School's 2002 and 2003 graduating classes who have GPA's, ACT scores and Coursework that would give them access to college by college type and selectivity.

WHAT STUDENTS ARE QUALIFIED TO ATTEND	Total	African-American		Latino		White and other ethnic		Asian	
		Male	Female	Male	Female	Male	Female	Male	Female
A two year college only	31%	49%	29%	42%	26%	29%	13%	18%	6%
A non-selective four year college only	21%	23%	24%	20%	22%	15%	13%	14%	8%
At least a somewhat selective 4 year college/university <sup>1</sup>	48%	28%	47.2%	38.2%	52.2%	63.0%	73.5%	68.5%	86.5%
At least selective 4 year college/university									
> GPA & ACT qualified	20%	7%	13.0%	12.8%	17.9%	36.0%	43.1%	41.1%	55.7%
> GPA & ACT qualified and participated in a honors/AP sequence.	10%	4%	6.6%	5.1%	8.5%	22.1%	25.3%	28.1%	39.3%
At least a most selective 4 year college/university									
> GPA & ACT qualified	4.0%	<1.0%	1.6%	2.3%	2.5%	13.6%	13.5%	14.7%	19.0%
> GPA & ACT qualified and participated in a honors/AP sequence	3.6%	<1.0%	1.3%	<1.0%	1.9%	11.5%	11.4%	12.0%	17.5%

1. At least a somewhat selective includes students who are qualified to also attend a selective and most selective. The first two rows in the table are mutually exclusive and represent the proportion who could only go to a two year college or who could only go to a non-selective college. All CPS seniors are qualified to attend a two year college because of open admissions thus 100% of CPS students are qualified to attend a two-year college, but 31% have such low qualifications that they could not attend a non-selective four year college. Many non-selective colleges also have open admissions but have some minimum criteria.

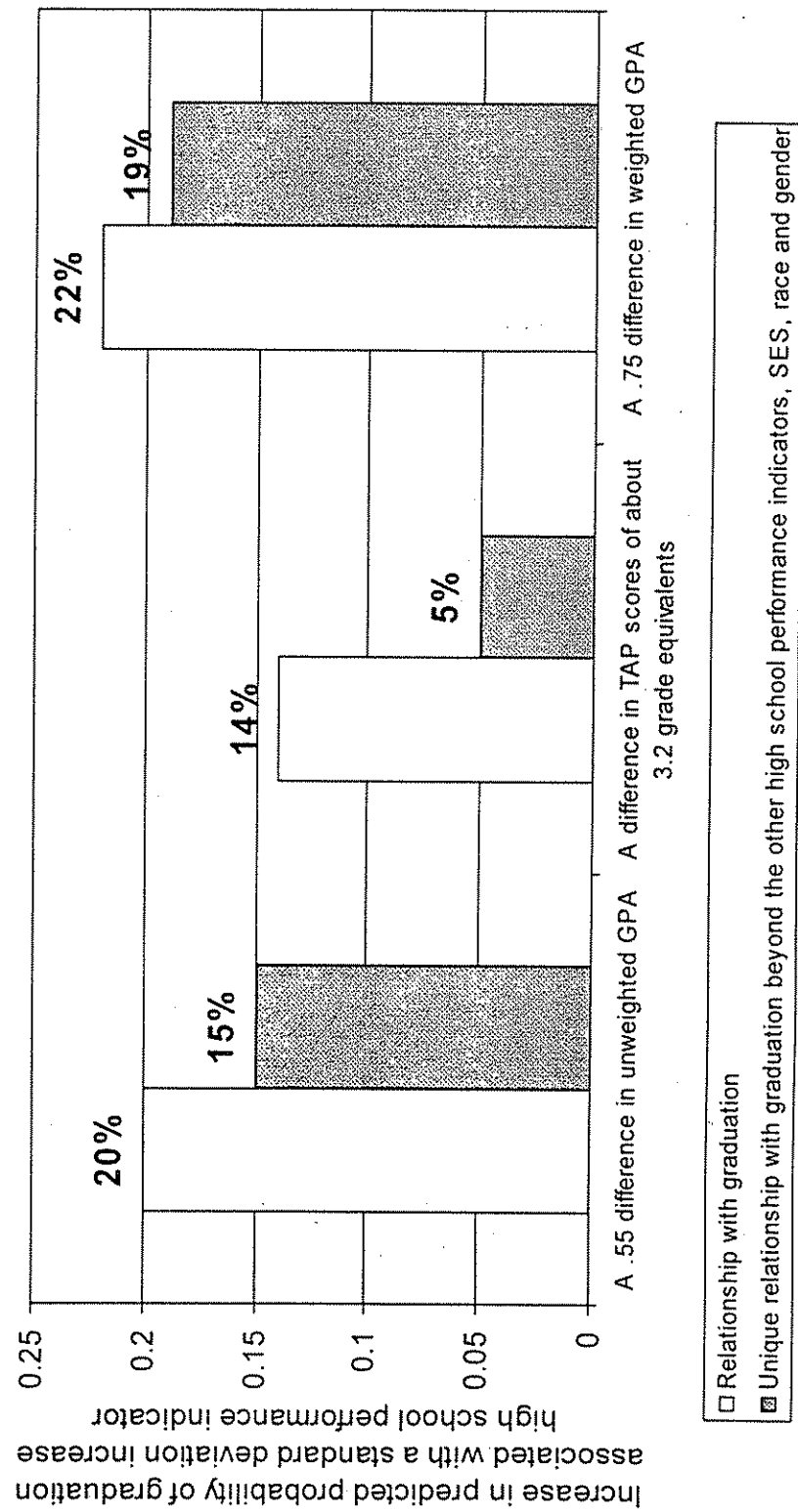
Figure 10: Six year graduation rates from four- year colleges for CPS graduates from the classes of 1998 and 1999 who entered a four- year college immediately after graduation



Source: Roderick et. al. (2005)

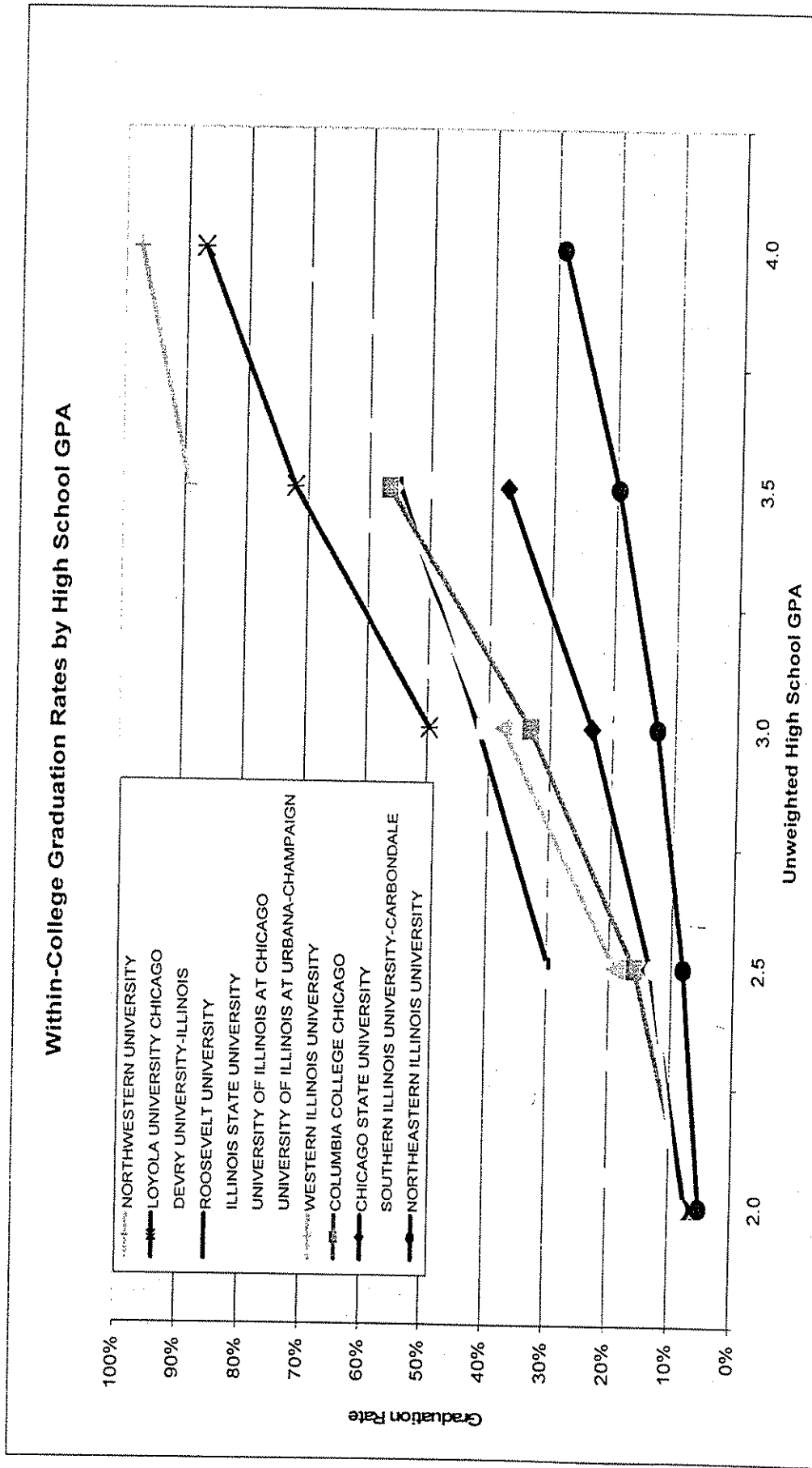


Figure 11: Predicted effect of unweighted GPA, high school test scores and weighted GPA on the chances of graduating from a four-year college within six year for Chicago graduates from the classes of 1998 and 1999



Each comparison represents a difference of about 1 standard deviations in the high school preparation variable. Difference in graduation rates were calculated for a student with typical preparation on the other indicators (GPA or TAP) as well as the number of honors and AP courses students participated in. The unique relationships were estimated using logistic regression analysis with all high school preparation variables entered as well as variable for race and gender. Roderick et. al. (2005)

Figure 12: Six year graduation rates among Chicago 1998 and 1999 graduates who attended four year college by high school GPA for popular CPS colleges.



Each school's line presents the results of a within-college logistic regression analysis that predicted the probability of graduation within that college for CPS students in that by their GPA's. Points are only included in the graph for a college if more than 20 CPS students with that GPA attended that college. Source: (Roderick, et al. 2005).