THE NEW COLLEGIATE DIVERSITY: THE ACADEMIC PROGRESS OF IMMIGRANTS IN HIGHER EDUCATION

by

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Abstract

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In the early to mid-twentieth century, social theorists stressed immigrant adaptation to mainstream American society. By the closing decades of the century, however, a new perspective had gained ground. In this perspective, immigrants were seen as benefiting from retaining their own cultural identities. Despite debates about the costs, or benefits, of maintenance of immigrant identities, little research has been done on how immigrants fare in urban universities of the type that have historically provided stepping stones to social advance. The advantages of having a college degree for improving one's socioeconomic status are well known, as are the difficulties minority students face in earning a college degree and achieving at high levels in college. Because large numbers of urban students today are foreign born, de-aggregating racial and ethnic groups by place of birth becomes increasingly important. The City University of New York, a university system of over 200,000 undergraduates, nearly half of whom are foreign-born, provides a unique opportunity to study immigrant students and to identify how white, black, Hispanic, and Asian native-born students are faring educationally compared to their immigrant peers.

Using the 1995 CUNY Student Experience Survey and additional institutional data, this research tests current assimilation theories with an urban college student population and compares factors that affect GPA, odds of graduating, years to graduation, and degree aspirations among students from different racial and ethnic groups. Results suggest that: 1) Immigrant students have an advantage on all measures of college performance as compared to native-born students. 2) Black students seem to benefit from being less assimilated. Hispanic students, however, seem to benefit from longer residence in the U.S. and from being more socially integrated. 3) College experience reduces the performance gap between minority and white students in some cases and widens it in others. 4) When college experiences are positive, gaps in retention between students of different academic skill level disappear. 5) Academic integration has a consistently positive effect on GPA and degree aspirations for all racial and ethnic groups. This study concludes with policy and programming suggestions for improving the performance and retention of a diverse college student population.

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Chapter 1

Introduction

Assimilation theories developed during the last century help us explain the incorporation of newcomers into United States society. Classical assimilation theory (Gordon, 1964; Park & Miller, 1969; Glazer & Moynihan, 1970; Sowell, 1981) addressed the adaptation patterns of immigrants who arrived in the United States during the industrial era (1820-1925). Eighty-eight percent of immigrants who came to the United States during this period were European and, as today, left their countries of origin for better economic opportunities in the United States and in other developing countries (Massey, 1999). The classical theorists emphasized "the social processes that bring ethnic minorities into the mainstream of American life" (Alba & Nee, 1999). In contrast, assimilation theorists who address the more recent wave of immigration (1965-present) emphasize the benefits of maintaining an immigrant identity (Waters, 1999; Suarez-Orzco, 1991; Ogbu, 1991; Gibson. 1991).

Different historical contexts help explain how these two schools of thought developed. Turn of the century immigration changed with the onset of World War I and the National Origins Law (Johnson-Reed Act, 1924), a law that drastically reduced immigration and controlled the ethnic character of newcomers by excluding Asians and setting particularly low quotas for countries in eastern and southern Europe. The resulting hiatus in the stream of newcomers facilitated assimilation to the American mainstream. In addition, immigrants who arrived at the turn and the century, as well as their offspring, benefited from the economic rewards of industrialization.

The number of foreign-born entering the U.S. spiraled again in 1965, largely as a result of the Hart-Celler Act. This act abolished the countries-of-origins quotas, admitted newcomers who had family ties or needed skills, and increased the total number of immigrants admitted to the United States (Waldinger & Borzorgmehr, 1996). Unlike the turn of the century, when immigrants were primarily European, recent immigrants are largely from Asia, Latin America, and the Caribbean and represent a wide range of races and ethnicities. The racial and ethnic diversity of newcomers contribute to a sense that they are part of a vital and energizing mix of peoples. Further, assimilation into urban environments in which low-wage jobs predominate, seems to offer an economic dead end for new arrivals. Although many recent immigrants left their countries of origin with relatively high levels of education, language barriers and few connections to the professional workforce greatly limit employment options for many.

Despite debates about the costs, or benefits, of maintenance of immigrant identities, little research has been done on how immigrants fare in urban universities of the type that have historically provided stepping stones to social advance. In part, this has been because detailed data on specific immigrant groups has been lacking, and treating all immigrants as part of an undifferentiated mass loses the linguistic and cultural diversity that characterize them. The advantages of having a college degree for improving one's socioeconomic status are well know, as are the difficulties minority students face in earning college degrees and achieving at high levels in college. Because large numbers of urban students today are foreign-born, de-aggregating racial and ethnic groups by place of birth becomes increasingly important.

CUNY, an urban public university in New York City, provides a unique opportunity to study immigrant students. CUNY was founded in 1847 as the Free Academy, which later became City College, and was the first free municipal university. Since that time, it has grown into a university system of 200,000 undergraduate students spread across eleven-four year colleges and six-two year colleges-the nation's largest urban university. Although the college was founded with a populist mission, the student body in the early years was mainly sons of prosperous merchants and professionals (Lavin and Hyllegard, 1996) who were white Anglo Saxon Protestants. By 1916, however, 73% of those enrolled at City College were Jewish, primarily the children of immigrants from Eastern Europe (Howe, 1976; Kessner, 1977). This population remained the numerically dominant group through the first half of the twentieth century, when many private colleges refused to admit Jews. After World War II, enrollments became ethnically more diverse, as students of Irish and Italian ancestry began to enroll in increasing numbers. By the late 1960s, members of these groups accounted for one-third of the entering classes (Lavin and Hyllegard, 1996). Although in the past those enrolled at CUNY were primarily the children of immigrants, today immigrants constitute a growing proportion of the student population. In 1990, 33% of the students enrolled in BA programs at CUNY were foreign born. In 1997, that number jumped to 49% (Bailey and Weininger, 2000).

Twenty-three percent of New York City's population is foreign-born. Although the population of New York City is less than 3% of the total U.S. population, 14% of all immigrants settled here between 1995 and 1996 (New York City Department of Planning, 1999). Los Angeles has a larger proportion of foreign-born than New York (30% vs. 23%) (U.S. Census, 2001), but only New York provides such diverse ethnic and racial

representation of both immigrant and non-immigrant groups. As indicated in Table 1, the largest groups of immigrants are from the Caribbean, Asia, and Europe, followed by South and Central America, and Africa. Eighteen percent of all immigrants who settled in New York City came from the former Soviet Union, the largest source country, followed by the Dominican Republic (16.9%), China (10.3%), Jamaica (5.1%), and Guyana (4.8%) (New York City Department of Planning, 1999).

Table 1
Regions representing the largest proportion of immigrants who settled in New York City*

Caribbean	28.9%
Asian	25.9%
Europe	25.2%
South & Central America	13.6%
Africa	5.4%

*New York City Department of City Planning, 1999

Table 2 shows the diversity of CUNY's student population. Fifty-seven percent of CUNY students are black or Hispanic, with about equal proportions of students from these groups being foreign-born, 49% and 48%, respectively. Thirty-one percent of this sample is white and 12% is Asian. Twenty-eight percent of white students and 83% of Asian students who attend CUNY were foreign-born. As compared to the proportion of foreign-born Asian students, relatively few native-born Asian students attend CUNY. Countries from which the largest numbers of foreign-born students have come are the Dominican Republic (11.9%) Jamaica (10.2%), the former USSR (7.3%), Guyana (5.8%), China (4.8%), and Trinidad and Tobago (4.0%).

Table 2

Racial/ethnic diversity of CUNY students*

Racial or ethnic group	Proportion born outside the U.S. (%)	Ethnic representation of CUNY students (%)
White	27.7	31.2
Black	48.7	31.9
Hispanic	47.7	25.2
Asian	82.5	11.5

*1995 Student Experience Survey.

CUNY provides educational opportunities to a relatively large proportion of New York City college-bound students. Thirty-nine thousand students graduated from New York City public schools in 2003 (New York City Department of Education, 2003). CUNY enrolled 26,724 first-time freshmen in the fall of 2002, 61% of whom were graduates of New York City public high schools. Social obstacles such as relatively low average family incomes, low levels of parental education, and attendance at marginal city public schools limit higher education options for these students. CUNY plays a crucial role in providing a college education to over 42% of New York City public school graduates, and an opportunity to improve their socioeconomic status. Sound research from which to develop policy is necessary to serve the needs of this population, a large proportion of whom are immigrant students.

Such diverse origins provide a unique chance to study immigrant college students of various racial backgrounds. Currently, little research is available to help us understand the experiences of immigrant students, a significant proportion of the enrollment at not only CUNY, but at other large urban public universities. For the purposes of this study, native-born students are defined as students born in the U.S, and immigrant students are defined as students born abroad.

Characteristics of the CUNY Colleges

CUNY includes seventeen undergraduate colleges. Of these, City, Baruch, Hunter, Lehman, Brooklyn, Queens, and York colleges are primarily bachelor degrees granting institutions. Some of these colleges also offer master degree programs. Staten Island, New York City Technical, John Jay, and Medgar Evers colleges are comprehensive institutions, which grant both bachelor and associate degrees, although with the exception of John Jay, the majority of students at these colleges are enrolled in associate degree programs. Ninety-five percent of students at New York City Tech, 68% of students at Medgar Evers, 61% of students at College of Staten Island, and 16% of students at John Jay were enrolled in associate degree programs. The rest of the students at these colleges were enrolled in bachelor degree programs. Bronx, Queensborough, Kingsborough, Manhatten, Hostos, and LaGuardia are two-year colleges that grant associate degrees. All these colleges offer liberal arts programs, although some majors are better known than others. City College, for example, offers engineering and architecture, and Baruch is known for its business programs. Hunter College started as a teachers college for women, but is now co-educational and offers a wide range of majors. John Jay college has been recognized for its criminal justice programs. In addition to the undergraduate colleges, the Ph.D. granting Graduate Center, a law school, and the Sophie Davis School of Biomedical Education are also part of the CUNY system.

CUNY colleges are spread throughout each of the five boroughs of New York City. Although college characteristics are not the focus of this study and will not be addressed in depth here, Tables 3 and 4 show the proportion of immigrant students at each

of the 17 colleges, as well as ethnic and racial representation. In general, representation of immigrant students and students from different racial and ethnic groups reflects the neighborhoods in which each college is located, although students may travel longer distances to attend colleges with specialized majors.

Table 3
Ethnic, racial, and immigrant representation at CUNY senior colleges

College	Overall	White	Black	Hispanic	Asian
City					
Imm	53.1	10.1	28.7	33.5	27.7
NB	46.9	15.7	36.7	41.0	6.0
Total	100	12.7	32.5	37.0	17.5
Baruch					
Imm	56.8	21.8	25.0	34.9	35.1
NB	43.2	27.5	23.8	17.7	13.2
Total	100	24.3	24.5	25.2	25.6
Hunter					
Imm	44.4	28.2	19.6	23.4	28.7
NB	55.6	61.2	15.6	19.8	2.7
Total	100	46.6	17.4	21.4	14.2
Lehman					
Imm	40.5	13.1	34.6	43.9	8.4
NB	59.5	27.4	35.7	35.7	1.3
Total	100	21.6	35.2	39.0	4.2
Brooklyn					
Imm	37.4	46.3	25.7	8.8	19.1
NB	62.6	66.7	18.4	10.5	4.4
Total	100	59.1	21.2	9.9	9.9
Queens					
Imm	35.4	36.5	8.2	15.3	40.0
NB	64.6	73.5	13.3	7.4	5.8
Total	100	60.3	11.5	10.2	18.0
York					
Imm	57.4	7.9	54.4	18.4	19.3
NB	42.6	14.3	64.3	17.9	3.6
Total	100	10.6	58.6	18.2	12.6
Staten Island*					
Imm	21.6	34.6	25.6	20.5	19.2
NB	78.4	84.8	5.7	7.1	1.4
Total	100	74.0	10.0	10.0	5.3
NYC Tech.*					
Imm	52.6	14.1	49.4	19.4	17.1
NB	47.4	11.7	48.1	36.4	3.2
Total	100	13.0	48.8	27.5	10.5
John Jay*					
Imm	26.4	17.1	40.2	35.4	7.3
NB	73.6	28.1	33.8	34.2	3.9
Total	100	25.2	35.5	34.5	4.8
Medgar Evers*					
Imm	62.1	2.0	92.0	4.0	2.0
NB	37.9	1.6	90.2	8.2	
Total	100	1.9	91.3	5.6	1.2

*Comprehensive colleges granting bachelor and associate degrees.

Table 4
Ethnic, racial, and immigrant representation at CUNY community colleges

Colleges	Overall	White	Black	Hispanic	Asian
Bronx					
Imm	51.0	0.8	45.0	50.4	3.1
NB	49.0	7.2	39.2	51.2	1.6
Total	100	3.9	42.2	50.8	2.3
Queensborough					
Imm	42.0	19.5	31.4	13.2	35.8
NB	58.0	56.6	25.6	15.5	2.3
Total	100	41.0	28.0	14.6	16.4
Kingsborough					
Imm	47.1	33.0	41.2	14.5	11.3
NB	52.9	52.4	31.0	13.7	2.8
Total	100	43.3	35.8	14.1	6.8
Manhatten					
Imm	51.1	9.1	48.9	27.0	15.0
NB	48.9	10.7	56.1	30.5	2.7
Total	100	9.9	52.4	28.7	9.0
Hostos					
Imm	62.3	2.2	14.4	82.2	1.1
NB	37.7	3.6	33.9	58.9	1.8
Total	100	2.7	21.9	73.3	1.4
LaGuardia					
Imm	58.5	12.6	14.1	47.0	26.3
NB	41.5	20.7	32.1	43.6	3.6
Total	100	16.0	21.6	45.6	16.9

Educational Systems in the Most Highly Represented Countries of Origin Among CUNY Immigrant Students

Approximately 25% of the immigrant students studied here attended a foreign high school, and an additional 21% earned a General Equivalency Diploma (GED). Some immigrant students who earned a GED may have been schooled overseas but were not able to obtain transcripts or did not complete secondary school in their native countries. Because a relatively large proportion of immigrants had at least some schooling overseas, this section describes the educational systems in the countries or regions from which the

largest numbers of CUNY students have emigrated: the former USSR, China, Columbia/Ecuador, and the Caribbean.

The majority of students from the former USSR arrived in the U.S. before or just after the collapse of communism, so this discussion will focus on the educational system in the former USSR prior to 1989, which was based on Marx's vision of a classless society and was free to all students at all levels. Unlike Western European schools, which concentrated in the humanities, Soviet schools focused on math and science (Holmes, Read, and Voskresenskaya, 1995).

All students in the USSR were required to attend the same kind of school during the period of compulsory education (10 years), regardless of their future goals. Although the Soviets believed in equal opportunities for all, the educational system was designed for the select few who were planning to attend university, a remnant inherited from the pre-Soviet era (Holmes, et al., 1995). Unsuccessful attempts were made to revise the encyclopedic curriculum to accommodate the large number of students who did not wish to enter higher education, but differentiation did not occur until debate and reform were permitted under perestroika in the late 1980s. Until that time, students attended a four-year primary school, a five-year junior stage, and a two-year senior stage. As with most national educational systems, although the Soviets claimed equality, in reality selective specialized schools in large cities provided opportunities to students who passed competitive exams and to members of influential families (Holmes, et al., 1995). According to the Unesco Statistical Yearbook (1998), in 1995, only 2% of the population of the Russian Federation was illiterate. Thirty-seven percent of the population had completed only the first level of education. Sixty three percent had completed the second

level of education, and 14% of these students completed post-secondary education. In comparison, less than 1% of the U.S. population has no schooling, and about the same proportion is illiterate. Eight percent complete only the first level of schooling in the U.S., and 92% complete at least the second level of schooling. Forty-seven percent of these students complete post-secondary education in the U.S. (Unesco, 1998).

Chinese basic education includes non-vocational public education from preschool through secondary school, which is divided into a six-year primary school, a three-year lower secondary school, and a three-year upper secondary school. Exams are required to enter upper secondary school. Relative to other countries, access to education in China is limited. According to Unesco (1998), 29% of Chinese have no schooling, 34% complete no more than the first level, 36% complete the second level, and 2% complete post-secondary education.

As in the USSR, primary education in China is focused on the requirements for entrance to secondary school and has been criticized for not serving the needs of the majority of the population that does not attend secondary school (Ahmed, Ming, Jalaluddin, and Ramachandran, 1991). Although primary education is not universal, on the eastern coast and in developed urban areas, where nearly one-quarter of Chinese live, primary education is nearly universal. The best schools require competitive entrance exams for both lower and upper secondary schools. Students in rural and economically underdeveloped remote regions, where academic achievement is not a necessity, have high dropout rates, as do girls, who are often pulled from school to help support the family financially (Wang, 2003).

High levels of participation, primarily for reasons of social mobility, characterize education in the Caribbean. Mass primary schooling was a concession by colonialists to keep peace following emancipation. Former slaves had high rates of school participation because it was one of the few means of social mobility (Miller, 1992). In the Dominican Republic, for example, only 7% of the population has no schooling and 81% complete the first level of schooling (Unesco, 1998). While primary education in the Dominican Republic and other Caribbean countries is accessible to the masses, access to secondary education remains limited--thirteen percent of the population in the Dominican Republic completes the second level, and 2% complete post-secondary education (Unesco, 1998). In Jamaica, 68% of the population has completed the first level, while 33% has completed the second level. Haitians, in contrast, have limited access to education, which is likely due to political instability. Sixty percent of Haitians have no schooling, 31% complete no more than the first level, while 10% complete the second level (Unesco, 1998).

Historically, a small middle class in the Caribbean patronized private preparatory schools and enjoyed easy access to secondary education. A tiny upper class sent their children abroad for university education. In more recent years, progress has been made to expand opportunities at the secondary and university levels, although the effectiveness of these efforts fluctuates with the economic well-being of the region (Miller, 1992). Because there are few universities in the Caribbean, secondary education is characterized by high standards and credentials that are well regarded internationally. Women and girls have high rates of participation (Miller, 1992).

It was not until 1930 that Ecuador started to plan and develop a modern lay education system. Before 1930, the Catholic Church controlled schools. Priests and sons

of the upper class were admitted into academic programs in theology and philosophy. Later law and medicine were added (U.S. Dept. of Health, Education, and Welfare, 1976). In Columbia today, preschool education is offered to children under the age of six. Basic education is obligatory between the ages of 5 and 15, and includes at a minimum preschool and nine years of basic education-five primary grades and the first four secondary grades. Although obligatory, only eighteen percent of children in rural areas complete their primary education, and 62% of children in urban areas do so. The average grade completed by a child living in a rural area is second grade, and the average grade that an urban child completes is fourth grade. Middle and intermediate education, the equivalent of tenth and eleventh grades, prepare students to continue their studies in higher education or for training in technical work. This level of education is almost non-existent in rural areas, where less than 1% of secondary students have access to schools (Dalin, Ayono, Biazen, Dibaba, Jahan, Miles, and Rojas, 1994).

According to Unesco (1998), 12% of the population in Columbia and 2% of the population in Ecuador has no schooling. Forty-six percent of the population in Columbia and 44% of the population in Ecuador completes the first level of schooling, while 40% of the population of Columbia and 36% of the population of Ecuador completes at least the second level of schooling.

Although the educational systems described above are seemingly diverse, at least one characteristic is common to all-limited opportunities for the majority of the population and high quality education for the middle or upper classes. If parental level of education can be used as a proxy for social class position, about 50% of white, 39% of Asian, 21% of black, and 16% of Hispanic immigrant parents in the population studied here have at

least a college degree. Children of these parents probably had a relatively high level of education in their countries of origin, while the educational levels of children of lower social status is questionable. In contrast to the educational systems described here, CUNY provides students an opportunity to earn a college degree regardless of social origins. This study will control for differences in educational skills prior to college enrollment.

Chapter 2

Review of the Literature

Prior research that compares and contrasts post-secondary school performance and retention of immigrant and non-immigrant college students of different racial and ethnic groups is scarce. Most of what is available was conducted in California where immigrant populations vary significantly from those in New York. For example, the majority of Hispanics in California are from Mexico, while in New York, the majority of Hispanics are from South America and the Caribbean. Because literature on immigrant college students is lacking, this section describes previous research on native-born minority college students and immigrant secondary school students, in addition to the studies that address immigrant college students. The research here will begin to bridge the gap between these studies.

Considering the large number of immigrants who are members of minority groups, knowledge of native-born minority students' experience in college will aid in the understanding of immigrants' experiences. Literature on immigrant secondary school student performance and retention provides assimilation theories that can be applied to the immigrant college student population. The final section of this chapter develops research hypotheses on the college performance and retention of immigrant and native-born students from different racial and ethnic groups.

Two recent wide-ranging studies of undergraduate black student achievement at the most elite colleges and universities in the U.S. were undertaken by Bowen and Bok (1998) and Massey, et. al., (2003) on the performance and retention of black undergraduates. After controlling for Scholastic Aptitude Test (SAT) scores, high school

grades, socioeconomic status, school selectivity, and other variables, differences between black and white students' graduation rates and class rank were reduced, but did not disappear. Bowen and Bok (1998) attributed these differences to pre-college influences, such as attendance at inferior high schools, difficulty in adjusting to the college environment, and differences in the home environment. When Massey, et. al., (2003) controlled for pre-college attributes, differences in college grades after the first semester of the freshman year between black/Latino students and Asian/white students were reduced but did not disappear. However, Massey, et. al., (2003) did not control for college experience variables, which may explain part of the performance gap.

Because graduation from an elite institution opens access to prestigious jobs and positions of power, studies of minority experience at these schools and the pay-off of such a degree on job and graduate school outcomes are important. These studies, however, address the elite: a tiny proportion of all minority students who attend college. Table 1 compares the median income of the students in Massey's, et. al, study (2003) with the median family incomes of different racial groups according to U.S. Census data.

Table 1
Comparison of median household income ($) of 1999 National Longitudinal Survey data used in the Massey, el. al., study and 1999 U.S. Census Bureau data

Race/Ethnicity	1999 National Longitudinal Survey	U.S. Census Bureau, 1999
White	88,000	44,366
Asian	63,000	51,205
Latino	63,000	30,735
Black	43,000	27,910

Nettles (1988) examined black and white students attending a wider range of universities. He found race to be a significant predictor of performance but not of

progression. By performance, he means college grade point average. By progression, he means the average number of credit hours successfully completed per term of enrollment. He found that the predictors of one did not have the same effect on the other. For example, the predictors for student performance in order of significance are: good study habits; a high grade point average while in high school; high academic integration; high SAT scores; high satisfaction with the university; high contact with faculty; low feelings that the university is racially discriminatory; a student body with a racial majority; race; low social integration (yes, low); low financial need; attendance at a private high school; female students; non-transfer students; and married students. Students with faster progression rates: are younger; have low satisfaction with their university (!); have low financial need; have high social integration; work a low number of hours in a job; have a low level of contact with faculty; have high SAT scores; have good study habits; have degree aspirations beyond the bachelors degree; and are married.

Hispanic students are underrepresented among college students, and the proportion of Hispanic students enrolled in college has declined since the 1980s (Boyd, et. al., 2001). Hispanic students are less likely to attend a four year college than African-American, White, or Asian students and more likely to attend a community college (Rodriguez, et. al., 2000). For all students regardless of race, after controlling for background characteristics, students who are enrolled in community colleges are less likely to earn a bachelor's degree (Dougherty, 1991), so it is not surprising that although eighty percent of Hispanic community college students express an intent to transfer to a four year institution, only five to twenty percent actually transfer (Kraemer, 1995).

Among high school graduates, the percent of Hispanics who eventually earn a bachelor's degree is one-third that of Anglo high school graduates (Boyd, et. al., 2001).

At California colleges and universities, racial discrimination is not a major concern for Chicano or Latino students--they do not feel alienated or culturally disadvantaged (Haro, 1994). Haro (1994) also found that the Latino family is supportive of higher education, but when college demands compete with family responsibilities, the student will often leave college to attend to family matters. Most Latino students major in Humanities or Social Sciences. Spanish language usage in the home negatively affects academic achievement for Hispanic students if the student lacks fluency or has only a folk knowledge of his or her native language. Students who have a literary understanding of their native language perform better academically than students who speak only English (Portes and Rumbaut, 1996; Duran, 1983).

Asian students outperform all other racial groups academically, including whites. Although Asian-Americans represent just 3.6 percent of the general U.S. population (U.S. Census, 2000), they represent 6% of college student enrollment (National Center for Educational Statistics, 2000). One in four Asian college students admit that English is not their best language, yet they have higher college GPAs than white students (Hsia, 1988). Based on Hsia's study (1988) at UCLA, Chinese-American immigrants, regardless of how long they have lived in the U.S., have the same college GPAs as native-born Chinese-American students. Sue (1985) found that Chinese immigrant students at the University of California at Los Angeles (UCLA) use adaptive strategies to compensate for poor language abilities. For example, Chinese immigrant students spent

4.6 hours more per week studying, enrolled in fewer credit hours, and chose majors that capitalized on their quantitative skills.

This pattern is not consistent for Asian-American students from different socioeconomic categories. Although Asian-Americans in the highest income categories scored better than whites on both the verbal and math sections of the SAT, disadvantaged Asians have lower verbal SAT scores than other disadvantaged whites, blacks, Hispanics and American Indians. Math scores for disadvantaged Asian-American students are higher than those of all other socioeconomically comparable groups (Hsia, 1988). Hsia (1988) also compared verbal and math achievement test scores of Asian immigrants with native-born Asian Americans. Hsia (1988) found that first generation Asian Americans scored higher on both verbal and math achievement tests than native-born Asian Americans. Native-born Asian American students from wealthy families attending a selective private college in New England whose preferred language is English, however, are no more likely than non-Asian students to enroll in math or science majors when demographic characteristics are held constant. They also did not perform better academically than non-Asian students and were more likely to be placed on academic probation, which suggests that less acculturated students perform better. Chu (1991) also found that less acculturated Asian American students attending a community college have higher college GPAs than more acculturated Asian American students.

In his study of completion rates of students of different races, Alexander Astin (1996) found that white students have the highest graduation rates from public universities six years after enrolling (41.8%), followed by Puerto-Rican-Americans (39.9%), Asian-Americans (39.2%), African-Americans (29.9%), and Mexican-

American/Chicano (29.1%) students. Average high school grades, SAT verbal and math scores, and gender were significant predictors of both four and six year completers. College major also affects degree completion. Race was a significant predictor of four year completion rates but not of six year completion rates for students at all types of institutions. In addition, more variance is accounted for in the four-year degree completion rate than in the six-year completion rate, suggesting that chances of graduating become more difficult to predict the longer one takes to graduate. As indicated in Tables 2 and 3, when separate regression equations were used for black, Chicano, Puerto Rican, American Indian, and white students, Astin (1982) found that pre-college characteristics such as high school achievement and family socioeconomic status affected college GPA and persistence for some groups but not for others. College experience variables such as type of institution attended and whether or not a student works full-time had a more consistent effect on the different minority groups studied.

Table 2

Effect of Demographic Traits on GPA and Persistence*

(Blank space indicates not significant).

	College Grade Point Average					Persistence				
Pre-college Traits	Black	Chicano	Puerto Rican	American Indian	White	Black	Chicano	Puerto Rican	American Indian	White
H.S.** grades	+	+	+	+	+	+	+		+	+
SAT/ACT scores	+	+				+				
College Prep. Curriculum						+	+			
Good Study Habits		+		+	+	+	+		+	+
Female	+		+		+	+	-			-
Older		+			+	-	-			-
Parental Income	+	+				+		+		
Parental Education						+	+	-***	+	+
Parental Occupation										
Proportion of minorities in H.S.	-					-				

*Persistence is defined as a student who was still enrolled after two years. GPA was also collected two years after the start of freshman year.

**High School.

***Only for students entering two year colleges. Effect on students in four year colleges was insignificant.

Source: Table compiled from Astin (1982)

Table 3

College Experience Factors that Affect Student GPA and Persistence*

(Blank space indicates not significant).

	College Grade Point Average					Persistence				
College Experience	Black	Chicano	Puerto Rican	American Indian	White	Black	Chicano	Puerto Rican	American Indian	White
Educational Goals	+	+	+	+	+	+	+	+	+	+
Two year college	N/A	N/A	N/A	N/A	N/A	–	–	–	–	–
Science,math, engineering major	–	–	–	–	–					
Working more than 20hrs/week off campus						–	–	–	–	–
Part-time on-campus work-study						+	+	+	+	+

*Persistence is defined as a student who was still enrolled after two years. GPA was also collected two years after the start of freshman year.

Source: Table compiled from Astin (1982)

Vincent Tinto (1987) emphasized the importance of integrating students into the mainstream social and academic culture of the institution at both commuter and residential campuses in his studies of college persistence. Students are more likely to persist when a student's academic abilities match the intellectual demands of an institution and when they fit-in socially with the dominant peer group. External communities, especially for students who commute; individual educational or occupational goals; motivation, drive or effort; commitment to the institution attended; adjustment to college academic and social demands; and academic difficulty also affect student departure rates (Tinto, 1987). Tinto views these factors as important for all races and ethnic groups. Pascarella et. al.'s (1981) study of freshmen persistence at a nonresidential urban university supported Tinto's theory that students who persist are more integrated into the institution.

Many studies on minority student persistence and achievement on predominantly white campuses do not support Tinto's theory of integration. These studies find that minority students perform better and are more likely to persist when they affirm their own cultural identities rather than assimilate to the white mainstream culture (Tierney, 1999; Nora and Rendon, 1993; Steele, 1992). As compared to predominantly white universities, Nettles (1988) found that black students attending predominantly black colleges perform better and are more likely to persist. Steele (1992) has found that black students perform better in an atmosphere where their culture is valued, which may be more likely on a predominantly black campus.

Sue (1985) and Hsia (1988) provide insight into the differences in college performance and persistence between native-born and foreign-born Asian American

students in California and nationally. These studies, however, do not consider how college experience affects Asian immigrant performance, and Chu (1991) looks at only community college students. Mexican-Americans are over-represented in studies of Hispanic native and foreign-born college students, and I found no studies that look at differences between native and foreign-born black students.

Although studies of immigrant college students are lacking, theories developed from studies of immigrant and native-born minority high school students provide insight into differences that might be found between the same populations of college students. In his study of secondary school students, John Ogbu (1991) argued that cultural differences between immigrant and non-immigrant minorities explain why immigrant minority students do better in school. According to Ogbu, different historical experiences lead to different patterns of adaptation in school for immigrant and non-immigrant minorities. Differences in the initial terms of incorporation into the society in which they now live and the pattern of adaptive responses that minorities have made to subsequent discriminatory treatment by members of the dominant group explain unequal academic performance between the two groups. Immigrant minorities interpret racial barriers as temporary problems to be overcome and maintain an optimistic view of future possibilities. Compared to the societies from which they came, they believe their opportunities are better. They also assimilate selectively, allowing them to maintain their cultural identity. Native-born or involuntary minority groups compare their status to members of the dominant group. They believe discrimination is permanent and institutionalized. In response, collective efforts are made to overcome barriers and an oppositional culture develops.

In their comparison of Mexican youth and native-born white American youth, Carola and Marcelo Suarez-Orozco (1995) found that Mexican students' attitudes towards school become more skeptical and ambivalent as students acculturated. Students with the most positive attitudes towards school were those who identified most with their Mexican culture and traditional support systems. Through her ethnographic research, Margaret Gibson (1995) found the most successful Hispanic immigrant students to be those who employed a strategy of additive acculturation. Immigrant students do better when old traits and new traits are blended, not when their old identity is replaced by a new one.

Alejandro Portes and Min Zhou (1993) found that "a strategy of paced, selective assimilation may prove the best course for immigrant minorities" in their study of second generation Punjabi Sikh and Cuban American students. Unlike the turn of the century, when assimilation mainly meant white ethnics adopting the culture of mainstream WASP society, the majority of immigrant groups today are members of minority racial groups. They often reside in lower-class inner-city neighborhoods where many youth perform poorly in school. Immigrants who assimilate to this underclass youth culture do poorly in school compared to immigrants who maintain their ethnic identity and maintain ties to family and other ethnic support systems that encourage academic achievement. "Segmented assimilation" is the term Portes and Zhou (1993) used to describe multiple assimilation outcomes: assimilating to mainstream middle-class American values, assimilating to an oppositional minority youth culture, or selectively assimilating by adopting certain American values while also maintaining certain ethnic values and support systems.

Research Questions and Hypotheses

My dissertation will compare the college progress and performance of immigrant and native-born students within black, Hispanic, Asian, and white racial groups, as well as between-groups. After controlling for socioeconomic status, pre-college academic skills, and college experience, I hypothesize the following based on the literature review:

H1. Within each racial/ethnic category, immigrants will perform better and be more likely to earn a degree after six years than their native-born peers.

> H1a. The native-immigrant gap grows even larger after controlling for family income, parental education, and high school preparation.

H2. (The segmented assimilation thesis) The academic performance and degree attainment gap between foreign-born and native-born will be greater for black and Hispanic students than for non-Hispanic white and Asian students.

H3. College experiences—as measured by social integration, academic integration, degree aspirations, major, hours spent working in a job, financial independence, as well as other control variables—will have a greater impact on minority students as compared to white students than on immigrant students as compared to native-born students.

H4. There will be a larger disparity between expressed educational goals and educational performance among native-born students than among immigrant students of the same race/ethnicity.

Chapter 3

Methodology

Data for this research was gathered through a survey of undergraduate students at all class levels enrolled at the City University of New York at the end of the 1995 fall semester by the CUNY Office of Institutional Research and Assessment (OIRA). It was designed to gather information on social origins, attitudes toward higher education, educational expectations, perceptions of the academic and social environment on campus, and satisfaction with services. To this data, I have merged additional demographic, high school performance, financial aid, college performance, graduation, and skills test data from 1985 to 2002 registration and performance files, 1985 to 1995 admissions files, 1995 to 2001 graduation files, financial aid files, and skills test files. Missing data has been imputed using multiple imputation.[1]

One-thousand students from each of seventeen CUNY four year, two year, and comprehensive colleges were randomly selected to create a sample of 17,000 from a total population of 179,067 undergraduate students enrolled at the start of the fall 1995 semester. The population included both full- and part-time students, as well as matriculated and non-matriculated students. The response rate was 39 percent, for a total of 6,383 responses.

Response bias in the sample was addressed by the CUNY Office of Institutional Research and Assessment (OIRA) through logistic regression in which a response to the survey was the dependent variable (response=1; non-response=0). In order to determine which variables to use for the final model, all possible independent variables were

entered using the Backward Stepwise elimination method. This method starts with all variables in the model and at each step, using Likelihood Ratio Test, evaluates variables for entry or removal until a model with the best fit is obtained. The independent variables used in this analysis were: gender, full/part-time status, college, age, ethnicity, class level, residency, degree and SEEK/CD status. The variables removed from the model by the backward method were residency, class level, and SEEK/CD.

After determining which independent variables would be used in the final model (the most parsimonious model with the best fit), the logistic regression model was run again. The predicted probability (p) of the respondents as compared to their distribution in the population was saved for each student. In order to make the respondents comparable to the population, response weights were set as the inverses of their predicted selection probability. In other words, the weights were calculated by dividing 1 by the predicted probability (1/p).

After applying the weights, the number of responses was converted into the size of the sampled population. The weights for each respondent had to be divided by the mean weight in order to reduce the total number of respondents to its original size. Adjusting for disproportionate college size required another set of weights. Since the response rate in each college was somewhat different, it had to be taken into account in addition to the colleges' relative sizes. The portion of the responses in each college out of the total responses was multiplied by the proportional size of each college, making the distribution of respondents equal to that of the undergraduate student population.

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[1]The software program Amelia by Gary King, James Honaker, Anne Joseph, and Kenneth Scheve was used to impute data. For a complete description, please go to the web site http://gking.harvard.edu/stats.shtml. To bring the number of imputed cases back to the original N, all cases were weighted by .02.

The final weights were obtained by multiplying the first set of weights (correcting for response bias) by the second set of weights (correcting for disproportionate college representation). A comparison of the respondents after weighting to the entire CUNY undergraduate population shows they have very similar distributions.

Because an additional 13% of students who enroll at CUNY transfer and graduate from other institutions (Lavin, Lerer, and Kovath, 1996), students who did not graduate from CUNY but were likely to have graduated from other institutions as determined by logistic regression are counted as graduates. This prediction was made based on the following equation:

YGRAD=(.213*FEMALE) + (.435*BLACK) + (.460*HISPANIC) + (.227*ASIAN) + (.845*I_GGPA) + (.032*I_GCRED) - 4.810

Counting these students as graduates increases the number of graduates by 8%, which is an underestimate based on the research of Lavin, Lerer, and Kovath (1996).

Ordinary Least Squares regression is used to determine the predictors of college GPA the last semester enrolled, time to degree, and degree aspirations. Logistic regression is used to determine whether or not a student graduated. College GPA, years to graduation, and degree attainment are based on 2001-2002 data, the latest available when this data file was compiled. Degree aspirations is a survey question (please see descriptions below). Because the sampling was within colleges, a correction was made to the standard errors in regression analysis that allowed for the clustering of observations within colleges in STATA. The effect is to make the significance testing more conservative than would otherwise be the case.

For each dependent variable, a five step nested model was used to determine 1) the raw effects of nativity and race, controlling for gender and 2) the proportion of the

nativity, race, and ethnic effects that were due to differences in a) language ability, b) socioeconomic status, c) pre-college academic preparation, and d) college experience. To compare models for each racial and ethnic group, the complete model was run for white, black, Hispanic, and Asian students. Because the model that predicted years to graduation included only students who graduated, the N was too small to run separate models for each racial and ethnic group.

These analyses will contribute to our understanding of factors associated with college performance and progression, within a theoretical context contrasting immigrant with native-born students of the same racial and ethnic group. The following variables will be included in the equations:

Dependent Variables:

College Grade Point Average: The last grade point average available as of Summer, 2002.

Graduated: A variable with a value of "1" for graduated and "0" for did not graduate as of Summer, 2001.

Years to graduation: A variable computed by subtracting the year a student was first enrolled from the year the student graduated.

Degree Aspirations: An ordinal survey question that asked a student to indicate the highest degree he or she intends to earn. Choices are: (1) none, (2) certificate, (3) associate degree, (4) bachelor degree, (5) master's degree, (6) Ph.D., Ed.D., M.D., D.D.S., LL.B.(Law), B.D. (Divinity), etc.

Independent Variables:

Model 1—Immigrant, Race, and Gender

Immigrant: Students who arrived in the U.S. after the age of 12.

1.5 generation: Students who arrived in the U.S. before the age of 12. The comparison group for both of these immigrant variables is native-born students.

Female: A dummy variable for gender where 1 indicates female and 0 indicates male.

Race: Three dummy variables were created for black, Hispanic, and Asian students. White students are the reference category.

Model 2—Language Effects

Bilingual: A dummy variable that indicates the student is comfortable speaking two languages.

Non-English: A dummy variable that indicates the student is more comfortable with a language other than English. For both of these language variables, students who are most comfortable with English is the comparison group.

Model 3—Household Characteristics

Family income: 1995 financial aid data is used when available; if not available, students' self-reported response to the survey is used. Financial aid data is available for seventy percent of students.

Parental level of education: An ordinal variable that takes the highest level of mother's or father's education.

Age: A continuous variable based on college registration records in 1995.

Single parent: A dummy variable that indicates if the student is a single parent. The reference group is students who are not single parents.

Model 4—Pre-College Academic Skills

College Preparedness: A scale developed by standardizing high school grade point averages overall and in English, mathematics, science, and social studies; high school credits overall and in mathematics and science; and scores of pre-college skills tests administered by CUNY in reading and mathematics to a mean of zero and a standard deviation of one. An alpha value of .9042 showed that these variables formed a reliable scale. The mean of these values was computed to create the college preparedness scale. When skills test scores were missing, SAT scores were substituted based on the following equations:

YRSCORE=(.03422*USATVER) + 2.788.
YMSCORE=(.04770*USATMAT) + 8.695.

Remedial Courses: Total number of remedial courses taken based on skills test scores.

ESL: A dummy variable that indicates the student has taken an ESL class. Students who have never taken an ESL class are the comparison group.

Model 5—College Experience

Associate degree: A dummy variable indicating the student is enrolled in an associate degree program. The comparison group is students enrolled in a bachelor's degree program.

Class standing: Three dummy variables were created for sophomore, junior, and senior to indicate class standing at the time the survey was taken. Freshman is the comparison group.

College: Dummy variables were created for 16 CUNY undergraduate colleges. The comparison group is students attending the College of Staten Island.

Math/Science major: A dummy variable indicating the student majored in a math or science oriented major, not including 2-year technical majors. The comparison group includes humanities, social science, business, technical, and all other majors that are not natural science, math, computer science, engineering, or architecture majors.

Neighborhood safety: A scale developed from survey questions that indicates the student does not feel safe in his or her neighborhood. Questions include: How safe do you feel in your home? How safe do you feel in your neighborhood? How safe do you feel commuting from your home to your college campus? The reliability test resulted in an alpha of .7482.

Academic integration: A scale developed from survey questions that indicates the student is integrated academically into the institution. The reliability test resulted in an alpha of .7585. Students indicated on a scale from 1 to 5 if all, most, some, few, or none of their teachers met the following expectations:

- Teachers treat students fairly.
- Students know faculty members well enough to drop in and chat with them.
- Teachers take their responsibility to students seriously.
- Students are easily able to get an appointment to speak with teachers about classwork.
- Students know a faculty member well enough to ask for a letter of recommendation.
- Teachers try hard to help students understand course material.
- Students are able to locate their teachers if they have questions.
- Teachers are encouraging.
- I have spoken with a professor outside of class. (T/F)

Social integration: A scale developed from survey questions that indicates the student is integrated socially into the institution. The reliability test resulted in an alpha of .7066. Students were asked to indicate their level of agreement or disagreement on a scale from 1 to 4 on the following questions:

- Students help each other a lot with school work.
- Generally, students at this college are friendly.
- I feel that I fit-in at this college.
- Students from different racial and ethnic groups get along well at this college.
- Generally, students set high standards of academic achievement for themselves.
- There is little racial tension at this college.
- Most students at this college are very ambitious.

Hours employed per week: A continuous survey question.

Attends part-time: A dummy variable where 1 indicates part-time status and 0 indicates full-time status during the fall, 1995.

Financially independent: A dummy variable where 1 indicates the student is financially independent and does not rely on a parent or guardian for financial support and 0 indicates the student relies on a parent or guardian for financial support.

Transfer: A dummy variable where 1 indicates the student was admitted from outside the CUNY system and 0 indicates the student has no transfer credits from outside the CUNY system.

No quiet place to study at home: A dummy variable where 1 indicates the student has no quiet place to study at home and 0 indicates the home is quiet for studying.

Chapter 4

Characteristics of CUNY Undergraduates

Demographic, socioeconomic, and academic characteristics of CUNY students differ for immigrant and native-born students and for students of different races. Before performing regression analyses to determine which student characteristics have the greatest impact on college student performance and retention, it us useful to examine the social characteristics of immigrant and native-born white, black, Hispanic, and Asian students and the similarities and differences between groups. Place of birth of students and their parents, the type of high school attended, pre-college math and reading skills, family income, parental level of education, and college achievement are some of the characteristics that will be examined in this chapter, the data for which is from the 1995 CUNY Student Experience Survey and CUNY institutional research data that has been merged with the survey data.

Demographic characteristics

As indicated in Table 1, 46% of the CUNY student population was born abroad, double the proportion of foreign-born living in New York City. Among foreign-born students, about a quarter arrived in the U.S. before the age of twelve, so the majority of immigrants attending CUNY were schooled overseas. The largest proportion of Hispanic (31%) and Asian (29%) immigrants arrived before the age of 12 and the smallest proportion of Black (21%) and White (23%) immigrants arrived before the age of 12. For students whose countries of origin had high quality school systems, this could help them perform better in college than their native-born peers. For students whose countries of origin had poor quality schools, performing well academically in college might be

more challenging. Comparisons of the proportion of immigrant students in different racial and ethnic groups shows that the smallest proportion of white students are immigrant (28%), and the largest proportion of Asian students are immigrant (83%). Relatively few native-born Asian students attend CUNY. The proportion of black and Hispanic students who are immigrants is slightly above the proportion of immigrants at CUNY overall, 49% and 48%, respectively.

Table 1
Immigrant and native-born CUNY students by generation in the U.S. (%)

	Overall	White	Black	Hispanic	Asian
Immigrant	**45.7**	**27.7**	**48.7**	**47.7**	**82.5**
1.5 generation*	25.8	22.7	21.4	31.0	29.1
Native Born	**54.3**	**72.3**	**51.3**	**52.3**	**17.5**
Second generation**	24.9	22.8	16.6	42.5	15.5
One parent born abroad	26.3	42.1	28.0	17.4	9.8
Both parents born abroad	73.7	57.9	72.0	82.6	90.2
Third generation or more***	28.2	48.9	32.8	8.8	1.7

*Born abroad and arrived in U.S. before age 12.
**At least one parent born abroad.
***Both parents born in U.S.

Native-born students are students who were born in the U.S. Second generation students are native-born and have at least one parent born overseas. Both students and parents of the third generation were born in the U.S. Although differences between native-born students is beyond the scope of this research, it is useful to consider the proportion of native-born students from each racial or ethnic group who are second or third generation Americans. Students who are third generation Americans are more likely to have been acculturated into American society than first or second generation

Americans. According to the segmented assimilation thesis, this could have negative or positive effects on academic performance and retention, depending on the peer groups with which students associate. For students who live in poor, inner-city, black or Hispanic neighborhoods where academic performance tends to be poor, it would be beneficial to maintain immigrant values. In this case, students of the third generation who are more likely to be acculturated into this peer group would be expected to perform worse academically than immigrant or second generation students who have stronger ties to their immigrant culture. Third generation white and Asian students would be expected to have less of a disadvantage since these groups, as a whole, tend to perform better academically. For these groups, acculturation and language fluency may give the third generation an advantage over their immigrant and second generation peers. Overall, 25% of native-born students are second generation and 28% of native-born students are third generation. Families of white and black students have been in the U.S. for the longest period of time. Forty-nine percent of native-born white students and 33% of native-born black students are third generation Americans. In contrast, only 9% of native-born Hispanic and 2% of native-born Asian students are third generation.

Table 2
Regional representation of immigrant and native-born CUNY students (%)

		Overall		White		Black		Hispanic		Asian	
Region	Total Number	imm	nb	imm	nb	imm	nb	imm	nb	imm	nb
Africa	168	3.5	2.2	0.6	0.2	9.2	7.7	0.3	0.3	0.9	1.8
Asia	658	19.1	3.9	2.4	0.5	0.6	1.0	0.6	1.1	89.0	75.2
Caribbean	2121	41.9	29.4	4.9	1.4	74.1	33.6	56.9	72.7	2.6	7.3
Central America	150	3.6	1.7	0.4	0.2	2.0	2.0	10.5	4.1	0.2	
North America, excluding USA	24	0.5	0.3	0.6	0.3			1.4	0.4		
USA	578	0.2	20.8	0.4	14.9	0.2	47.5	0.1	7.6	0.2	3.7
South America	547	13.7	4.3	6.3	1.0	11.7	2.8	28.7	10.8	4.7	4.6
Eastern Europe	465	10.7	5.7	55.2	12.7	0.2	0.4	1.0	0.4	0.4	
Western Europe	930	4.5	29.6	19.8	64.6	1.9	4.1	0.3	2.6	0.2	4.6
Oceania	2		0.1		0.1		0.1				
Middle East	126	2.3	2.1	9.4	4.2	0.1	0.7	0.1	0.1	1.9	2.8
Total	5767	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

As indicated in Table 2, the largest proportion of immigrant students attending CUNY are from the Caribbean (42%), followed by Asia (19%), South America (14%), and Eastern Europe (11%). Caribbean immigrant students, by far, outnumber students of any other ethnic group. Among native-born students, about equal numbers have relatives from Western Europe (30%) and the Caribbean (29%). When asked from what country or part of the world a student's family originally came, twenty-one percent of native-born students identified first with the U.S. and not with a foreign country, reflecting a high level of assimilation among some native-born students. Nearly eighty percent of students who identify first with the U.S. are third generation or more, suggesting that the further removed a student is from the first generation, the more likely he or she is to identify with the U.S. Forty-eight percent of black native-born students identify with the U.S., 90% of

whom are third generation or more; followed by 15% of white, 8% of Hispanic, and 4% of Asian students.

Table 3
Most highly represented countries of origin of CUNY students

Country	Immigrant (%)	Native-Born (%)	Total N
USA	1.1	98.9	578
Puerto Rico	17.1	82.9	532
Dominican Republic	71.6	28.4	498
Italy	3.4	96.6	384
Jamaica	83.5	16.5	372
Haiti	74.7	25.3	313
Former USSR	77.2	22.8	273
Guyana	85.9	14.1	209
Ireland	5.3	94.7	209
Trinidad and Tobago	67.9	32.1	171
China	81.3	18.7	165
Ecuador	64.9	35.1	129
Poland	48.8	51.2	126
Colombia	67.3	32.7	112
Hong Kong	73.8	26.2	105
Germany	4.9	95.1	83
Greece	38.6	61.4	83
United Kingdom	27.5	72.5	81
India	72.7	27.3	76
Israel	34.8	65.2	72
Nigeria	58.1	41.9	70
Barbados	74.6	25.4	68
South Korea	91.7	8.3	63
Philippines	72.9	27.1	62

The majority of white immigrant students identify with Eastern (55%) and Western (20%) Europe. Sixty-five percent of white native-born students identify with Western Europe, reflecting the origin of immigrants who arrived at the turn of the century. For black and Hispanic immigrant and native-born students, the Caribbean is

the region with which these students most often identify. Seventy-four percent of immigrant black and 34% of native-born black students identify with the Caribbean. Among Hispanic students, 57% of immigrants and 73% if native-born students identify with the Caribbean. An additional 29% of Hispanic immigrant students identify with South America. Eighty-nine percent of Asian immigrant and 75% of Asian native-born students identify with Asia.

Table 3 shows the countries of origin with which at least 50 students identify. It should be noted here that because of significant differences between the U.S. and Puerto Rico both culturally and economically, students from Puerto Rico are considered immigrants. Excluding the U.S., the ten countries in descending order with which students most often identify are: Puerto Rico, the Dominican Republic, Italy, Jamaica, Haiti, the former USSR, Guyana, Ireland, Trinidad and Tobago, and China. Of these ten countries, those which send large proportions of immigrants include Guyana (86%), Jamaica (84%), China (81%), former USSR (77%), Haiti (75%), the Dominican Republic (72%), and Trinidad and Tobago (68%). Those with the smallest proportion of immigrant students include Italy (3%), Ireland (5%), Germany (5%), and Puerto Rico (17%). The majority of students from these three countries are native-born. Although not among the top ten countries, Poland is of interest because it is the only country with which about equal proportions of both immigrant (49%) and native-born (51%) students identify, reflecting both turn-of-the-century and more recent immigration.

Table 4
Gender, race, and age of CUNY students

	Overall		white		black		Hispanic		Asian	
	imm	nb	imm	nb	imm	nb	imm	nb	imm	nb
Gender (%)										
Female	58.5	64.7	56.0	60.5	62.7	71.8	62.7	64.1	48.6	54.2
Male	41.5	35.3	44.0	39.5	37.3	28.2	37.3	35.9	51.4	45.8
Average age	27.3	27.9	27.2	30.8	28.8	27.1	27.5	24.9	24.5	21.6
Race/ethnicity (%)	NA	NA	18.9	41.5	34.0	30.2	26.3	24.3	20.8	3.7

As reflected in Table 4, black students are the most highly represented group among immigrants. Thirty-four percent of immigrant students are black, 26% are Hispanic, 21% are Asian, and 19% are white. Among native-born students, 42% are white, 30% are black, and 24% are Hispanic. Only 4% of native-born students are Asian.

Overall, CUNY enrolls a higher proportion of female than male students. Across all racial/ethnic groups, as compared to native-born students, a higher proportion of immigrants are male. The largest difference in gender representation between immigrant and native-born students within racial and ethnic groups is among black students--37% of black immigrants are male and 28% of native-born black students are male. Compared to immigrant and native-born students of other races, a relatively small proportion of black males enroll at CUNY. Gender representation among Asian students is the most equal—51% of Asian immigrants are male and 46% of native-born Asian students are male. Asian immigrants are the only racial/ethnic group with a higher proportion of males enrolled than females.

The average age of immigrants at CUNY is 27 and the average age of native-born students is 28. White native-born students are the oldest, with an average age of 31, and

Asian native-born students are the youngest, with an average age of 22. Asian students take less time off between high school and college, which could give them an advantage academically.

Socioeconomic characteristics

As indicated in Table 5, overall, families of native-born students have significantly higher average incomes ($37,891) than families of immigrant students ($26,638). Also, the difference between the lowest and highest earning racial and ethnic groups is much greater among native-born than among foreign-born groups. Native-born white students come from families with the highest average incomes ($52,874), followed by native-born Asian ($35,759), native-born Hispanic ($28,016), and native-born black ($27,740) students, a spread of $25,000 between the lowest and highest earning groups. The spread between the lowest and highest earning immigrant families, on the other hand, is only $7,000. Mean immigrant family income for white, black, and Asian students is between $28,000 and $29,000. Mean family income of immigrant Hispanic students is $21,623.

Within groups, the largest difference in income is between immigrant and native-born white students, $52,874 and $28,087, respectively. Black immigrants earn slightly more than native-born black students, $28,626 and $27,740, respectively. For no other racial or ethnic group do immigrants earn more than native-born students.

Table 5
Socioeconomic characteristics of CUNY students

	Overall		white		black		Hispanic		Asian	
	imm	nb	imm	nb	imm	nb	imm	nb	imm	nb
Avg. family income ($)*	26,638	37,891	28,087	52,874	28,626	27,740	21,623	28,016	28,740	35,759
Number of people in household (avg.)	3.6	3.3	3.1	3.2	3.7	3.2	3.5	3.2	4.0	4.0
Income supports people living elsewhere (%)	28.7	12.6	17.2	9.4	42.0	16.6	23.8	12.8	23.8	16.2
Financially dependent on parents or guardian (%)										
Yes, fully or partially	47.7	47.0	47.1	46.8	38.2	40.2	42.2	51.1	70.4	78.0
Parental level of education (%)										
8th grade or less	22.2	9.5	12.5	8.7	21.4	5.4	35.9	15.8	15	10.3
Some high school	15.6	13.2	7.2	10.0	18.1	10.5	18.2	22.2	16.5	12.0
High school graduate	20.5	29.0	19.1	30.3	23.8	28.2	17.9	29.3	19.6	19.7
Some college	12.9	20.2	11.1	17.7	15.7	26.4	12.4	17.5	10.4	16.2
College graduate	18.0	16.2	30.6	16.5	12.3	18.8	9.8	10.9	25.6	27.4
Graduate or professional school	10.8	11.9	19.5	16.8	8.7	10.7	5.9	4.2	12.8	14.5
Married (%)	18.3	15.3	23.5	20.3	18.6	12.0	17.4	12.6	14.1	4.2
Student supports children (%)	30.5	25.3	20.8	17.4	41.8	37.6	38.3	26.1	11.1	9.3
Avg. number of hours student works in a job	16.6	18.5	14.5	20.5	20.5	17.8	16.7	16.6	12.4	12.8
Neighborhood safety (%):										
Very safe	32.6	46.4	44.3	58.9	26.7	36.3	29.3	39.4	35.6	35.9
Somewhat safe	57.2	47.4	51.7	37.9	63.3	55.9	53.0	51.4	57.7	57.3
Not safe	10.2	6.2	4.0	3.2	10.0	7.8	17.7	9.3	6.7	6.8

*2003 U.S. dollars

In addition to having lower incomes, immigrant families, on average, support significantly more people. Asian immigrant and Asian native-born students have the largest households, averaging 4 people, each. Native-born white, black, and Hispanic households have 3.2 people, each. Immigrant black (3.7 people) and immigrant Hispanic (3.5 people) students have the largest households after Asians, while immigrant white students have the smallest households (3.1 people). Differences in household size are statistically significant between immigrant and native-born white, black, and Hispanic students. There is no statistically significant difference in household size between immigrant and native-born Asian students.

In addition to having slightly larger households overall, significantly more immigrant families support people living elsewhere. Twenty-nine percent of immigrants support people living elsewhere as compared to only 13% of native-born. The proportion of black immigrants supporting people living elsewhere far exceeds that for other immigrant groups—42% of black immigrants, 24% of Hispanic and Asian immigrants, and 17% of white immigrant families support people living elsewhere. Families of immigrant white, black, and Hispanic students are significantly more likely to support people living elsewhere than native-born students of the same groups. Asian immigrant and native-born students are equally likely to support people living elsewhere.

Considering their lower family income, one might expect immigrant students to work more hours than native-born students. This, however, is not the case. Overall, immigrant students work significantly fewer hours than native-born students, 17 and 19 hours on average, respectively. The exception is among black immigrant students—they

work almost 3 hours more each week than native-born black students. Immigrant black students and native-born white students work the most hours (21 hours), followed by native-born black (18 hours), immigrant and native-born Hispanic (17 hours), immigrant white (15 hours), native-born Asian (13 hours), and immigrant Asian (12 hours) students. Although differences between immigrant and native-born white and black students are statistically significant, there is no statistically significant difference between immigrant and native-born Hispanic and Asian students on the number of hours they work. As one would expect based on the relative number of hours spent working, Asian students are the most likely to be dependent on a parent of guardian. Seventy-eight percent of native-born Asian and 71% of immigrant Asian students are financially dependent on a parent of guardian. Fifty-one percent of native-born Hispanic, 47% of immigrant and native-born white, 42% of immigrant Hispanic, 40% of native-born black, and 38% of immigrant black students are supported by a parent or guardian. When considering income and student dependency, the most striking comparison occurs between immigrant and native-born white students. Although incomes of native-born white students' families are nearly twice that of white immigrant students' families, students of white immigrant families are about equally likely to be supported financially by a parent or guardian.

In addition to working more hours and being less likely to be dependent on a parent or guardian than other groups, 42% of immigrant black students and 38% of native-born black students support children of their own. Fewer than 19% of black immigrant students and 12% of native-born black students are married; therefore, the majority of these students raise children as single parents or are dependent on extended family. The proportion of Hispanic immigrant and native-born students supporting

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typically have better public schools, more positive peer influences, and fewer distractions. In addition to low family incomes, Hispanic students have more environmental obstacles to overcome on their way to a college degree than other groups.

Between 28% and 29% of both immigrant and native-born students have at least one parent who has a college degree, making more than 70% of students in this study first generation college students. Overall, parents of native-born students have significantly higher levels of education than parents of immigrant students. Among immigrants, 50% of white, 38% of Asian, 21% of black, and 16% of Hispanic students have at least one parent with a college degree. Among native-born students, 42% of Asian, 33% of white, 30% of black, and 15% of Hispanic students have at least one parent with a college degree. Differences between immigrant and native-born white, black, and Hispanic students are statistically significant. There are no statistically significant differences between Asian immigrant and native-born students.

It is striking that white and Hispanic parents of immigrant students have higher levels of education than those of native-born white and Hispanic students. One imagines that more highly educated parents of native-born white and Hispanic students are not sending their children to CUNY. Despite differences in the proportion of parents of immigrants who have a college degree, family income of immigrant students across all racial and ethnic groups is relatively equal. For example, although more than twice as many parents of immigrant white students than parents of immigrant black students have a college degree, differences in family income between these two groups is slight. Lacking the networking opportunities of the native-born, immigrants often rely on ethnic niche economies. Regardless of credentials, jobs obtained through an ethnic niche often

do not provide the same earning potential as jobs available in the mainstream economy, which are more accessible to the native-born.

In addition to looking at the proportion of parents with relatively high levels of education, it is also useful to look at the proportion of parents with low levels of education. Almost 36% of the parents of Hispanic immigrant students have no more than an eighth grade education, yet over 42% are supporting their child financially while in college, a proportion not much lower than that of immigrant groups that have significantly higher levels of education. Also, Hispanic students work less than 17 hours per week, which is the average number of hours that immigrant students of all racial and ethnic groups work. Despite having the lowest levels of education and nearly the lowest income of all immigrant and native-born groups, relative to others, Hispanic parents strongly support their children's pursuit of a college degree. Over 21% of the parents of black immigrant students, 15% of the parents of Asian immigrant students, and 13% of the parents of white immigrant students have no more than an eighth grade education.

Language skills and pre-college academic and high school characteristics

CUNY divides the type of high school a student attended into five different types: New York City public high school, General Equivalency Diploma (GED), New York City private high school, high school outside of New York City in New York State, and foreign high school. There is wide variability between immigrant and native-born students in where they attended high school. As indicated in Table 6, overall, 49% of immigrant students attended a New York City (NYC) public high school, 26% attended a foreign high school, 21% earned a GED, 2% attended a NYC private high school, and 2% attended high school in New York State, outside of New York City. Sixty-two percent of

native-born students attended a NYC public high school, 15% attended a NYC private high school, 12% earned a GED, 6% attended a foreign high school, and 4% attended high school in New York state, outside of New York City. Between racial and ethnic group differences of immigrant and native-born students are also large. Over 26% of native-born white students attended a NYC private high school, whereas only 13% of native-born Hispanic, 12% of native-born Asian, and 6% of native-born black students attended a private NYC high school. Only 1% to 6% of immigrants in all racial and ethnic groups attended a private New York City high school. Asian immigrant and native-born students are the least likely to have earned a GED, 7% and 5%, respectively. Immigrant black (31%) and immigrant Hispanic (26%) students are the most likely to have earned a GED. Sixteen percent of native-born black, 10% of native-born white, and 9% of immigrant white students earned a GED.

Of all immigrant groups, Asian students are the most likely to have attended a NYC public high school (60%), followed by Hispanic (50%), white (45%), and black (44%) students. Among the Asian native-born students, Asians (72%) are the most likely to have attended a public NYC high school, followed by Hispanic (66%), black (66%), and white (54%) native-born students. The largest proportion of white immigrant students attended high school overseas (36%), followed by immigrant Asian (29%), immigrant black (22%), and immigrant Hispanic (21%) students.

Table 6
Academic and language skills of CUNY students

	Overall		white		black		Hispanic		Asian	
	imm	nb	imm	nb	imm	nb	imm	nb	imm	nb
Type of high school (%):										
NYC Public	49.2	62.1	44.7	54.3	44.2	65.6	49.7	66.3	60.0	71.6
GED	21.0	12.2	9.0	9.6	31.1	15.9	26.0	12.2	7.0	5.3
NYC Private	2.2	15.3	6.1	26.5	1.1	5.6	1.4	13.0	2.5	11.6
NY State	1.9	4.2	3.9	5.3	1.5	4.1	1.4	2.6	1.7	6.3
Foreign	25.6	6.2	36.3	4.3	22.1	8.7	21.4	5.9	28.9	5.3
Avg. math skills test score	26.0	25.1	29.5	27.6	23.5	22.6	21.5	23.4	32.0	30.6
Percent passing	61.0	57.3	77.3	70.4	50.3	44.1	40.7	47.2	87.0	83.0
Avg. reading skills test score	11.5	16.1	11.9	17.9	12.0	14.5	10.6	14.7	11.4	17.0
Percent passing	45.7	76.1	47.6	88.5	49.5	65.7	39.4	66.7	44.4	81.7
Speaks a language other than English at home (%)	71.2	33.6	83.3	18.2	36.1	12.7	94.6	81.2	88.0	64.4
If yes, language most comfortable with (%):										
English	10.7	50.8	12.1	61.1	13.7	58.6	8.1	45.1	11.4	54.1
Language other than English	30.1	2.7	29.4	3.1	16.6	1.7	29.4	2.8	40.1	2.7
Equally comfortable with both	59.2	46.5	58.5	35.8	69.7	39.7	62.4	52.1	48.4	43.2

*Numbers are not large enough to report pass rates for NA groups (N less than 50).

Between 70% and 80% of all students who enter CUNY take either the math or reading skills test, a test required of freshmen for placement into math and English courses. Exemptions from the test are based on SAT and regents test scores, as well as transfer credits. Students who pass the test are not required to take remedial coursework. As would be expected, native-born students have significantly higher scores on the reading test than foreign-born students. Seventy-six percent of native-born students and 46% of immigrant students pass the reading skills test. Looking at racial and ethnic

groups, native-born white students have a passing rate of 89%, the highest of all racial and ethnic groups. The passing rate for native-born Asian students is 82%, native-born Hispanic students have a passing rate of 67%, and native-born black students have a passing rate of 66%. No immigrant group has a passing rate over 50%. Forty-nine percent of black immigrant, 47% of white immigrant, 44% of Asian immigrant, and 40% of Hispanic immigrant students pass the reading skills test.

In contrast to the reading test, immigrant students score significantly higher on the math skills test than native-born students. Overall, 61% of immigrant and 57% of native-born students pass the math skills test. Asian immigrant and native-born students have the highest passing rates on the math skills test, 87% and 83%, respectively. Immigrant white students pass the math test as a rate of 77%, compared to 70% of native-born white students. Immigrant black students pass at a rate of 50%, compared to 44% of native-born black students. Immigrant Hispanic students pass at a rate of 41%, compared to 47% of native-born Hispanic students.

Overall, 71% of immigrants speak a language other than English at home, but so do 34% of native-born CUNY students speak a language other than English at home. Among immigrants, 95% of Hispanic students speak a language other than English at home, followed by Asian (88%), white (83%), and black (36%) students. Among native-born students, 81% of Hispanics, 64% of Asians, 18% of whites, and 12% of blacks speak a language other than English at home. Among students who speak a language other than English at home, 30% of immigrant students overall are more comfortable with a language other than English. More than 40% of Asian immigrant students are more comfortable with a language other than English, followed by 29% of white and

Hispanic immigrant students and 16% of black immigrant students. Considering the high percentage of immigrant students who are more comfortable with a language other than English, their relative low pass rates on the reading skills tests is not surprising.

College aspirations and performance

As indicated in Table 7, the average college grade point average (GPA) for immigrants is almost identical to that of the native-born, 2.78 and 2.76, respectively. Immigrant white students have the highest GPA (3.05), followed by native-born white (3.03), immigrant Asian (2.82), native-born Asian and immigrant black (2.71), immigrant Hispanic (2.67), native-born Hispanic (2.63), and native-born black students (2.51). The CUNY pattern is echoed in national studies where white students have the highest GPA (3.2), followed by Asian or Pacific Islander (3.14), Hispanic (3.07), and black (2.93) students (*Baccalaureate and Beyond Survey,* NCES, 1993).

Based on the last record available (2002 data), immigrant white students had earned the most credits (88) and native-born black students the fewest (67). Immigrant Asian students had earned 86 credits, native-born white students had earned 84 credits, immigrant black students had earned 82 credits, native-born Asian students had earned 75 credits, native-born Hispanic students had earned 72 credits, and immigrant Hispanic students had earned 71 credits.

Table 7
College experiences of CUNY students

	Overall		white		black		Hispanic		Asian	
	imm	nb	imm	nb	imm	nb	imm	nb	imm	nb
GPA (avg.)	2.78	2.76	3.05	3.03	2.71	2.51	2.67	2.63	2.82	2.71
Credits earned (avg.)	81.0	75.6	87.7	84.2	81.8	67.2	71.1	72.4	86.3	75.3
Degree aspirations (%)										
None	.7	2.0	1.5	3.6	.5	.8	.2	.6	1.0	4.0
Certificate	.7	.5	.9	.7	.5	.2	.8	.3	1.2	1.0
Associate	9.4	7.3	7.7	5.7	8.6	9.1	14.2	8.6	6.0	1.0
Bachelor's	29.6	29.5	30.3	29.4	26.0	24.7	30.8	35.0	33.4	35.6
Master's	37.7	38.0	40.6	40.0	36.7	38.3	34.7	34.7	40.4	34.7
Doctoral or professional	21.9	22.8	19.1	20.5	27.7	26.9	19.4	20.9	18.1	23.8
Degree Achievement (%)										
None	40.7	45.6	37.2	41.8	40.0	49.8	45.0	47.3	39.6	45.8
Associate	19.2	17.0	15.2	12.7	20.8	21.3	24.0	19.8	14.2	12.7
Bachelor	40.0	37.3	47.5	45.6	39.2	28.8	31.0	32.9	46.2	41.5
College type (%)										
Senior	59.9	66.9	68.7	75.6	58.7	58.9	49.1	60.2	67.4	78.0
Community	40.1	33.1	31.3	24.4	41.3	41.1	50.9	39.8	32.6	22.0
Years to degree (avg.)										
Associate	5.2	5.4	4.3	5.6	5.6	5.4	5.3	5.4	4.8	4.7
Bachelor's	5.8	6.1	5.1	5.6	6.4	6.8	6.5	6.7	5.1	5.2
Major %										
Arts & Humanities	89.3	95.3	86.0	95.5	92.9	96.1	92.9	95.0	81.4	89.9
Math/Science	10.7	4.7	14.0	4.5	7.1	3.9	7.1	5.0	18.6	10.1
Enrollment %										
Part-time	32.0	42.8	30.5	50.3	40.3	41.4	26.9	33.3	26.4	32.2
Transfer	15.8	15.4	28.3	19.6	13.0	13.7	9.4	12.0	17.5	11.2
No quiet place to study at home %	30.9	23.0	23.9	15.8	30.2	27.5	38.8	29.9	28.3	24.6

Approximately equal numbers of immigrant and native-born students aspire to at least a bachelor's degree, with the exception of immigrant Hispanic students and native-born Asian students. About 89% of immigrant students and 90% of native-born students aspire to at least a bachelor's degree. Slightly fewer Hispanic immigrant students aspire

to at least a bachelor's degree (85%) and slightly more native-born Asian students aspire to at least a bachelor's degree (94%). Six years after the survey was administered, 40% of immigrant students and 37% of native-born students had earned a bachelor's degree at CUNY. (Due to students transferring to other institutions, these figures do not capture the total number of students who actually earned bachelor degrees). Forty-eight percent of white immigrant students earned a bachelor's degree, followed by 46% of immigrant Asian students, 46% of native-born white students, 42% of native-born Asian students, 39% of immigrant black students, 33% of native-born Hispanic students, 31% of immigrant Hispanic students, and 29% of native-born black students.

An additional 19% of immigrant students and 17% of native-born students, overall, had earned an associate degree. Twenty-four percent of immigrant Hispanic, 21% of native-born and immigrant black, 20% of native-born Hispanic, 15% of immigrant white, 14% of immigrant Asian, and 13% of native-born white and Asian students had earned an associate degree at CUNY. Fifty percent of native-born black students had earned no degree at CUNY, followed by 47% of native-born Hispanic, 46% of native-born Asian, 45% of immigrant Hispanic, 42% of native-born white, 40% of immigrant black and Asian, and 37% of immigrant white students had not earned a degree at CUNY.

Earnings potential greatly increases with a college degree; therefore, students who take longer to graduate are at a disadvantage financially. Among graduates with a bachelor's degree, native-born black, native-born Hispanic, and immigrant Hispanic students take the longest to graduate with a bachelor's degree, about 7 years. Immigrant black students and native-born white students take about 6 years to earn a bachelor's

degree. Native-born Asian, immigrant Asian, and immigrant white students take an average of 5 years to earn a bachelor's degree. Associate degree programs typically require half the number of credits as bachelor degree programs, so it would be expected that students in associate degree programs would take substantially less time to graduate. As shown in Table 7, however, associate degree earners take nearly as long as bachelor degree earners to graduate. For both immigrant and native-born students, the difference in years between the average time taken to earn an associate's and bachelor's is less than one year.

Immigrant students are more than twice as likely (11% vs. 5%) to major in a non-technology based math/science oriented field as native-born students. Technology based courses are typically two year programs that train students for technical positions, such as computer technician or health care technician. The courses that are considered math and science oriented for this study are more theoretical in nature and prepare students for graduate school or research positions, i.e. mathematics, biology, chemistry. These courses are often considered to be among the most rigorous college courses and students who do well are eligible for entry into medical school and other well-paying high-demand fields such as engineering and architecture.

The greatest disparity in majors is between white immigrant and native-born students—14% of immigrants and only 5% of native-born white students major in a math or science oriented field. As would be expected, Asian immigrant students are the most likely to major in a math or science oriented field (19%). Both black and Hispanic immigrants are equally likely to major in a math or science oriented field (7%), while 4%

of black native-born students and 5% of Hispanic native-born students major in math or sciences.

Enrollment patterns also influence the time it takes to earn a degree. Immigrant students are significantly less likely to be enrolled part-time. Thirty-two percent of immigrant students and 43% of native-born students are enrolled part-time. Fifty percent of native-born white, 41% of native-born black, 40% of immigrant black, 33% of native-born Hispanic, 32% of native-born Asian, 31% of immigrant white, 27% of immigrant Hispanic, and 26% of immigrant Asian students are enrolled part-time. As with part-time status, because of lost credits, transfer students may also take longer to graduate. Fifteen percent of immigrant and native-born students enter CUNY with college credit from outside the CUNY system. White immigrant students (28%) are the most likely to enter CUNY as transfer students, followed by native-born white (20%), immigrant Asian (18%), native-born black (14%), immigrant black (13%), native-born Hispanic (12%), native-born Asian (11%), and immigrant Hispanic (9%) students. Hispanic immigrant students are the most likely to enter CUNY as first-time freshmen.

Perhaps because of larger household sizes, immigrant students overall and within each ethnic group are significantly less likely to have a quiet place to study at home. At residential colleges, this may not be of much interest. Students who commute are less likely to have easy access to quiet places to study on campus, so the home environment may have more impact on academic outcomes. Among immigrant students, Hispanics are the most likely to have a home environment that is not conducive to studying (39%), followed by immigrant black (30%), immigrant Asian (28%), and immigrant white (24%) students. Among native-born, 30% of native-born Hispanic, 28% of native-born black,

25% of native-born Asian, and 16% of native-born white students have no quiet place to study at home.

Academic and social integration have been shown to have an impact on college performance and retention rates and are used as independent variables in this study. As described in chapter 3, multiple survey questions were combined to create scales that measure these aspects of college experience. Tests of independence show that, overall, immigrants are less well integrated academically than native-born students. Within ethnic and racial groups, white, black, and Hispanic immigrants are less well integrated academically than native-born students of the same racial or ethnic group. There is no significant difference between immigrant and native-born Asian students.

Socially, native-born students are significantly more integrated, overall. Hispanic native-born students are significantly more socially integrated than immigrant Hispanic students, but there is no significant difference between immigrant and native-born students of the other racial and ethnic groups.

As indicated by these analyses, immigrant and native-born students within racial and ethnic groups differ on many factors that one might expect to affect college achievement. In some cases, immigrant students of one ethnic group are more similar to native-born or immigrant students of other ethnic groups than to their same-group native-born peers. Because a large proportion of the CUNY student population, as well as the population of other urban public universities, is foreign-born, the similarities and differences between the foreign born and native-born population calls into question the tendency to generalize when discussing issues concerning native-born and foreign-born

student populations. How these differences affect college performance and retention will be the topic of subsequent chapters.

Chapter 5

College Grade Point Average

Traditionally, grades have been intended to be an index of the degree of academic mastery of a subject (Rosovsky & Hartley, 2002). Although whether grades measure academic mastery or other characteristics such as motivation, drive, or effort is debatable, increasingly, quantitative measures of performance as measured by college GPA and SAT scores are used by employers as they screen undergraduate job candidates. According to surveys administered by the National Association of Colleges and Employers (NACE), between 1986 and 2003, the number of students concerned that poor grades will affect future job prospects has increased from 2.7% to 5.3%. Although these numbers are small, the proportion is steadily increasing. In contrast, in his survey of companies that recruit undergraduate students (N=535), the majority of which are among the top 500 manufacturing and service sector firms, Useem (1989) found that 96% consider a strong academic record to be an important factor when hiring. According to a 2004 NACE employer focus group study, although small and medium sized firms were less concerned about access to grades and SAT scores, larger employers want access to quantitative information on grades, test scores, and internships.

The most prestigious occupational positions require not only high college grade point averages, but also high standardized test scores such as the SAT (Dunham, 2003). Consulting firms and investment banks recruit at only the most selective colleges, leaving few options for students attending colleges like those in the CUNY system. Although CUNY students with stellar records may be hired into one of these firms, chances are slim that they will be hired as an analyst or as a consultant, positions through which

partners and executives are funneled. Attending a prestigious graduate school, however, can open opportunities for students who attended a less selective undergraduate university (Useem and Karabel, 1990). Fifty-six percent of students who completed the CUNY Student Experience Survey aspired to obtaining a graduate degree, and for these students, as well as for students seeking employment in highly competitive firms, undergraduate GPA will have an influence on future educational and career goals. This chapter will explore the factors that affect college GPA at CUNY for all students controlling for immigrant status, race and ethnicity.

All Students
Model 1
Immigrant, Gender, and Race/Ethnic Effects

As indicated in Table 1, immigrants do significantly better than native-born students, after controlling for gender and race and ethnicity. As indicated by the intercept, the average GPA for a white male native-born student is 2.95, the equivalent of a B-. In comparison, white male immigrant students earn an average GPA of 3.1, or a solid B, which places immigrant students in a better position for admittance into more prestigious graduate school programs. According to Wise (1975), this may also suggest that immigrant students will perform better and have higher earning potential in the work force. Immigrants who arrived before the age of 12, however, do not do significantly better or worse than native-born students. In terms of assimilation, this seems to suggest that students who are less well assimilated perform better than students who are more assimilated.

Female students have higher GPAs, on average, than male students, after controlling for immigrant status, race and ethnicity. White native-born female students have a B (3.06) average, as compared to a B- (2.95) for white native-born male students.

The average GPA for white female immigrant students is higher yet, at 3.21 (2.95 + .151 + .112). Black, Hispanic, and Asian students have lower GPAs than white students, after controlling for gender and immigrant status. Of all racial and ethnic groups, black students perform the least well in GPA, followed by Hispanic, and Asian students. As compared to the 2.95, or B-, of white native-born male students, black native-born male, Hispanic native-born male, and Asian native-born male students have average GPAs between 2.46 and 2.65, which is equivalent to a C+. Although females do better than male students in each of these racial and ethnic groups, the negative racial and ethnic effects far exceed the positive gender effect. In this model, racial and ethnic characteristics have the strongest effect on GPA, followed by immigrant status and gender.

Model 2
Language Effects

When language status is introduced in Model 2, the effect of being an immigrant increases by 24%; therefore, part of the immigrant advantage in the previous model was masked by disadvantages in English language ability. When comparing immigrant and native-born students who are equally comfortable with English and/or a foreign language, immigrant students have significantly higher GPAs than native-born students. Controlling for language had little influence on the effects of gender or race and ethnicity.

Bilingual students perform less well than students who speak only English fluently. This is contrary to Portes' (1996) finding that students who speak two languages fluently do better than students who speak only English, although the measure

used here does not measure literary understanding of a second language, which concerned Portes.

Model 3
Household characteristics

When family income, parents' level of education, age, and single parenthood are controlled, the immigrant advantage is reduced by 16% and the language effect disappears. Part of the reason that immigrants had higher GPAs and bilingual students had lower GPAs in the previous model is because of differences in household characteristics. Ethnic effects for Asian students are reduced by 31% in this model. Racial and ethnic effects for black and Hispanic students are not reduced substantially from the previous model.

On average, students from families with higher incomes have higher GPAs than students from families with lower incomes. Likewise, students whose parents have higher levels of education have higher GPAs than students whose parents have lower levels of education, suggesting that students whose families are more economically and educationally advantaged do better than students who are less advantaged. Older students tend to have higher GPAs than younger students. Single parents have lower GPAs than students who are not single parents, although the effect size is small. Considering the time and energy required to raise a child as a single parent, it is not surprising that these students have somewhat lower GPAs than students who do not have this responsibility. Being black or Hispanic, age, family income, and immigrant status are the strongest predictors of college performance in this model.

Model 4
Pre-College Academic Skills

Many studies have found pre-college academic skills to be one of the most important factors in determining college performance (Rosenbaum, 2001; Bowen & Bok, 1998; Massey, et al., 2003). Model 4 shows this to be the case for CUNY students, as well. High school preparedness is the single strongest predictor of college GPA. Beyond this, students who have taken remedial and ESL courses do less well than students who were not required to take these courses, even after controlling for high school preparedness, although the effect size of these two factors is very small. The amount of variance explained by this model jumps from 14% to 23%. Clearly, high school preparedness explains a substantial proportion of college performance.

When comparing immigrant and native-born students with the same pre-college academic ability, the effect of being an immigrant *increases* by 43%. Part of the positive immigrant effect in the previous model was masked by differences in pre-college academic skills as measured by high school preparedness, remedial and ESL coursework. When admitting an immigrant and native-born student of the same pre-college academic ability into college, it can be expected that the immigrant student's GPA will be .223 points higher than the GPA of a native-born student. In this model, immigrants who arrived both before and after the age of 12 do better than native-born students, net of high school preparation. Some commentators speculate that immigrants educated abroad receive stronger academic preparation in K-12 than Americans. My findings suggest that the immigrant advantage is *not* just a matter of previous schooling.

Racial and ethnic effects for black and Hispanic students decrease after controlling for pre-college academic skills, by 29% and 36%, respectively. A substantial

proportion of differences in college performance for black and Hispanic students can thus be explained by differences in pre-college academic skills, although there remains a substantial black and Hispanic disadvantage. In contrast, the effect size of being Asian changed only slightly when pre-college academic skills were controlled, suggesting that differences in family income, parents' level of education, and other household characteristics explain a larger proportion of the performance gap for Asians than differences in pre-college academic skills.

The effect of income on college performance decreases by 34%, and the effect of parents' level of education decreases by 45% after controlling for pre-college academic skills; thus, a relatively large proportion of the performance gap between students attributable to different socioeconomic backgrounds occurs by these students obtaining better pre-college academic skills. A one standard deviation increase in high school preparedness has more than three times the effect of family income and nearly seven times the effect of parents' level of education on college GPA. Although still significant, the effect of being a single parent decreases by 48% after controlling for pre-college academic skills, making the effect size on GPA negligible.

Model 5
College Experience

College experience is a label I use for a group of eleven variables that describe various aspects of a student's experience, from degree aspirations to social and academic integration in college. Controlling for college experience has a minimal effect on the coefficients for immigrant status, gender, racial and ethnic characteristics, language effects, or income level. The effect of age decreases by 15%. The negative effect of being a single parent increases slightly. When comparing students with similar college

experience, the effect of remedial coursework is reduced by 16%. The effect of parents' education also disappears after controlling for college experience.

Degree aspirations, academic integration, social integration, financial independence, and transfer status each have significant effects on college GPA. Students with higher degree aspirations have slightly higher college GPAs. Students who transferred into the CUNY system from another university or college have higher GPAs, on average, than those who began as freshmen. This may be due to self selection: weaker students are less likely to transfer. Financial independence also has a positive effect on GPA. Students who do not depend on a parent or guardian financially have higher college GPAs than students who are financially dependent, which is probably a reflection of their maturity and commitment to their education.

On average, students who are more academically integrated into the university have higher GPAs than students who are less academically integrated. This means that efforts faculty make to respect and know their students personally, to explain course material clearly, and to be accessible to students have positive effects on college GPA. Of all the variables that measure college experience, these factors, called academic integration here, have the strongest effect on GPA.

Social integration, on the other hand, has a negative impact on college GPA. Students who are more likely to help other students with homework, believe that students are friendly, feel that they fit-in, believe that students from different racial groups get along well on-campus, and believe that students set high standards of achievement for themselves have lower GPAs than students who are not as socially integrated, suggesting

that social integration may distract students from their academic pursuits. We note here that CUNY is *not* a residential university.

Table 1
Factors that effect college grade point average: all students

Independent Variables	Model 1 Immigrant Effects B(b)	Model 2 Language Effects B(b)	Model 3 Household Characteristics B(b)	Model 4 Pre-college Academic Skills B(b)	Model 5 College Experience B(b)
Immigrant Effects					
Immigrant	.101(.151)***	.125(.185)***	.105(.156)***	.150(.223)***	.143(.213)***
1.5 Generation	-.004(-.009)	.008(..018)	.022(.048)	.027(5.99e-02)*	.028(6.33e-02)*
Female	.077(.112)***	.077(.112)***	.078(.113)***	.085(.125)***	.085(.123)***
Black	-.325(-.488)***	-.333(-.500)***	-.284(-.428)***	-.203(-.305)***	-.207(-.311)***
Hispanic	-.276(-.450)***	-.260(-.422)***	-.207(-.336)***	-.132(-.214)***	-.151(-.246)***
Asian	-.137(-.302)***	-.131(-.288)***	-.091(-.201)***	-.090(-.198)***	-.082(-.180)***
Language Effects					
Bilingual		-.062(-.099)**	-.032(-.050)	-.010(-1.58e-02)	-.011(-1.74e-02)
Prefers a language other than English		-.021(-.048)	-.001(-.002)	.024(5.57e-02)	.028(6.36e-02)
Household Characteristics					
Family income			.108(2.99e-06)***	.071(1.99e-06)***	.068(1.90e-06)***
Parents' education			.065(.029)***	.036(1.61e-02)**	.009(4.14e-03)
Age			.184(.013)***	.191(1.38e-02)***	.162(1.165e-02)***
Single parent			-.052(-.095)**	-.027(-5.02e-02)*	-.032(-5.86e-02)*
Pre-College Academic Skills					
High school preparedness				.248(.226)***	.229(.208)***
Remedial courses				-.099(-4.03e-02)***	-.083(-3.39e-02)***
ESL courses				-.055(-9.42e-02)***	-.056(-9.62e-02)***
College Experience					
Degree aspirations					.081(5.63e-02)***
Academic integration					.095(1.30e-02)***
Social integration					-.049(-1.19e-02)***
Associate degree program					-.024(-3.45e-02)
Math/science major					-.015(-3.79e-02)
Unsafe neighborhood					.000(-5.88e-05)
Hours employed					-.010(-4.22e-04)
Part-time student					-.015(-2.23e-02)
Financially independent					.056(7.94e-02)***
Transfer student					.069(.133)***
No quiet place to study at home					-.014(-2.28e-02)
Intercept	2.95***	2.96***	2.32***	2.33***	2.07***
Adjusted R2	0.092***	0.095***	.139***	.228***	.259***

*p<.05 **p<.01 ***p<.001; N=6,383
The first three models account for observations being independent across groups but not necessarily within groups. The last two models use straight OLS. In the last model, colleges (17 total) are included as control variables. Standard errors are similar whether or not accounting for independence. Only standard errors and significance levels, not coefficients, change from one method to the other.

Factors that Affect GPA for White, Black, Hispanic, and Asian Students

When comparing white, black, Hispanic, and Asian students on factors that affect college performance as measured by college GPA, it becomes apparent that experiences vary significantly between racial and ethnic groups (Table 2). The immigrant effect is the strongest predictor of college GPA (and the immigrant-native gap is greatest) for black students and the weakest predictor for Hispanic students. As compared to their native-born black peers, the GPAs of black immigrants are .253 points higher than the GPAs of native-born black students. The GPAs of white immigrant students are .167 points higher than the GPAs of white native-born students, those of Asian immigrants are .150 points higher than those of Asian native-born students, and those of Hispanic immigrant students are .117 points higher than those of Hispanic native-born students.

The majority of the higher education literature that addresses race finds black and Hispanic students to have a disadvantage academically and Asian students to have an advantage, as compared to white students. Considering this literature, as well as the segmented assimilation theory, one might expect the immigrant advantage for Hispanic students to more closely resemble that of black students. When comparing the effect of immigrant status, however, the immigrant advantage for Hispanic students is minimal and more closely resembles that of Asian and white students. Hispanic immigrant students at CUNY come primarily from the Caribbean. Black immigrants also come primarily from the Caribbean, but these students have significantly higher GPAs than their native-born peers. As shown in Table 7, Chapter 1, although black immigrants have slightly higher GPAs than Hispanic immigrants, the largest gap is between black and Hispanic native-born students. GPAs of black immigrant students is 0.04 points higher

than the GPA of Hispanic immigrant students, but the performance gap between black and Hispanic native-born students is 0.12 points, Hispanic native-born students performing better. These descriptive statistics, as well as the regression models in Table 1 of this chapter, show that although Hispanic students are not as disadvantaged on GPA as black students, both Hispanic immigrants and native-born students have relatively low GPAs, so the advantages of being less assimilated for Hispanic students are not as pronounced. Unlike other studies that focus on Mexican immigrants in California, which have found immigrant Hispanic students to be at an advantage academically as compared to native-born Hispanic students, for the population of Hispanic students at CUNY, the immigrant advantage is minimal relative to that of white, black, and Asian students.

Immigrant students who arrived before the age of 12 are not significantly different than native-born students for all racial and ethnic groups, suggesting that growing-up in the U.S. reduces the positive effect of being an immigrant. Language effects are not significant for any racial or ethnic group.

Other factors that are consistently significant for all racial and ethnic groups are age, high school preparedness, and academic integration. For all groups, high school preparedness has the strongest effect of any variable on college GPA. Academic integration has the next strongest effect for white students, followed by Asian, Hispanic, and black students. Students from all racial and ethnic groups who were better prepared in high school or who are more academically integrated in college have higher college GPAs than students who were less well prepared in high school or who are less academically integrated. For all students, older students have significantly higher college

GPAs than younger students, and this effect is strongest for Hispanic students, followed by black, Asian, and white students.

For no ethnic or racial group is being a single parent, associate degree enrollment, being a part-time student, or having no quiet place to study significantly related to GPA. It is well known that students who attend community colleges are less likely to earn a degree than students attending four year colleges. These findings suggest that at CUNY, students enrolled in community colleges with the same pre-college academic skills, college experience, household characteristics, language ability, nativity, gender, and race do not have lower GPAs than students attending four-year colleges.

This model, which controls for immigrant effects, gender, language ability, household characteristics, pre-college academic skills, and college experience, explains the most variance in college GPA for white students, followed by black, Asian, and Hispanic students. Twenty-seven percent of the variance is explained for white students, 20% of the variance is explained for black students, 19% of the variance is explained for Asian students, and 18% of the variance is explained for Hispanic students. The following sections will discuss the factors for each racial and ethnic group that are not consistent across all groups and how the strength and significance of these factors vary for white, black, Hispanic, and Asian students.

White Students

For white students, six of the eleven factors that measure college experience are significant, and relative to the models for black, Hispanic, and Asian students, the strength of these factors are quite strong. For white students, financial independence is the strongest college experience predictor of higher college GPA. White students who

depend on a parent or guardian have lower college GPAs than those who do not: students who pay their own way may take their coursework more seriously. Asian students are the only other group for whom financial independence is significant, although the strength of this effect is substantially weaker for Asian students. The next strongest factor for white students is academic integration, followed by social integration, degree aspirations, being a transfer students, and living in an unsafe neighborhood. White students who are more academically integrated have higher college GPAs than students who are less academically integrated; however, white students who are more socially integrated have lower college GPAs than white students who are less socially integrated. For no other racial or ethnic group does social integration affect college GPA, suggesting that white students in particular are more distracted by the social aspects of college than other racial and ethnic groups. White students who have higher degree aspirations have higher college GPAs, as do transfer students.

It might be expected that safer neighborhoods provide better schools and more positive peer influences, which would suggest that students from less safe neighborhoods have lower college GPAs. For Hispanic students, this is the case. For white students, however, the opposite is true--white students who live in less safe neighborhoods have higher college GPAs than students who live in safer neighborhoods.

In addition to high school preparedness, remedial coursework is also a significant predictor of GPA for white students. Both white and black students who take remedial coursework have lower GPAs than white and black students who do not take remedial coursework. For Hispanic and Asian students, remedial coursework is not significant. ESL coursework has no significant effect on college GPA for white students.

Both family income and parents' education are significant influences on GPA for white students. For no other racial or ethnic group is parents' education significant, suggesting perhaps that the emphasis that white parents place on education depends more on the education of the parents themselves than for other racial and ethnic groups. White female students have higher college GPAs than white male students.

Black Students

Only two factors that measure college experience are significant for black students: degree aspirations and academic integration. Black students who have higher degree aspirations have higher college GPAs, as do black students who are more academically integrated, although the strength of these effects is weak compared to the other racial and ethnic groups for whom these factors are significant. Of the four racial and ethnic groups studied here, it seems that college experience has the least impact on the college GPAs of black students.

All the factors that measure pre-college academic skills are significant for black students. In addition to high school preparedness, remedial and ESL courses are also significant, although these later effects are negative. No other racial or ethnic group is negatively affected by both remedial and ESL coursework, suggesting that black students who lack basic skills as measured by remedial and ESL placement are particularly disadvantaged on GPA.

Black students from families with higher incomes have significantly higher GPAs than black students from families with lower incomes. Parents' education is not significant. In addition, black females have higher GPAs than black males, although in

practical terms, the difference in GPA between male and female black students is miniscule.

Hispanic Students

Six of eleven factors that measure college experience are significant for Hispanic students, but compared to white students, whose GPAs were also significantly affected by a relatively large number of college experience variables, the strength of these effects for Hispanic students is weaker. Hispanic students with higher degree aspirations, as well as Hispanic students who are more academically integrated, have higher college GPAs than Hispanic students who have lower degree aspirations or who are less academically integrated. Hispanic transfer students have higher college GPAs than Hispanic students who entered CUNY as freshmen. As one might expect, Hispanic students who live in less safe neighborhoods have lower GPAs than Hispanic students who live in safer neighborhoods. Hispanic students are also the only racial or ethnic group to be negatively affected by being employed while in college. The more hours an Hispanic student works, the lower his or her college GPA. In addition, Hispanic students are the only group for whom majoring in a field oriented towards math or science has a negative effect.

In addition to high school preparedness, ESL coursework is also a significant predictor of GPA for Hispanic students, although remedial coursework is not. Hispanic students who are required to take ESL courses have lower college GPAs than students who are not required to take ESL coursework, but because of the small size of this effect, it has very little practical implication.

Hispanic students from families with higher incomes have higher college GPAs than Hispanic students from families with lower incomes. Parents' education is not significant for Hispanic students. Hispanics are the only group for whom gender is not significant.

Asian Students

Only three college experience variables are significant for Asian students: academic integration, financial independence, and transfer status. Asian students who are financially independent, as well as transfer students, have higher college GPAs than Asian students who depend on a parent or guardian or who began CUNY as freshmen. Asian students are the only group for whom degree aspirations are not a significant influence. For Asians, educational goals have no significant impact on grades.

High school preparedness is the only measure of pre-college academic skills that is significant for Asian students. Neither remedial nor ESL coursework affects the GPAs of Asian students, and this is the only group for whom this is true. Asian students seem to compensate for deficiencies in basic skills and English language ability. Previous studies have found that Asian students compensate for poor language skills by majoring in technical fields (Hsia, 1988). If this was the case at CUNY, Asian students majoring in math and science would have higher GPAs than humanities majors, and students who are not as comfortable with English would have lower GPAs; however, for Asian students at CUNY, neither language skills nor major significantly affects GPA.

Asians are the only group for whom no measure of parental socioeconomic status affects GPA. Evidently, Asian students from lower socioeconomic status attending CUNY are able to compensate for the disadvantages that white, black, and Hispanic

students from lower socioeconomic status face. In addition, Asian female students have higher college GPAs than Asian males.

Table 2
Factors that effect college grade point average: white, black, Hispanic, and Asian students

Independent Variables	White Students B(b)	Black Students B(b)	Hispanic Students B(b)	Asian Students B(b)
Immigrant Effects				
Immigrant	.107(.167)***	.172(.253)***	.082(.117)*	.111(.150)*
1.5 Generation	.017(4.65e-02)	.035(8.22e-02)	.007(1.30e-02)	.074(.118)
Female	.139(.181)***	.064(9.88e-02)**	.033(4.60e-02)	.141(.189)***
Language Effects				
Bilingual	-.023(-3.87e-02)	.022(4.44e-02)	-.002(-3.17e-03)	-.044(-6.04e-02)
Prefers a language other than English	.015(3.63e-02)	.012(4.68e-02)	.066(.125)	.033(4.89e-02)
Household Characteristics				
Family income	.074(1.45e-06)***	.083(2.59e-06)***	.095(3.58e-06)***	-.031(-1.01e-06)
Parents' education	.053(2.18e-02)*	.007(3.29e-03)	-.023(-1.03e-02)	-.011(-4.65e-03)
Age	.142(7.10e-03)***	.187(1.54e-02)***	.201(1.79e-02)***	.152(1.67e-02)***
Single parent	-.039(-9.25e-02)	-.048(-7.72e-02)	-.003(-4.44e-03)	.032(-.59e-02)
Pre-College Academic Skills				
High school preparedness	.238(.204)***	.203(.200)***	.244(.230)***	.245(.222)***
Remedial courses	-.074(-3.19e-02)**	-.096(-3.95e-02)***	-.064(-2.38e-02)	-.064(-2.72e-02)
ESL courses	-.045(-7.67e-02)	-.069(-.145)**	-.066(-9.64e-02)*	.028(3.90e-02)
College Experience				
Degree aspirations	.086(5.05e-02)***	.074(5.38e-02)***	.088(6.05e-02)***	.068(4.58e-02)
Academic integration	.143(1.78e-02)***	.062(8.49e-03)**	.095(1.31e-02)***	.119(1.65e-02)**
Social integration	-.117(-2.49e-02)***	-.010(-2.43e-03)	-.046(-1.11e-02)	-.022(-5.39e-03)
Associate degree program	-.029(-3.95e-02)	-.045(-6.52e-02)	-.081(-.111)	.053(7.57e-02)
Math/science major	-.010(-2.41e-02)	-.006(-1.60e-02)	-.059(-.160)*	.052(9.37e-02)
Unsafe neighborhood	.066(3.33e-02)**	.004(1.97e-02)	-.060(-2.71e-02)*	.025(1.22e-02)
Hours employed	-.012(-4.58e-04)	-.021(-8.56e-02)	-.042(-1.65e-03)*	-.018(-7.66e-04)
Part-time student	-.031(-3.99e-02)	-.004(-5.35e-03)	-.006(-8.26e-03)	-.023(-3.50e-02)
Financially independent	.179(.228)***	.015(2.15e-02)	-.014(-1.86e-02)	.099(.147)*
Transfer student	.068(.104)***	.033(6.10e-02)	.072(.156)**	.088(.158)*
No quiet place to study at home	.028(4.64e-02)	-.001(-1.63e-03)	-.019(-2.75e-02)	-.096(-.143)
Intercept	2.18***	1.52***	1.84***	1.47***
Adjusted R2	.265***	.196***	.175***	.190***
N	1,918	2,104	1,619	742

*p<.05 **p<.01 ***p<.001
Colleges (17 total) are included as dummy variables.

Summary

Common themes emerge when reviewing the results of the models that predict college GPA. In the models for all students, immigrant, gender, and race effects are consistently significant in all five models. Although the size of these effects may fluctuate when controlling for language effects, household characteristics, pre-college academic skills, and college experience, each of these effects remain highly significant. Immigrant students have consistently higher college GPAs than native-born students, but the immigrant effect is only consistent across all models for students who arrived after the age of twelve. Students who arrived in the U.S. at an earlier age, and are therefore considered to be more assimilated, do not have consistently higher GPAs than native-born students. In the last two models when 1.5 generation is significant, the advantage is so slight it makes little practical difference.

Female students have higher college GPAs than male students across all five models that include all students, and the size of this effect is consistent. Black, Hispanic, and Asian students perform less well than white students in all models; however, unlike the immigrant effect which increases in size as more factors are controlled, the size of the race and ethnic effects decreases. Language effects, household characteristics, pre-college academic skills, and college experience explain or mediate the negative effects of race and ethnicity and hide the positive effects of being foreign born. Black, Hispanic, and Asian students have college GPAs closer to those of white students when comparing students with the same background, and immigrant students do progressively better than native-born students as more factors are controlled. For both immigrants and students of different races and ethnicities, when the factors used in these models are controlled,

college performance as measured by GPA improves. Differences between immigrants and the reference group increase, however, and those between each racial and ethnic group and the reference group decrease.

Family income, age, and single parent status, as well as all the factors that measure pre-college academic skills, are consistently significant. Family income, age, and high school preparedness have positive effects on college GPA, while single parent status, remedial courses, and ESL courses have negative effects on college GPA. The positive effects of family income and high school preparedness are reduced slightly when controls are added, while the negative effects of remedial coursework are also reduced.

Also in models for all students, higher degree aspirations, academic integration, financial independence, and transfer status have positive effects of college GPA, while students who are more socially integrated have lower college GPAs. When looking at models for each racial and ethnic group, however, there is little consistency with factors that measure college experience—the only factor that is consistent across all racial and ethnic groups is academic integration. For white, black, Hispanic, and Asian students, those who are more academically integrated have higher college GPAs.

For each racial and ethnic group, immigrant students have higher college GPAs than native-born students; however, assimilation as measured by maintenance of a foreign language is not significant for any racial or ethnic group. The positive effects of age and high school preparedness are also consistent across all racial and ethnic groups, while the negative effects of remediation and ESL are not. White, black, and Hispanic students are affected by some measure of socioeconomic status while Asian students are

not. College experiences have the largest impact on GPAs of white students, followed by Asian, Hispanic, and black students.

Chapter 6

Odds of Graduating from College and Years to Graduation

Logistic regression is used in this chapter to explore the factors that affect the odds of graduating from a CUNY college with either a two-year or a four-year degree. Commonly, separate models are used to determine what affects four-year and two-year degree attainment. For theoretical and practical reasons, these models include both associate and bachelor degrees in the measure for degree attainment.

According the U.S. Census' Current Population Survey, 1998-2000, the more education an adult has, in general, the higher his or her lifetime earnings. As compared to adults who have no more than a high school diploma, adults who have an associate's degree earn about 25% more. Beyond this, adults with a bachelor's degree earn 24% more than adults who have an associate degree.

Twenty-two percent of parents' of immigrant students who attended CUNY had an eighth grade education or less. Thus, compared to the earning potential of their parents based on level of education, either an associate or a bachelor degree gives a relatively large proportion of these immigrant students a significant advantage. Therefore, models that combine both these populations are used for this research as a measure of the potential for upward mobility. In addition, dividing the sample into two would reduce the number of cases and would have prevented analyses within racial and ethnic groups.

In addition to degree attainment, OLS regression is used in this chapter to determine the factors that effect how long it takes a student to graduate. The longer he or she is enrolled, the longer before a student can enter a career-track job. Career-track jobs have greater earning potential than the part-time jobs in which the average student is

employed. The more time a student is in college then, the less his or her lifetime earnings. Because of the reduced sample size in the years to degree models, only models for all students, controlling for racial and ethnic effects, will be analyzed in this chapter.

Logistic Regression
Whether or not a student graduated
All students

Model 1
Immigrant effects

As shown in Table 1, immigrants who arrived both before and after the age of 12 have greater odds of graduating, on average, than their native-born peers, although the positive effect of arriving after the age of twelve is stronger. The odds of immigrants graduating who arrived after the age of twelve are 37% greater, and the odds of immigrants graduating who arrived before the age of twelve are 20% greater than their native-born peers. The positive effect of being an immigrant is stronger for less well-assimilated students. Female students have 23% greater odds of graduating than male students. Hispanic, black, and Asian students have lower odds of graduating, on average, than white students, by 39%, 31%, and 22%, respectively.

Model 2
Language Effects

When language effects are added to the model, immigrants who arrived before the age of twelve do no better or worse than native-born students. Differences in language ability explain the positive effect of immigrant students who are more assimilated on graduation odds; however, the positive effect of immigrating after the age of twelve increases slightly after language effects are controlled. When comparing less assimilated

immigrant and native-born students with the same language ability, the odds of immigrant students graduating are greater. The odds of a student graduating who prefers a language other than English are 22% less than students whose primary language is English, suggesting that poor English language skills make it less likely that a student will earn a college degree at CUNY. There is no significant difference in graduation rates between students who are bilingual and those who speak only English.

Model 3
Household Characteristics

Introducing household characteristics does not change substantially immigrant or language effects on the odds of graduating. The negative effects for black and Hispanic students are reduced slightly when household characteristics are controlled, and being Asian is no longer significant.

Students from families with high incomes have greater odds of graduating, on average, than students from families with lower incomes. Standardizing continuous variables (Z scores are used here) allows us to compare the strength of these variables relative to other continuous variables. In this case, a one standard deviation increase in family income increases the odds of graduating by 18%; however, the odds of graduating are increased by only 8% with a one standard deviation increase in parents' level of education. Family income is a stronger predictor of whether or not a student will graduate than parents' education. Neither being a single parent nor age significantly affect the odds of graduating.

Model 4

Pre-College Academic Skills

The immigrant advantage for both those who arrived before and after the age of twelve increases substantially when pre-college academic skills are controlled. The immigrant effect increases by 32%, and the effect of being one and one-half generation becomes significant. The odds of immigrants graduating who arrived after the age of twelve are 76% greater, while the odds of those who arrived before the age of twelve are 26% greater, than their native-born peers. This means that at CUNY, immigrant students have worse high school preparation than natives, yet overcome this and are more likely to graduate.

The gender effect is relatively unchanged by academic preparation, but racial and ethnic effects are greatly reduced. The effect of being black becomes insignificant, the effect of being Hispanic is reduced by 16%, and the effect of being Asian remains insignificant. Thus, differences in completion rates for black students are largely explained by differences in pre-college academic skills. Hispanic students, however, are still 18% less likely to graduate than white students after controlling for pre-college academic skills.

In Model 4, preferring a language other than English at home becomes insignificant, but being bilingual becomes significant. In the previous model, students who preferred a language other than English at home had greater odds of graduating, on average, because they had better pre-college academic skills. When this is controlled, the benefits of fluency in two languages become apparent. The odds of bilingual students graduating are 27% greater than the odds of students graduating who prefer only English

at home. It might be argued that bilingualism serves as a proxy for better high school preparation; however, these results show that when comparing students with the same high school preparation, bilingual students have greater odds of graduating. Rather than a proxy for better high school preparation, it seems more likely that bilingualism is serving as a proxy for assimilation, lending further support to the hypothesis that less well assimilated students do better in not only secondary school, but in college, as well.

The effect of family income is slightly reduced, and the effect of parents' level of education becomes insignificant in Model 4. Age and being a single parent remain insignificant.

When comparing the odds ratios of factors that measure pre-college academic skills, it becomes apparent that the number of remedial courses taken has the strongest effect on retention. A one standard deviation increase in the number of remedial courses taken reduces the odds of graduating by 28%, where as a one standard deviation increase in high school preparedness increases the odds of graduating by 19%. When comparing students with the same pre-college academic skills, students who take more remedial coursework have lower odds of graduating, and this negative effect is stronger than the positive effect of better high school preparedness. Considering the importance of high school preparedness in admission decisions, one might expect this to be the strongest predictor of graduating. It is possible that not-for-credit remedial courses make it difficult for students to complete their degree requirements; however, ESL courses are also not-for-credit and have no significant effect on the odds of graduating. ESL and remedial placement, however, measure different types of deficiencies—remedial placement is based on deficiencies in basic skills and ESL placement is based on

deficiencies in English language skills. The results of this model suggest that students with basic skills deficiencies are at a greater risk for not graduating while students who have deficiencies in English language skills are not.

Model 5
College Experience

Controlling for college experience does not change the effects of immigrant status or gender. Race and ethnic effects, however, increase when college experience is controlled. Both the effects of being black and being Asian become significant in this model. The odds of black students graduating are 17% less and the odds of Asian students graduating are 21% less than white students. After controlling for college experience, being Asian has a slightly greater negative effect on the odds of graduating than being black, which contradicts previous research on minority college students. These models account for students who transfer to other colleges, so this surprising effect cannot be fully explained by Asians graduating from other colleges and universities. The effect of being Hispanic on the odds of graduating increases by 10% after controlling for college experience. When comparing students with the same college experience at CUNY, the negative effects of being a minority student as compared to white students on the odds of graduating increase, suggesting that different college experiences and programs specifically for minority students may improve their retention rates.

The positive effect of being bilingual is reduced when college experience is controlled, but remains significant. Part of the positive effect of being bilingual or being less assimilated as measured by bilingualism is explained by more positive college experiences. Preferring a language other than English at home remains insignificant.

The effect of family income is relatively unchanged, but the effect of age becomes significant and positive. Part of the positive age effect was masked by differences in college experience. Parents' education and being a single parent remain insignificant.

College experience mediates the positive effect of high school preparedness, which becomes insignificant in this model. It was unexpected that the effects of a factor that is given so much weight in admissions decisions would disappear after controlling for college experience, suggesting that academic goals and how students approach college can compensate for poor high school preparedness. Remedial coursework, however, continues to have a negative effect on the odds of graduating. ESL coursework remains insignificant.

Degree aspirations have a relatively strong effect on the odds of graduating. The odds of students with higher degree aspirations graduating are greater. A one standard deviation increase in degree aspirations improves the odds of graduating by 33%. More socially integrated students also have greater odds of graduating; however, a one standard deviation increase in social integration increases the odds of graduating by just 7%. Although Tinto emphasized the importance of social integration on retention rates, relative to other factors and as it is measured here, its effect is weak. Transfer students have 57% greater odds of graduating than students who started their freshman year at CUNY. As with GPA, this may also be attributable to self-selection. The odds of math/science majors graduating are 23% less than students who major in the humanities, which is probably a reflection of differences in course difficulty and credit requirements. Part-time students have lower odds of graduating than full-time students. Academic integration, pursuing an associate degree, living in an unsafe neighborhood, hours

employed, financial independence, and home study environment are not significant. This model predicts 16% of the variance of the odds of graduating, more than double the previous model, showing that what happens in college is important when predicting degree attainment.

Table 1
Factors that effect the odds of graduating: all students
(Continuous variables are standardized)

Independent Variables	Model 1 Immigrant Effects Odds ratio (standard error)	Model 2 Language Effects Odds ratio (standard error)	Model 3 Household Characteristics Odds ratio (standard error)	Model 4 Pre-college Academic Skills Odds ratio (standard error)	Model 5 College Experience Odds ratio (standard error)
Immigrant Effects					
Immigrant	1.369(.100)***	1.419(.107)***	1.435(.106)***	1.764(.078)***	1.784(.083)***
1.5 Generation	1.199(.104)*	1.171(.119)	1.186(.116)	1.257(.093)*	1.261(.097)*
Female	1.225(.089)**	1.225(.090)**	1.267(.096)**	1.300(.057)***	1.315(.061)***
Black	.690(.065)***	.682(.065)***	.740(.075)**	.914(.077)	.825(.088)*
Hispanic	.609(.083)***	.600(.085)***	.661(.086)**	.815(.083)*	.716(.093)***
Asian	.776(.068)**	.795(.071)**	.845(.095)	.839(.103)	.794(.111)*
Language Effects					
Bilingual		1.099(.087)	1.142(.102)	1.272(.076)**	1.194(.079)*
Prefers a language other than English		.788(.067)**	.815(.079)*	1.003(.116)	.915(.127)
Household Characteristics					
Family income			1.183(.048)***	1.113(.032)***	1.147(.037)***
Parents' education			1.081(.031)**	1.045(.031)	.999(.035)
Age			1.031(.065)	1.041(.031)	1.172(.037)***
Single parent			.870(.097)	.938(.085)	.933(.097)
Pre-College Academic Skills					
High school preparedness				1.186(.037)***	1.053(.039)
Remedial courses				.723(.038)***	.728(.040)***
ESL courses				.852(.086)	.876(.090)
College Experience					
Degree aspirations					1.329(.031)***
Academic integration					1.025(.032)
Social integration					1.072(.031)*
Associate degree program					.994(.111)
Math/science major					.768(.109)*
Unsafe neighborhood					1.001(.036)
Hours employed					.982(.035)
Part-time student					.557(.071)***
Financially independent					1.017(.091)
Transfer student					1.572(.087)***
No quiet place to study at home					1.019(.081)
Nagelkerke R2	.017***	.020***	.028***	.079***	.164***

*p<.05 **p<.01 ***p<.001; N=3,683

The first three models account for observations being independent across groups but not necessarily within groups. The last two models use straight OLS regression because at least as many parameters as clusters are being estimated. In the last model, colleges (17 total) are included as dummy variables. Continuous variables have been converted to z-scores so that the strengths of coefficients can be compared. Standard errors are similar whether or not accounting for independence. Only standard errors and significance levels, not coefficients, change from one method to the other.

Comparisons of Factors that Affect White, Black, Hispanic, and Asian Students On the Odds of Graduating

Table 2 compares factors that affect the odds of graduating for white, black, Hispanic, and Asian students in a model that includes immigrant effects, language effects, household characteristics, pre-college academic skills, and college experience. As indicated by the R2, this model explains the most variance for black students. Twenty-three percent of the variance for black students, 20% of the variance for Asian students, 19% of the variance for white students, and 18% of the variance for Hispanic students is explained by this model.

White Students

For white students, the only factors that are significant in predicting the odds of graduating are college experiences. This is the only group for which this is true. White immigrant students do not have significantly lower or higher odds of graduating than white native-born students. Whites are the only group for which gender, age, and remedial coursework are not significant. For every other group, the odds of female students graduating are greater than the odds of male students graduating, the odds of older students graduating are greater than the odds of younger students graduating, and remedial coursework has a negative effect on completion rates.

Clearly, the characteristics white students bring with them to college are of secondary importance to their experiences once they are in college. Part-time status,

major, transfer status, degree aspirations, and neighborhood explain nearly all the variance in the odds of graduating for white students. The odds of white part-time students graduating are 57% less than the odds of white full-time students graduating, the odds of white math/science majors graduating are 46% less than the odds of white humanities majors graduating, and the odds of white transfer students graduating are 53% greater than the odds of white students graduating who started CUNY as freshmen. Higher degree aspirations also significantly increase the odds of graduating.

The most surprising finding for white students is that the odds of those graduating who live in unsafe neighborhoods are *greater* than for those who live in safer neighborhoods. Perhaps the resources and coping mechanisms white students from unsafe neighborhoods develop to overcome the obstacles that serve as barriers (e.g. inferior schools, negative peer influences, few role models) to be admitted to college are the same resources and coping mechanisms that enabled them to graduate. Considering that black, Hispanic, and Asian students from less safe neighborhoods presumably face similar obstacles, it is not clear why neighborhood safety is only significant for whites.

Black Students

As compared to the other racial and ethnic groups, the immigrant effect is the strongest for black students. The odds of black immigrants graduating who arrived after the age of 12 are more than twice that of native-born black students. The odds of one and one-half generation black students graduating are also significantly greater than the odds of black native-born students, by 64%. In addition, black bilingual students have 39% greater odds of graduating than black students who speak only English. Preferring a language other than English is not significant. As compared to other factors that

significantly effect the odds of graduating for black students, immigrant status is among the strongest. The strength of the immigrant effect coupled with the strength of the bilingual effect suggests that less assimilated black students have an advantage on the odds of completing a college degree as compared to black students who are more assimilated. These findings show that Portes' segmented assimilation theory applies to the black college population, as well as to the secondary school population, which he studied.

Black female students have an advantage in the odds of graduating over black male students. The odds of black females graduating are 29% greater than the odds of black males graduating. Family income is significant only for black students. For no other racial or ethnic group does financial capital significantly effect the odds of graduating. A one standard deviation increase in family income increases the odds of a black student graduating by 23%. The odds of older students graduating are greater than the odds of younger students graduating, and this effect is nearly three times the strength of the income effect. Neither parents' education nor being a single parent significantly effect the odds of graduating.

The only measure of pre-college academic skills that is significant for black students is remedial coursework, which applies to Hispanic and Asian students, as well. The more remedial courses a black student takes, the lower are his or her odds of graduating. Neither ESL coursework, nor high school preparedness, significantly effect the odds of graduating for black students.

Significant college experience factors that effect the odds of graduating for black students include degree aspirations, major, part-time status, and transfer status. As for

white and Hispanic students, the odds of black students graduating who have higher degree aspirations are greater than those of students who have lower degree aspirations. Transfer students also have greater odds of graduating. Black students who are math/science majors have 36% lower odds of graduating than black students who are humanities majors, and part-time students have 46% lower odds of graduating than full-time students. Academic integration, social integration, degree, neighborhood, hours employed, financial independence, and home study environment are not significant.

Hispanic Students

Neither immigrant effects nor language effects are significant for Hispanic students. Less assimilated Hispanic students do not have significantly better odds of graduating than more assimilated Hispanic students. For Hispanic college students in New York City, neither the segmented assimilation thesis, nor work done by Suarez-Orozco (1995), nor Gibson (1995) seems to apply to college graduation outcomes.

While these authors were studying Mexican immigrant and native-born secondary school students in California, the current study includes primarily native-born college students with family origins from Puerto Rico and immigrant college students from the Caribbean and South America; therefore, differences in cultural backgrounds and educational systems in the countries of origin could explain part of the reason these findings do not support those of other authors. The education system in the Dominican Republic, for example, follows the British model, so one would expect Hispanic students from there to be relatively well prepared academically. As indicated by passing rates on skills tests in Table 6, Chapter 4, however, as compared to white, black, and Asian immigrant students, passing rates of Hispanic immigrant students are low, suggesting that

many of the Hispanic immigrant students who attend CUNY did not have high quality education in their countries of origin. Hispanic immigrants are the only group that had lower passing rates on the math skills test than their native-born peers from the same racial or ethnic group. Passing rates of reading skills tests for Hispanic immigrants are also below that of any other immigrant groups, so it seems that Hispanic immigrants do not have the academic advantages of other immigrant groups.

In addition, having arrived fairly recently from Puerto Rico (primarily in the 1960s), native-born Hispanic students have maintained their immigrant values and culture to a larger extent than the other racial and ethnic native-born groups. As noted in Table 5, Chapter 4, a larger proportion of native-born Hispanic students speak a language other than English than any other racial or ethnic native-born group, suggesting that native-born Hispanic students maintain their immigrant culture to a larger extent than other racial and ethnic groups. It becomes more understandable that differences between immigrant and native-born Hispanic students are insignificant when considering that native-born Hispanic students are less assimilated than other native-born groups as measured by language maintenance and immigrant Hispanic students have relatively weak basic skills.

The odds of female Hispanic students graduating are 40% greater than the odds of male Hispanic students graduating. Older Hispanic students also have greater odds of graduating. Neither family income, nor parents' education, nor being a single parent are significant. Remedial coursework reduces the odds of graduating for Hispanic students, and neither high school preparedness, nor ESL courses are significant.

Considering the factors that measure college experience, social integration has a significant effect on the odds of graduating only for Hispanic students. Hispanic students who are more socially integrated have greater odds of graduating than Hispanic students who are less socially integrated. For Hispanic students, positive peer relationships are advantageous. This effect is insignificant for all other racial and ethnic groups. Another interesting finding in this category is that Hispanic transfer students do not have significantly greater or lower odds of graduating than Hispanic students who started CUNY as freshmen. Transfer status gives every other racial and ethnic group an advantage. Higher degree aspirations give Hispanic students an advantage on the odds of graduating, and part-time students are at a disadvantage. Academic integration, degree, major, neighborhood, hours employed, financial independence, and study space are insignificant.

Asian Students

For Asian students, immigrant effects are significant, and the effect of being one and one-half generation is greater than the effect of arriving after the age of 12. Asian students benefit from immigrant effects regardless of when the student arrived in the U.S., suggesting that Asian immigrants, regardless of time of arrival, maintain immigrant values and culture that increase their odds of graduating. The odds of Asian women graduating are 83% greater than the odds of Asian men graduating. Language effects are not significant.

As for Hispanic students, the only household characteristic that is significant for Asians is the age effect, and this effect is quite strong. Neither family income, nor parents' education, nor being a single parent are significant. Asians also resemble black

and Hispanic students on pre-college academic skills. Remedial coursework negatively effects the odds of graduating, but high school preparation and ESL coursework do not—these are not significant.

Asians are the only group for whom degree aspirations or educational goals are not significant. Another interesting finding is that Asian students enrolled in associate degree programs have greater odds of earning a degree than Asian students enrolled in bachelor degree programs, and this is the only racial or ethnic group for whom this is true. The odds of Asian students graduating who are enrolled in an associate degree program are more than twice the odds of Asian students enrolled in a bachelor degree program. This is contrary to research that compares graduation rates of associate and bachelor degree students that shows associate degree students with lower graduation rates (Bake & Smith, 1997). Although chi-square tests show no significant differences in graduation rates between Asian students enrolled in associate and bachelor degree programs, when all other factors are equal, the odds of graduating are greater for Asians enrolled in associate degree programs. Additional research beyond the scope of this dissertation would be required to explain this contradiction.

Asian students majoring in a math or science major have 75% greater odds of graduating than humanities majors. The odds of a transfer student graduating is 70% greater than the odds of a student graduating who enters as a freshman. Degree aspirations, academic integration, social integration, neighborhood safety, hours employed, part-time status, financial independence, and quiet home study space are insignificant in the odds of graduating.

Table 2
Factors that effect the odds of graduating: white, black, Hispanic, and Asian students
(Continuous variables are standardized)

Independent Variables	White students Odds ratio (standard error)	Black students Odds ratio (standard error)	Hispanic students Odds ratio (standard error)	Asian students Odds ratio (standard error)
Immigrant Effects				
Immigrant	1.459(.217)	2.021(.127)***	1.282(.177)	1.898(.284)*
1.5 Generation	.739(.243)	1.638(.174)**	1.088(.172)	1.978(.278)*
Female	1.194(.118)	1.287(.115)*	1.396(.123)**	1.832(.183)***
Language Effects				
Bilingual	1.164(.191)	1.392(.163)*	1.227(.133)	1.347(.223)
Prefers a language other than English	1.108(.288)	.512(.305)	1.120(.225)	1.059(.307)
Household Characteristics				
Family income	1.084(.054)	1.230(.073)*	1.073(.106)	1.112(.133)
Parents' education	1.017(.065)	.993(.066)	.962(.075)	1.068(.103)
Age	.958(.058)	1.622(.081)***	1.668(.098)***	1.849(.203)**
Single parent	.809(.218)	.917(.155)	.832(.189)	1.005(.427)
Pre-College Academic Skills				
High school preparedness	1.101(.072)	1.058(.078)	1.096(.076)	1.054(.127)
Remedial courses	.853(.089)	.714(.071)***	.696(.072)***	.646(.136)***
ESL courses	.745(.214)	.726(.173)	1.053(.167)	1.069(.227)
College Experience				
Degree aspirations	1.326(.057)***	1.289(.055)***	1.382(.063)***	1.182(.096)
Academic integration	1.062(.062)	1.009(.055)	1.066(.064)	1.081(.105)
Social integration	1.016(.058)	1.091(.057)	1.137(.064)*	.989(.105)
Associate degree program	.830(.181)	.916(.201)	.764(.274)	2.347(.403)*
Math/science major	.540(.217)**	.640(.203)*	.875(.238)	1.751(.268)*
Unsafe neighborhood	1.272(.075)***	.924(.062)	.945(.065)	1.008(.120)
Hours employed	1.000(.067)	.908(.062)	1.001(.073)	.828(.123)
Part-time student	.430(.136)***	.539(.123)***	.670(.152)**	.749(.224)
Financially independent	1.344(.174)	.837(.168)	.990(.178)	.901(.305)
Transfer student	1.531(.145)**	1.436(.171)*	1.324(.192)	1.700(.269)*
No quiet place to study at home	1.303(.174)	1.052(.141)	1.088(.153)	.675(.259)
Nagelkerke R2	.186***	.229***	.177***	.197***
N	1,918	2,104	1,619	742

*p<.05 **p<.01 ***p<.001
Colleges (17 total) are included as dummy variables. Continuous variables have been converted to z-scores so that the strengths of coefficients can be compared.

Linear Regression
Years to Graduation: All Students

Model 1
Immigrant Effects

Next, models that explore factors that effect years to graduation will be explored. Because of the reduced sample size, only models for all students, controlling for race and ethnic effects, will be analyzed. In Table 3, Model 1, immigrant students who arrived in the U.S. after the age of twelve take nearly half a year less time to graduate than native-born students. There is no significant difference in time to graduation between one and one-half generation students and native-born students, nor is there a significant difference between female students and male students. Black and Hispanic students take nearly a year longer to graduate than white students, and there is no significant difference between Asian and white students in time to graduation. Race has the strongest effect on years to graduation in this model.

Model 2
Language Effects

After controlling for differences in language ability, the immigrant advantage decreases by 26%. Part of the immigrant advantage can be explained by differences in language ability; however, this is offset by the positive effect of preferring a language other than English. Students who prefer a language other than English also take less time to graduate than students whose preferred language is English--nearly six months less time. Both the immigrant and language effects show that students who are less assimilated graduate in less time. Race continues to have the strongest effect on years to graduation, followed by being an immigrant and preferring a language other than English.

Model 3
Household Characteristics

When household characteristics are controlled, the immigrant effect increases by 9%. Immigrant students now graduate in eight months less time than native-born students. Language effects, however, disappear in this model. Race and gender effects do not change when household characteristics are controlled.

Students from families with higher incomes take longer to graduate than students from families with lower incomes, which seems counterintuitive. Logic suggests that poorer students would need to work more hours and, therefore, have less time and money to enroll in full-time coursework. As we will see in Model 5, family income becomes insignificant after controlling for college experience, which includes number of hours employed and part-time status.

Parents' education has no significant effect on time to graduation. Older students take longer to graduate than younger students. Age has the strongest effect on years to graduation in Model 3, followed by being black, and being an immigrant.

Model 4
Pre-College Academic Skills

Immigrant effects do not change when pre-college academic skills are controlled. Part of the race effects for black and Hispanic students are explained by differences in pre-college academic skills, although these effects remain significant. Before controlling for academic skills, black and Hispanic students took 8.5 months more to graduate than white students. After controlling for skills, they take 6.5 months more to graduate. The effects of one and one-half generation, gender, and Asian remain insignificant.

Students who were better prepared in high school take less time to graduate than students who were less well prepared. The more remedial courses a student takes, the longer it takes to graduate. In this model, age has the strongest effect on years to graduation, followed by being an immigrant. Controlling for pre-college academic skills does not change the size of the effects of household characteristics.

Model 5
College Experience

In general, differences in college experience mediate a relatively large proportion of the significant effects in the previous four models. When comparing students with the same college experience, the immigrant advantage is reduced by three months. The effects of race are also reduced—there is no significant difference between black and white students on years to graduation, and the effect of being Hispanic is reduced by two months, although Hispanic students still take significantly longer to graduate than white students. Family income becomes insignificant when college experience is controlled, although the effect of age remains relatively strong. The effect of remedial coursework is unchanged when college experience is controlled; however, the effect of high school preparedness is reduced by 38%.

Students with higher educational aspirations take longer to graduate than students with lower educational aspirations, perhaps because these students spend more time on prerequisite courses required for graduate school. They may also take a lighter course load each semester, giving them more time to focus on each class and earn higher grades. Students who are more academically integrated take less time to graduate than students who are less academically integrated. Professors who are accessible and students who make efforts to see their professors outside of class reduce their time required to

graduate. Math and science majors take longer to graduate than humanities majors, most likely due to the additional credit hours required in the way of laboratory work. Students who have no quiet place to study at home take longer to graduate than students who have a quiet place to study at home. Being employed more hours, attending part-time, and being financially independent increase time to graduation. Transfer students graduate in fewer years, as do students with higher college grade point averages.

Table 3
Factors that effect years to graduation: all students

Independent Variables	Model 1 Immigrant Effects B(b)	Model 2 Language Effects B(b)	Model 3 Household Characteristics B(b)	Model 4 Pre-college Academic Skills B(b)	Model 5 College Experience B(b)
Immigrant Effects					
Immigrant	-.081(-.454)***	-.060(-.338)*	-.114(-.642)***	-.114(-.638)***	-.071(-.399)***
1.5 Generation	-.014(-.119)	-.012(-9.87e-02)	.000(-1.01e-05)	.000(-3.63e-03)	.000(-1.59e-03)
Female	.009(5.29e-02)	.010(5.54e-02)	.004(2.26e-02)	-.003(-1.71e-02)	.023(.130)
Black	.141(.813)***	.131(.759)***	.124(.718)***	.093(.539)***	.029(.166)
Hispanic	.109(.689)**	.114(.720)**	.109(.692)**	.087(.551)***	.060(.382)**
Asian	-.013(-.112)	-.005(-4.24e-02)	.028(.233)	.027(.226)	.003(2.25e-02)
Language Effects					
Bilingual		-.010(-5.88e-02)	.030(.179)	.030(.181)	.028(.170)
Prefers a language other than English		-.054(-.474)*	-.051(-448)	-.040(-.351)	.025(.217)
Household Characteristics					
Family income			.091(8.97e-06)***	.099(9.80e-06)***	.031(3.02e-06)
Parents' education			.020(3.42e-02)	.029(4.90e-02)	.010(1.63e-02)
Age			.211(6.87e-02)***	.208(6.75e-02)***	.148(4.83e-02)***
Single parent			-.061(-.435)	-.066(-466)	.004(2.75e-02)
Pre-College Academic Skills					
High school preparedness				-.084(-.298)***	-.052(-.184)**
Remedial courses				.045(7.46e-02)*	.043(7.16e-02)*
ESL courses				-.040(-.260)	-.027(-180)
College Experience					
Educational aspirations					.055(.164)***
Academic integration					-.042(-2.28e-02)**
Social integration					-.004(-3.96e-03)
Associate degree program					-.052(-.286)
Math/science major					.037(.335)*
Unsafe neighborhood					-.007(-1.38e-02)
Hours employed					.090(1.44e-02)***
Part-time student					.225(1.31)***
Financially independent					.089(.480)***
Transfer student					-.201(-1.42)***
No quiet place to study at home					.037(.223)*
College GPA					-.166(-903)***
Intercept	5.43***	5.45***	2.79***	2.837***	6.151***
Adjusted R2	.026***	.027***	.092***	.102***	.268***

*p<.05 **p<.01 ***p<.001; N=6,383

The first three models account for observations being independent across groups but not necessarily within groups. The last two models use straight OLS regression because at least as many parameters as clusters are being estimated. In the last model, class standing at the time the survey was taken and colleges (17 total) are included as dummy variables. Standard errors are similar whether or not accounting for independence. Only standard errors and significance levels, not coefficients, change from one method to the other.

Summary

The advantage of being an immigrant who arrived after the age of twelve and is, therefore, less assimilated than 1.5 generation or native-born students, is consistent across models that predict both the odds of graduating and time to degree for all students. The immigrant effect is less consistent for each racial and ethnic group. Relative to other factors, as compared to native-born students, immigrant students have a greater advantage on the odds of graduating than on time to degree. Because models that predict years to graduation include only students who have earned a college degree, some of the differences between immigrant and native-born students that existed in models that include both degree and non-degree earners have been eliminated, so it might be expected that the immigrant advantage would be less in these models.

In addition to immigrants, female students also have a consistent advantage on the odds of graduating in models for all students, as do students from families with higher incomes and students who have higher degree aspirations. Positive educational experiences and exposure to role models who have achieved high levels of education might improve the chance that a student will set higher educational goals, thereby increasing the odds that he or she will graduate.

Racial and ethic effects consistently have negative effects on the odds of graduating for all students until Model 3, when household characteristics are controlled. Differences in household characteristics explain the Asian effect and reduce the effect

sizes for black and Hispanic students. Differences in the odds of graduating between racial and ethnic groups are least significant in Model 4, when pre-college academic skills are controlled. In this model, not only does being Asian remain insignificant, but being black becomes insignificant. The significance of being Hispanic is reduced to the .05 level.

Although insignificant differences between racial and ethnic groups on the odds of graduating after controlling for household characteristics and pre-college academic skills is encouraging, less encouraging is the fact that race and ethnicity is once again significant after controlling for college experience. Rather than mediating differences between white and minority students as do pre-college academic skills, the negative effects of race and ethnicity increase when college experience is controlled.

In models that predict the odds of graduating for white, black, Hispanic, and Asian students, not one factor is significant across all four groups. Black, Hispanic, and Asian female students have greater odds of graduating than black, Hispanic, or Asian male students. Differences between males and females are the weakest for blacks and the strongest for Asians. Age and remediation are also significant across all minority groups but not for white students. The age effect is strongest for Asian students. The effect size of remedial coursework is about the same for each racial and ethnic group. There is little consistency between groups on factors that measure college experience, suggesting that the advantages and disadvantages of college experiences on the odds of graduating cannot be generalized between different racial and ethnic groups. For example, although higher degree aspirations has a positive effect on the odds of graduating for white, black, and Hispanic students, for Asians it is insignificant.

Racial and ethnic effects are less consistent in the models that predict time to degree. Hispanic students take more time to graduate than white students across all five models. Black students take longer to graduate until Model 5, and there is no significant difference between Asian and white students on time to degree. For black and Hispanic students, differences in college experiences mediate differences in time to degree. For graduation odds, however, college experiences made differences more pronounced. Higher educational aspirations, lower levels of academic integration, majoring in math and sciences, employed more hours, being enrolled part-time, being financially independent, not being a transfer students, and having lower college GPAs explain part of the reason why black and Hispanic students take more time to graduate.

Additional factors that are consistent across models that predict time to degree are age, high school preparation, and remediation. Younger students graduate in less time than older students, even after controlling for part-time status and hours employed, suggesting that life experiences not measured here, such as family responsibilities, might explain the effects of age on years to degree. Students with a higher level of high school preparedness consistently graduate in less time than students with poorer high school records. Remediation has a consistently negative effect on years to degree.

Chapter 7

Educational Aspirations

As the previous chapters have shown, educational aspirations have a highly significant and relatively large effect on college outcomes. Because educational aspirations are an important determinant of college success as measured by college GPA, retention, and years to graduation, the following chapter will discuss the factors that influence these aspirations.

Previous research has shown that parents, peers, student attitude, and academic performance influence academic aspirations. In his longitudinal study of high school students, Tillery (1973) found striking similarities between student and parent educational aspirations. Seventy-five percent of students whose parents expected them to attain a BA degree or higher were enrolled in two or four year colleges or universities. Ninety percent of students whose parents did not expect them to go beyond high school did not enroll in any post-secondary institution. Horn and Chen (1998) found that parents who discussed school related matters with their children were more likely to go to college. In addition, students were more likely to enroll in a four-year college when their friends also had plans to enroll in a four-year college. In his study of college students' plans for graduate school, Ingram, et. al., (2000) also found that family and friends influenced students' decisions to enroll. When significant others had positive attitudes toward graduate school, students were more likely to enroll.

Tillery (1973) also found inconsistencies between aspirations and reality—students' educational aspirations were higher than actual college enrollments, and these

inconsistencies were especially pronounced for minority students. In addition, students' aspirations were higher than those of their parents.

Attitude and academic performance were also positively correlated with educational aspirations. Students with higher educational aspirations had more positive attitudes toward school and a more academic or intellectual orientation than students with lower academic aspirations. These students also had higher levels of measured ability and achievement and more confidence in their ability to do college work. The practical implications of these findings are that students who are engaged and have positive educational experiences will have higher educational aspirations (Tillery, 1973). Similarly, Ingram, et. al., (2000) found attitude to have the highest correlation with intentions of applying to graduate school for undergraduate students. Students who had positive attitudes toward graduate school and believed it would benefit them were more likely to apply. In addition, students who believed they were likely to be admitted to graduate school were also more likely to apply.

The following models show the effects of immigrant status, language ability, household characteristics, and college experience on the educational aspirations of CUNY students. The first set of models are nested to determine what proportion of immigrant, race, and ethnic effects are explained by household characteristics, pre-college academic skills, and college experience for all students. The second set of models provides the complete model for each racial and ethnic group.

Model 1
Immigrant Effects

In the first model, which controls for immigrant status, gender, race, and ethnicity, immigrant students have significantly lower educational aspirations than

native-born students, but 1.5 generation students have higher educational aspirations than native-born students. In this model, assimilation within immigrant generations seems to have a positive effect on educational aspirations. Black students have higher educational aspirations than white students. Neither Hispanic nor Asian students have significantly higher or lower educational aspirations than white students. Gender is also not significant.

Model 2
Language Effects

Controlling for language does not influence the effects of immigrant, gender, or race and ethnicity; however, 1.5 generation becomes insignificant. Bilingual students have significantly higher educational aspirations, on average, than students who prefer English. As a measure of assimilation, this seems to be contradictory to immigrant status, which has a negative effect on educational aspirations. Assimilation as measured through place of birth has a negative effect on educational aspirations, while assimilation as measured through language preference--a reflection of cultural traits passed-on through parents to both immigrant and native-born children--has a positive effect on educational aspirations. As the next models will make clear, much of this is explained by differences in pre-college academic skills and college experience, factors not controlled for in this model.

Model 3
Household Characteristics

After controlling for household characteristics, the immigrant effect disappears. Immigrant students had lower degree aspirations in the previous model because of differences in household characteristics, i.e. their families might have lower incomes or

their parents may have lower levels of education. The effects of race and gender do not change; however, being bilingual becomes insignificant and preferring a language other than English becomes significant. Students who prefer a language other than English have lower educational aspirations than students who prefer English, an effect that was masked by differences in household characteristics.

Students from families with higher incomes have higher degree aspirations than students from families with lower incomes; however, the effect of parents' education has more than two and a half times the effect of income, and this effect is positive. Students who are younger have higher degree aspirations than older students, and being a single parent is insignificant.

Model 4
Pre-College Academic Skills

The interpretation of the previous models becomes more clear after controlling for pre-college academic skills in Model 4. In the first two models, which controlled for only gender, race/ethnicity, and language skills, the immigrant effect was negative. Controlling for household characteristics explained this effect (in Model 3, the immigrant effect was insignificant). When pre-college academic skills are controlled, the immigrant effect becomes significant, and the direction of the effect is reversed. When comparing students with the same pre-college academic skills, both immigrant and 1.5 generation students have higher degree aspirations than native-born students. In their everyday interactions with students, faculty and staff may develop the impression that immigrant students have lower educational aspirations than native-born students; however, when comparing students with the same household background and pre-college academic skill

level, it becomes apparent that immigrant and 1.5 generation students have higher educational aspirations than native-born students.

After controlling for pre-college academic skills, the positive effect of being black increases by 70%, and being Hispanic becomes significant. Like blacks, Hispanic students also have higher educational aspirations than white students, although the effect of being black is almost three times as strong. Preferring a language other than English becomes insignificant, and being bilingual is once again significant and positive. As measures of assimilation, both immigrant and language effects suggest that less assimilated students have higher educational aspirations than more assimilated students.

Controlling for pre-college academic skills reduces the effects of family background, as measured by income and parents' education, although these effects remain significant. Neither the effects of age nor single parent status changed from the previous model. Students with higher high school preparedness have higher educational aspirations than students who were not as well prepared in high school. Students who were required to enroll in remedial or ESL coursework had lower educational aspirations than students who were not required to enroll in these courses.

Model 5
College Experience

As in the previous model, after controlling for college experience, both immigrant and 1.5 generation students continue to have significantly higher degree aspirations than native-born students, and the effect sizes are the same. Regardless of the length of time an immigrant student has been in the United States, on average, immigrants have higher educational aspirations. Controlling for college experience increases the size of the race and ethnic effects for black and Hispanic students. Differences in college experience

masked part of the positive effects of race and ethnicity. The effect of being bilingual remains significant and positive.

College experience mediates the positive effect of income, which is now insignificant. Parents' education, however, continues to have a significant and positive effect on educational aspirations.

Part of the age effect was masked by differences in college experience—the age effect increases by 30% in this model. Being a single parent becomes significant. Students who are single parents, after controlling for college experience, have higher degree aspirations than students who are not single parents.

College experience has a mediating effect on pre-college academic skills. After controlling for college experience, the effect of high school preparedness is reduced by 33%, the effect of remedial coursework is reduced by one-third, and ESL coursework becomes insignificant.

Students who are more academically integrated have higher educational aspirations than those who are less academically integrated. Students who are more socially integrated, however, have lower educational aspirations than students who are less socially integrated. For both of these factors, the direction of the effect is questionable—do students have higher degree aspirations because they are more academically and less socially integrated, or are they more academically and less socially integrated because they have higher degree aspirations? It seems likely that educational goals have an effect on students' behavior in college, but it is also possible that students who have positive and frequent interactions with faculty and are engaged in their

coursework may become motivated to set higher educational goals. In contrast, social involvement may distract students from academic pursuits.

As indicated by the variables labeled "sophomore," "junior," "senior," as compared to freshmen, students who were upperclassmen had higher degree aspirations. Students with low educational aspirations may drop-out after their freshmen year, so self-selection may contribute to the increasing effect size among upper class students. By the time a student reaches junior year, however, dropping-out is less likely, and the effect size continues to increase between junior and senior year, suggesting that as a student progresses through CUNY, he or she sets progressively higher academic goals. Based on Tillery's (1973) research, this suggests that CUNY students are engaged and have had positive educational experiences while enrolled.

Students in associate degree programs have lower degree aspirations than students in bachelor degree programs. The more hours a student is employed, the higher his or her educational aspirations. Perhaps students who work more hours while in school understand the importance of advanced degrees for career mobility. Students who are financially independent also have higher educational aspirations than students who rely on a parent of guardian. Like working while in college, students who support themselves financially may be more motivated to continue their education to increase earning potential. Part-time students have lower educational aspirations than full-time students. Math/science major, living in an unsafe neighborhood, transfer status, and having no quiet place to study at home are insignificant.

Table 1
Factors that effect educational aspirations: all students

Independent Variables	Model 1 Immigrant Effects B(b)	Model 2 Language Effects B(b)	Model 3 Household Characteristics B(b)	Model 4 Pre-college Academic Skills B(b)	Model 5 College Experience B(b)
Immigrant Effects					
Immigrant	-.048(-.102)*	-.049(-.104)*	-.005(-.003)	.034(.073)*	.037(.080)*
1.5 Generation	.038(.122)*	.028(.092)	.020(.067)	.026(.083)*	.029(.092)*
Female	-.038(-.080)	-.038(-.080)	-.014(-.029)	-.009(-.019)	-.004(-.007)
Black	.087(.189)*	.087(.190)*	.080(.183)*	.136(.296)***	.151(.328)***
Hispanic	-.009(-.020)	-.019(-.045)	-.006(-.004)	.047(.111)**	.065(.152)***
Asian	.007(.022)	.009(.028)	-.017(-.058)	-.018(-.058)	-.002(-.007)
Language Effects					
Bilingual		.050(.116)**	.029(.066)	.046(.105)**	.040(.091)**
Prefers a language other than English		-.034(-.110)	-.054(-.140)*	-.018(-.059)	-.015(-.050)
Household Characteristics					
Family income			.051(.000)***	.025(.000)*	.009(.000)
Parents' education			.128(.083)***	.107(.070)***	.093(.060)***
Age			-.201(-.021)***	-.194(-.020)***	-.253(-.026)***
Single parent			.002(.006)	.021(.057)	.028(.073)*
Pre-College Academic Skills					
High school preparedness				.134(.176)***	.090(.118)***
Remedial courses				-.096(-.057)***	-.065(-.038)***
ESL courses				-.036(-.089)*	-.028(-.070)
College Experience					
Academic integration					.078(.016)***
Social integration					-.026(-.009)*
Associate degree program					-.058(-.119)*
Sophomore					.070(.165)***
Junior					.101(.301)***
Senior					.126(.389)***
Math/science major					-.006(-.022)
Unsafe neighborhood					.011(.008)
Hours employed					.066(.004)***
Part-time student					-.057(-.121)***
Financially independent					.041(.008)**
Transfer student					.014(.040)
No quiet place to study at home					-.001(-.003)
Intercept	4.682***	4.672***	4.80***	4.93***	4.72***
Adjusted R2	.012***	.016***	.082***	.119***	.191***

*p<.05 **p<.01 ***p<.001; N=6,383

The first three models account for observations being independent across groups but not necessarily within groups. The last two models use straight OLS regression because at least as many parameters as clusters are being estimated. In the last model, colleges (17 total) are included as dummy variables. Standard errors are similar whether or not accounting for independence. Only standard errors and significance levels, not coefficients, change from one method to the other.

Factors that Affect Educational Aspirations for White, Black, Hispanic, and Asian Students

Few factors are significant for all racial and ethnic groups. As will be seen in Table 2, immigrant status is significant only for black and Hispanic students, while assimilation as measured by language preference is significant for white, Hispanic, and Asian students. Although students who are less assimilated have higher educational aspirations than more assimilated students in all groups, these effects are relatively weak. Academic integration is the only factor that is significant for all four racial and ethnic groups. Students who are more academically integrated have higher educational aspirations than students who are less academically integrated, which supports literature showing that students with higher educational aspirations have a more academic and intellectual orientation towards school. This effect is strongest for whites and weakest for Hispanics. For no racial or ethnic group is gender, preferring a language other than English, family income, ESL coursework, transfer status, or having no quiet place to study at home significant.

Models for educational aspirations explain the most for white students, followed by Asian, Hispanic, and black students. For white students, 26% of the variance is explained by this model. Nineteen percent of the variance is explained for Asians and Hispanics, and 14% of the variance is explained for blacks.

White Students

Assimilation as measured by place of birth is not significant for white students; however, assimilation as measured by language ability is significant. Although white foreign-born students do not have higher educational aspirations than white native-born students, white students who were raised in an environment where a foreign culture was maintained as measured by maintenance of a foreign language have higher educational aspirations than white students who speak only English.

Parents' education is predictive of educational aspirations for white students; however, compared to blacks and Hispanics, the strength of the effect is relatively weak. Age, in contrast, has the strongest effect for white students—younger students have higher educational aspirations than older students, and this effect is more than three times stronger for whites than for blacks or Hispanics. White single parents have higher educational aspirations than white students who are not single parents, which is opposite of what might be expected. Considering the emotional and financial burdens of raising a child as a single parent, as well as the demands on time, it seems that single parents might have lower educational aspirations than students who do not have this responsibility. White single parents, however, have higher educational aspirations. For no other racial or ethnic group do single parents have significantly different educational aspirations than students who are not single parents.

White students are the only group for whom high school preparedness is not significant. Remedial coursework, however, is significant for white students—the more remedial coursework required, the lower a student's educational aspirations.

College experience, as well as age, are the strongest predictors of educational aspirations for white students. Those who are more academically integrated have higher educational aspirations than those who are less academically integrated. In contrast, white students who are more socially integrated have lower educational aspirations than white students who are less socially integrated, and this is not significant for any other racial or ethnic group. A number of possible explanations may account for this. White students with lower educational aspirations may be more likely to be involved socially on campus than those with higher educational aspirations. Students from other racial and ethnic groups with different educational aspirations may be equally likely to be involved socially. It is also possible that white students are more distracted by social involvement than other racial and ethnic groups.

Class standing at the time the survey was taken has a positive effect on educational aspirations for white students. Compared to freshmen, white sophomores, juniors, and seniors have higher educational aspirations, and this effect is strongest for seniors. Compared to black, Hispanic, and Asian students, upper class white students have the most advantage on degree aspirations as compared to freshmen. White students who are financially independent also have higher educational aspirations than white students who depend on a parent or guardian.

Black Students

Black immigrants who arrived after the age of twelve have significantly higher educational aspirations than native-born black students, suggesting that less assimilated black students have higher educational aspirations than more assimilated black students.

Language is not significant for black students. Parents' education and age are significant and positive for black students, and the strength of these effects are relatively strong.

Black students who have better pre-college academic skills have higher educational aspirations than students whose pre-college academic skills are weaker. Specifically, black students with better high school preparedness have higher educational aspirations and students who take more remedial coursework have lower educational aspirations.

Black students who are more academically integrated have higher educational aspirations than black students who are less academically integrated. Associate degree enrollment is a disadvantage on educational aspirations only for black students—for no other racial or ethnic group is associate degree enrollment significant. Black sophomores, juniors, and seniors have higher educational aspirations than freshmen, and the effect size is largest for juniors and seniors. The more hours a black student works in a job, the higher his or her educational aspirations. Part-time black students have lower educational aspirations than full-time black students.

Majoring in a math or science oriented field of study is significant only for blacks, and it has a negative effect. Considering the demanding nature of the coursework and the fact that math/science majors in no other racial or ethnic group have lower educational aspirations than humanities majors, it is doubtful that blacks would when they enter CUNY, which suggests that something about the math/science programs, or perhaps the expectations of the students who enter these programs, discourages black math/science majors from pursuing advanced degrees. Black students are negatively effected by more college experience factors than any other racial or ethnic group.

Hispanic Students

One and one-half generation Hispanic students have higher educational aspirations than native-born Hispanic students, but immigrant Hispanics who arrived after the age of 12 do not have significantly higher or lower educational aspirations than native-born Hispanic students. Bilingual Hispanic students also have significantly higher educational aspirations than Hispanic students who prefer English. The significance of immigrant status and language ability suggest that less assimilated Hispanic students have higher degree aspirations than native-born Hispanic students or those who speak only English; however, for Hispanic immigrants, living in the United States for a longer period of time has a positive influence on educational aspirations for immigrants.

Parents' education has a positive effect on educational aspirations for Hispanic students and compared to white, black, and Asian students, it is strongest for Hispanics. Younger Hispanic students have higher educational aspirations than older Hispanic students. High school preparedness has a positive effect on educational aspirations for Hispanics, although placement in remedial coursework is insignificant.

Hispanic students who are more academically integrated have higher educational aspirations than Hispanic students who are less academically integrated. Sophomores, juniors, and seniors have higher educational aspirations than freshmen, although the effect size for Hispanic students does not consistently increase. Juniors have the highest educational aspirations, followed by seniors and sophomores. Hispanic students who live in less safe neighborhood have higher educational aspirations than Hispanic students who live in safer neighborhoods, although this effect size is very small and significant only at

the .05 level. The more hours an Hispanic student is employed the higher his or her educational aspirations.

Asian Students

Few factors predict educational aspirations for Asian students. Asians who are bilingual, who have higher levels of pre-college academic skills as measured by high school preparation and remedial coursework, or who are more academically integrated in college have significantly higher educational aspirations than Asians who prefer English, who have lower levels of pre-college academic skills, or who are less academically integrated. For Asians, these are the only significant factors of the twenty-five included in this equation. Of these, the most important is pre-college academic skills, followed by assimilation as measured by language ability and academic integration. The benefits of being better prepared for college academically and being less assimilated are stronger for Asians than for any other racial or ethnic group. Educational aspirations for Asian students are not significantly affected by any household characteristic, nor by any factor that measures college experience, with the exception of academic integration.

Both assimilation and pre-college academic skill level are measures of internalized characteristics. Household characteristics and college experience, on the other hand, are measures of the environment. Based on the results for Asian students, as compared to the other racial and ethnic groups, it seems that educational aspirations for Asians are less influenced by their environment and more influenced by internal values and skills that seem to transcend socioeconomic status and college experience.

Table 2
Factors that effect educational aspirations: white, black, Hispanic, and Asian students

Independent Variables	White students B(b)	Black students B(b)	Hispanic students B(b)	Asian students B(b)
Immigrant Effects				
Immigrant	-.028(-.073)	.079(.159)***	-.006(-.012)	.025(.051)
1.5 Generation	.032(.149)	.000(-.001)	.049(.140)*	.026(.060)
Female	.004(.009)	.011(.023)	-.008(-.016)	-.028(-.056)
Language Effects				
Bilingual	.053(.149)*	-.035(-.107)	.057(.113)*	.107(.219)*
Prefers a language other than English	.014(.056)	-.021(-.115)	-.031(-.095)	.030(.066)
Household Characteristics				
Family income	.005(.000)	.002(.000)	-.014(.000)	.039(.000)
Parents' education	.061(.042)**	.124(.082)***	.150(.109)***	.017(.010)
Age	-.435(-.037)***	-.120(-.013)***	-.140(-.018)***	-.078(-.013)
Single parent	.074(.299)***	.002(.005)	-.040(-.093)	.024(.106)
Pre-College Academic Skills				
High school preparedness	.039(.057)	.094(.127)***	.105(.144)***	.181(.244)***
Remedial courses	-.072(-.053)*	-.070(-.040)*	.006(.003)	-.144(-.091)**
ESL courses	-.013(-.037)	-.003(-.007)	-.028(-.059)	-.026(-.054)
College Experience				
Academic integration	.120(.025)***	.070(.013)**	.054(.011)*	.077(.016)*
Social integration	-.093(-.034)***	-.007(-.002)	.037(.013)	.001(.000)
Associate degree program	-.063(-.146)	-.095(-.188)*	.000(.000)	-.145(-.308)
Sophomore	.079(.198)***	.058(.132)**	.063(.141)*	.054(.127)
Junior	.072(.214)**	.122(.356)***	.119(.379)***	.064(.181)
Senior	.155(.452)***	.121(.374)***	.086(.289)**	.052(.149)
Math/science major	.024(.100)	-.057(-.208)**	.000(-.002)	.040(.108)
Unsafe neighborhood	-.009(-.008)	.041(.029)	.007(.005)*	-.006(-.004)
Hours employed	.028(.002)	.068(.004)**	.071(.004)**	.028(.002)
Part-time student	-.023(-.050)	-.092(-.184)***	-.082(-.178)	-.057(-.127)
Financially independent	.061(.133)*	.016(.032)	.084(.166)	.017(.038)
Transfer student	-.038(-.108)	.007(.021)	.062(.196)	.068(.184)
No quiet place to study at home	.008(.023)	-.019(-.041)	.016(.032)	-.011(-.025)
Intercept	4.86***	4.27***	4.03***	4.69***
Adjusted R2	.264***	.143***	.186***	.191***
N	1,918	2,104	1,619	742

*p<.05 **p<.01 ***p<.001
Colleges (17 total) are included as dummy variables.

Summary

In models that include all students, certain factors emerge that have consistent effects on educational aspirations. In general, assimilation has a negative effect on academic aspirations. Students who are more assimilated have lower educational aspirations than students who are less assimilated. For all students controlling for race and ethnicity, blacks have consistently higher educational aspirations than white students. Students' whose parents have higher levels of education have higher educational aspirations than students whose parents have lower levels of education, showing that cultural capital has a positive and significant influence on educational goals. The effect of financial capital as measured through family income, in contrast, disappears when college experience is controlled. Younger students consistently have higher educational aspirations than older students.

Students who were better prepared in high school have higher educational aspirations than students who were less well prepared. Although it makes intuitive sense that additional schooling would be more appealing to students who do well than to students who struggle academically, it is also possible that students with better pre-college academic skills attended better high schools and/or were in college prep courses that gave them exposure to peers who also had plans to earn advanced degrees and to positive adult role models.

Other factors that are not consistently significant in models that include all students are gender and being Asian. There is no significant difference in educational goals between men and women. Likewise, Asians do not have significantly different educational goals than white students.

When comparing factors that affect educational aspirations for white, black, Hispanic, and Asian students, various patterns begin to emerge. Assimilation has a similar effect on educational aspirations for white and Asian students. For neither whites nor Asians is being an immigrant significant. White and Asian bilingual students, however, have higher degree aspirations than white and Asian students who prefer English, and this effect is stronger for Asians. As a measure of assimilation, for whites and Asians, maintaining the native culture as measured through language maintenance has positive effects on educational aspirations, while place of birth does not.

In contrast, immigrant black and Hispanic students have higher educational aspirations than native-born black and Hispanic students, and language is not significant. Black immigrants, however benefit from arriving at a later age, while Hispanic immigrants benefit from more exposure to American culture as measured by age of arrival.

As compared to Asian students, white, black, and Hispanic students are more influenced by environmental factors. For Asian students, measures of assimilation and pre-college academic skills have the strongest impact on educational aspirations. In contrast, white, black, and Hispanic students are more affected by the home and college environment. Black students are effected negatively by more college experience factors than any other racial or ethnic group.

Blacks and Hispanics are the only groups positively affected by hours employed. The more hours blacks and Hispanics are employed, the higher their educational goals. For whites and Asians, the work environment does not significantly affect educational goals. If black and Hispanic students have few role models in their neighborhoods who

have achieved high levels of education, perhaps colleagues at work fill this role to some extent.

Chapter 8

Conclusion

Whereas previous research on college student achievement treated both minority and majority groups as homogenous subgroups within the general population of college students, the main contribution of my research is that it considers differences within racial and ethnic groups based on degree of assimilation as measured by immigrant status and language preference, while controlling for gender, SES, pre-college academic skills, and various measures of college experience. The most significant findings are:

- Immigrant students have higher degree aspirations, higher college GPAs, greater odds of graduating, and take fewer years to graduate than native-born students.
- Black and Hispanic students aspire to more advanced degrees (i.e. M.A., Ph.D., J.D., etc.) than white students; however, they have lower GPAs, have lower odds of graduating, and take longer to graduate when controlling for socioeconomic status and pre-college academic skills.
- Black students seem to benefit from being less assimilated. Hispanic students, however, seem to benefit from longer residence in the U.S.
- College experience matters for students, in general. Factors such as academic integration, social integration, degree aspirations, associate or bachelor degree enrollment, major, hours employed, part-time status, and financial independence affect students' college achievement. In some cases, the negative effects of minority race and ethnicity increase when college experience is controlled, and in other cases negative effects are reduced or disappear. The same can also be said of SES and pre-

college academic skills. The positive effects of immigrant status, however, barely change, after controlling for college experience.

When comparing students of different racial and ethnic backgrounds, weak pre-college academic skills partially explain their lower grades and reduced odds of staying in college as compared to white students. This is not the whole story, however: race and ethnic effects remain negative and significant even when their pre-college academic skills are controlled for Hispanic students on both these measures of college performance and for blacks on GPA. The gap between immigrant and native-born students, however, increases when pre-college academic skills are controlled. When comparing immigrant and native-born students with the same pre-college academic skills, immigrants earn even better grades and have even greater odds of earning a degree than they did before controlling for pre-college academic skills.

The negative effect of being Asian as compared to being white on GPA and retention, in contrast to being black or Hispanic, is reduced most when controlling for household characteristics. This means that for blacks and Hispanics as compared to whites, lower pre-college academic skills explain more of the negative race and ethnic effects on college GPA and odds of graduating than SES. For Asians as compared to whites, in contrast, lower SES explains more of the negative ethnic effect on GPA and the odds of graduating.

Previous research offers an explanation for the high academic achievement of immigrant minority students in contrast to the lower academic achievement of native-born minority students. According to Ogbu (1991), Gibson (1991), and Suarez-Orozco (1991), minority immigrant parents, who Ogbu (1991) classified as voluntary minorities,

often leave their countries of origin to give their children better educational opportunities. Immigrant parents believe that educational achievement is the key to success in the U.S. Although native-born minority parents, or "involuntary minorities", in Ogbu's terms, also believe that education is important, through their own experience or through the experiences of friends and relatives, they have concluded that educational achievement does not necessarily lead to economic and social advancement. Because they have less faith in the system than immigrant minorities, native-born minorities are less likely to invest effort into their schoolwork.

In addition to more skepticism and ambivalence about educational rewards, in her study of Hispanic students, Suarez-Orozco (1991) found specific attitudinal differences between immigrant and native-born students that affect educational performance. She found that immigrant students were preoccupied with hard work and success while native-born students were more concerned about happiness. Suarez-Orozco (1991) also found that immigrant students were more likely to like school and less likely to feel bored and alienated by it. They were also more respectful of their teachers than native-born students.

Immigrant and native-born students have different frames of reference. Immigrants compare their educational opportunities in the U.S. to those that they left behind, while native-born students compare their educational opportunities to other options in the U.S. According to the 1995 CUNY Student Experience Survey, immigrant students are more satisfied with their college experience, in general, than native-born students. Immigrant students attending CUNY may feel fortunate and grateful for the opportunity CUNY provides to earn a college degree, while native-born students may contrast CUNY, with

its crowded urban campus and lack of residence halls, with leafy residential colleges and universities.

As my research shows, black and Hispanic students have higher educational aspirations but lower GPAs and retention rates than white students. This finding is consistent with many other studies (Tillery, 1973; Hanson, 1994; McClelland, 1990). A more distinctive finding of my research is that college experience matters. Most research on college experience has focused on students who attend residential colleges, living away from their parents and immersed in college full-time. Much less is known about the impact of college experiences on students at urban universities who are living at home and are very likely to be attending college part-time while also working. My research allows exploration of these issues. I have found that college experience does matter, but within limits.

College experiences do not much affect the basic distinction between the performance of immigrant and native-born students. Whether immigrants have positive or negative college experiences, they still are likely to outperform native-born students in terms of their grades, their likelihood of staying in college, and their speed in finishing. They also retain higher educational aspirations than native-born students, regardless of their personal experiences in college. Changing the college experience of immigrant students will not necessarily affect their college performance, lending further support to the hypothesis that immigrants' expectations and their belief in the rewards of the educational system explain their higher academic achievement. These beliefs work to immigrant students' advantage whatever their specific college experiences, suggesting that efforts made by college faculty and administrators to enhance students' experiences

may improve their well-being but are unlikely to enhance their performance. This is not to say that college experience does not affect other important college outcomes, such as satisfaction or attitudes.

College experiences, however, do impact the negative effects of minority race and ethnicity, as well as the effects of SES and pre-college academic skills. When comparing minority and white students with the same college experiences, the graduation gap increases. My research suggests that policies that enable students to attend full time, that encourage students to set higher educational goals in the form of advanced degrees, and that socially integrate students will not have the intended effect of reducing the gap in the odds of graduating between white and minority students. Factors not controlled by college administrators, such as SES and pre-college academic skills, explain more of this gap. Programs geared specifically for minority students, as discussed later, may reduce this gap.

In contrast, more positive college experiences substantially reduce the gap between minority and white students in the length of time required to graduate. Enabling minority students to attend college full-time and work fewer hours, providing the academic support required to improve their grades, academically integrating students, and encouraging higher degree aspirations eliminates differences in time to degree between black and white students and substantially decreases this gap between Hispanic and white students.

College experiences also have a strong mediating effect on poor high school preparation in determining the odds of graduating. After controlling for college experiences, high school preparation remains a consistently significant predictor of

degree aspirations, years to graduation, and GPA. For retention, however, the effects of high school preparation disappear when college experiences are controlled. Students who have high degree aspirations; are more socially integrated; major in a field other than math, engineering, or the natural sciences; and attend full-time can overcome poor high school preparation and graduate.

College experiences also have a strong mediating effect on SES in predicting years to graduation. Lower SES students who have higher educational aspirations; are more socially integrated; major in a field other than math, engineering or the natural sciences; work fewer hours; attend full-time; are financially independent; and have higher college GPAs do not take significantly longer to graduate than students who have higher SES.

The impact of college experience on three factors (race/ethnicity, SES, and high school preparation) that have proven to be strong determinants of college achievement in numerous studies highlight the importance of addressing students' needs once they are on-campus. In summary, college experience can at least partially override such powerful and well-established predictors of college achievement as high school preparation, the effects of minority status, and socioeconomic status. This suggests that college administrators would be well advised to pay close attention to students' needs once they are enrolled. If they are helped to attend college full-time, if they are socially integrated into college life, and if they choose majors that are compatible with their skills and interests, they stand better chances of attaining degrees in the same time frame as their better prepared and (often) white and more middle-class peers.

Differences Between White, Black, Hispanic, and Asian Students

Clearly, students' degree of assimilation, race and ethnicity, and college experience affect their college performance. But how does this vary across racial and ethnic groups?

My results suggest that when comparing immigrant and native-born students within the same racial and ethnic groups, black immigrant students are the most advantaged as compared to their black native-born counterparts. Hispanic students, another academically disadvantaged minority group, also benefit from being less assimilated; however, the immigrant advantage for this group is not nearly as strong or as consistent as it is for black students. Hispanic immigrant students, in fact, seem to benefit to some degree from longer enrollment in the U.S. school system, as highlighted in the model for Hispanic students on educational aspirations in which those who were born abroad but arrived before their twelfth birthday have higher educational aspirations than Hispanic students who arrived in the U.S. after the age of twelve.

Table 6, Chapter 3, offers some insight into this. In comparing the performance of black and Hispanic immigrant and native-born students, one should note that the majority of Hispanic native-born students are second generation while the majority of native-born black students are third generation or more (Table 1, Chapter 3). Assimilation theorists who addressed turn of the century immigration (Sowell, 1981; Gordon, 1964; Glazer & Moynihan, 1970) assumed that longer residence in the U.S. would yield improved academic and economic progress. Although native-born black and white students are further removed from their immigrant past than native-born Hispanic students, at CUNY, native-born black, as well as native-born white and native-born Asian students, have lower math scores than immigrant students from the same racial or ethnic group (Table 6,

Chapter 3). Hispanic native-born students are the only group with higher passing rates on the math skills test than their immigrant ethnic peers. (Because it is not realistic to expect immigrant students, most of whom speak a language other than English, to score as high on the reading skills test as U.S. born students, it is more reasonable to use math scores as a proxy for the quality of education received before enrolling at CUNY). Unlike any other racial or ethnic group, Hispanic native-born students have made significant progress educationally in relation to the low skill level of immigrant Hispanic students, who have the lowest math skills test passing rates of all the immigrant groups studied here. Regression results show that exposure to this native-born population seems to have some positive influence on Hispanic students. For blacks, in contrast, less exposure to American peers is more beneficial. The effect of assimilation on Hispanic students will become more apparent when a larger proportion are third generation.

In comparing differences between black and Hispanic students, it should be noted that because they are third generation or more, it is possible that higher performing native-born black students are more likely to have the financial means to attend other colleges, so those attending CUNY might not represent the full range of the African-American population and the applicability of these results to that population is questionable. These findings do, however, provide insight into the socioeconomic mobility patterns of urban poor black and Hispanic students. It appears that Hispanic students have a more positive trajectory as they assimilate than do black students. Waters' (1999) research on black immigrants from the West Indies shows the advantage of maintaining an immigrant identity for black students, supporting these findings. The findings on Hispanic students, however, challenge theories that stress the benefits of disassociation between immigrant

and native-born Hispanic students. For example, Portes & Rumbaut (1996) write, "In today's context, many of these children [Asian and Latin American immigrants] face the paradox that assimilating to their American surroundings may derail their successful adaptation, while remaining firmly ensconced in their parents' immigrant communities may help further it."

The positive immigrant effect for Asian students is more consistent than the positive effect for white students. As compared to native-born white students, immigrant white students only have an advantage on GPA, while Asian immigrant as compared to Asian native-born students are advantaged on both GPA and retention, and the effect size on retention is relatively large. These findings are consistent with previous literature that supports the academic advantage of those born abroad (Hsia, 1988; Portes & Rumbaut, 1996). More interesting, perhaps, is the finding that although socioeconomic status does explain some aspects of performance when comparing Asians to white students, it is not a significant predictor within the Asian group for any measure of college performance. This is not the case for any other racial or ethnic group. The social capital provided by the Asian community, as well as the emphasis on Confucian values that emphasize education and family honor (Zhou, 1997), may compensate for the disadvantages of lower socioeconomic status among Asians. As compared to Dominican households, 40% of which are headed by a female (Pessar, 1997), only 5% of Asian households are headed by a female (Zhou, 1997). In addition to stable families, a wide range of community based organizations and after school programs are available to Asian youth to help them realize the high educational and occupational aspirations of parents who have limited means to support such endeavors (Zhou, 1997).

With the exception of Asians, degree aspirations has a consistently positive effect on college performance for all racial and ethnic groups. It seems that increasing students' degree aspirations would have positive effects on students' retention and grade point averages. Although this is a cross sectional and not a longitudinal study, it is interesting to note that as compared to white freshmen, white seniors have the highest degree aspirations, followed by white juniors and white sophomores. Likewise, the educational aspirations for black and Hispanic juniors is higher than that of sophomores relative to freshmen; however, the educational aspirations of senior black students is about the same as that of juniors. For Hispanic students, seniors' educational aspirations is slightly less than that of juniors. It is possible that the educational aspirations of black and Hispanic upper class students is more in line with their resources and levels of academic preparation than it is for freshmen.

Academic integration has a positive effect on GPA and educational aspirations for all racial and ethnic groups, which highlights the important role faculty play in influencing students' aspirations and achievement. Clearly, investment in faculty who enjoy interacting with students, who are given teaching loads that make it possible for them to do so, and who have high expectations benefits a diverse student population. The effects of social integration (as distinct from academic integration), however, are less consistent and not always positive. Previous research at majority white educational institutions has shown that although positive peer interactions may have little influence on improving academic skills, they do affect attitudes and behaviors, such as educational aspirations (Newcomb, 1966; McDill & Coleman, 1965). The measure of social integration used in my research is a measure of the degree to which students feel they fit-in and have friends,

the degree to which there is inter-racial harmony among peers, and the degree of academic ambition among students. Because this scale includes a measure of both relationships and academic ambition, it seems that although social integration may not have a positive effect on GPA (a measure of academic skills) it would have a positive effect on educational aspirations or goals as students develop relationships with others who are academically ambitious. At CUNY, however, social integration has either no effect or a slightly negative effect on students of various racial and ethnic groups, suggesting that at a non-residential minority-majority urban campus, peers have a minimal effect on academic outcomes. Peers may have more influence on residential campuses and also on campuses that enroll a higher proportion of students from families with longer histories of college-going, which would give first generation college students more opportunity to interact with students who may have higher academic goals.

It should also be noted, however, that students feel most comfortable with others who share a common background, interests, and values (Newcomb, 1966; Benmayor, 2002; Lara, 1992). In their qualitative research and personal experiences, Benmayor (2002), Lara (1992), and Sidel (1994) discuss the difficulties that minority first generation college students have adjusting to and fitting-in among peers at majority white universities. Lara (1992), who discusses her experience as a first generation Dominican college student at a four year liberal arts college in New England, felt rejected not only by her white peers, but also by her African-American peers. African-American students rejected her for her Latino culture, while her Latino peers rejected her for being Afro-Latino. My research, and case studies such as that of Lara (1992), suggest that because peer groups are most likely to develop among students from the same racial or ethnic

groups who have similar interests, personal experiences, and family backgrounds, the peer effect on first generation minority students may be minimal.

As college campuses become more diverse, academic integration through support provided by committed and caring faculty becomes increasingly important. At the community college Lara (1992) first attended, she gives credit to three educators who were committed to the notion of empowering working class immigrant minority students for her subsequent enrollment at a four-year liberal arts college. First-generation college students of Mexican origin attending a four-year state institution in California report in oral histories that programs and clubs that attracted students with a similar ethnic and socioeconomic background were the most supportive. A high degree of personal attention from faculty was also important (Benmayor, 2002).

While the effects of social integration seem to be minimal, this is not to undervalue the importance of students who are happy with their social lives. It might be expected that social integration is of minimal importance at a large urban non-residential college like CUNY. A large part of the college experience for students at residential campuses, however, is social. Commonly, academic pursuits at residential campuses are secondary to the pursuit of extra-curricular activities. Football games, fraternities and sororities, and dating are part of the collegiate culture (Clark & Trow, 1966). The implications of my research, however, are that the extra-curricular aspects of college that have traditionally served to integrate students into the collegiate culture, create a sense of loyalty, and influence students' attitudes and values may have less impact as campuses diversify. For this reason, developing programs, identifying faculty who enjoy

working with students outside of class, and giving them incentives to do so will become increasingly important. Broader change in the culture of institutions that serve the poor and working class, where their individuality can be respected, may be required to achieve this.

Policy Implications

These findings, combined with the previous research cited above, suggest that efforts should be made to integrate non-majority students on our university and college campuses on two levels. Because life experiences vary by racial and ethnic group (in terms of parental expectations and support, high school preparation, socioeconomic status, community support, and acceptance by the larger society), it is unrealistic to expect diverse students to integrate easily into a dominant university or college culture. Students may, in fact, feel more integrated into the larger system if encouraged to do so within peer groups and through faculty involvement. Peer groups naturally form between students who have common interests, share common ideals, and often share a common race or ethnicity. Faculty involvement exposes students to the ideals of the larger academic community.

Durkheim (1979) theorized on the importance of integrating individuals into the larger society. Societal norms and values, according to Durkheim, were necessary to guide individual behaviors; however, too much or too little societal control led to unhealthy behaviors. Anomie and fatalism characterized these two extremes. Fatalism was characterized by too much societal control. In these situations, individuals stopped using their own judgement and blindly followed the norms and rituals of the group. At times, fraternities and sororities may tend in this direction, as becomes evident with each

tragic death reported after fraternity drinking rituals. In these cases, individuals follow the prodding of the group without using their own judgement. College and university campuses, on the other hand, may be characterized by anomie, especially among first year students, who, often for the first time, have left the more structured and regulated environments of their homes and high schools and the more intimate worlds of their families.

The college's task is to provide an environment that balances these two extremes. As my findings suggest, in conjunction with supporting multicultural environments, academic integration appears to be an effective way to integrate diverse students into the larger university system. Researchers have found certain program characteristics to be successful in helping students succeed academically. One aspect of successful programs is the proactive identification of students at risk to ensure that they receive the help they need. One osteopathic medical school, for example, uses this approach successfully with African-American medical students, and there is little reason to think that it cannot be applied with success to the general student population. In this approach, student files are reviewed, at-risk students are identified, and services are coordinated to meet the academic, personal, financial, and social needs of the students (Cooper, Williams, & Burnett, 1992). A similar approach might be implemented for undergraduate students. For freshmen, faculty who teach freshmen seminar courses or faculty advisors might review the academic progress of their students, personally contact those at risk, and help students coordinate the appropriate services.

Other colleges use small seminars to integrate freshmen into the college community. At Sonoma State University, small self-directed seminars of twelve to

fourteen students, in which students select themes for discussion, provide an opportunity for faculty to connect with students about issues that are of concern to them.

At St. Lawrence University, seminars are team taught by faculty from three different disciplines. It is the team's responsibility to develop a thematic focus, and faculty members are asked to cross the boundary between students' academic and social lives. With three disciplines represented, discussion is likely to be lively, and students witness early-on how different academic fields compliment or contradict each other. At this residential college, a First Year Team of students, faculty, and a student development professional work closely together to address students' needs. Students live with others in their team and are encouraged to work together on group projects and read each others' papers. Social problems confronted in life (gender, racism, substance abuse, etc.) become topics addressed by the learning community and are addressed by both faculty and students (Cornwell & Stoddard, 2001). This model might be adapted for non-residential colleges.

Jacobs and Bowman (2003) emphasize the importance of recognizing diverse populations in orientation programs, especially for students identified as at risk, such as students of color. Extended orientation programs, which may include a week of orientation before college begins, often off-campus, give students a chance to identify a peer group and interact with faculty and staff before classes begin. The College of Holy Cross has taken the concept of orientation programs for minority students to the next level by re-integrating a relatively small proportion of white students into these programs as orientation leaders. Such integration gives white students the chance to learn about

minority students' concerns and reduces the feeling among minority students that they are a target or token population (Eastern Regional Fall NASPA Conference, 2004).

These programs rely on a high level of faculty involvement, which may present a problem at research-based universities with large student to faculty ratios. When a professor lectures to 100 or more students, it is difficult for him or her to initiate meaningful interactions with students. Often, an institution's prestige, small liberal arts colleges included, depends upon the research activities of its faculty. Although a space to create new knowledge is a crucial purpose of institutions of higher education, when faculty are pressured to do so at the expense of serving their students, institutional priorities might be questioned. At many institutions, tenure is based primarily on research, not on interaction with students or effectiveness in the classroom. Although many faculty may have entered the field of academia because they enjoy the relationships that develop with students through teaching, the rewards structure of many higher education institutions gives them little incentive to put the effort required into developing these relationships. Programs such as that at St. Lawrence require a high degree of faculty involvement outside of the classroom. At many CUNY colleges, faculty are required to teach up to five courses a semester and are expected to serve on various institutional committees. In addition, personal occupational prestige is achieved through research. Such job expectations make it difficult for professors to spend the time required to understand and meet the special needs of individual students. A rewards structure that encouraged faculty to serve as advisors to student organizations and provided other incentives for faculty to interact with students outside of the classroom,

such as a reduced teaching load or fewer committee requirements, might help enable students to become more academically integrated.

CUNY has begun to address large student to faculty ratios by hiring more full-time faculty. At residential institutions, faculty may be offered other incentives to become more involved with students, such as free room and board. The University of Connecticut, for example, has used this incentive successfully to entice a faculty member to live among first-year students in learning communities (Eastern Regional Fall NASPA Conference, 2004). Other universities, including many in the Ivy League, have long had faculty members who have shared housing and dining halls with students. A consortium of thirty-five of some of the most prestigious small private liberal arts colleges in the U.S. first met at Trinity College in Hartford, Connecticut, in 2000 "to discuss how colleges and universities could collaborate more effectively in transforming their campuses into optimal learning environments for all students, but particularly students of color" (Creating Optimal Learning Environments: The Work of the Consortium on High Achievement and Success and Its Member Colleges and Universities, 2003). Special academic support programs for students enrolled in traditionally difficult courses; intercollegiate working group meetings for campus personnel in the offices of the deans of students, academic support services, admissions, financial aid, and multicultural affairs; and intercollegiate student conferences have been successful in improving the retention of students of color at these campuses.

In addition to academically integrating students through faculty involvement and accessibility, minority students might feel more academically integrated if the curriculum addressed issues to which these students could relate on a more personal level. At urban

universities such as CUNY, faculty might be encouraged to use museums, especially those that celebrate diversity, and other cultural institutions to foster learning. In addition, as some institutions have implemented writing across the curriculum, topics that address diversity might also be integrated into the university-wide curriculum. Using texts or media that address issues relevant to minority students in humanities courses might help minority students feel connected to the curriculum and more comfortable contributing to classroom discussion, as well as help majority students develop a better understanding of minority students' concerns.

Summary

The main contribution of this dissertation is that it begins to address the needs of urban college-going youth in the second largest metropolitan area in the U.S., New York City. The CUNY student population, as represented by immigrants and students of different racial and ethnic groups, is perhaps more diverse than any other university system in the U.S. In addition, as compared to students attending residential campuses, including state schools, CUNY students are primarily of lower socioeconomic status, another population that has been largely overlooked in the literature. Studies of students with this profile are often limited to those attending community colleges.

In 2004, two CUNY students were awarded prestigious Rhodes Scholarships to study at Oxford University in England. Both are chemistry majors and immigrants from the former Soviet Union. One attends Brooklyn College and the other City College. Only Harvard, MIT, the United States Naval Academy, Yale, the University of Chicago, and the University of Virginia had more than one Rhodes scholar in 2004. Although the press often reports the inadequacies of New York City public education, the awarding of

two Rhodes Scholarships shows that CUNY students are among the most academically talented and ambitious in the U.S. Because of its close proximity to home and it's relatively inexpensive tuition, CUNY provides many students their only chance for realizing their academic potential beyond high school.

Although immigrant students at CUNY do well, in general, minorities and students from low socioeconomic backgrounds are disadvantaged; however, academic performance is likely to improve when these students are given the proper resources and support. As summarized in this chapter, programming efforts can help students who have traditionally under performed in college--students of color in particular. Compared to CUNY, the campuses at which many of these programs have been implemented have very small minority student populations. My research suggests that much larger numbers students would benefit if programs for traditionally disadvantaged students were implemented at CUNY.

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