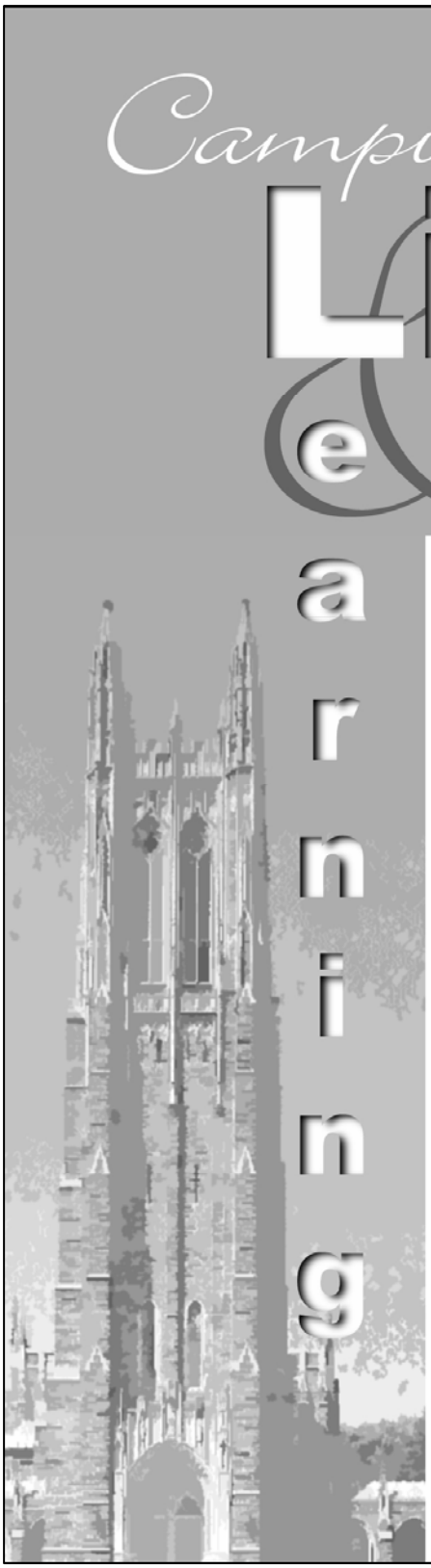

THE CAMPUS LIFE AND LEARNING PROJECT:

A REPORT ON THE FIRST TWO COLLEGE YEARS

May 2006

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Acknowledgments

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Finally, we express our sincere appreciation to the over 1500 current and recently departed Duke undergraduates who as sample members gave generously of their time. Our best wish for them is that each, in his or her own way, will have helped to make Duke University a better place.

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"*There could be no education that was not at once of use in earning a living and for use in living a life.*" - W.E.B. DuBois

1. Introduction

In their groundbreaking book *The Shape of the River*, Bowen & Bok (1999: xlix) use a river metaphor to illustrate the process of matriculation or the "flow of talent…through higher education." The metaphor implies an understanding that attending a highly selective college or university is dynamic, developmentally driven, and influenced by the institutional "riverbed".

Streams of scholarly research originate from Bowen & Bok's work. Researchers have examined the origins of the river (e.g., Massey et al., 2003) and the tributaries of academic excellence, admissions processes and the benefits of highly selective education. Bowen and Bok, using a comprehensive selective higher education database, explored several factors linked to students' pre-college and college experiences. While this research was groundbreaking because of its national scope, individual institutions wondered how to link this conversation to local discussions. Colleges and universities that were interested in exploring the river and the riverbed experienced a gap between the larger policy conversation and its application to individual institutions.

Duke's desire to translate the national conversation into university policy and practice coincided with the strategic planning commitment to "build on excellence". As a result of this, in 1999 Janet Smith Dickerson, former Vice President for Student Affairs, and Robert Thompson, then Dean of Trinity College, convened a group of faculty, staff and administrators to consider the implications of Bowen and Bok's research for the university. Specifically, what were the characteristics and qualities of different groups of students' undergraduate educational

experiences, and what was the relationship between students' expectations and experiences and those provided by the university?

The idea that college might be experienced differently for different groups of students was elucidated in Bowen & Bok's analyses of affirmative action in highly selective college admissions. Several questions emerged when decisions about admissions and affirmative action came under national scrutiny. Should different groups of students -- including the sons and daughters of alumni and wealthy donors, students with limited financial resources, students from diverse racial and ethnic backgrounds, and intercollegiate athletes -- receive preferential access to the nation's most prestigious colleges and universities? This question naturally led to discussions about differential advantage and access across all domains of the college experience.

This was not the first time these issues were raised at Duke. Administrative groups have conducted periodic studies and evaluations of the quality of educational experiences for different student groups. Of note is the recent comprehensive survey of gender equity for students, faculty and staff, which resulted in The Women's Initiative Report.[1] However, most of these efforts have been based on single cross-sectional groups of students, and convenient, small or purposive samples of students or faculty. In contrast, The Campus Life and Learning Project is theory and research-driven, uses more comprehensive data and, most critically, follows a systematic sample of Duke students over their educational careers.

Through the efforts of a planning committee, Duke received a planning grant from the Andrew W. Mellon Foundation. In 2000, The Campus Life and Learning Project (CLL) was launched. The planning effort had several goals, including: refining the conceptual model and hypotheses based on the research literature; identifying areas where data might inform policy initiatives; developing the research methodology and survey instrumentation; and establishing

[1] http://www.duke.edu/womens_initiative/index.html

the logistics for a large, longitudinal database derived from respondents and institutional sources. In early 2001, the CLL received multi-year funding from the Andrew W. Mellon Foundation and from the Offices of the President, the Provost and the Dean of Arts & Sciences.

The CLL study is designed to monitor the educational performance and outcomes of a representative sample of Duke students. It permits comparisons across many groups of students, including racial ethnic and gender group comparisons. The study design allows hypotheses testing for differential educational outcomes by group. Further, it considers the pre-college academic, social, and residential domains of students' experience. Finally, the design can help evaluate existing policies and inform the formulation of new policies.

The Research Design

This section summarizes the overall research design. The Methodological Appendix provides further technical detail on the sampling design, instrumentation, response rates, and issues of generalizability. The Campus Life and Learning Project centers on a multi-year prospective panel study of two consecutive cohorts of students enrolled at Duke University, in 2001 and 2002 (graduating classes of 2005 and 2006). The target population is all undergraduate students in the Trinity College of Arts & Sciences and the Pratt School of Engineering. A prospective panel study is particularly strong for studying developmental processes, and is more powerful than a cross-sectional survey (i.e., a one-time, one-shot survey) for untangling causal processes.

The sampling design provided for 1536 students, with the sample size selected to balance issues of statistical power with the available resources for a long-term project. The sampling design randomly selected about 356 and 246 Whites from the first and second cohorts,

respectively, all Black and Latino students, and about two-thirds of Asian students in each cohort. We used students' self-reported racial ethnic group from their Duke Admissions application form. This form also included a Bi-Multiracial category of response. The full design across both cohorts contains about 600 White respondents and just over 900 non-White respondents. Figure 1.1 summarizes the design and data collection points, and highlights information that is gathered in most years. Comparisons in this report rely on responses to the pre-college, first- and second-year surveys.

First, each cohort was surveyed via mail in the summer preceding initial enrollment at Duke. Sample members were invited to join the study. They received and were asked to sign an informed consent document. Respondents were also given the option of providing confidential access to their student information records at Duke. The pre-college survey provided for detailed measurement of social and family background, prior schooling experiences, pre-college achievement orientations and identities, social networks, and expectations for college. About 79 percent of sample members (n = 1207) completed the mail questionnaire. Well over 90 percent of respondents provided signed release to institutional records as well. Refusals were low at 1.8 percent of sample members.

Next, in the spring semester of the first and second college years each cohort was surveyed by mail. These surveys contained a core set of questions that were replicated across all waves and were supplemented with questions regarding students' social networks, time-use, performance attributions, and the like. Additional modules included questions on advising, choice of major, residential and social life, perceptions of campus climate (in classrooms, dormitories and so on), support networks, finances, and faculty-student interaction. Response

Figure 1.1. Summary of Major Design Components, The Campus Life and Learning Project

Pre-Collegiate Variables	**Collegiate Wave 1 Variables**	**Post-Duke Variables**
SURVEY	Survey conducted during the sample's first year	Graduation
Demographic		Educational Attainment
• Racio-Ethnic Identity	Academic	Occupational Attainment
• Parental Racio-Ethnic Identity	• Record	Income Attainment
• Citizenship	• Course difficulty	Life and Job Satisfaction
• Religious Affiliation	• University academic climate and diversity*	Satisfaction with Duke
Family Structure	• Classroom climate general and diversity	
Family Capital	• Integration**	
Cultural Capital	• Proposed major	
Schooling Experiences	Social/interpersonal networks and support	
Diversity Exposure	Residential Life	
Performance Expectations	• Climate and diversity	
Performance Attributions	• Integration	
Non-Cognitive Resources	Extracurricular	
Identity Encapsulation	Durham community	
Social Support Network	College development	
Gender Roles	• Stressful events and coping flexibility	
College Expectations	• Stereotype threat	
Admissions Resources		
SES Constellation	**First Year Specialized Modules-Survey and qualitative research**	
Occupational Aspirations	• Transitions to college	
Psychological Stressors	• Pre-major advising/academic risk assessment	
	• Scholarship recipients	
SISS	• Student athletes	
High School Curriculum	• FOCUS Program	
Test Scores (SAT, ACT, etc.)		
GPA	* Diversity includes breadth of network and experiences of discrimination	
Reader Rating Scores	** Integration is the degree to which a student is strongly affiliated with a given domain, resources and opportunities available in that domain.	
High School Extracurricular		
Financial Aid and Support		

Application to Duke	2001	'02	'03	'04	'05	'06
Design Timeline ➔						
Data Collection						
Class of 2005 (Cohort 1)	Wave - 1	W2	W3		W4	
Class of 2006 (Cohort 2)		W1	W2	W3		W4

rates to the in-school surveys ranged from about 62 percent to over 70 percent, depending on the cohort and wave.[2] The Methodological Appendix provides detailed response rates by cohort and wave, along with some analysis of the possible non-response biases.

For comparisons in this report, unless otherwise noted, we use so-called weighted data, assigning weights to cases based on the sampling fraction for a sample member's racial ethnic group (i.e., groups that were over-sampled are "weighted down" to their population frequencies). This permits unbiased and efficient estimates of population parameters for the Duke student population, taken as a whole. In some instances, comparisons between or within racial ethnic groups will use un-weighted data for maximum statistical power. Unless otherwise noted, the figures and tables are based upon weighted data. Where we thought it might be helpful, we report the results of statistical tests of significance for differences among groups or across years of study. For figures and tables in sections 4, 5 and 6, statistically significant differences ($p \leq .05$) are generally denoted with an asterisk (*), unless otherwise noted.[3]

Structure of the Report

In constructing this report we had to select from a large number of possible comparisons. Hence, we make no pretense of trying to cover all of the information in the database. We recognize that we have several years of analyses ahead. Nonetheless, we attempt a comprehensive portrait of the first two college years for the classes of 2005 and 2006. Our principal audiences are the various Duke constituencies including administrators, trustees, faculty, staff, students, alumni and parents.

[2] Response rates as a percentage of those still enrolled at Duke were 2-5 percent higher as some original sample members had left Duke, were on leave of absence, or academic probation and the like.

[3] For figures that illustrate between-group differences for both the first and second years (i.e., male-female differences with academic preparation in the first year and the second year), + = significant difference, first year only, # = significant difference, second year only, and * = significant between-group difference, both years.

Most of the comparisons in the report involve simple descriptive statistics, but in some cases we provide more detailed comparisons. For the most part, we do not engage in an extensive review of or dialogue with the scholarly literature in this report, nor do we use the more high-end statistical models used in social science research. We save these exercises for the scholarly side of the larger project. Our principal goal is to accurately describe and understand Duke campus life and learning.

Duke participates in larger national conversations about higher education and local discussions about the quality of educational experiences for its students. The characteristics that are unique to Duke are based on its selectivity, location, status as a research university, and its commitment to the region. Therefore whenever feasible, we will situate our findings in both national and institutional contexts.

Section Two considers the transition to college life. It reports information on the social and demographic origins of students, their expectations for college, and several comparisons on prior academic environments and preparation. The section aims to go move beyond the traditional admissions profile of the incoming class that is released annually by the Office of Admissions.

Section Three considers identity and personal development issues. This includes changing collegiate identities over the early college career, and indicators of personal development.

Section Four considers academic issues. This includes how Duke students spend their time in a typical week and how it changes over the first two college years. For example, to what extent does the data support the well-known motto of "Work Hard/Play Hard"? This section also includes a profile of the academic achievement for selected groups, such as comparisons of

gender and racial ethnic group variations in science, mathematics, and engineering curricula compared with other areas of study. Finally, this section also describes some of the patterns of academic support, classroom environments, use of academic resources, advising, and academic engagement-disengagement.

The fifth section considers several aspects of Duke social life. These include a detailed set of comparisons of students who participate in fraternities and sororities (i.e., Greek life), extracurricular activities, and the importance of alcohol and drugs to social life. For alcohol and drug behavior, the surveys measure the perceived presence and importance of alcohol and drugs at social events. We did not attempt to measure individual respondents' actual alcohol and drug use, for reasons of privacy, the possibility of illegal behaviors, and human subjects considerations. Nonetheless, we shall argue that the perceived prevalence and importance measures provide an important and informative window on the role of alcohol and drugs in campus life and learning.

Section Six considers residential life. The subsections include diversity and social networks, and residential climate.

Throughout sections 3-6 we consider comparisons that describe the transition from East Campus in first year to West Campus in the second college year.

A final concluding section reviews key findings, identifies opportunities to address the links between aspirations, expectations, experiences and outcomes and explore policy implications of the research.

2. Pre-College and the Transition to Duke

In this section we report on the social and demographic origins of students, their expectations for college, and several comparisons on prior academic environments and preparation. Every year, thousands of eager first-year students in highly selective colleges and universities across the nation participate in convocation rituals. Here, pre-college successes are lauded and the institution shares its hopes and beliefs in students' continued success. Bright-eyed students are assured that they are among the best and the brightest, the chosen and the deserving.

The particular signature aspirations and expectations of each institution are unique. Bowen and Bok (1998; Bowen et al. 2004) discuss national aspirations for highly selective institutions. These goals include a commitment to reducing social disparities through education, diversifying the river of talented students and ensuring that students will be educated as leaders in the elite circles of power and influence.

Duke's distinctive aspirations and expectations for successful educational outcomes are clustered around "earning a living" and "living a life". Glimpses from the mission,[4] strategic plan,[5] and recent remarks from President Brodhead articulate an expectation of excellence as evidenced by a commitment to life-long learning.[6] Furthermore excellence is assumed when this learning is transformed into practical ways to solve the problems of the nation and the world. The symbiosis between "usable" knowledge and problem-solving applications is essential. Further, "living a life" of significance is grounded in the personal characteristics of responsibility, leadership, and civic and social engagement within and across diverse local, national and global communities.

[4] http://www.planning.duke.edu/mission.html
[5] http://www.planning.duke.edu/table.html
[6] http://www.dukenews.duke.edu/2005/08/convocation.html

Students, as consistently reported in college expectation surveys, generally expect the college years to be a time for rich and vibrant engagements in the college community (Kuh, 2003). Further, they desire fertile ground for their intellectual and vocational development, as well as the development of life-long allegiances to the Duke community.[7]

Demographic Origins

First-year students arrive at Duke as an elite and diverse group. Table 2.1 reports select indicators of social and demographic origins for members of the classes of 2005 and 2006, by racial ethnic group. While about half of all Duke students are female, somewhat fewer White, Latino and Asian students are female. Substantially more Black and Bi-Multiracial students are female. For Black students, this phenomenon is not specific to Duke but is a national trend with two out of three matriculating Black students being female (Massey et al., 2003). The overwhelming majority of incoming White, Black, Latino and Bi-Multiracial students are U.S. citizens, while seven out of ten Asian students are U.S. citizens. Students' primary language reflects a similar set of differences, with English as the primary language for a substantial percentage of all groups, except for Latino (69 percent report English) and Asian students. For Asian students, a majority report a language other than English as the primary language used at home. Thus, a substantial number of Asian students are foreign nationals or likely children of first- or second-generation immigrants, and grew up in households where parents spoke the language from the origin country. Incoming Duke students also come from diverse family backgrounds. The vast portion (nearly 90 percent or higher) of White and Asian students reported coming from intact families. Six out of ten Black students, eight out of ten Latino students, and seven out of ten Bi-Multiracial students lived at home with both parents during

[7] http://www.planning.duke.edu/table.htm

Table 2.1. Select Indicators of Social and Demographic Origins

	Total	White	Black	Latino	Asian	Bi-Multiracial
N	1341	816	143	102	199	81
% Female	50.1	46.6	68.3	48.7	46.5	63.1
% U.S. Citizen	91.9	96.8	92.9	93.5	69.1	88.6
% English Primary Home Language	86.7	95.99	97.7	68.9	40.7	94.6
% With Parent Who Did Not Live at Home in Senior Year	15.5	11.1	39.5	21.3	7.2	31.5
% Public High School	67.1	65.8	73.8	61.1	70.8	68.5
% Private High School – Religious	11.1	9.2	14.1	24.2	8.4	14.9
% Private High School - Nonreligious	19.7	23	10.3	13.6	18.2	12.9
Average Number of Siblings	1.61	1.58	2.16	1.64	1.25	1.82
% Legacy *	19.3	25.3	7.9	7.6	10.8	11.2
% NCAA Intercollegiate Athlete	13.3	17.4	9.3	9.9	5.5	12.8

* Legacy indicates that the student answered "Yes" to "Having a family member that graduated from Duke"

their senior year in high school. The average number of siblings mirrors this pattern, with Black, Latino and Bi-Multiracial students coming from slightly larger families compared with White and Asian students.

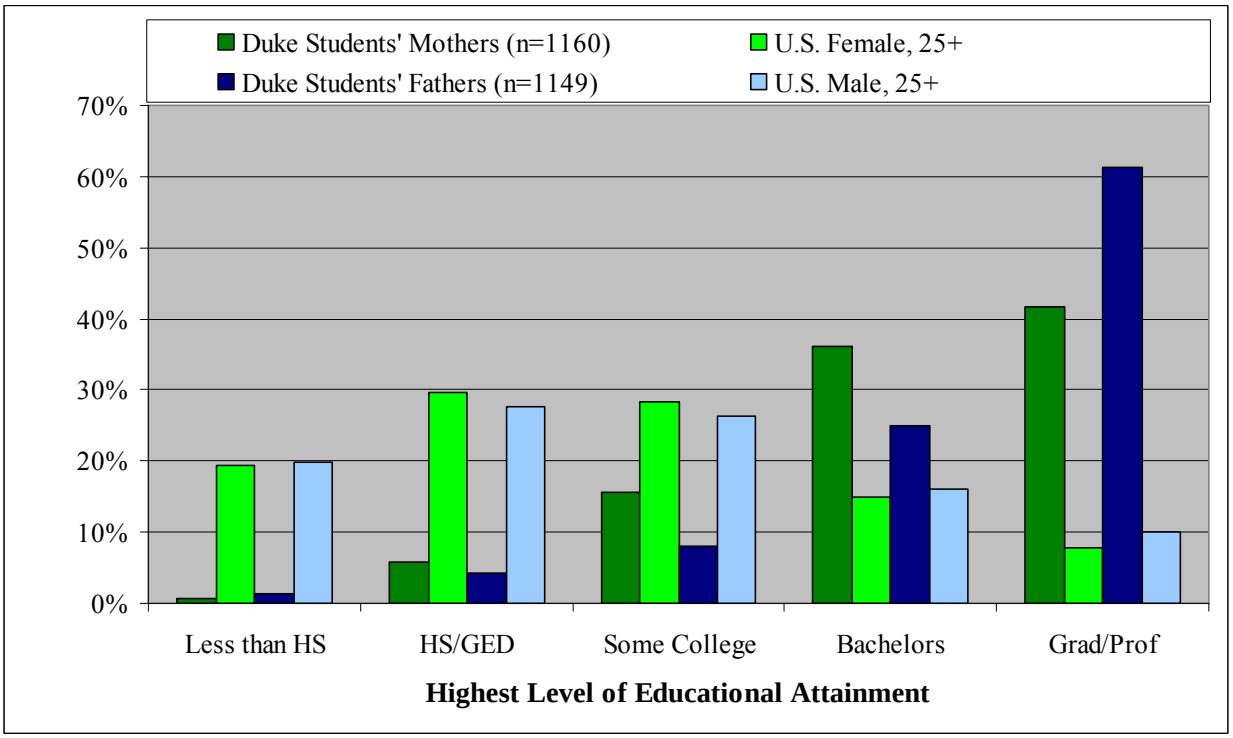
Duke students represent diverse high school origins: 67 percent of White students attended public high schools, slightly over 20 percent attended private, non-religious high schools, while the remaining nine percent attended private, religious high schools. Black students are more likely to attend public and private religious highs schools, but less likely to attend private, non-religious high schools. Asian and Bi-Multiracial students share fairly similar high school profiles. Nearly 25 percent of Latino students attended a private religious high school, about 60 percent attended public high schools and the remainder attended private, non-religious high schools. Thus, nearly 40 percent of Latino Duke students did not attend public high schools.

Two further indicators in this first set of comparisons are interesting in light of recent national debates about affirmative action. Nearly one of five Duke students are family legacies, meaning that they have a family member who has graduated from Duke. Over 25 percent of White students are legacies, more than twice the proportion of any other racial ethnic group. As we shall see in upcoming sections, this has implications for academic performance and other dimensions of the college experience. Finally, about 13 percent of Duke students report participating in intercollegiate athletics. This number reflects all sports played at the intercollegiate level, not only the more visible Tier 1 revenue producing sports such as men's and women's basketball and men's football. White students are somewhat more likely to report being student-athletes; students from other racial ethnic groups are somewhat less likely to report this status.

Figure 2.1 reports the levels of parental educational attainment for incoming Duke students. This figure reports breakdowns for mothers and fathers, and comparisons with all the broader U.S. population, as indicated by the 2000 Census of Population. Both mothers and fathers of Duke students are much less likely to have less than a high school, a high school (or GED equivalent) or even some college education compared with all U.S. women and men age 25 or older. Mothers and fathers of Duke students are somewhat more likely to have a Bachelors-level degree compared with all U.S. women and men 25 and over; they are much more likely to have graduate or other professional degrees, although some in the U.S. population age 25 and over will still be working on such degrees at age 25. For example, over 40 percent of Duke mothers and over 60 percent of Duke fathers have graduate or professional degrees, compared with less than 10 percent of the same gender U.S. comparison groups. The value placed on higher education in the Duke families is clear.

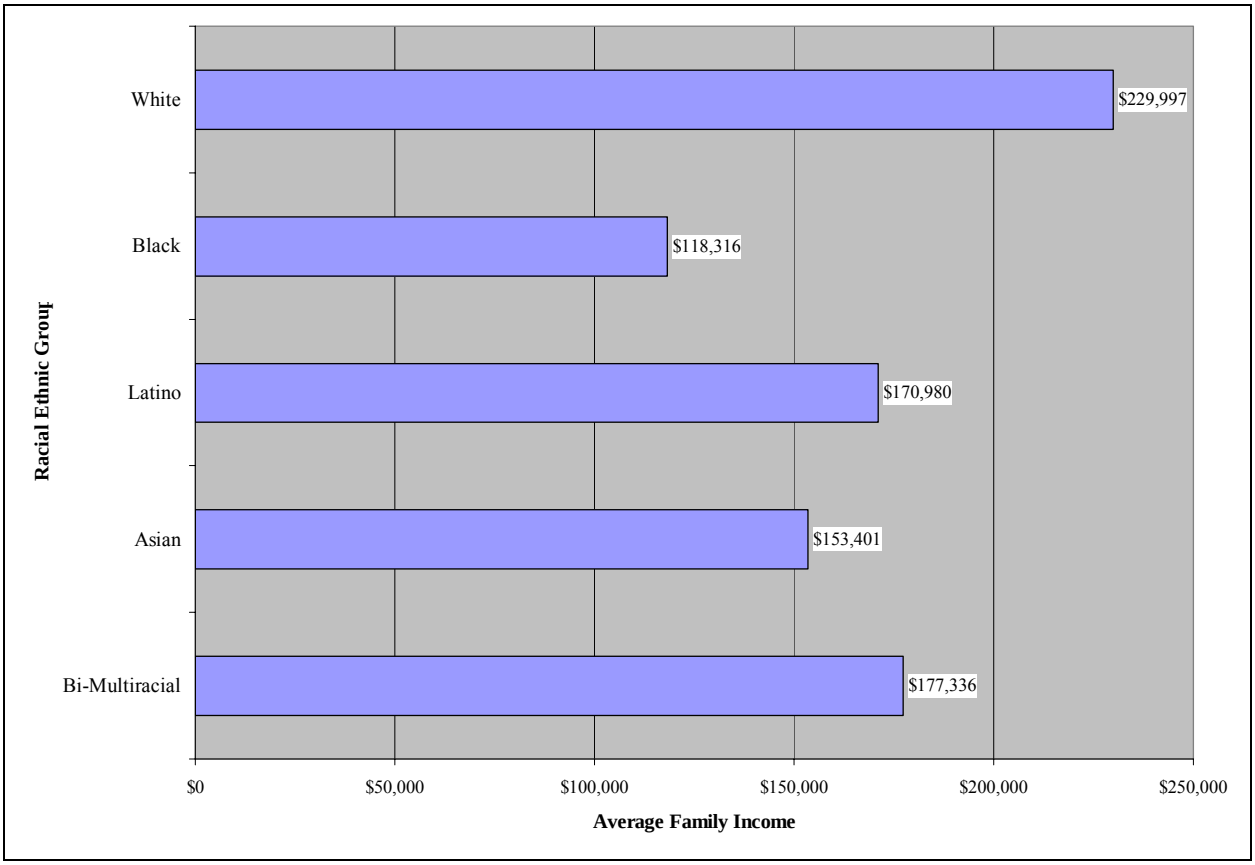
Figure 2.2 expands the socioeconomic background comparison by looking at the average reported family income (before taxes) during the student's senior year of high school. We measured income in categories (approximately logarithmic). Ordinarily, median income gives a better sense of the center of income distributions but this is not the case with our approximately logarithmic scale. Further, the median would simply report the most frequently used category---which is not that useful. For the upper category of $500,000 or more in annual income, we used a regression spline function to estimate an assigned value of $550,000 for those who reported the highest income category. This leaves the average income estimate unbiased. As is well-known, Duke students of all racial ethnic groups come from well-to-do family backgrounds, though differentially so by group. White students report family incomes of about $230,000 per year, followed by Bi-Multiracial students ($177,336/year), Latino students ($170,980), Asian

Figure 2.1. Parental Educational Attainment, Senior Year of High School



* Data on 'U.S. Female, 25+' and 'U.S. Male, 25+' drawn from the 2000 U.S. Census (www.census.gov)

Figure 2.2. Average Family Income by Racial Ethnic Group, Senior Year of High School



* One-way ANOVA test for difference in average income across racial/ethnic groups is significant at p<.0001

students ($153,401), and Black students ($118,316). Recall, the Asian student group includes the largest percentage of foreign nationals. These averages for Latinos, Asians and Blacks are, respectively, 2, 3, and over 4 times the national figures for U.S. families of the same race and ethnicity. Although not shown in these data, there is substantial variance in reported incomes, such that over 40 percent of Duke students receive some form of financial aid.

We also asked students in the pre-college survey about other forms of family wealth. Figure 2.3 reports some of these indicators. Over 36 percent reported that their families owned a business. Twenty-four percent reported their family owned a second home, and over 85 percent reported their family owned at least one home. These figures are well above corresponding national figures.

Pre-College Environments and Preparation

Another dimension of Duke students' pre-college experience is the racial ethnic diversity of the neighborhoods in which they grew up and the high schools that they attended. Figures 2.4 and 2.5 provide information on these areas by student's racial ethnic status and students' neighborhoods and schools during the high school years. White students experienced a distinctively less diverse set of environments compared with students from all other racial ethnic groups. Over 90 percent of White students grew up in all White, nearly all White or mostly White neighborhoods, and over 75 percent attended similarly homogeneous high schools. Students from other groups are more likely to grow up in and attend high schools that offer greater exposure to students of diverse racial ethnic backgrounds. Our later comparisons will show similar differences in collegiate social networks.

Figure 2.3. Selected Indicators of Pre-College Family Wealth

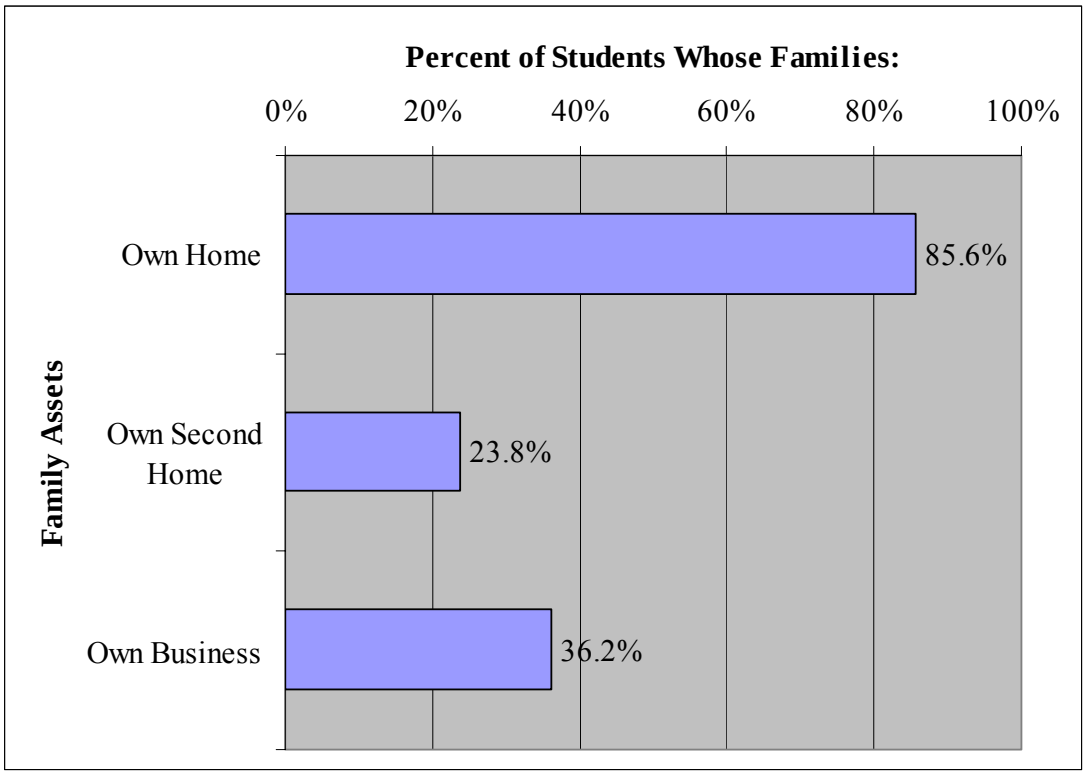


Figure 2.4. Racial Ethnic Composition of Student's Neighborhood in which He or She Lived while Attending High School, by Racial Ethnic Group

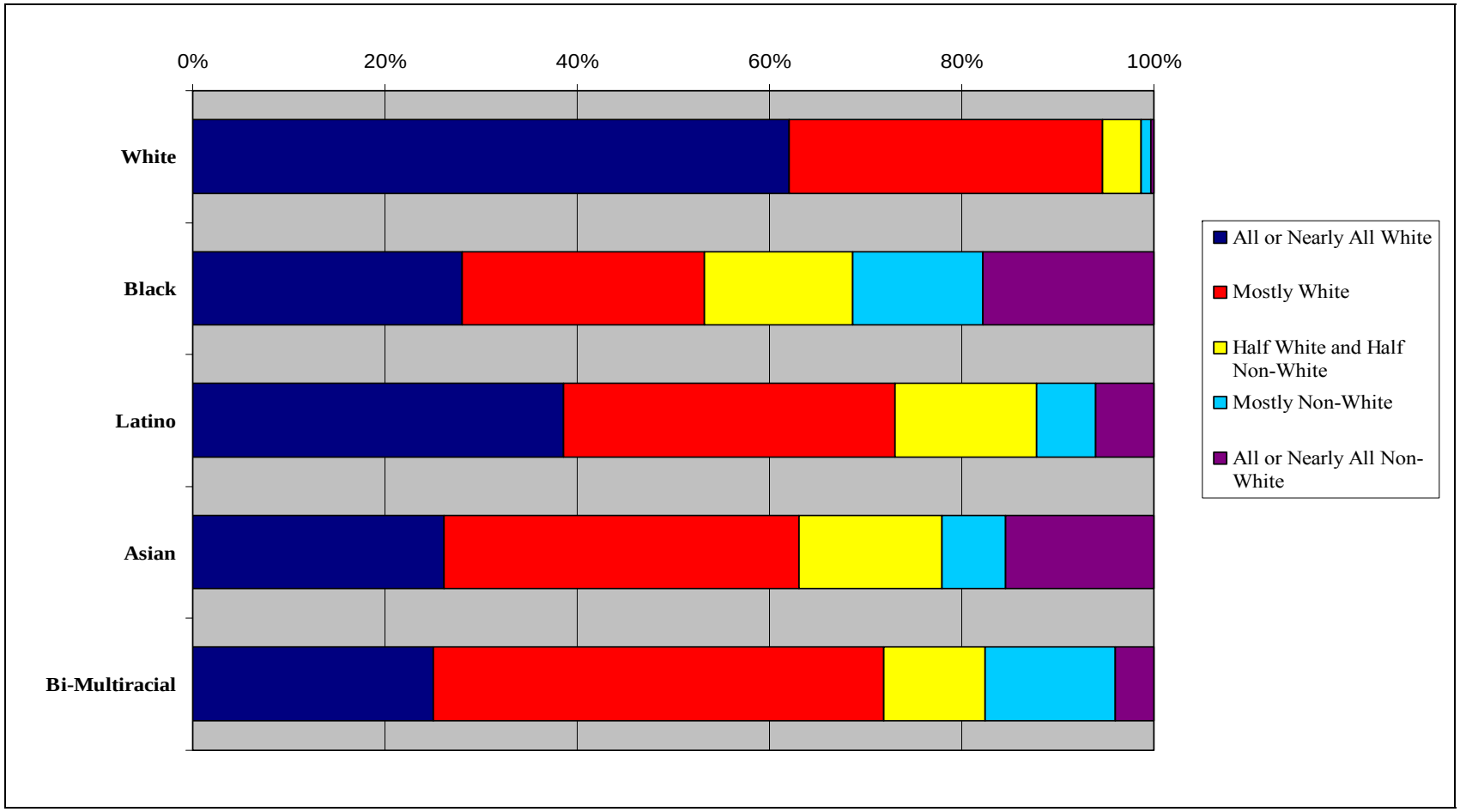
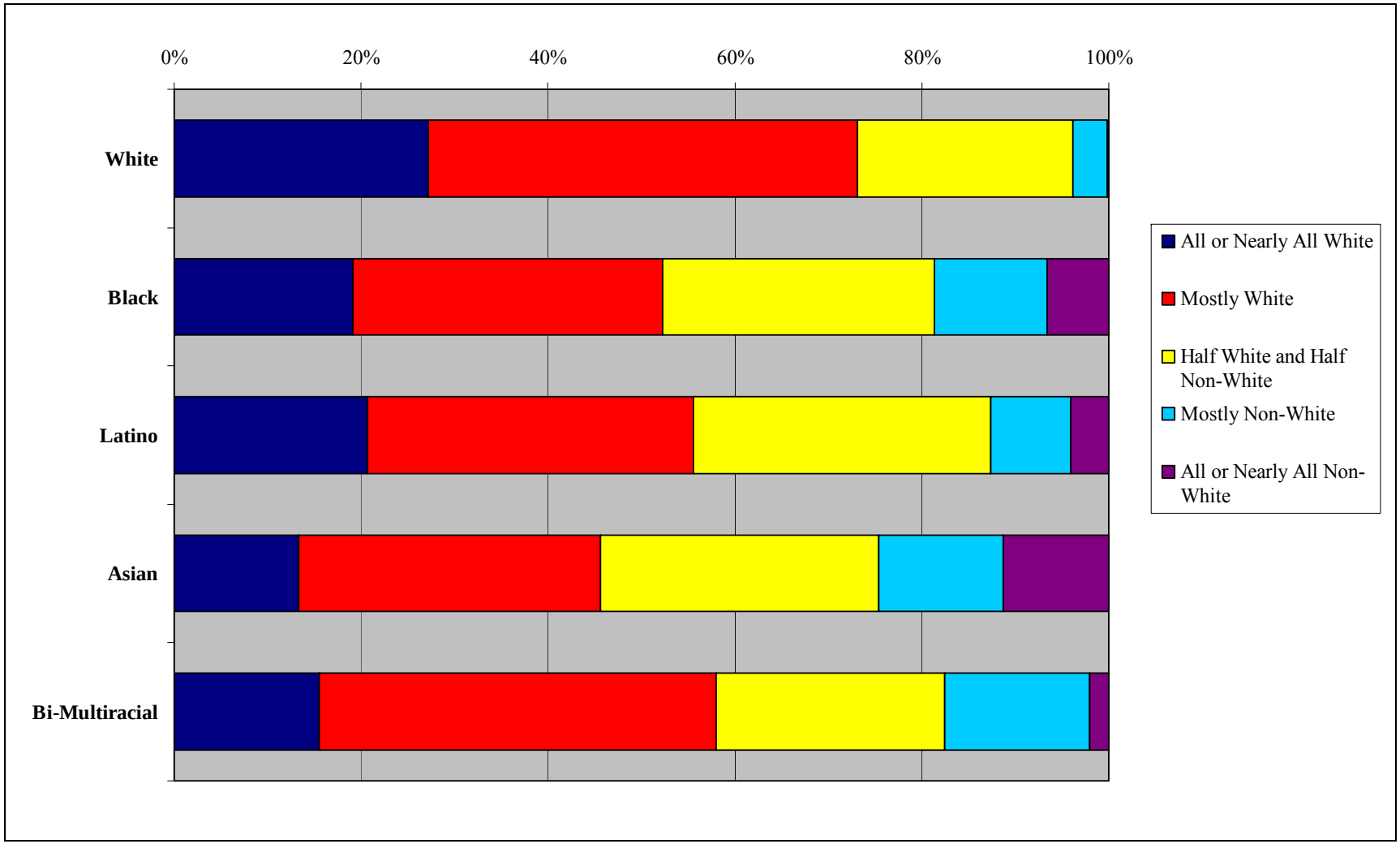


Figure 2.5. Racial Ethnic Composition of Student's High School, by Racial Ethnic Group



Duke matriculates are high-achieving, active students in high school. This includes participation in high-school extracurricular activities, as shown in Table 2.2. Note that over one-half of Duke students in the incoming cohorts of 2001 and 2002 participated in an organized school sport, a community service club, an academic club of some sort, a volunteer organization, or honor society. Significant percentages participated in some eleven other types of extracurricular activity. Equally impressive, a significant number held leadership positions in these groups and organizations.

We also surveyed Duke students in regards to the preparations they undertook for college. Figure 2.6 shows select indicators. Over 90 percent took Advanced Placement (AP) classes, and over 80 percent received credit for one or more AP classes. Nearly half of students reported taking a SAT preparation course. Other strategies that we might consider to be popular preparation activities, such as having a private SAT tutor or taking college courses for credit or no credit, were used by less than one-quarter of incoming Duke students.

College Expectations

In both the pre-college survey and again in the spring of the first college year we asked students about their expectations for college. Figure 2.7 lists 18 different expectations in order of importance. Three patterns are important. First, Duke students enter college with a variety of strong expectations for what they want from college. Sixteen of eighteen expectations are rated important, very important or extremely important prior to college entry. The most important of these are developing one's academic/intellectual skills, personal growth and awareness, career preparation, developing meaningful social relationships, and academic and intellectual achievement. Such diverse expectations as developing leadership skills, having a meaningful

Table 2.2. Participation in High School Extracurricular Activities, Senior Year

Club or Activity	Percent Reporting:	
	Membership	Leadership Position
Honor Society	72.8%	16.4%
Community Service Club	62.0%	21.4%
Academic Club (e.g., Math Team, Spanish Club)	59.8%	23.5%
School Organized Sport	59.5%	30.9%
Volunteer Organization	56.9%	12.9%
Relgious Activities (e.g., Church, Synagogue, Mosque)	42.3%	10.5%
Student Government	33.1%	20.5%
Social Club	31.7%	9.9%
School Publication (e.g., Newspaper, Yearbook)	30.1%	17.0%
Community Organized Sport	30.0%	8.9%
Musical Group	29.8%	11.2%
Hobby Club	19.4%	6.2%
Drama/Theater Group	17.4%	3.2%
Cultural Organization	16.5%	5.6%
School Pep Club (e.g., Cheerleading, Pep Band)	13.6%	4.8%
Scouting	5.8%	3.9%
Other	9.8%	5.6%

Figure 2.6. Selected College Preparatory Activities, Senior Year of High School

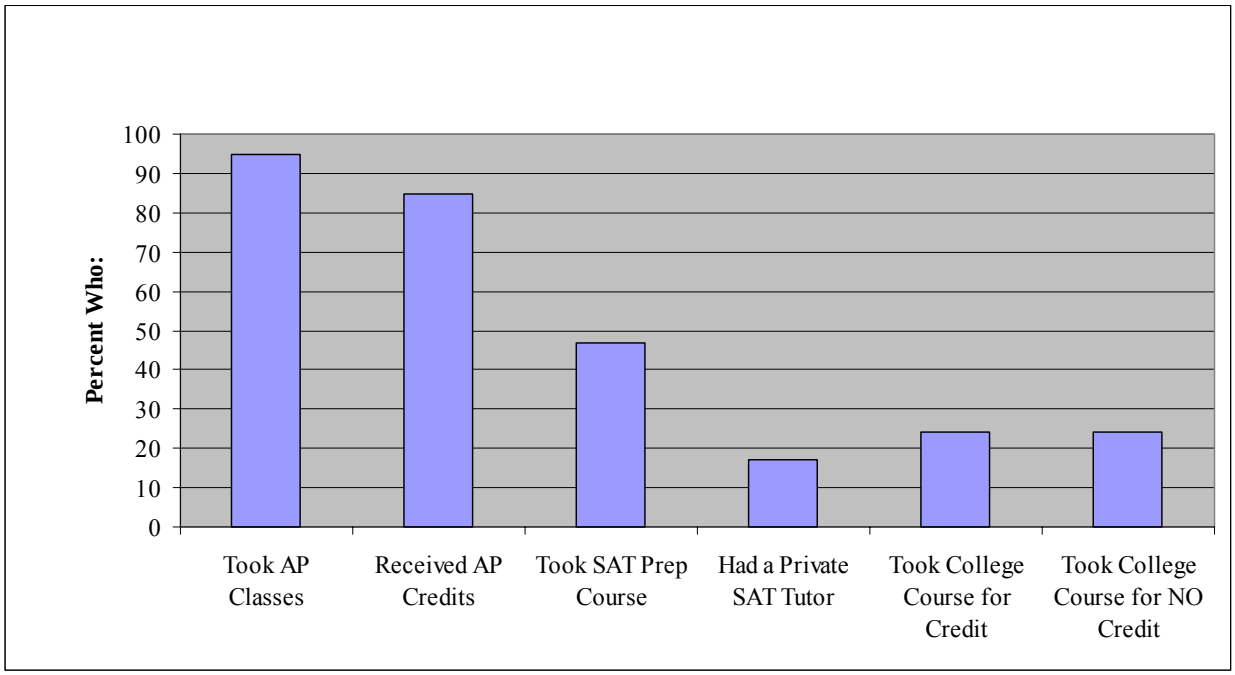
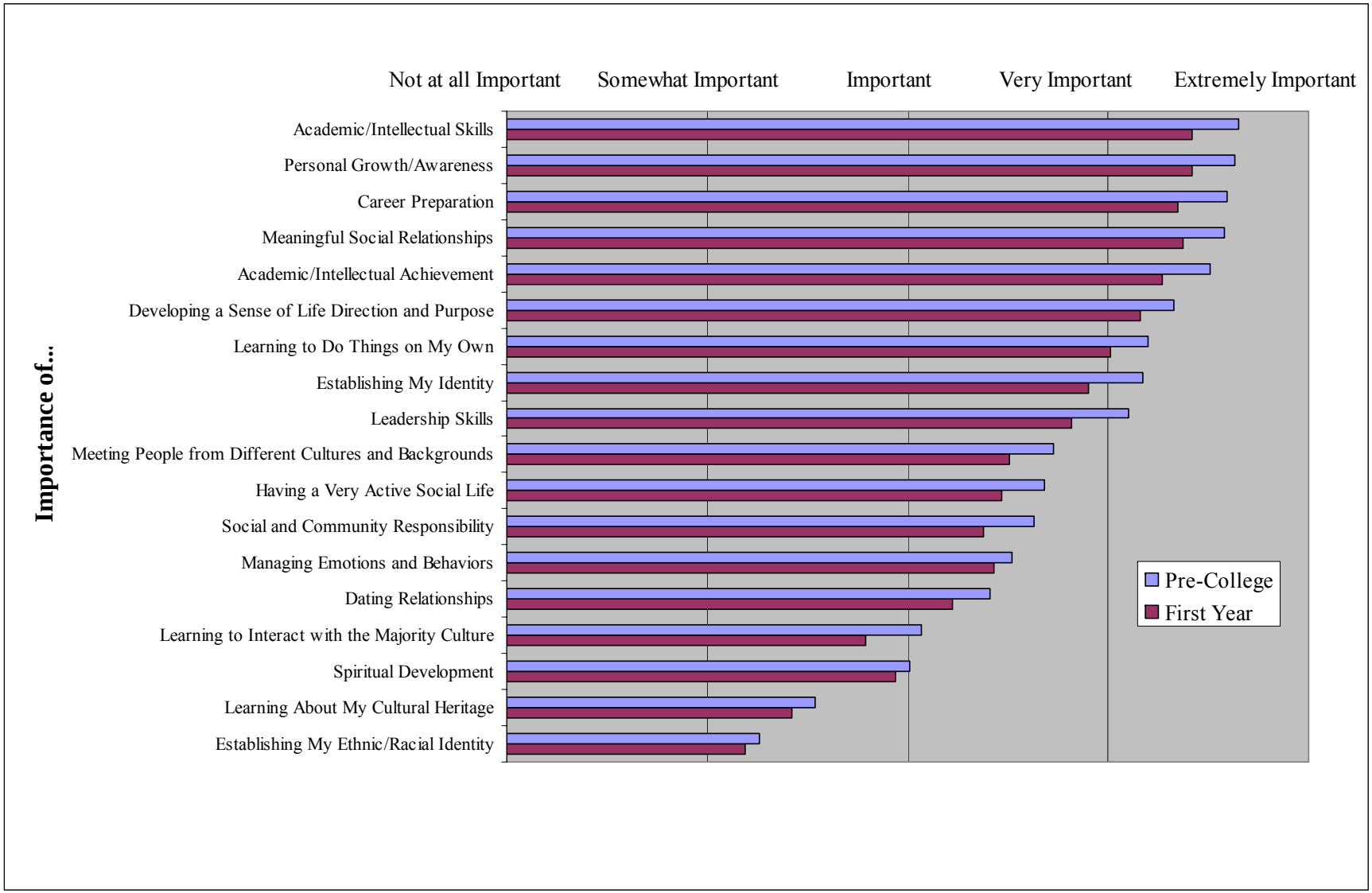


Figure 2.7. Students' College Expectations, Pre-College and First Year



social life, social and community responsibility, and managing emotions and behaviors are also considered to be relatively important. Second, every measured expectation dropped in importance from the pre-college to the first year, although in most cases this difference was statistically insignificant. It is striking that none of the items increase in importance, as all expectations slightly decrease in importance when put through the filter of a semester or two of college. Third, for the total sample, diversity-related expectations, including learning to interact with the majority culture, learning about my cultural heritage, and establishing my ethnic/racial identity are among the least important of any rated expectation. However, as we show in the next section on Personal Development and Identity, these issues are much more important to students of color, and much less important to White students.

Table 2.3 reports several other categories of expectations that Duke students expressed prior to matriculation. The top panel of the table displays the distribution of students by expected college GPA and actual first year college GPA. In general, students aspired to a higher grade-point-average than they experienced (or college grading systems were tougher than they expected). Of all of the students who expected a first-year GPA of 4.0, only seven percent achieved it. Another 44 percent were within a half-letter grade of 4.0, but half of all students were one-half letter grade or below their expectations. At the other end of the scale, a large majority of students who expected GPA's below 3.0 either exceeded their expectations or were within one half-letter grade of their expectation.

The bottom two panels of Table 2.3 report the top 10 most frequent answers to expected major and expected first occupation after leaving Duke. Not surprisingly, "Don't know" dominates both responses (31 % of expected majors and 21 % of first occupation responses; also, 7 % left the occupation question blank). Other expected majors in order include biomedical

Table 2.3. Selected Student Academic and Future Occupational Expectations

Expected First Year GPA					
Actual GPA	4	3.5 - 3.99	3.0 - 3.49	2.5 - 2.99	less than 2.5
4	6.9%	2.7%	1.3%		
3.5 – 3.99	43.5%	36.9%	28.0%	32.4%	
3.0 – 3.49	30.0%	35.6%	37.7%	42.9%	
2.5 – 2.99	13.4%	18.5%	23.4%	8.9%	100.0%
less than 2.5	6.3%	6.1%	9.6%	15.9%	
All columns sum to 100% within the bounds of rounding error					

Expected Major (Top 10)
1. Don't Know
2. Biology
3. Biomedical Engineering
4. Economics
5. Political Science
6. Public Policy
7. Psychology
8. History
9. Chemistry
10. English

Expected First Occupation After Leaving Duke (Top 10)
1. Don't Know
2. Physician
3. Left Blank/Didn't Answer
4. Lawyer
5. Graduate/Professional Student (generally Medicine or Law)
6. Engineer, unspecified
7. Teacher
8. Researcher
9. Business, unspecified
10. Biomedical Engineer

engineering, biology, economics, political science, public policy, psychology, history, chemistry and English. Physician (11.9%), lawyer (6.8%), and graduate/professional student (6%) rounded out the top five of the first occupations listed.

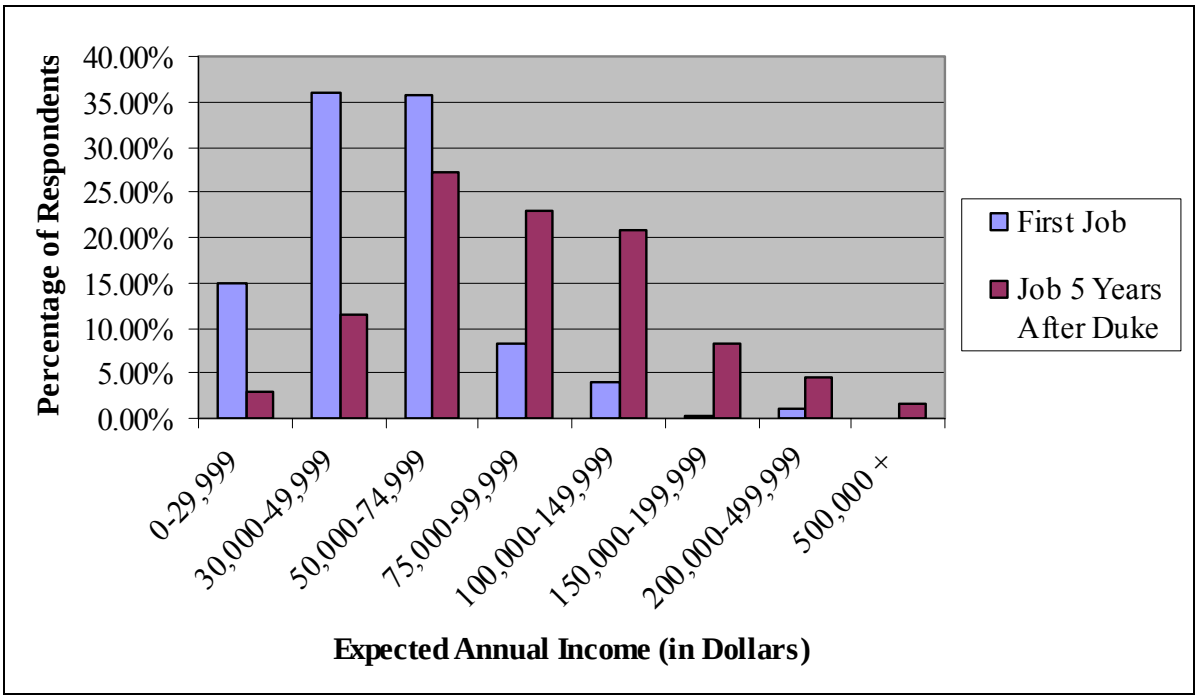
Finally, we asked incoming students about their expected (pre-tax) annual earnings in their first job and their job five years after Duke (Figure 2.8). In the first job after Duke, over 70 percent listed categories of $30,000-49,999 and $50,000-74,999, a fairly realistic estimate. However, nearly 10 percent reported expected annual earnings in their first job after Duke of $100,000 or more. Expected annual income five years after leaving Duke shows that about 70 percent of Duke students expect to be earning from $50,000 to $150,000 per year.

Summary

The Classes of 2005 and 2006 came to Duke University from highly diverse origins, but unevenly so. Their backgrounds were advantaged, with parents who were educated far above national levels and family incomes that were multiples higher than the corresponding national levels, but much more so for students from some racial ethnic groups than others. At the same time, over four out of ten students received some form of financial aid. Black women were over-represented compared with Black men. Nearly two out of ten Duke students came from families where one or more members graduated from Duke, but the legacy effect was higher for White students (one out of four) compared with other racial ethnic groups.

The Classes of 2005 and 2006 came from a diverse mixture of high schools and neighborhoods, but again unevenly so. Latino students were more likely to have attended private religious high schools; White students were more likely to have attended private, non-religious high schools. Non-White students experienced high schools and neighborhoods that were more racially and ethnically diverse, while White students were more likely to have experienced rather

Figure 2.8. Expected Annual Income (Pre-Tax) for First Job and Job Held Five-Years after Leaving Duke



homogeneous high schools and neighborhoods. Students from all racial ethnic groups brought with them to Duke a rich mixture of high school extracurricular experience. Impressive numbers held leadership positions in those organizations.

The Classes of 2005 and 2006 arrived on campus demonstrating a high level of ambition. They held high expectations for college regarding the academic and intellectual arenas, and also emphasized the importance of developing as a person along multiple dimensions. They held high expectations for academic achievement, expectations that few actually achieved but most came close. They were less certain about their future majors and career plans, but they were unwavering in their high income expectations after leaving Duke, and even more so in the income growth that they would experience in their first five years after obtaining a Duke degree.

3. Identity and Personal Development

In this section we review student identities and personal development over the first two years of college. We assume that developmentally, students progress in a normative fashion with specific transition points including adjustment to university life, degree and major selection, identity crystallization, and career decision-making. Each year appropriate developmental tasks must be mastered.

Simultaneously, upon arriving at Duke, students are also proceeding on a trajectory characterized as a process of acquiring "collegiate capital." This capital includes individual (academic, cognitive, and social skill sets) and institutional resources (opportunities to mobilize supplies, support and information) that promote or restrict positive educational outcomes. This process occurs in all domains and is influenced by interactions with university agents (faculty, staff, administrators), and elements of institutional culture and climate. Generally, we view a student's personal and identity development through these transactions with the university. However additional salient domains for student maturation also include family and peers.

Identity Transitions

The first year is typically characterized by the metaphorical negotiation of ponds and fish size; however, current writers emphasize technology (i.e., cell phones and the internet) as a critical mediator of this task for families, students, home, and college peer groups. Research also highlights a bicultural identity development process for students of color that may include negotiating many cultural contexts and learning about the manifestations of racism within the university environment. Self (individual, ethical and character) and academic competency development are a central part of the first year experience. For sophomores, the focus is on deepening academic competencies and extracurricular involvement.

Looking across racial ethnic groups (Figure 3.1) we find strong pre-college investment in student, social and gender identities for all groups. It was noted earlier that overall, developing racial ethnic identity was not listed as a significant collegiate expectation. However, as anticipated, racial ethnic identity is in the top five important pre-college identities for Black, Latino, Asian, and Bi-Multiracial respondents. Being a volunteer ranks in the top five for Latino and Asian students. Being a good athlete falls in this category for White and Bi-Multiracial students.

In college, regardless of gender, fraternity or sorority membership or racial ethnic membership, respondents are strongly identified with being a good student overall and within their major, being someone who socializes well with others, and their physical appearance. For men (Figure 3.2) the importance of being a good student decreases from pre-college through the second year. Ability to socialize well also decreases from pre-college to first year, but rebounds in the second year. The importance of their gender (although modest) declines from pre-college through the second year. Men have increased investment in their physical appearance (albeit modest) and nationality, which includes languages, places lived, and where they are from. Women also experience a decline in their student identity and their ability to socialize well from pre-college through the second year. Like their male counterparts, national/regional affiliation becomes more important from the first year to the second year.

There are some interesting differences between members and non-members of sorority and fraternities (See Figure 3.3). Most notably, being someone who socializes well and importance of physical appearance is more important across the first and second years for members of fraternities and sororities. Being a "Dukie" is generally more important the first year than the second, regardless of Greek membership. Finally what is interesting to note, is that

Figure 3.1. Student Reported Pre-College Importance of Selected Identities, by Racial Ethnic Group

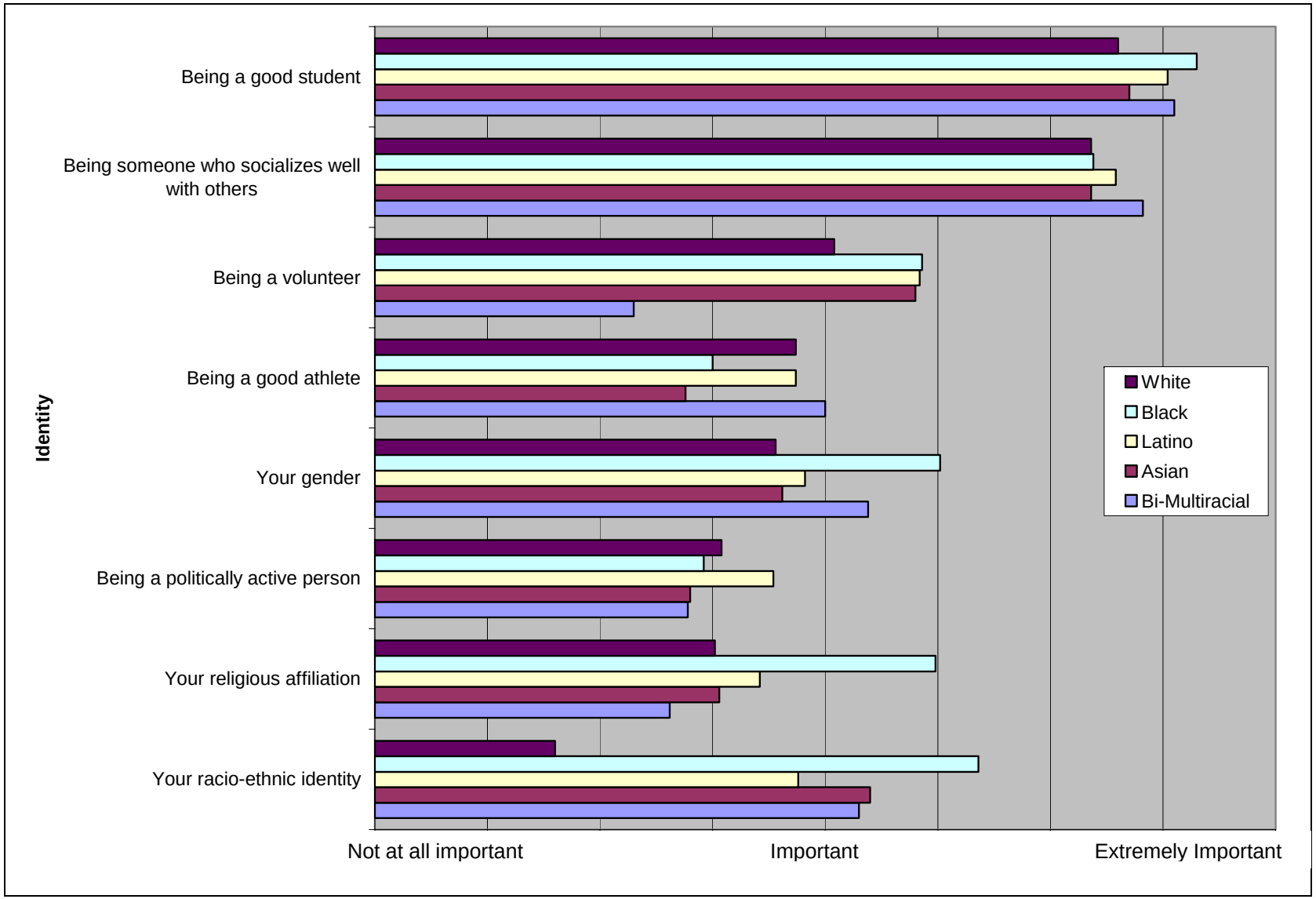


Figure 3.2. Student Reported Importance of Selected Identities, by Gender, Pre-College through Second Year

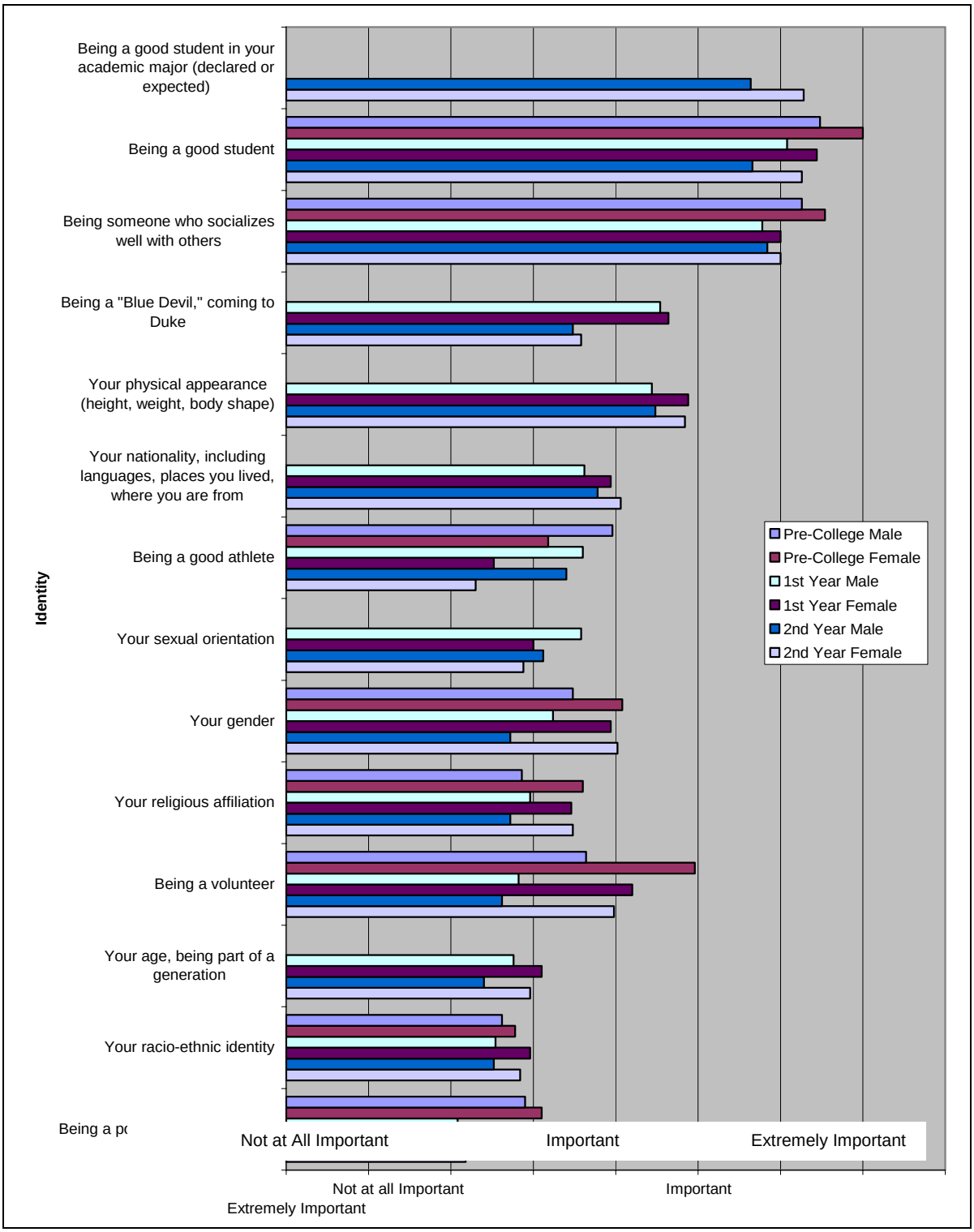
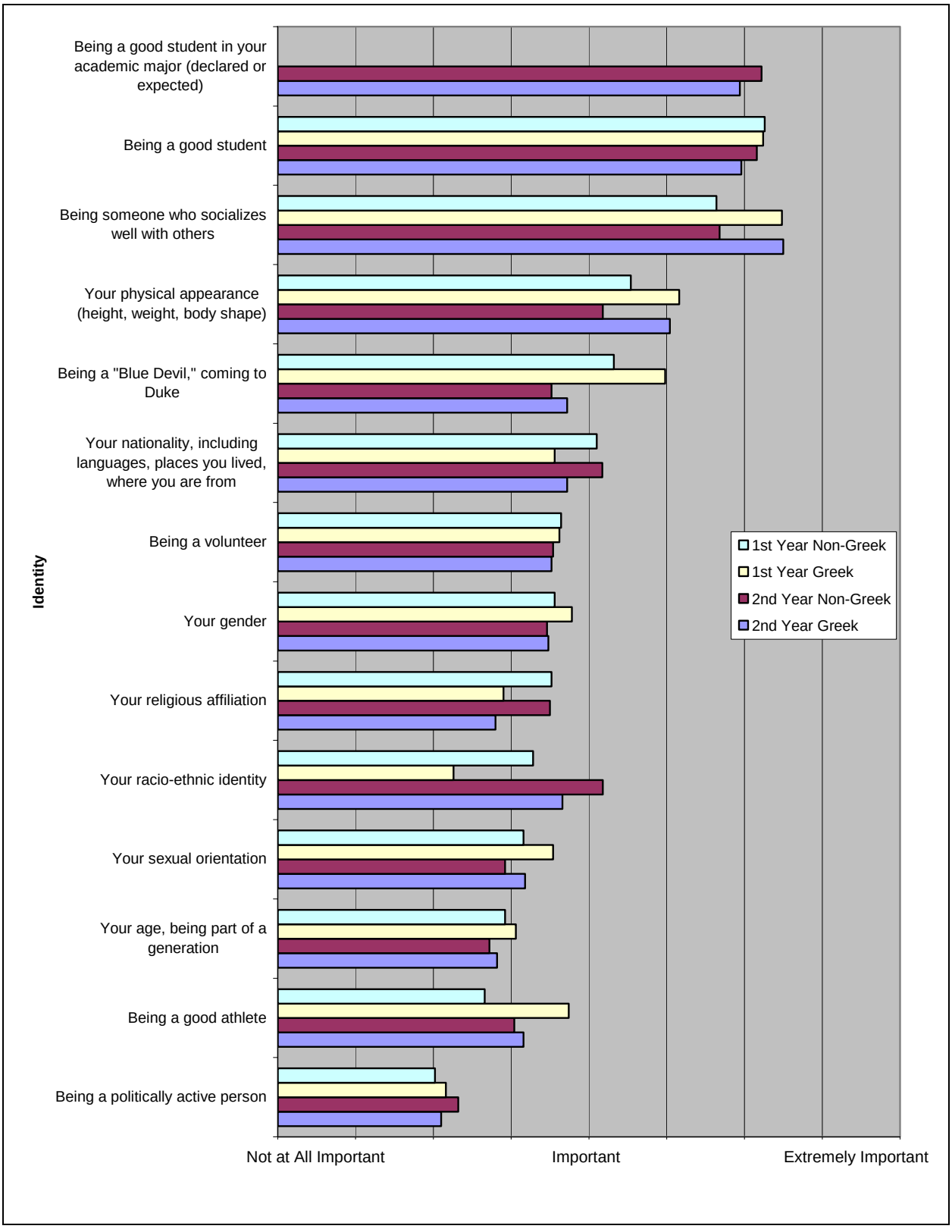


Figure 3.3. Student Reported Importance of Selected Identities, by Greek Membership, First and Second Year



racial ethnic identity is most important in the second year for students not involved in Greek organizations.

The importance of racial ethnic identity increases for Black, Latino and Bi-Multiracial students from pre-college to the second year for Black and Latino respondents. It decreases during this same period for Asian students (See Figure 3.4). Religious identity decreases from pre-college to first year for Black students. It increases the second year, but does not reach the level of importance of pre-college. Nationality is a salient identity for Latino, Asian, Bi-Multiracial students for the first and second year. Its importance increases for Latinos, but decreases for Asian and Bi-Multiracial respondents. One question of interest is if students are disidentifying with aspects that were salient for them in pre-college, what identity domains are gaining increased identity salience?

Stress and Transition

Development is often characterized as managing the relationship between appropriate levels of stress or challenge and levels of support or "scaffolding". When we review the types of challenges or stressors that our respondents faced prior to Duke, we see that overall, nearly 30 percent of CLL respondents reported severe physical illness or injury of a family member during high school (Figure 3.5). Although only at a level of six percent, women are significantly more likely than men to have reported severe psychological problems in high school. This gender difference also holds for severe psychological problems of family members. Although we cannot determine if these stressors resolved prior to college or whether they manifest as factors for vulnerability or resiliency at college, we will continue to monitor the data for possible trends as students continue to matriculate. Further, it is well known that women are more likely to

Figure 3.4. Student Reported Importance of Selected Identities, by Racial Ethnic Group, First and Second Year

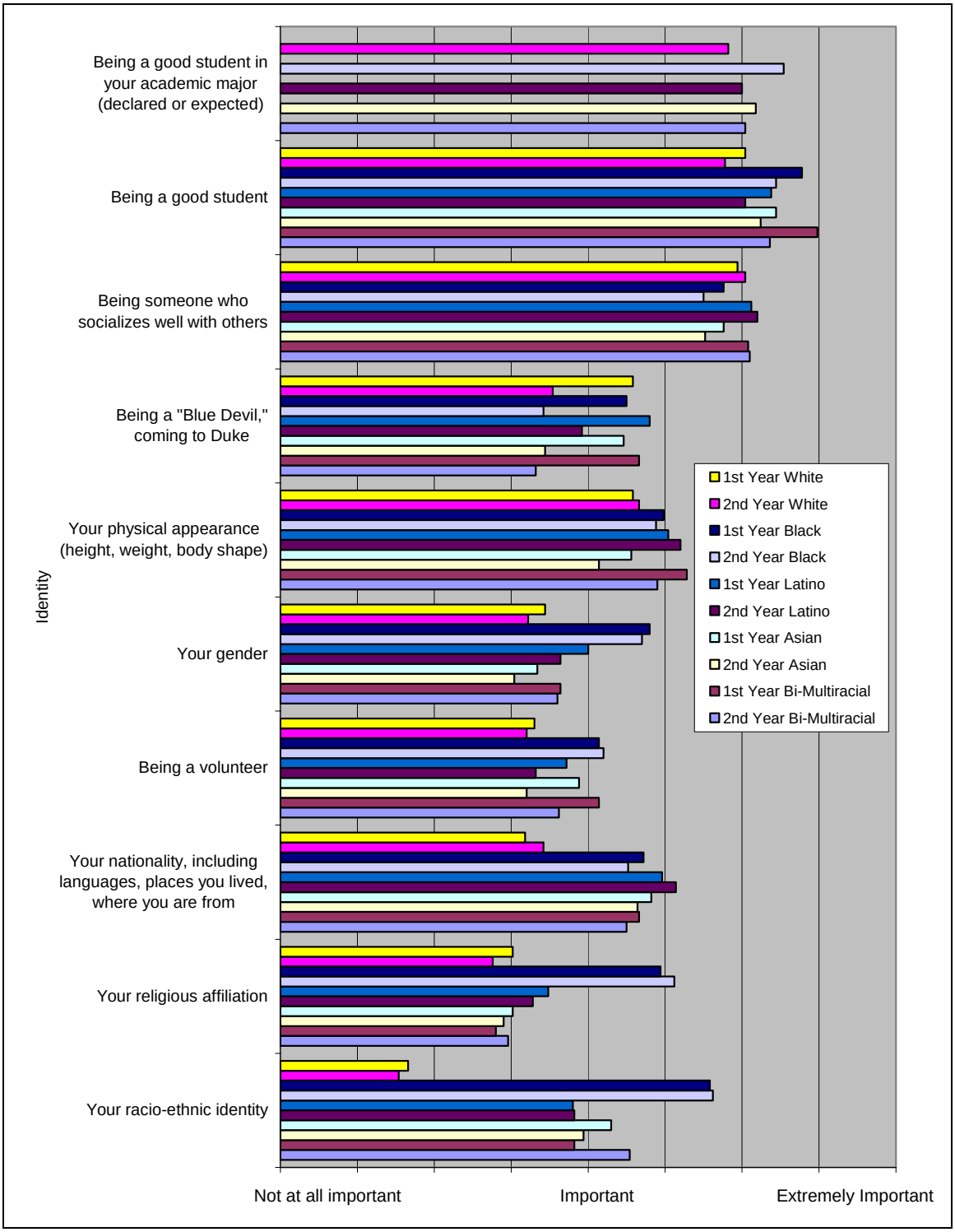
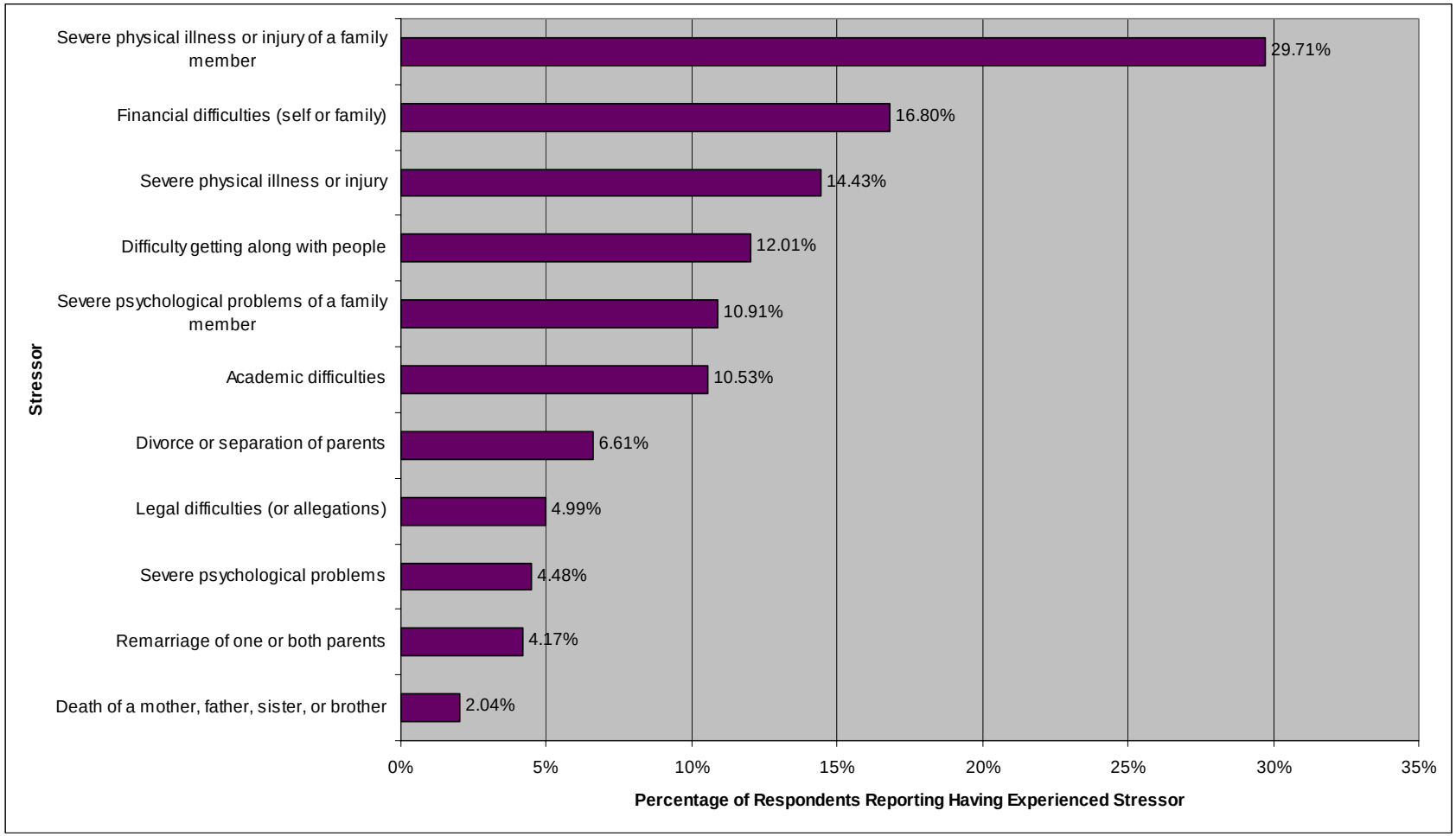


Figure 3.5. Incidence of High School Life Stressors



report stress and psychological problems compared with men. Thus, the gender differences may not reflect differences in reporting.

Table 3.1 highlights the rank order of high school stressors by racial ethnic group. Again, the marked occurrence of severe physical illness or injury of a family member among all groups is striking. The top five stressors across groups include: personal or family member's severe physical injury/illness, difficulty in interpersonal relationships (getting along with other people), and financial difficulties for self or family. Once students enter Duke, we begin to track stressors in the college environment (Figure 3.6). We measure how often respondents experienced stressors in the semester in which they completed the survey. Overall, respondents report that they experience stressors only rarely to sometimes, with moderate level of stress concerning grades in the second year. Stressors related to homesickness decrease significantly during the second year as students acclimate to being away from home. Health concerns, campus isolation, peer pressure and being unmotivated significantly increase as students acclimate to Duke. However, the stressors that are experienced are experienced rarely.

Personal Development

One final area of personal development that we assess is self-esteem. As shown in Figure 3.7, Duke students seem to be fairly neutral with regard to their self-respect. They do not feel strongly either way about changing or improving the level of self-respect that they have. However, there is an important change in self-satisfaction. Respondents report a significant drop in feeling satisfied with themselves during their first year in college. Their level rebounds significantly in the second year. However, it does not rebound enough to equal their pre-college satisfaction. Thus, students report the highest level of satisfaction before entering college. We

Table 3.1. Incidence of Selected High School Stressors, by Racial Ethnic Group

Stressor	White	Black	Latino	Asian	Bi-Multiracial
Severe physical illness or injury	13.9	18.0	20.1	10.2	16.3
Severe psychological problems	4.3	2.8	6.5	3.6	8.8
Severe physical illness or injury of a family member	25.7	48.5	35.7	25.0	42.4
Severe psychological problems of a family member	10.5	20.4	10.5	5.7	11.8
Death of a mother, father, sister, or brother	1.2	3.2	3.5	3.1	4.0
Divorce or separation of parents	5.0	14.8	9.5	3.6	11.5
Remarriage of one or both parents	3.4	6.4	7.0	1.5	9.8
Academic difficulties	8.0	22.6	11.6	12.8	9.8
Financial difficulties (self or family)	10.8	42.9	32.7	14.8	19.0
Legal difficulties (or allegations)	4.3	6.0	8.0	4.1	8.1
Difficulty getting along with people	9.2	18.0	15.0	15.3	18.6

Figure 3.6. Incidence of Selected College Life Stressors, First and Second Year

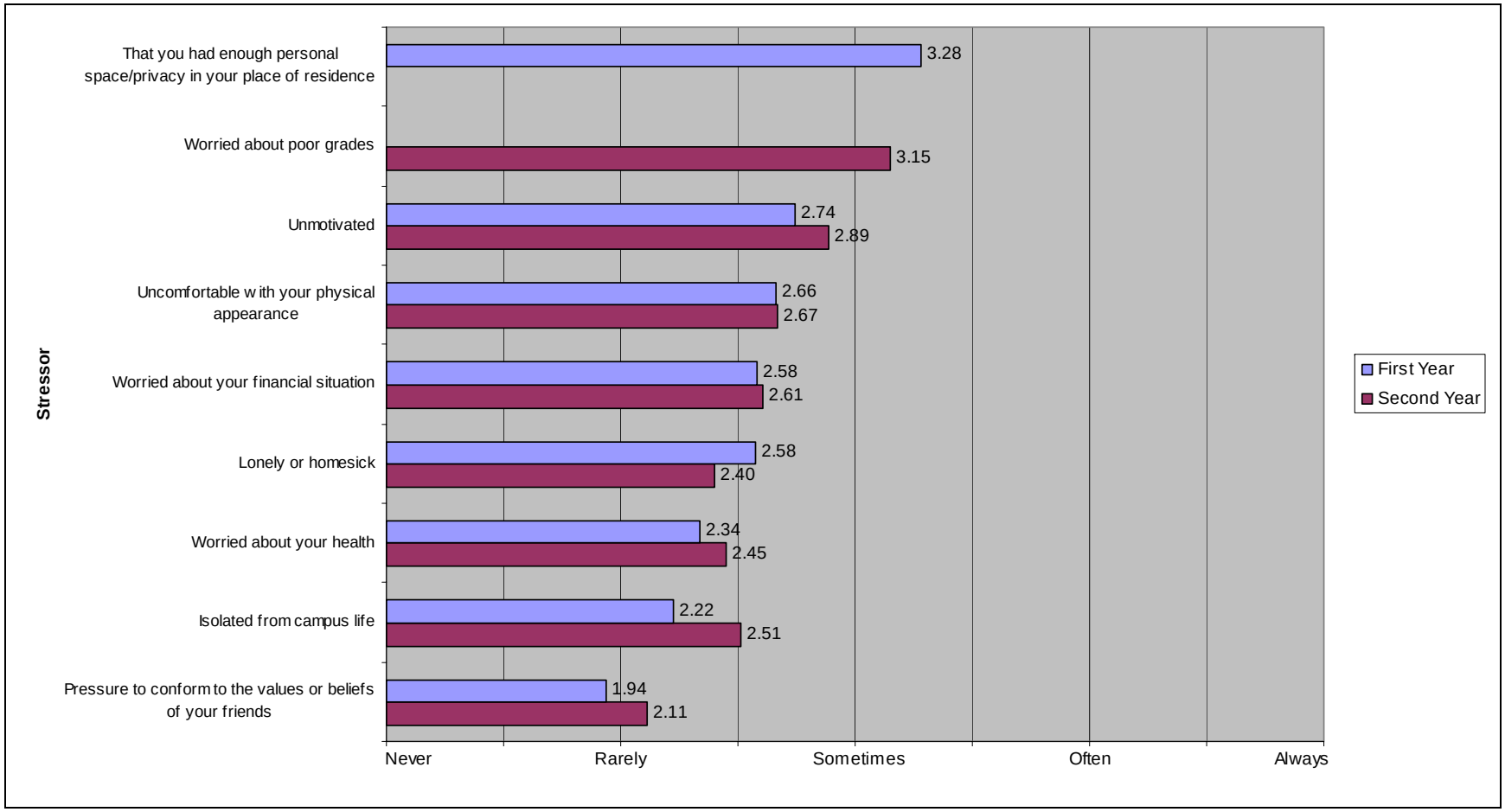
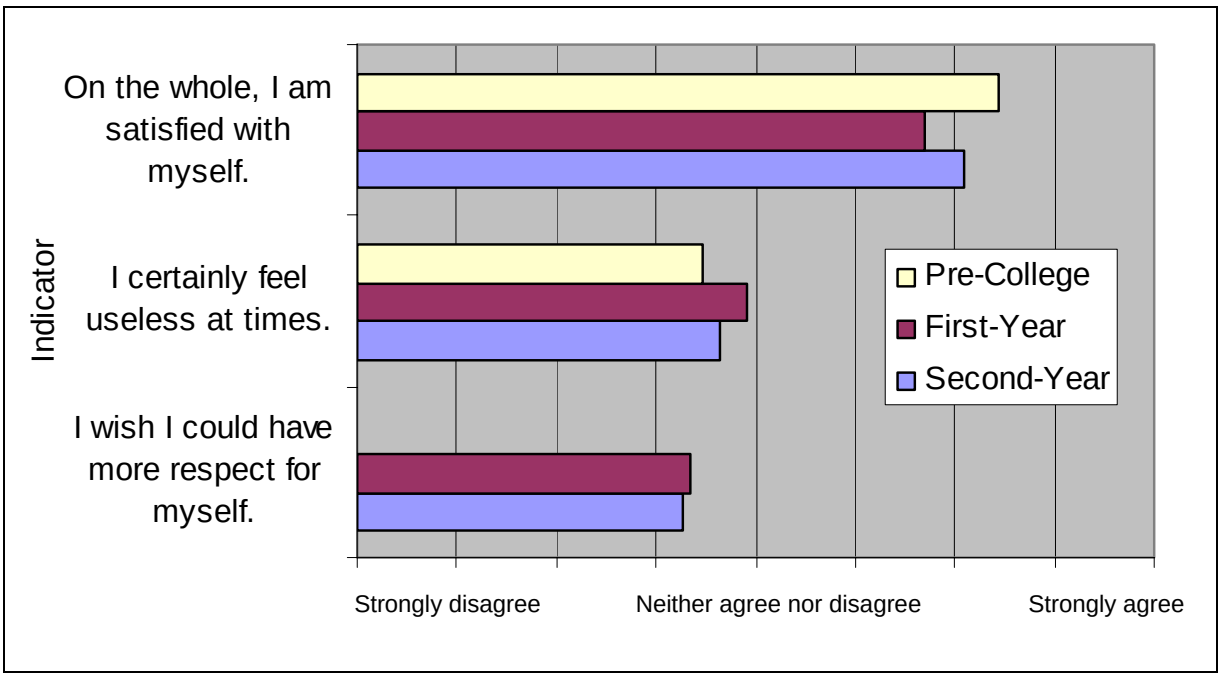


Figure 3.7. Indicators of Student Self-Esteem, First and Second Years



will continue to assess this at the end of the senior year to determine if it changes. We also highlight that respondents report feeling more useless during their first year in college, as compared to pre-college. This trend continues in their second year and is statistically significant. What begins to emerge is a temporary feeling of increased uselessness during the first year that decreases in the second year.

Figures 3.8 and 3.9 show data disaggregated by racial ethnic group, gender, and self-esteem indicator. Note that two items, respect for self and feeling useless at times, are reversed scored (high score = lower self esteem). The "respect for self" item in Figure 3.9 shows an interesting gender interaction. In the first college year, young women report higher self-esteem than young men, but respect for self declines for young women while it increases for young men. Young men and women show similar trends in self-esteem on the other two indicators: self-esteem is at its highest for the pre-college measurement, declines markedly in the first college year, and then rebounds by the second college year but not to the pre-college level.

Differences in self-esteem by racial ethnic group mirror what has been found in other studies, and the differences over the first two college years are relatively minor with one exception. For the respect for self and feeling useless indicators, Black students report the highest levels of self-esteem; in general Asian students report the lowest levels. Other groups are intermediate. On the satisfaction with self item, White and Latino students report the highest levels, and Black and Asian students the lowest levels. The temporal trend in self-esteem over the first two college years follows the same pattern for racial ethnic groups that we saw before (with one exception): all groups experience a decline from pre-college to first year and then a partial rebound in the second college year. The single exception involves White students on the respect for self item: they experience virtually no rebound effect from year one to year two while all other racial ethnic groups experience a more substantial second-year rebound on this item.

Figure 3.8. Indicators of Student Self-Esteem by Racial Ethnic Group, First and Second Years

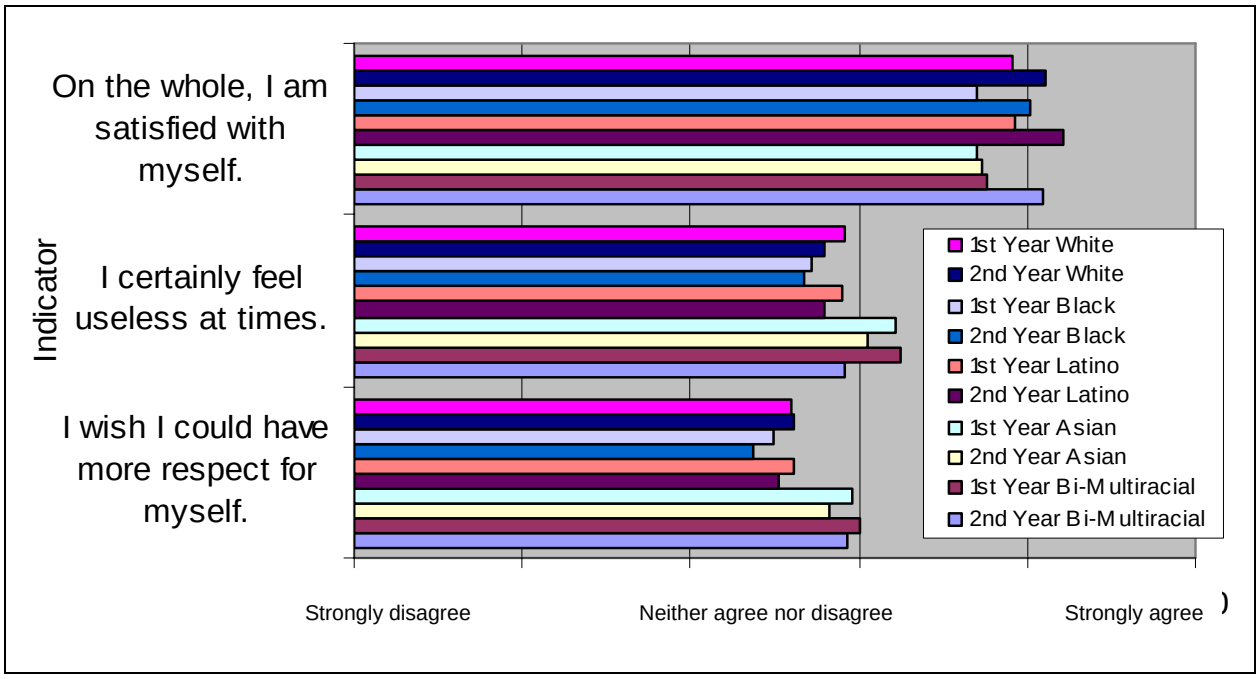
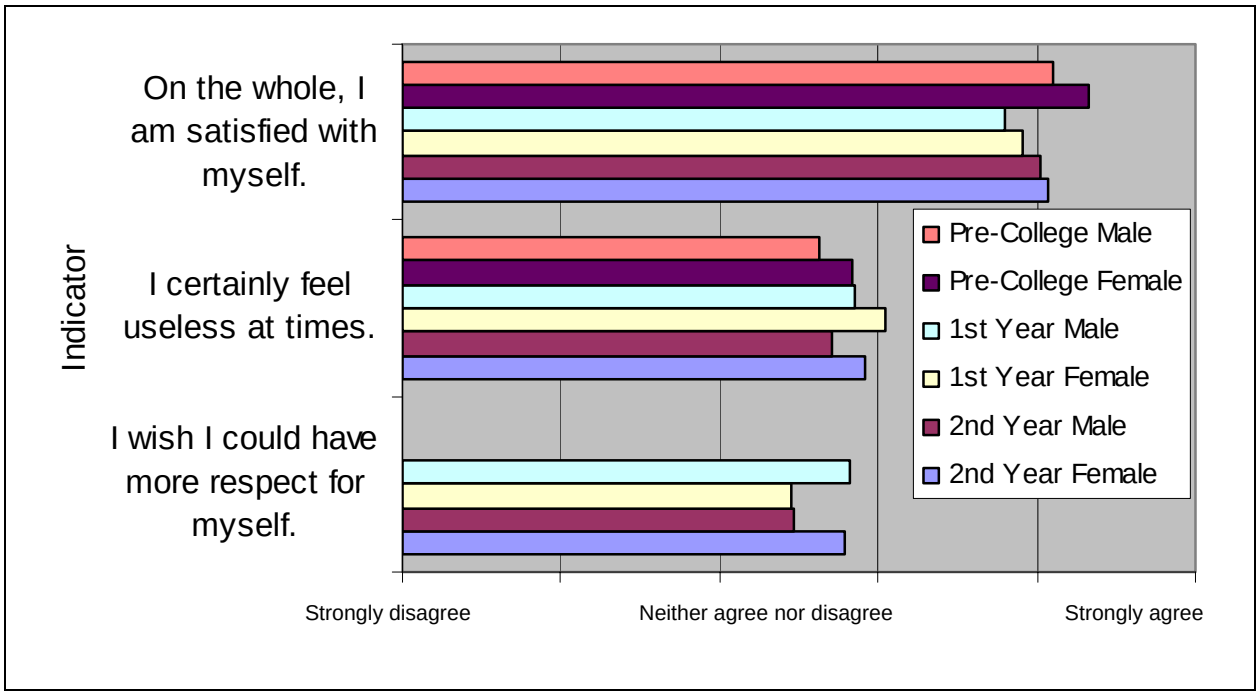


Figure 3.9. Indicators of Student Self-Esteem by Gender, First and Second Years



Summary

As we review identity and personal development among our respondents, strong identification with being a good student is not surprising for students attending a highly selective university. Investment in interpersonal skills is also very important. One question of interest is the quality of these identity investments. How intense are students' affiliations with these identities? Given the amount of time spent in classroom-related activities and the negligible difference in academic and intellectual skills across the first two college years would lead us to suggest a less intensely held identity that does not deepen within the first two years. Likewise is social capital being transacted within small spheres of students most familiar and similar to themselves or across networks of peers? Evidence regarding the diversity of social networks suggests the former. Future research will help determine if this is the case.

It is apparent that our respondents come to Duke having experienced significant life stressors. Yet we have not discerned their relationship to educational outcomes. Further investigation regarding these stressors as risk or protective factors needs to be examined.

The variations in self-esteem are striking. We reported an emerging trend of high self-satisfaction and esteem prior to Duke. We note that this decreases during the first year and rebounds during the second year. It is quite possible that this represents a normative shift in acclimating to a new environment; transitions are typically marked by periods of disequilibria. The question of interest then becomes does the first year experience provide a buffering for the severity of the self-esteem decrease or does it in some way increase overall self-esteem vulnerability over the college career?

4. Academic Life

We now turn our attention to how Duke students spend their time in a typical week and how it changes over the first two college years. We also include profiles of academic achievement for selected groups; comparisons of gender and racial ethnic group variations in science, mathematics, and engineering curricula compared with other areas. Finally, this section also describes some of the patterns of academic support, classroom environments, advising, academic engagement-disengagement, and resource use.

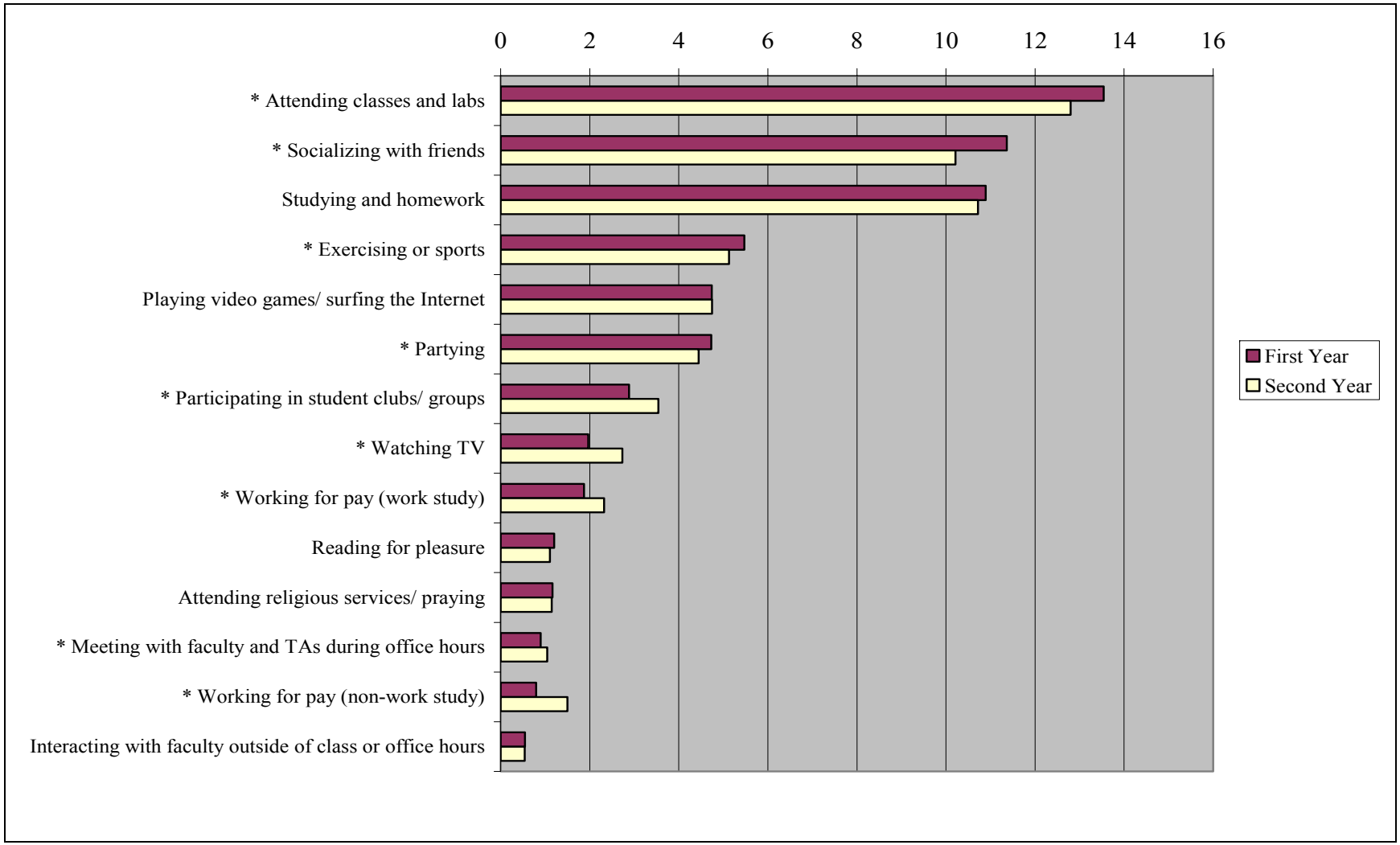
Duke is committed to providing outstanding liberal arts curriculum and academic community as evidenced by the creation and revision of Curriculum 2000. Academic excellence rests on the presumption that students engage in an intellectual process that develops: specific competencies, multiple methods of approaching subject matter, creation of new knowledge, and the use of knowledge to solve "real-world" problems.[8] A spirit of curiosity, risk-taking, continuous learning inside and outside of the classroom, and appreciation of a rapidly changing world undergird this mission.

Time Use

In the pre-college, first- and second-year surveys we asked Duke students how much time they spent in a typical (non-exam) week on about 15 different activities. Figure 4.1 reports time use patterns for the first and second college years, in order of amount of time spent. We used the midpoint of response intervals to calculate averages. Class attendance, socializing with friends, and studying and doing homework consume the most time, ranging from about 10 to 13 hours per week on average. Interestingly, partying, a separate measured category consumes another four hours per week on average, which taken together with socializing with friends consumes 15 plus hours in typical student's week. Playing video games and surfing the Internet consume about as much time

[8] http://www.aas.duke.edu/trinity/c2k-analysis/

Figure 4.1. Hours Spent in a Typical Week in Selected Activities



as exercise and sports activities or partying. Work-study or non-work study jobs consume relatively little time when averaged across the entire study body, only about two hours per week, about the same as meeting with faculty or TA's outside of class or interacting with faculty outside of class or office hours. Time use patterns show only small changes between the first and second college years. A number of activities consume less time in the second year, including attending classes, socializing, partying, and exercising/sports. Other activities consume small but significantly greater amounts of time, including participating in student clubs or groups, meeting with faculty and TA's, and working (work-study and non-work-study jobs). Studying and homework consume slightly more time but the difference is not statistically significant.

Figure 4.2, 4.3, and 4.4 show time use patterns by racial ethnic group, gender and fraternity/sorority membership. Students from different racial and ethnic groups spend approximately similar amounts of time attending classes and (not shown) studying in a typical week. (Activity areas not shown are ones in which there are no statistically significant differences.) In other areas there are larger differences in time use. White, Latino, and Bi-Multiracial students spend significantly more time socializing with friends and partying compared with Black and Asian students. White, Latino and Bi-Multiracial students also spend more time in exercising and playing sports. Black students spend more time attending religious services and praying, nearly twice as much as some other groups. Finally, White and Asian students spend significantly less time per week working at work-study jobs compared with Black, Latino and Bi-Multiracial student groups.

Gender differences in time use are generally small, with a few exceptions. Young women spend less time socializing with friends, and the difference grows from the first to the

Figure 4.2. Hours Spent in a Typical Week in Selected Activities, by Racial Ethnic Group

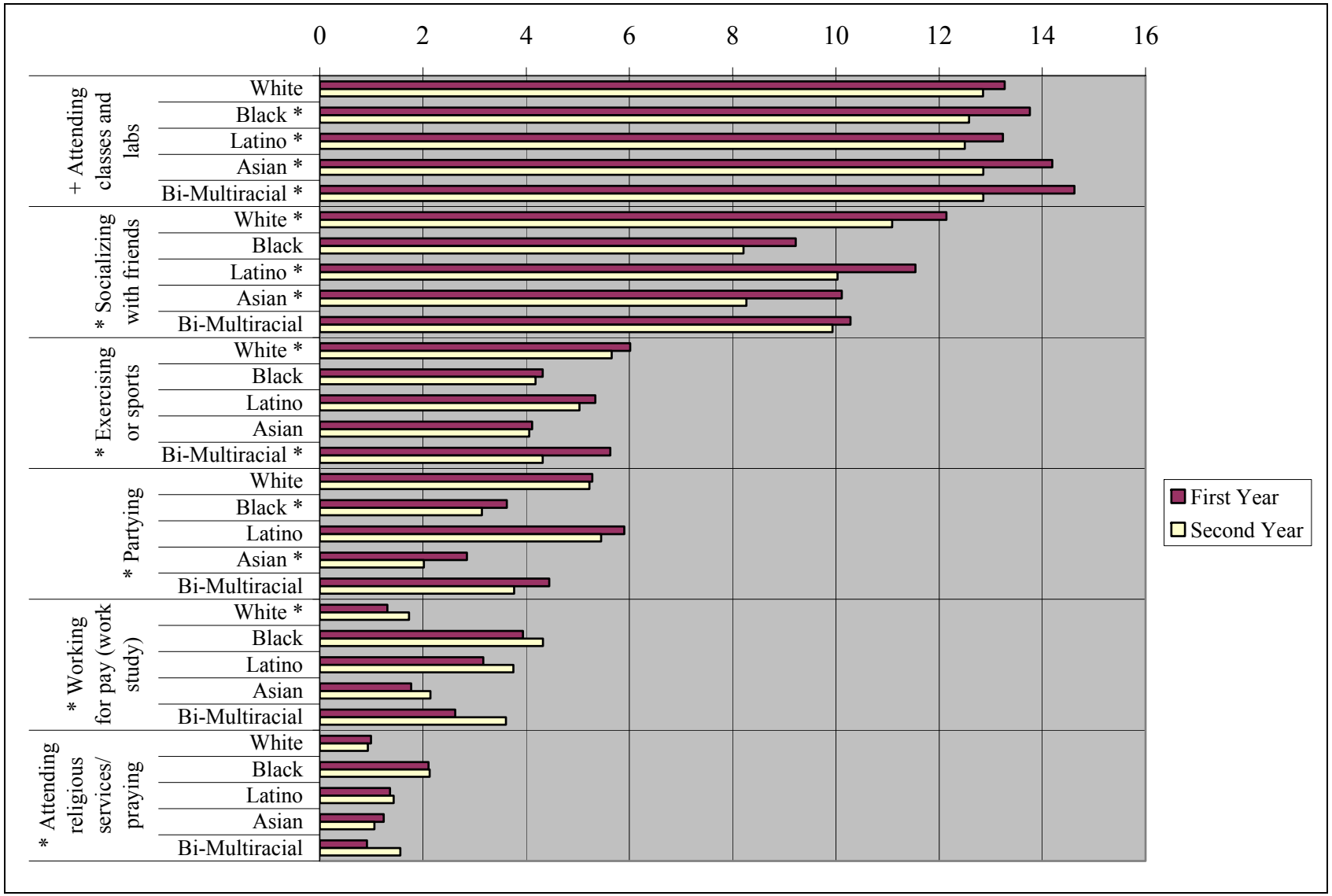


Figure 4.3. Hours Spent during a Typical Week in Selected Activities, by Gender

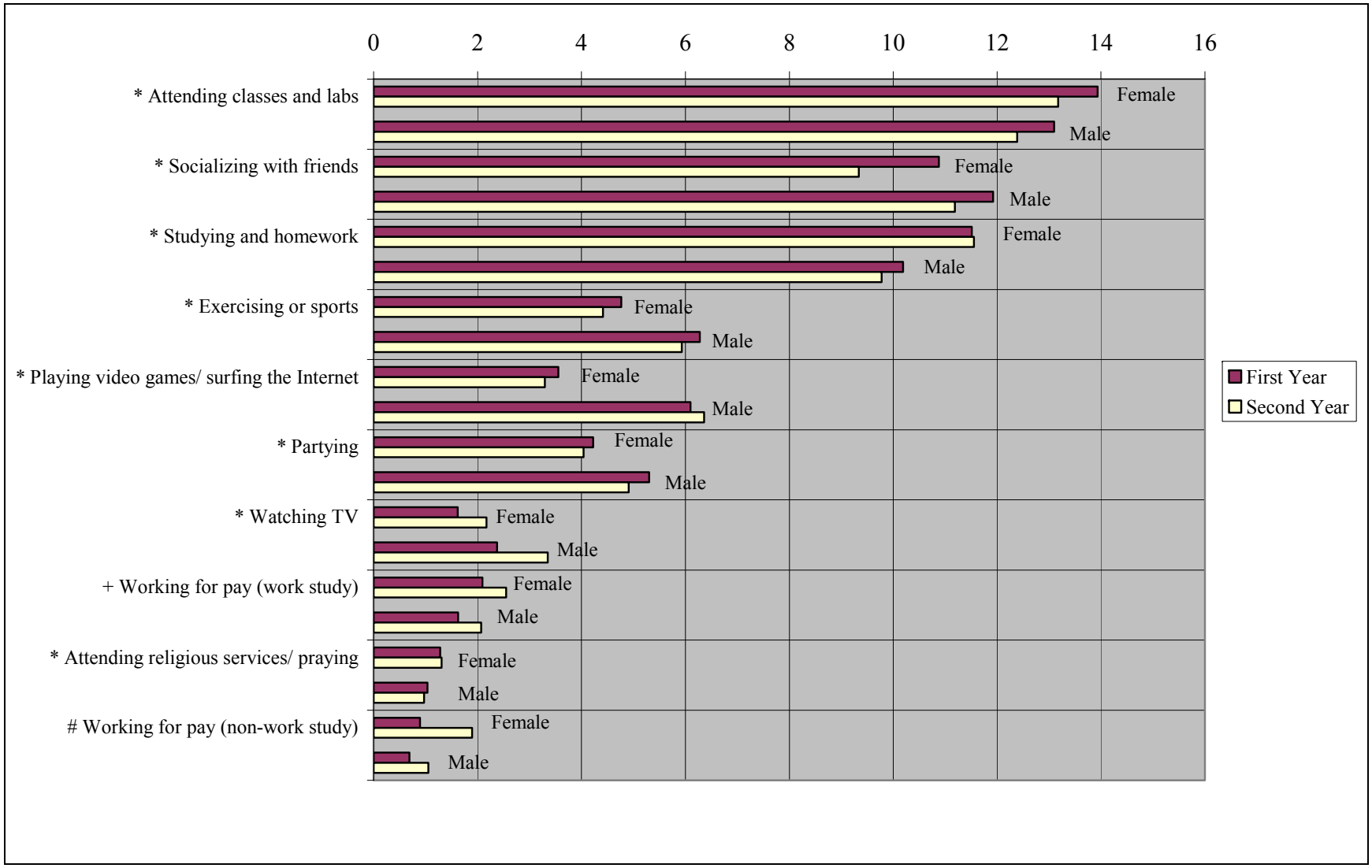
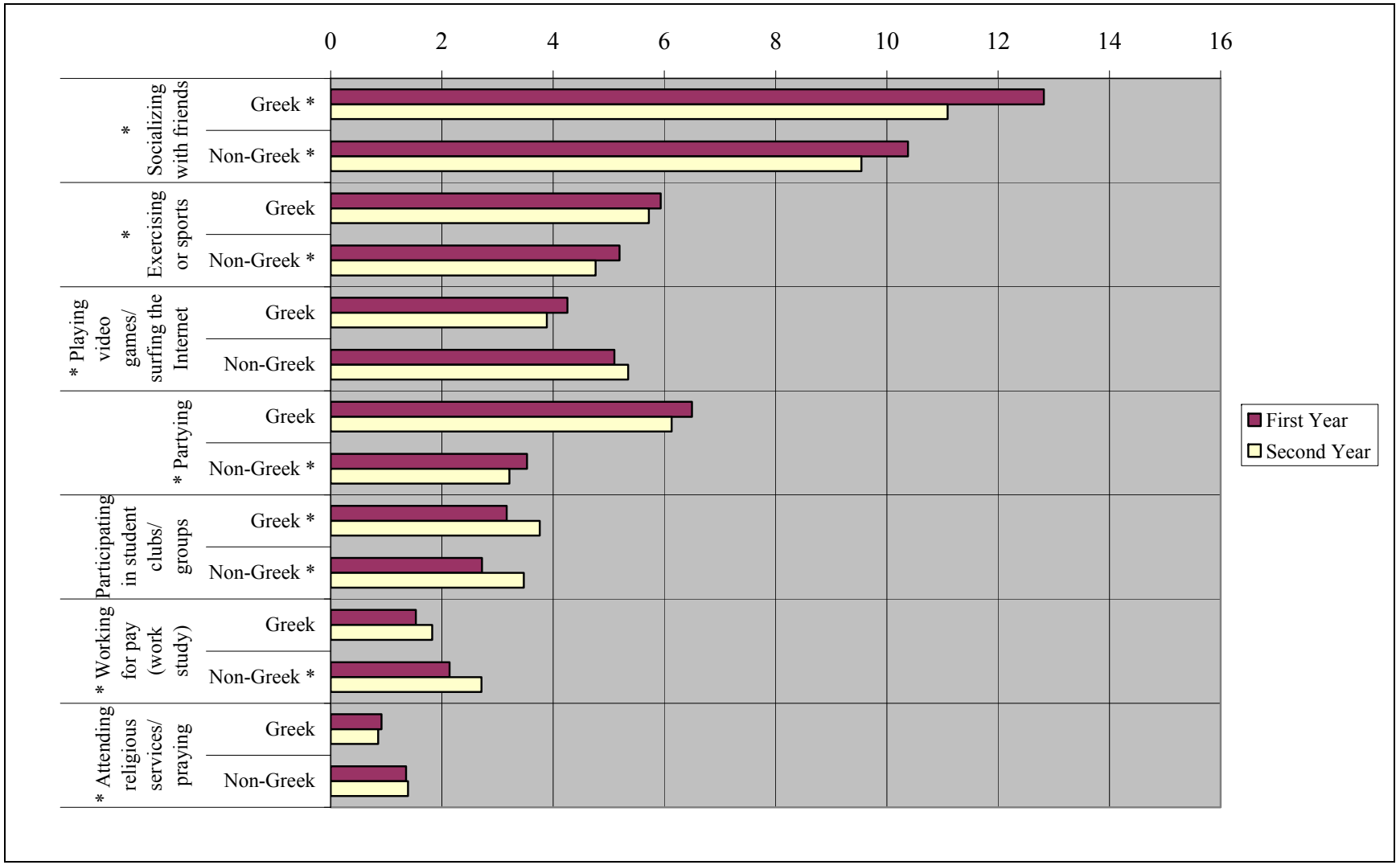


Figure 4.4. Hours Spent during a Typical Week in Selected Activities, by Greek Membership

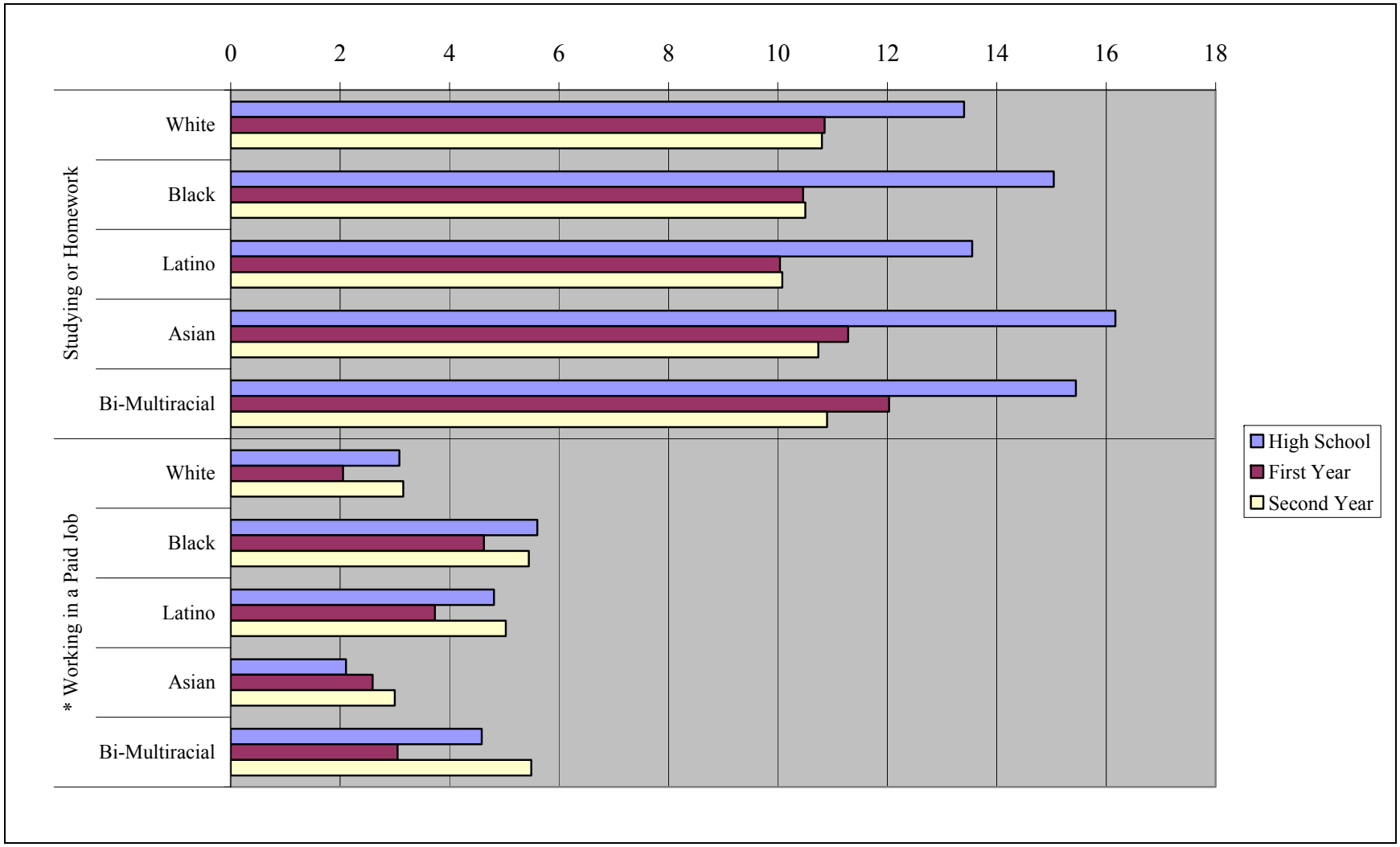


second college year. Women spend slightly -- but significantly -- more time in class and studying compared with men; men on the other hand, "compensate" with additional time allocations to exercising and sports, playing video games and surfing the Internet, partying and watching TV. In any one of these areas, the differences are not large, an hour or so a week, but taken across four or five categories, larger differences in time use emerge.

Membership in Greek organizations is correlated with time use although not in academic endeavors, class attendance and studying (data not shown). Greek students spend significantly more time socializing with friends and partying compared with non-Greek students. Non-Greeks compensate by spending more time playing video games and surfing the Internet, and working for pay in work-study jobs.

Finally, for two key activities we compare time use patterns in high school and college, by racial ethnic group. Students from all racial ethnic groups report spending less time studying in college compared with high school, near uniformly so across groups. Asian students report the largest decline while White students report the smallest decline in study time from high school to college. In the transition to college, either students are becoming more efficient, or are working less hard at studies (having more demands on their time), or the difficulty of college work is less than high school, which is difficult to believe. No group of students in either college year reports spending more than 12 hours per week on studying outside of class. This would be the equivalent of a part-time job, or less than four hours per week per enrolled course. In a final comparison, we find marked differences in time spent working in a paid job. As we saw earlier, Black students spend more time working (work-study) compared with other groups. Figure 4.5 shows that the quantity of time working for pay increases in each successive year for Black students, and to a lesser extent for Asian students. White, Latino and Bi-Multiracial students

Figure 4.5. Hours Spent during a Typical Week in Selected Activities, by Racial Ethnic Group



allocate less or similar amounts of time to paid work in the first year of college compared with the senior year of high school, but increase paid work in the second college year.

Academic Achievement

We begin our consideration of academic achievement with pre-college foundations for academic achievement. Two indices of achievement receiving significant attention in admissions literature are advanced placement courses and admissions criteria. With regard to advanced placement (AP) courses, when a student receives a score of 4 or 5 on the course exam, it can then be transferred into either placing out or receiving academic credits at Duke.[9] Not only does a student gain the advantage of college-level course exposure, they can also transfer this into collegiate academic capital if successful on the placement exam.

Throughout high school, students amass impressive academic portfolios that also include personal letters of recommendations, extracurricular activities, standardized testing scores and personal statements. At Duke these areas are evaluated along six dimensions that include those listed above. The application then receives a summary score used to guide the admissions decision-making process and determine, along with other factors, the incoming class. Thus, in addition to examining pre-college AP performance we will also explore the relationships between summary scores and academic success during the first two years.

Table 4.1 shows the proportion of students with mean scores of 4 or 5 on math and science AP exams by racial ethnic group and gender. Blank cell entries in the table mean no students from that group scored 4 or 5 on that particular AP test. Overall, no group had members who scored 4-5 on all AP exams. For chemistry, Asian students are the only group to

[9] http://www://registrar.duke.edu/bulletins/Undergraduate

Table 4.1. Proportion of Respondents with Scores of 4 or 5 on Selected AP Exams, by Racial Ethnic Group and Gender

	Calculus AB	Calculus AB Subscores	Calculus BC	Biology	Chemistry
White					
Women	.33			.22	
Men	.31	.36	.36		
Black					
Women		.12		.14	
Men	.16	.11	.08	.09	
Latino					
Women	.22				
Men	.28	.20		.24	
Asian					
Women		.34	.33		.32
Men		.48	.48	.39	.37
Bi-Multiracial					
Women	.24			.20	
Men		.27	.32	.29	

enjoy the AP credit advantage upon entry to Duke (37 percent of Asian males and 32 percent of Asian females). All groups except White men, Asian women, and Latina women enjoyed AP advantages in Biology to varying degrees. The opportunities to translate exam scores into college credit and/or course placement in biology and chemistry are highest for Asian men and lowest for Black men. Members of all racial ethnic groups enjoy varying degrees of AP mathematics preparatory advantage. Asian students (men and women), White males, and Bi-Multiracial males enjoy the greatest advantages looking across all three AP mathematics tests, and in the most rigorous Calculus BC exam.

When we examine the potential advantage of AP credit opportunities overall and its relationship to GPA, we find interesting gender and racial ethnic variations. Table 4.2 reports the pair-wise correlations between AP scores for 4 or 5 and cumulative GPA by semester for the various groups. It shows that for men of all racial ethnic groups except Asians, the relationship between GPA and receiving a 4 or 5 on any AP exam is modest. Further, it decreases slightly over time. Yet this relationship is not statistically significant for Black and Bi-Multiracial men. What is interesting to note is the strong relationship between an AP score of 5 and GPA for Bi-Multiracial men as well as the negligible, not significant relationship for Asian men.

The opposite relationship holds for White women and their male counterparts. The relationship between GPA and AP 4-5 scores is slightly higher and increases over time. For Asian women, the increased relationship moves from negligible to modest and they gain academic capital as they matriculate. Black women and men show similar patterns. They experience a decrease in the minimal relationship between AP scores and GPA over time. Thus by disaggregating the data, what begins to emerge is a pattern of differential relationship between AP credits and GPA by racial ethnic group and gender. We will want to track this

Table 4.2. Pairwise Correlations of AP Scores and Cumulative GPA, by Gender and Racial Ethnic Group

	Semester 1		Semester 2		Semester 4	
AP Score	4-5	5	4-5	5	4-5	5
Men						
White	.22	.23	.20	.21	.17	.18
Black	.29	.22*	.25	.20*	.23	.17*
Asian	-.07*	-.07*	-.02*	-.02*	.02*	.04*
Latino	.31	.25	.24	.19	.21	.18*
Bi-Multiracial	.30*	.53	.25*	.51	.24*	.45
Women						
White	.23	.29	.25	.36	.28	.33
Black	.24	.26	.19	.27	.19	.29
Asian	.07*	.14*	.11*	.20	.31	.43
Latino	-.04*	.08*	-.04*	.13*	.04*	.12*
Bi-Multiracial	-.02*	.30*	-.03*	.35	-.08*	.15*

Correlations that are not statistically significant ($p \leq .05$) are denoted as: *

academic capital acquisition closely, particularly as it relates to mathematics and science AP credits and academic major.

When we review the relationship between admissions scores and GPA, we find that men show a negligible relationship between their admissions scores and their GPA each semester (Table 4.3). Further, the relationship diminishes over successive semesters. The scores of Black men and Latinas indicate an inverse relationship; meaning the lower the summary score, the higher the GPA. However this negative relationship is not significant. Although minimal, Bi-Multiracial women's ratings similarly associated with GPA during the first year and decrease by the end of the 4th semester. Black women enjoy a .25 association between admissions ratings and GPA, with the association remaining near constant over the first four college semesters. For male respondents, admissions summary scores and GPA are very weakly associated and only statistically significant at the end of the first semester.

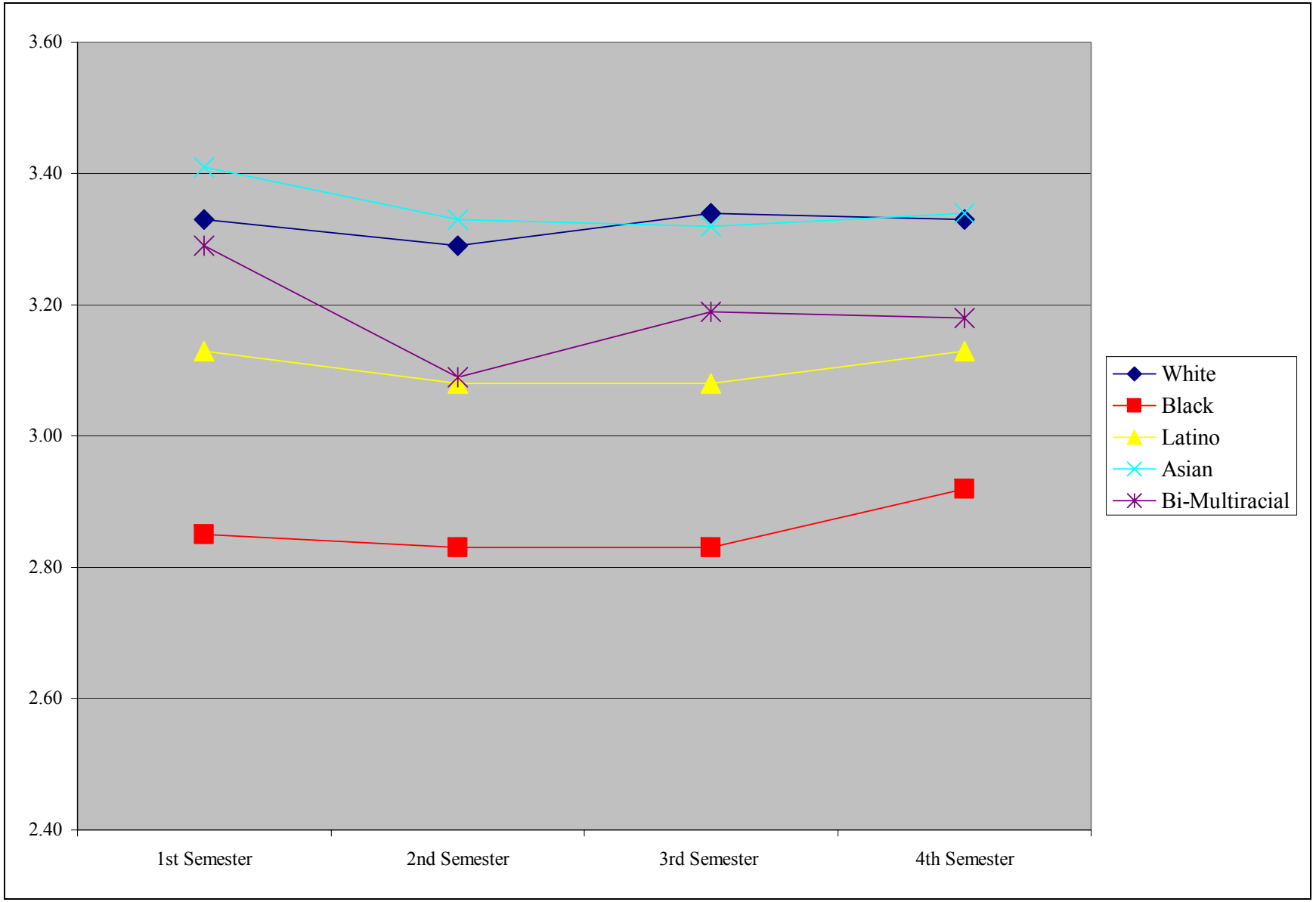
We continue our consideration of academic achievement with the semester-by-semester profiles of grade point averages by racial ethnic group, taken over the first four college semesters (Figure 4.6). Note that the line charts do not refer to cumulative grade point averages, but rather to semester-by-semester grades. Three patterns are apparent in the data. First, Duke student achievement replicates well-known national differences in college grades (Bowen and Bok 1999; Massey et al. 2003). Whites and Asians score about a quarter of a letter grade higher each semester compared with Latino students, and about one-half letter grade higher compared with Black students. Grades for Bi-Multiracial students are intermediate to Asians and Whites, on the one hand, and Latinos, on the other hand. Second, the between-group differences for racial ethnic groups are fully apparent after but one semester in college and for the most part, persist through the first four college semesters. Third, it appears there is some narrowing of racial

Table 4.3. Pairwise Correlations of Admissions Summary Scores and GPA, by Racial Ethnic Group and Gender

	Semester 1	Semester 2	Semester 4
Total	.13 ***	.12 ***	.10 ***
White	.08	.07	.05
Black	.09	.09	.10
Latino	.02	-.02	-.02
Asian	.14 *	.15 *	.11
Bi-Multiracial	.25	.23	.01
Female	.16 ***	.19 ***	.16 ***
White	.10	.15 *	.12
Black	.25**	.26 **	.25 **
Latino	-.07	-.11	-.17
Asian	.23 *	.29 **	.26*
Bi-Multiracial	.32	.33	.21
Male	.09 *	.07	.06
White	.07	.03	.02
Black	-.16	-.14	-.13
Latino	.11	.08	.11
Asian	.04	.03	.02
Bi-Multiracial	.14	.08	-.04

Significant coefficients are denoted as: * $.05 \geq p > .01$ **$.01 \geq p > .001$ ***$.001 \geq p$

Figure 4.6. Semester Grade Point Averages, by Racial Ethnic Group



ethnic differences at the end of the time period. However, the temporal variations are within the bounds of chance when tested statistically.

Figure 4.7 displays the corresponding temporal trends in grades for men and women. Men score slightly higher than women in the first college semester, but then score about a tenth of a letter grade lower in subsequent semesters. Young Duke women experience a small decline from the first to the second semester but then experience grade increases in the second college year that place them about one-tenth of a letter grade higher than Duke men at the end of the second year.

Figure 4.8 shows grade differences across semesters for Greek and non-Greek students. While there are small differences, neither the within-group temporal trends nor the between-group Greek-non-Greek differences are statistically significant at conventional levels. One often hears speculation about such differences but we find no evidence of them in our data.

As described in the research literature (Bowen and Bok 1999; Spenner, Buchmann and Landerman 2005), some of the gross differences in academic achievement can be attributed to pre-college differences in socioeconomic background and test scores. As for other samples of students at elite colleges and university, this is the case for Duke students.

Figure 4.9 reports the unadjusted, fourth-semester cumulative grade point averages by racial ethnic group, and the net GPA differences. We used regression procedures and adjusted for parental levels of education, parental income, and SAT verbal and mathematics scores. The gross "gap" in cumulative GPA is reduced by about one-half or slightly more by making these adjustments. For example, the Asian-Black gross grade difference of .44 is reduced to .18 of a letter grade; the White-Latino gross grade difference of .18 is reduced to .05 of one letter grade.

Figure 4.7. Semester Grade Point Averages, by Gender

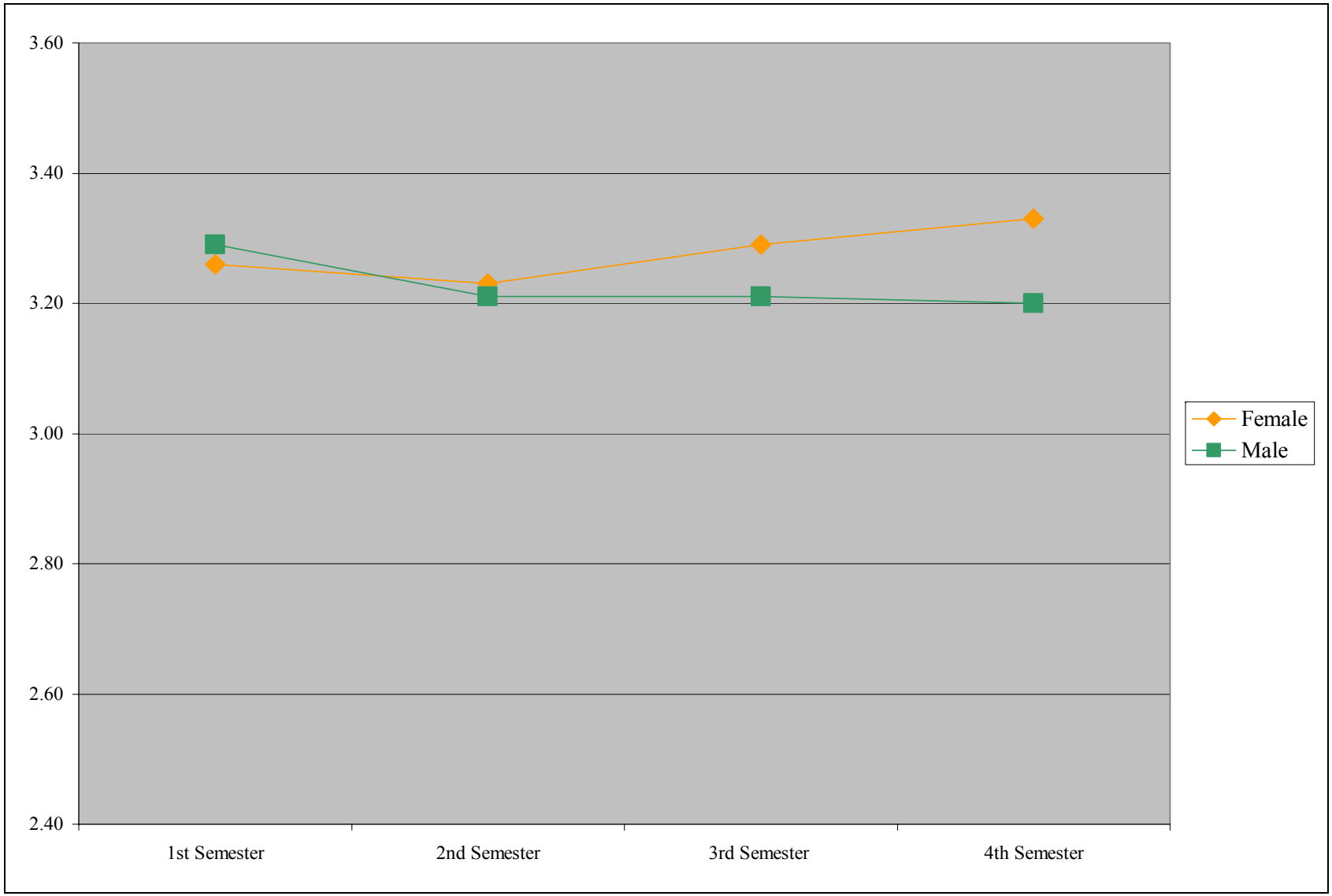


Figure 4.8. Semester Grade Point Averages, by Fraternity/Sorority Membership

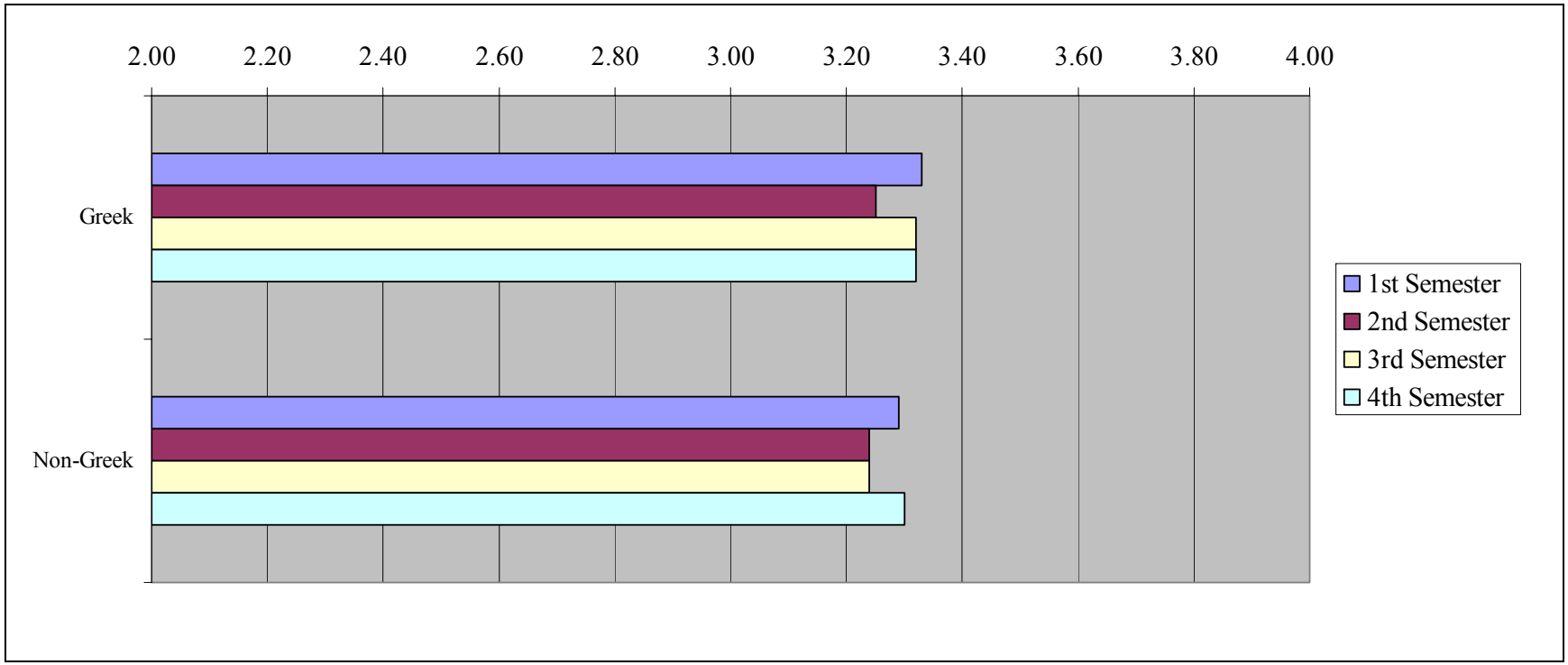
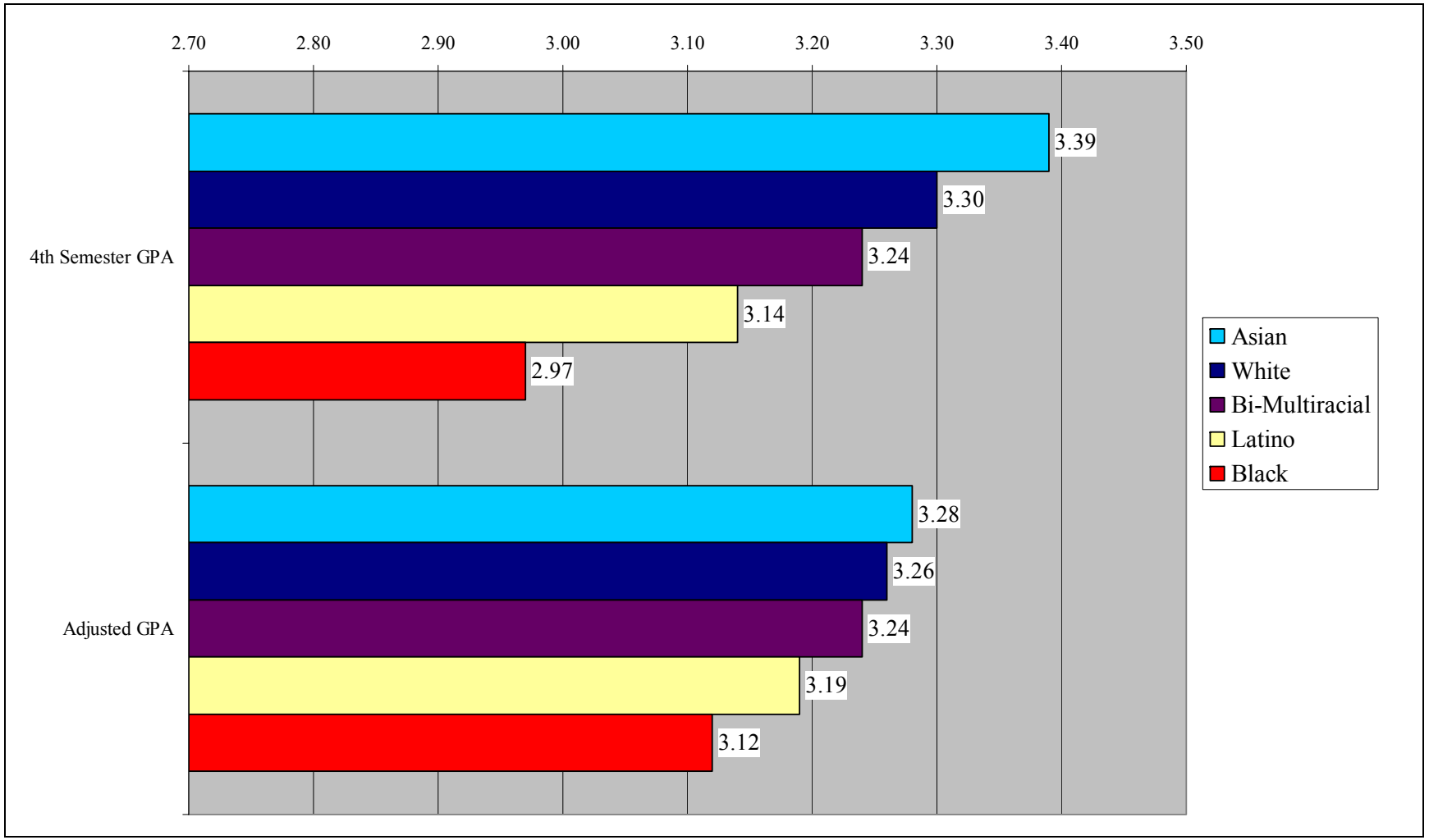


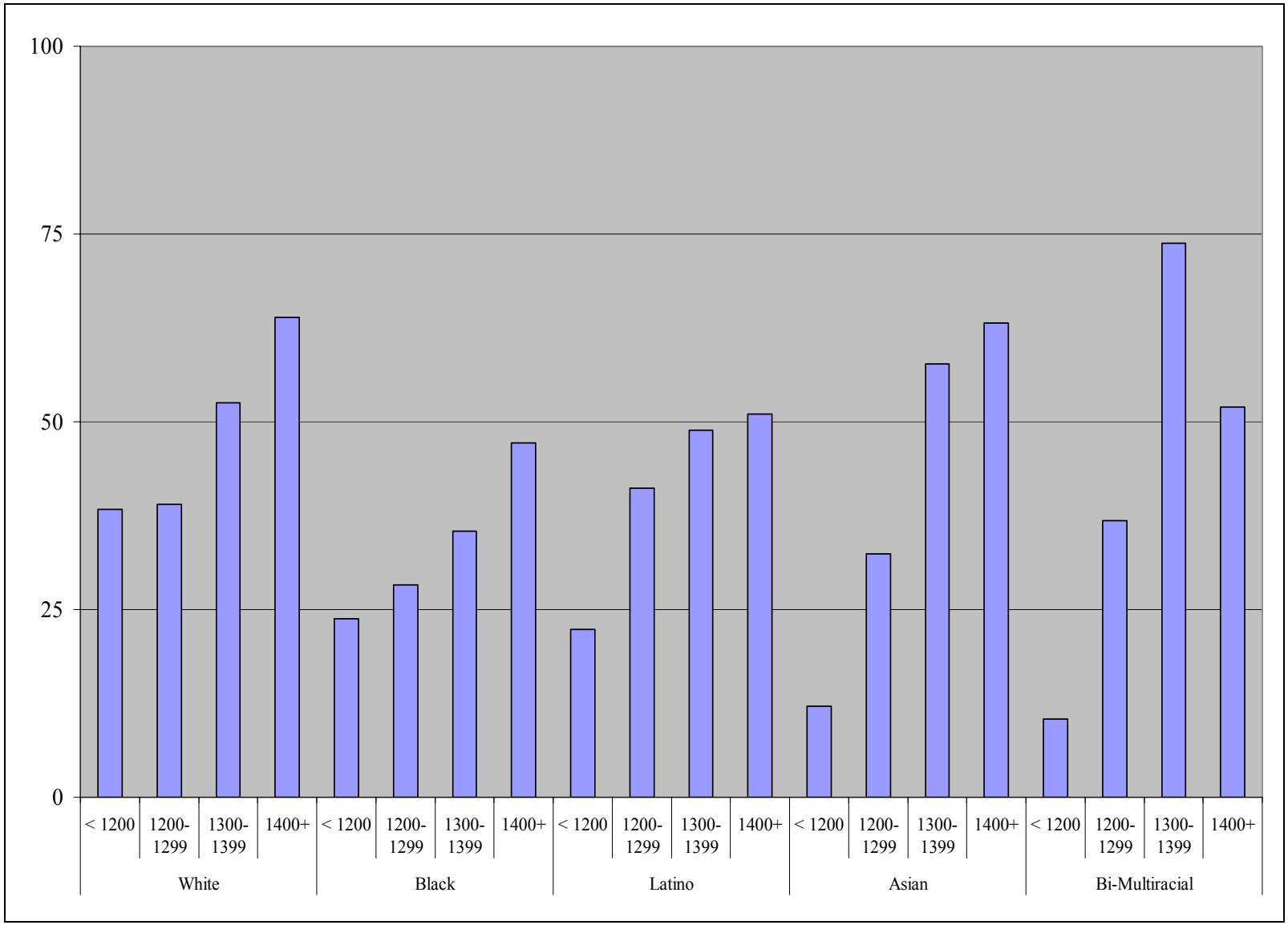
Figure 4.9. Fourth Semester Grade Point Average, by Racial Ethnic Group, Actual and Adjusted GPA



On this count, Duke University quite closely mirrors what has been found for other elite colleges and universities.

Another way to elucidate academic achievement differences by group is to examine the relationship of grades to level of SAT scores within racial ethnic groups. In this case it is customary to work with percentile rank in class (based upon fourth semester cumulative grade point average), which removes any distorting influence of negative skewness in the grade distribution (i.e., "thinness" in the C, D and F part of the distribution; thickness in the A and B part of the distribution). Figure 4.10 clusters students by their racial ethnic group and by their combined SAT score: below 1200, 1200-1299, 1300-1399, and 1400 or above. The Bi-Multiracial group has a smaller number of respondents compared with other groups, and the differences may not be as statistically reliable. Several key differences are apparent. Every racial ethnic group has a positive relationship between test scores and grades, although the strength of the relationship varies. Within this overall pattern, White students in the lowest two SAT groups are better able to translate their measured "abilities" into percentile class rankings (in the mid-30's) compared with Black, Latino, Asian and Bi-Multiracial students (near or well below the 25th percentile). At the other end of the SAT distribution, White and Asian students and, to a certain extent Bi-Multiracial students, are more likely to place in the upper-half of the class percentile distribution compared with high-scoring Black or Latino students, with percentile ranks around the 50 percentile or below. There are multiple explanations for the different relationships between SAT scores and academic achievement, ranging from differing levels of human and social capital to negotiate the grading system, to differential difficulty of course work by racial ethnic group, to discrimination. The data in Figure 4.10 do not allow us to identify which one or mixture of explanations are at work here.

Figure 4.10. Mean Percentile Rank in Class, by Combined SAT Score and Racial Ethnic Group: Fourth Semester Cumulative Grade Point Average



We also asked students to rate themselves on selected academic and intellectual skills in the pre-college, first-year and second-year surveys. Duke students, faculty and administrators will recognize these items as ones included in the periodic course evaluation surveys. Figure 4.11 displays these comparisons for eight different skill sets. Two key patterns are apparent. First, college induces a key does of realism or humility or both in self-assessed skills. Seven of eight skills were rated high or nearly high in the pre-college survey. Every measured skill shows significant "decline" (equivalently, more realistic assessment) in the in-college surveys. Second, while there are some small variations in skill levels within college, there is no evidence of a systematic upgrading from the first to the second college year. To conclude that no academic-intellectual skills growth occurs between the first and second college year, one would have to assume that student raters are equally realistic and reliable assessors of their skills from year one to year two of college. At a minimum, this lack of apparent upgrading deserves more careful scrutiny given our aspirations for collective and individual development during the undergraduate years.

Science, Mathematics and Engineering

The number of students majoring in science, mathematics and engineering is an issue of longstanding interest, including for reasons of national competitiveness, and the use of female and non-White talent in this arena. Figure 4.12 shows the sector of students' expected major pre-college, and the actual declared major during the second semester of the second year, by gender. Note that computer science and psychology-brain and neuroscience are included in the science/ mathematics sector; history is included in the humanities sector. Further, these data refer to first majors only and assume an equal pattern of non-response by sector of major.

Figure 4.11. Student Self-Ratings on Selected Academic and Intellectual Skills

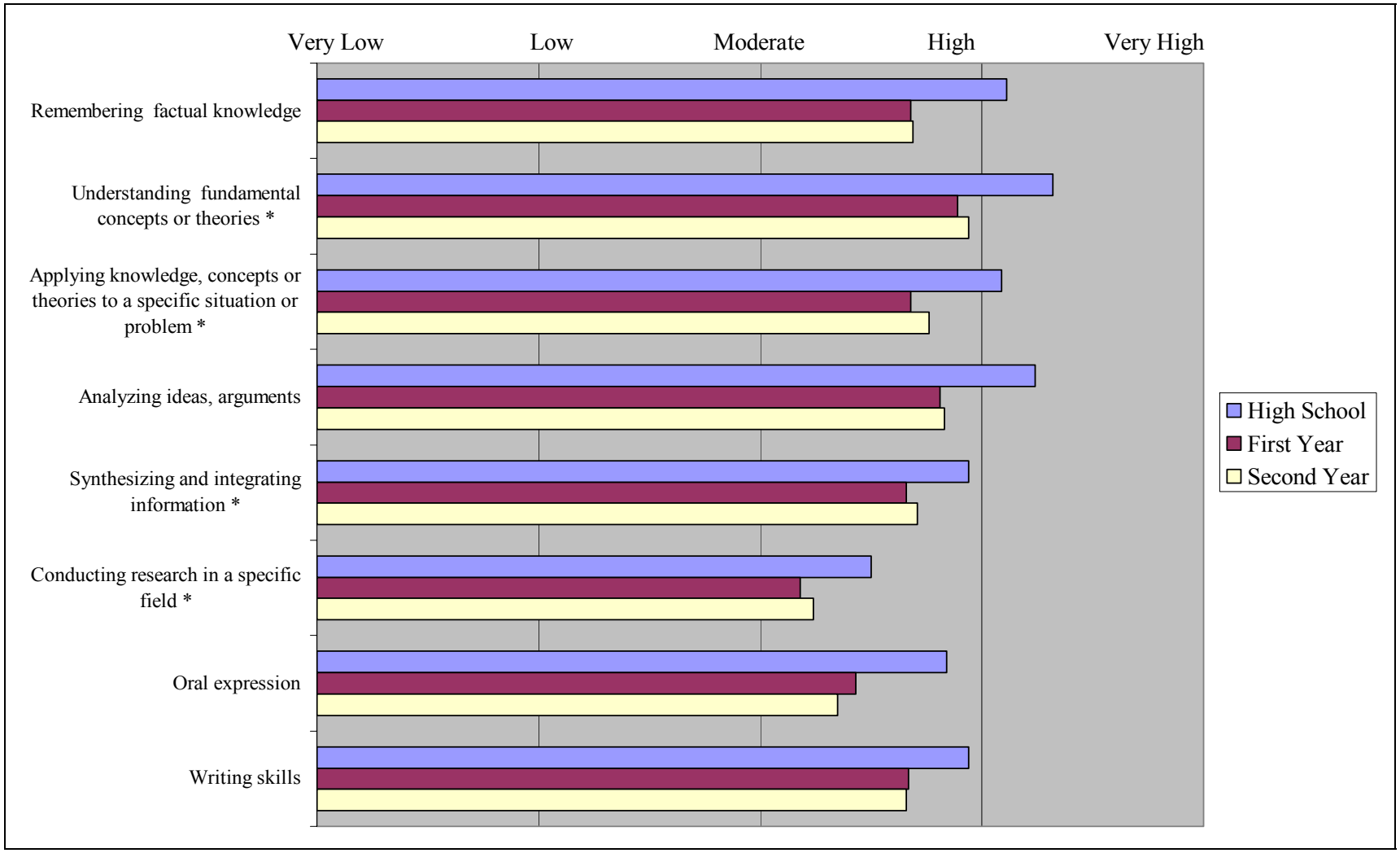
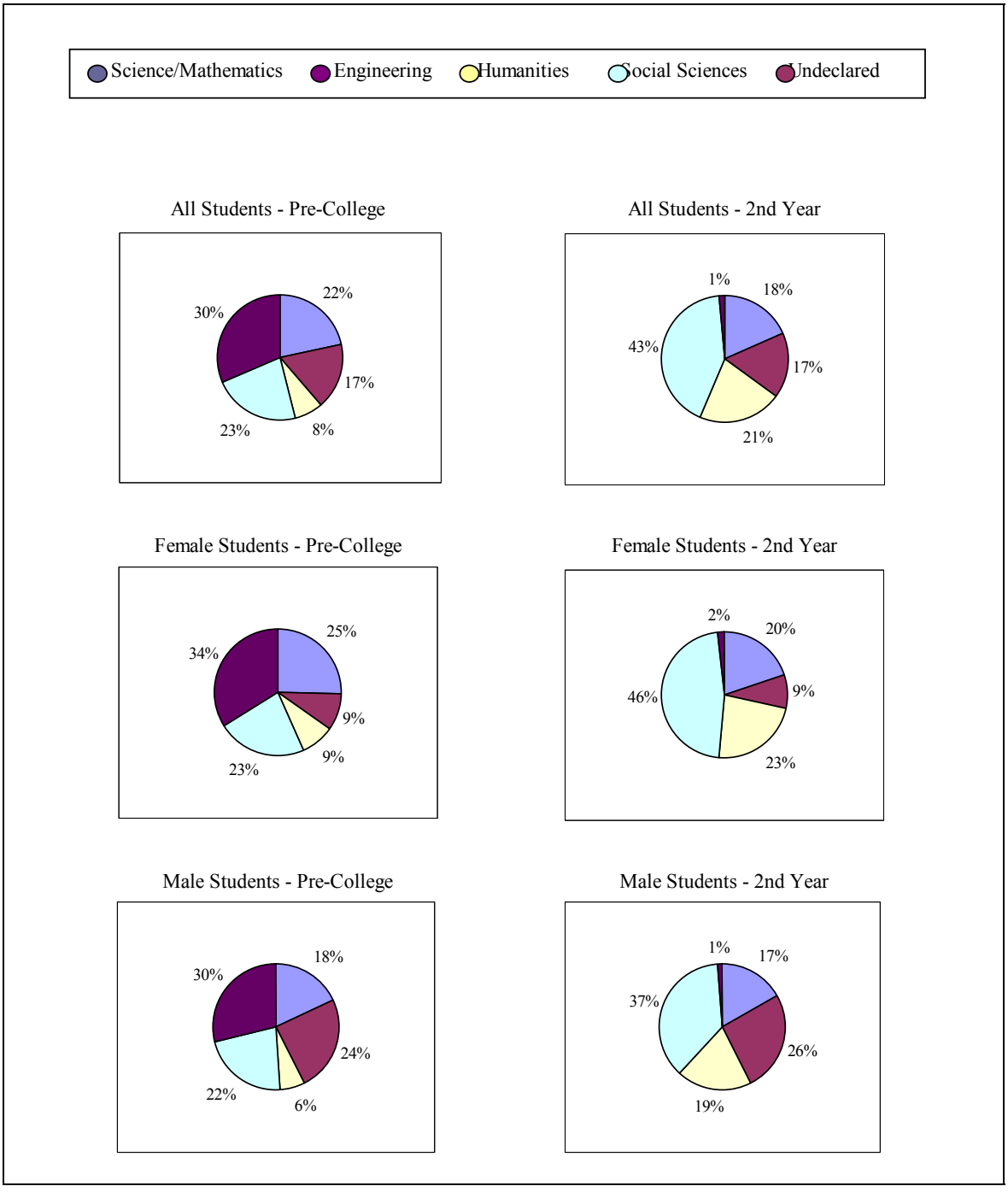


Figure 4.12. Pre-College Expected Major and Declared Major, by Gender

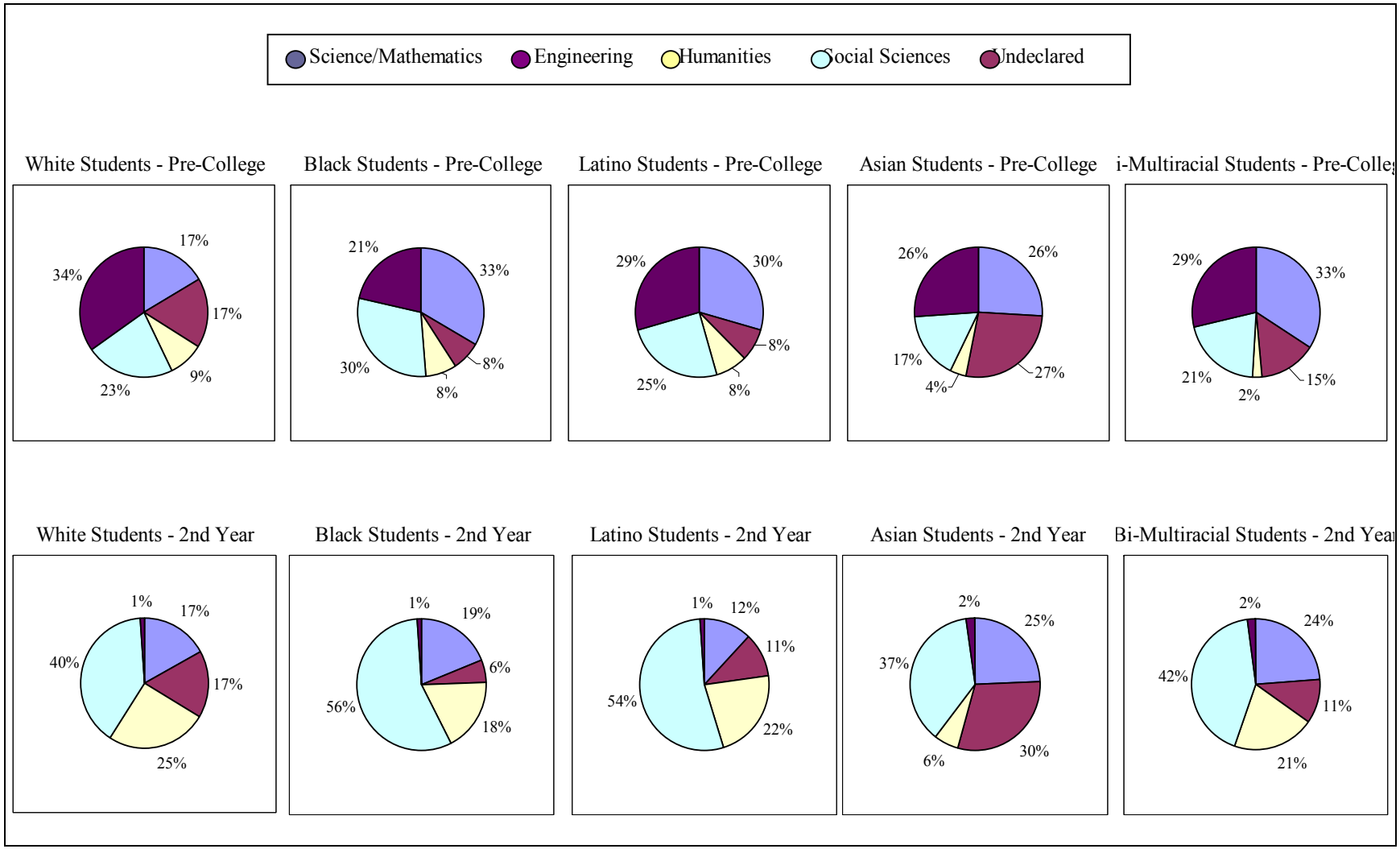


Engineering and science/mathematics majors are relatively stable in the numbers of students planning to declare, and then actually declaring majors in these sectors (Engineering: 17 percent plan; 17 percent declare; Science/Mathematics: 22 percent plan; 18 percent declare). In our sample, fewer than one in 10 young women planned or declared an engineering major compared with 24 percent of young men planning and 26 percent actually declaring an engineering major. More young women planned on a science/mathematics major (25%) than young men (18%), but more women abandoned their plans by end of the second college year compared with young men (20% of women declared versus 17% of men).

Both the humanities and social sciences substantially grow their shares of majors when comparing plans versus actual declarations. No doubt a large portion of the growth comes from the approximately one-third of students who were undecided at the pre-college planning stage, but some portion of the growth comes too from the attrition of science and mathematics major plans versus declarations.

Figure 4.13 provides the corresponding data by students' racial ethnic group membership. Engineering major plans and declarations are heavily stratified by racial ethnic group. White, Asian and Bi-Multiracial students are most likely to plan an engineering major (17, 27 and 15 percent, respectively) compared with much smaller numbers of Black and Latino students (each group at 8 percent). In actual declared majors, Asian and Latino students gain small shares, White students stay the same, while Black and other students lose shares.

Figure 4.13. Pre-College Expected Major and Declared Major, by Racial Ethnic Group

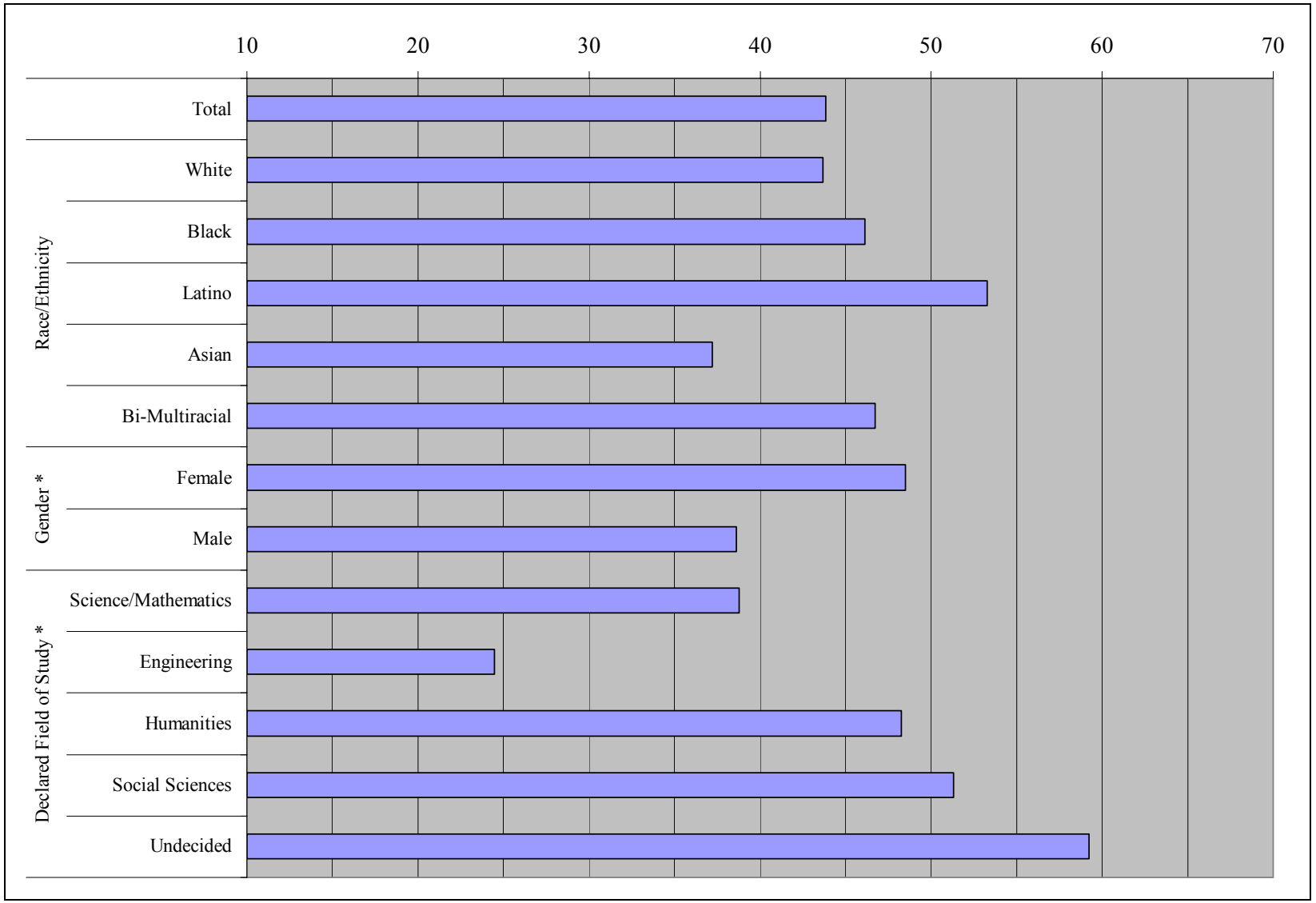


A similar but more dramatic pattern characterizes the distributions of planned and declared science and mathematics majors. Fully one out of three Black students plan a science/mathematics major while 19 percent actually declare; while 30 percent of Latino students plan a science/mathematics major, only 12 percent actually declare such. Bi-Multiracial students also experience a decline in science/mathematics major plans versus declarations (33 percent versus 24 percent). White and Asian students are stable in the shares of planned versus declared science and mathematics majors.

The percentage of students planning humanities majors was smaller than 10 percent for every racial ethnic group. However, actual declarations explode to 25 percent of Whites, 18 percent of Blacks, 22 percent of Latino and 21 percent of Bi-Multiracial students. The percentage of students with social science majors nearly or more than doubles for every racial ethnic group between pre-college plans and 4th semester declarations.

From the above data on sector of major it is not clear if the changes are because students are actually changing from one planned major to another or whether the relatively large number of students who are undecided at the pre-college stage are simply allocating themselves among the major sectors. It appears that both processes are going on, with substantial numbers of changes in planned majors. We asked students in the 4th semester if since arriving at Duke their major had changed. Figure 4.14 shows the results by racial ethnic group, gender, and sector of pre-college major, including those who are undecided. With the single exception of students who planned engineering majors, every other group experiences substantial major changes ranging from more than one-third to more than one-half of students in the group. White, Black, Latino and Bi-Multiracial students change majors more than Asian students; women change majors more than men; and over one-out of three, in some cases over 50 percent of students

Figure 4.14. Percent of Students Reporting a Change of Major Second Year
By Gender, Racial Ethnic Group, and Declared Major Field of Study



change within the various sectors of planned majors; the only exception is planned engineering majors, where fewer than one-out-of four change majors.

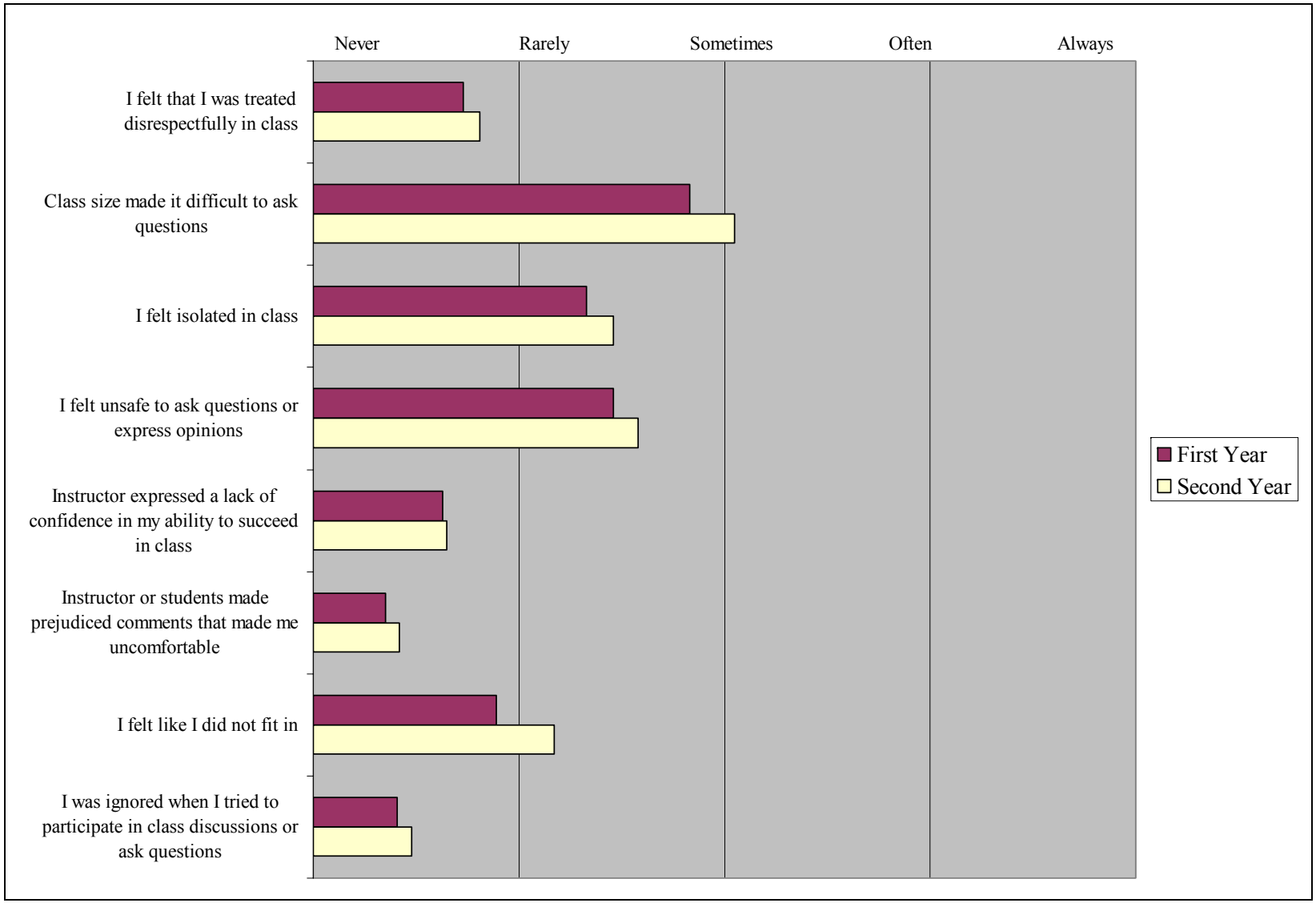
Classroom Environment Academic Support and Advising

In the first and second college years we asked Duke students to evaluate their classroom environments on eight different dimensions, ranging from feeling respected in class to class size, to an instructor or students making prejudiced comments, to feeling like they did not fit in (Figure 4.15). The response scale ranged from never to rarely to sometimes, often and always. On balance the items suggest rather comfortable classroom environments. Five out of eight items average between "never" and "rarely" in their occurrence. Only one item occurred in the region of "sometimes" in the response scale: class size made it difficult to ask questions (more so in the second than in the first year). Recall that a relatively large number of students take writing seminars, focus classes, or first-year seminars in the first college year. Two other items---"I felt isolated in class" and "I felt unsafe to ask questions or express opinions" -- averaged between "rarely" and "sometimes" in frequency of occurrence.

Perhaps the only major point of concern in these data is the trend: in the case of every indicator, although usually by very small margins, the trend is in the direction of a less comfortable classroom experience. Some of the differences are statistically significant and others are not. One explanation suggests that Duke has worked hard and successfully to make the first year academic experience a comfortable one. In the second year, students are more likely contending with large classes in their majors, are early on in the major experience, and less likely to have the seniority or prerequisites to access smaller more advanced classes in their majors, minors and certificate programs.

Figure 4.15. Classroom Experiences, First and Second Year

"To what extent do the following generally characterize the classroom environment you have experienced at Duke?"



We also telescoped-in on two items that have been important indicators in a number of studies of higher education climates: "I felt like I did not fit in," and "Instructor or students made prejudiced comments that made me feel uncomfortable." The former item has been prominent in studies of women and minority students in science, mathematics and engineering, and in studies of stereotype threat; the latter indicator in studies of minority achievement, stereotype threat, and more recently discussions of "political correctness" in the classroom, and allegations of liberal bias in the classroom. Figures 4.16 and 4.17 report frequency of occurrence for these two items by racial ethnic group, gender, and sector of major. In Figure 4.16 ("I felt like I did not fit in") the average scores for all items for all groups of students are in and around the response category of "rarely." However, for all groups of students their self-assessed fit in the classroom was less in comfortable in the second year compared with the first, perhaps somewhat more so for Black students and for student who had yet to decide on a major. There is some small indication that women felt like they fit in less well compared with men, but there is no indication that students in science, engineering and mathematics majors felt like they did not fit in compared with their fellow students in humanities, social science and undecided major categories.

Figure 4.17 plots corresponding frequency of occurrence for "Instructor or students make prejudiced comments that made me uncomfortable." No category mean for any group in any year averages even at the level of "rare" occurrence. These data offer no support for assertions that Duke undergraduate classrooms contain prejudiced statement based on gender, race, ethnicity, or liberal bias on any consistent, even occasional basis. The averages reported occurrences are all somewhere between "never" and "rarely." The only possible exception involves Black students, and here only in the second but not the first college year, but here too,

Figure 4.16. Classroom Experiences, First and Second Year
"I felt like I did not fit in"

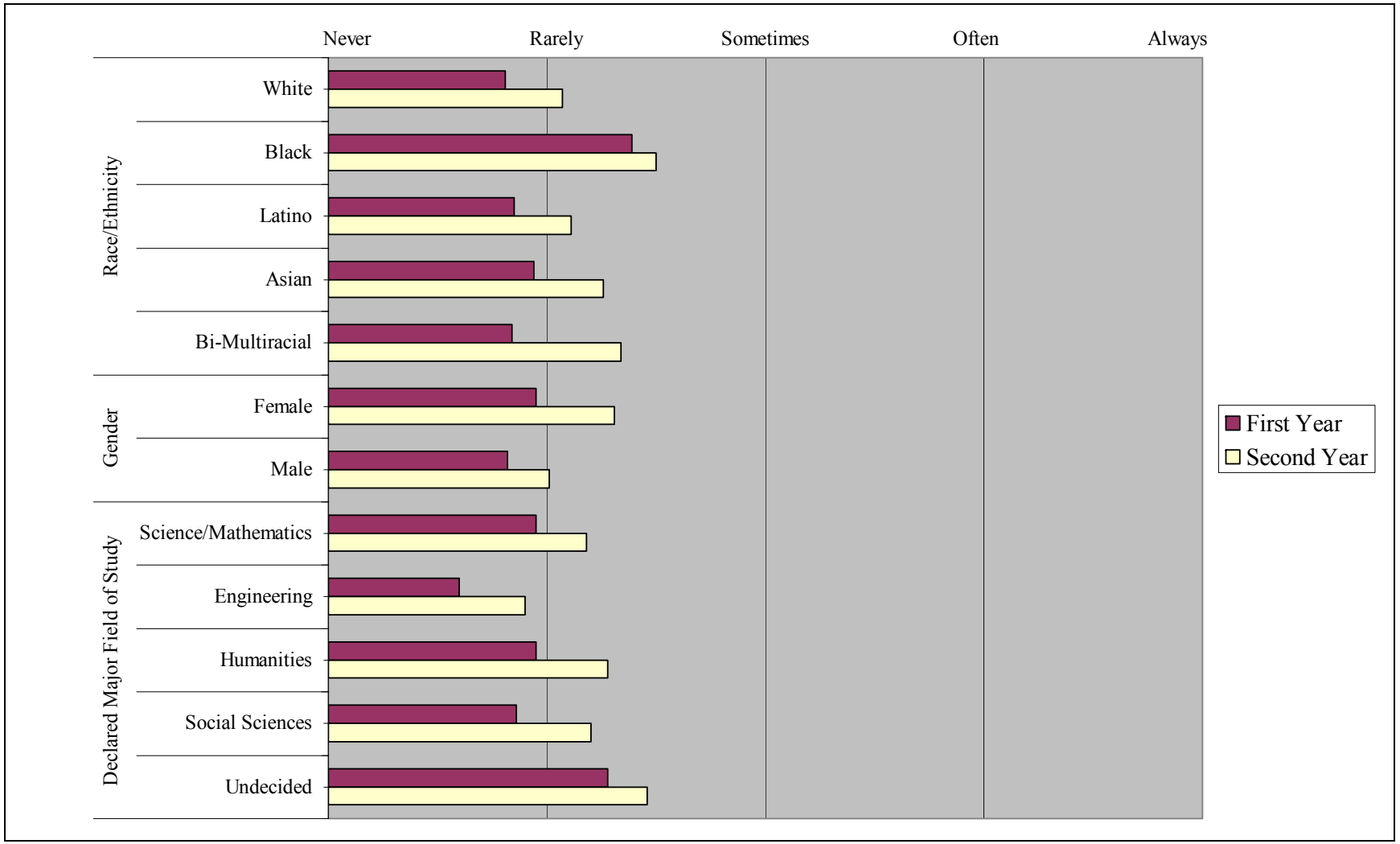
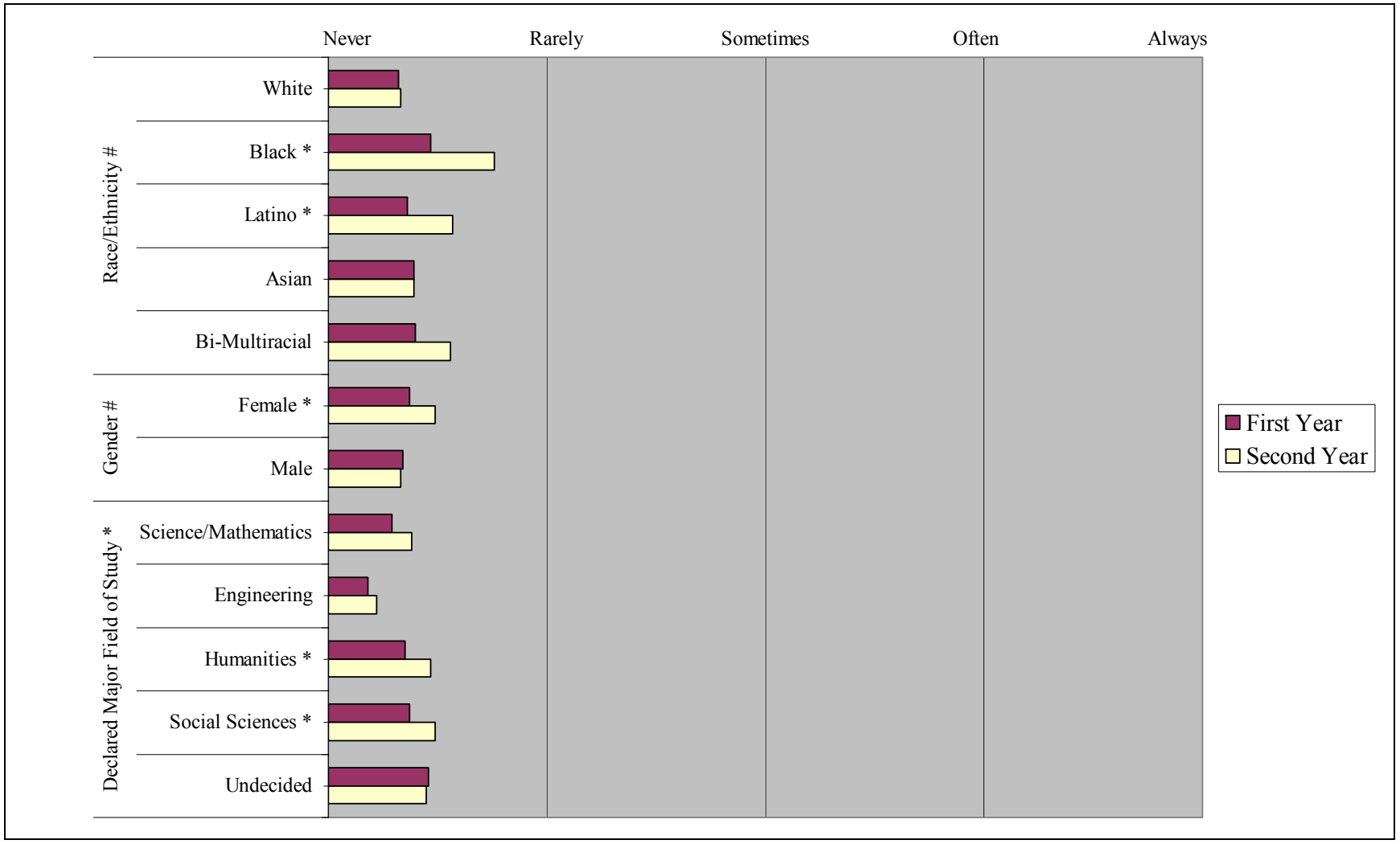


Figure 4.17. Classroom Experiences, First and Second Years

"Instructor or students made prejudiced comments that made me uncomfortable"



the overall average among Black students receiving such prejudiced comments is less than "rarely."

Other items more directly assess student reports of discrimination in the classroom and other on-campus locations. We asked respondents targeted questions about experiencing discrimination and being treated badly because of their race or ethnicity. For the first cohort, we asked students to describe the context in which discrimination took place. Respondents were instructed to link their responses to the specific semester in which they filled out the survey. Figure 4.18 describes the percent of students from each racial ethnic group that reported discrimination by faculty/staff, students, or other members of the university community. While there does not appear to be significant gender differences in experiencing discrimination, there are clear differences based on student's racial ethnic group. Black students reported that they experienced discrimination at a rate of more than twice that of White and Latino students in both the first and second years. During the second year, about 44 percent of Black students reported discrimination, compared to about 11 percent of White students, and about 19 percent of Asian and Latino students.

Figure 4.19 reveals a similar pattern for student reports of being treated badly by Duke instructors because of their race or ethnicity. About 15 percent of Black students report racial or ethnic discrimination from instructors in the first year, and this increases to about 18 percent in the second year. In comparison, less than 3 percent of White students, and about 10 percent of Asian students report that instructors treated them badly because of their race or ethnicity in either year. About 5 percent of Latino students report such discrimination in the first year, and about 9 percent in the second year.

Figure 4.18. Percent of Students Reporting Discrimination by Faculty/Staff, Students or Other Members of the University Community, First and Second Years

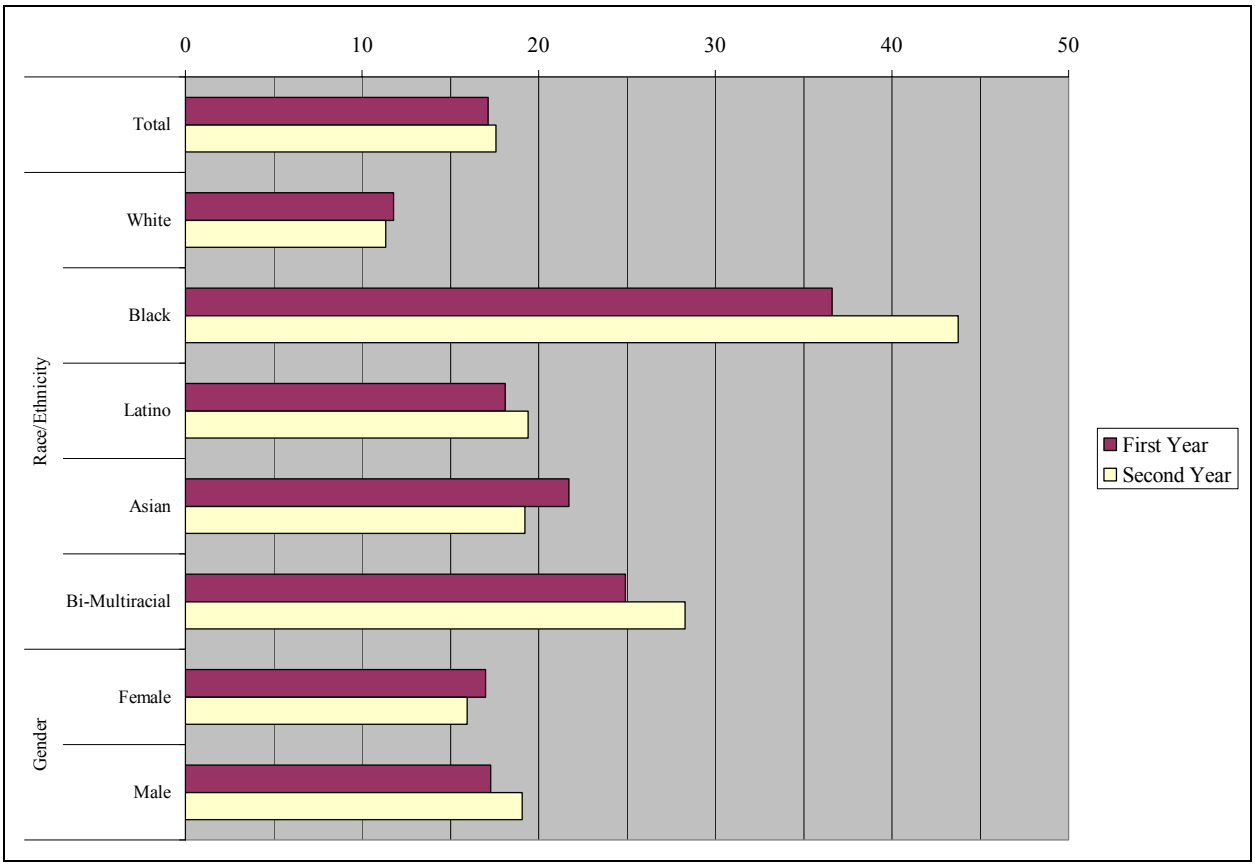


Figure 4.19. Percent of Students Reporting that Duke Instructors Treated Them Badly Because of Their Race/Ethnicity, First and Second Years

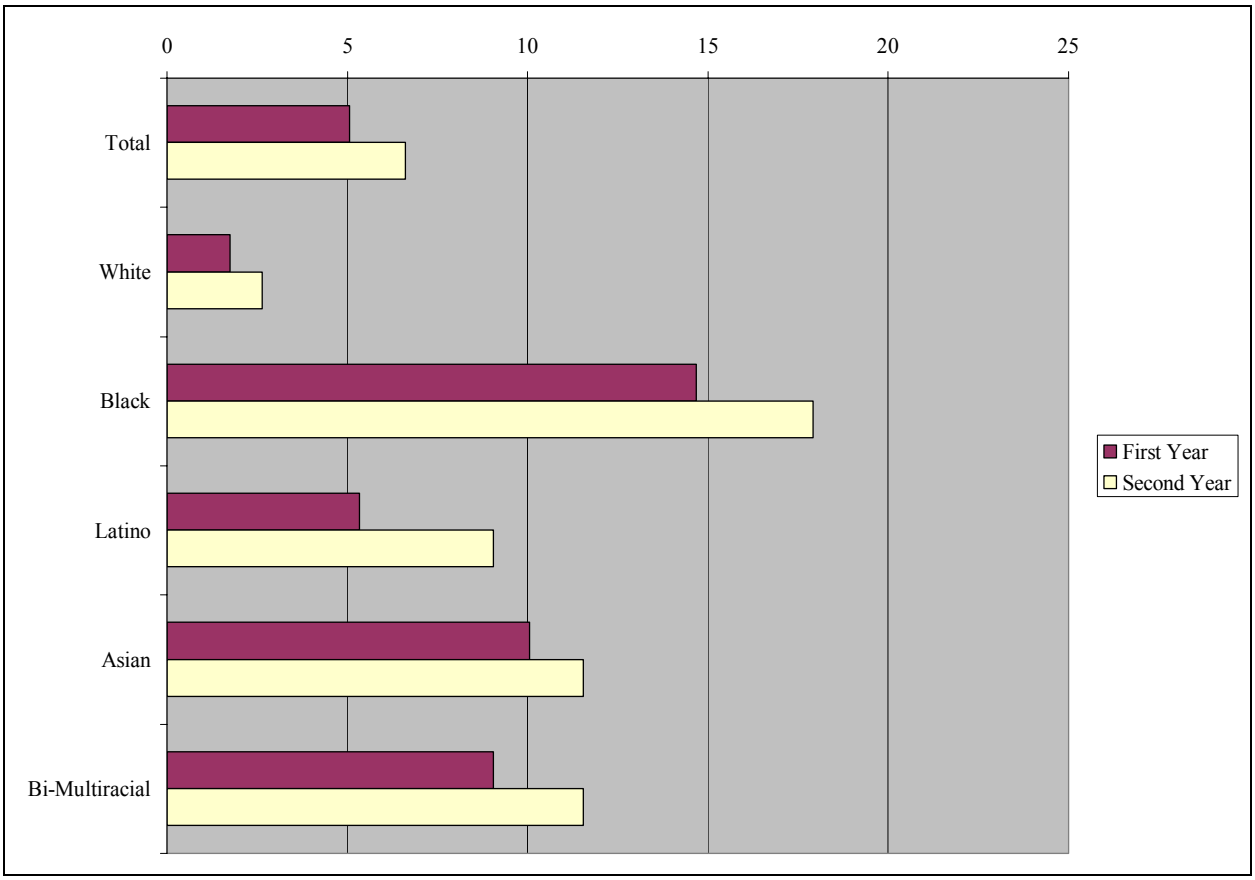


Figure 4.20 highlights the context in which the discrimination took place for students in the first cohort (class of 2005). Across both years of study, and each of the on-campus locations, Black students report the highest rates of discrimination compared to students of other racial ethnic groups. Nearly one in five Black students report discrimination in the classroom, residence halls and other on-campus locations during their second year at Duke. We will continue to monitor these trends across both cohorts and include additional student groups.

The first and second year surveys also afforded an opportunity to assess students' satisfaction with their first year and second year advisors' support and assistance. The evaluation dimensions included: overall satisfaction, choosing a major, meeting graduation requirements, managing academic difficulties, identifying obstacles to reaching academic goals, and identifying resources that would assist in meeting academic goals. Figure 4.21 shows the average levels of satisfaction.

The overall levels of satisfaction for specific areas are nearly identical in both the first and second college years, falling higher than "somewhat satisfied" and just below "satisfied." If we view the "not at all satisfied" and "somewhat satisfied" part of the response continuum as general dissatisfaction, then in no case are Duke students satisfied with their advising, either pre-major or second year. A second clear pattern in the data finds satisfaction levels -- overall and in each sub-area -- lower for the first-year compared with the second-year advisor. As the second year measurements were taken in the Spring semester of the second year, it is possible that students have yet to have extensive interactions with their assigned advisors and are giving them the benefit of the doubt. Even so, these data clearly identify an area in which Duke's performance does not match its aspirations.

Figure 4.20. Percent of Students Reporting Discrimination in Selected Contexts
First and Second Years, by Racial Ethnic Group (First Cohort Only)

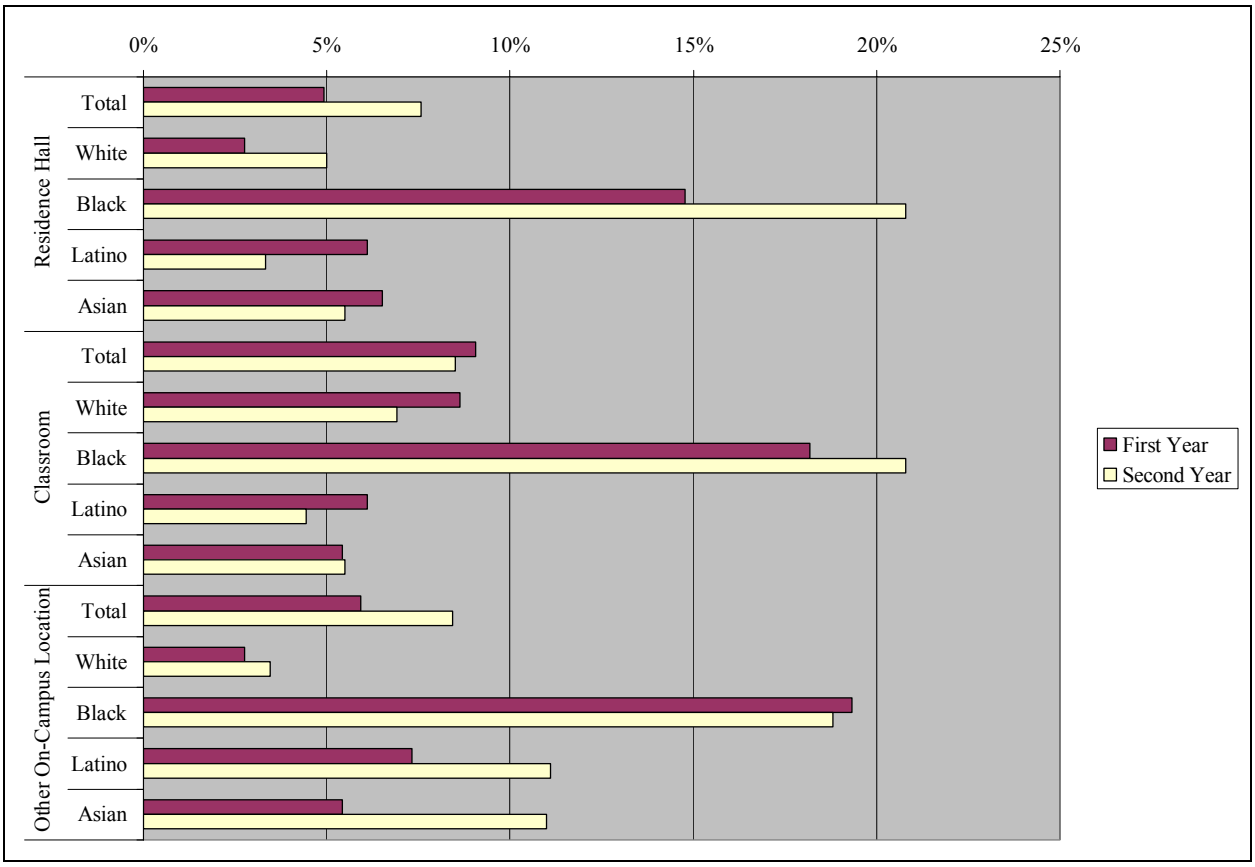
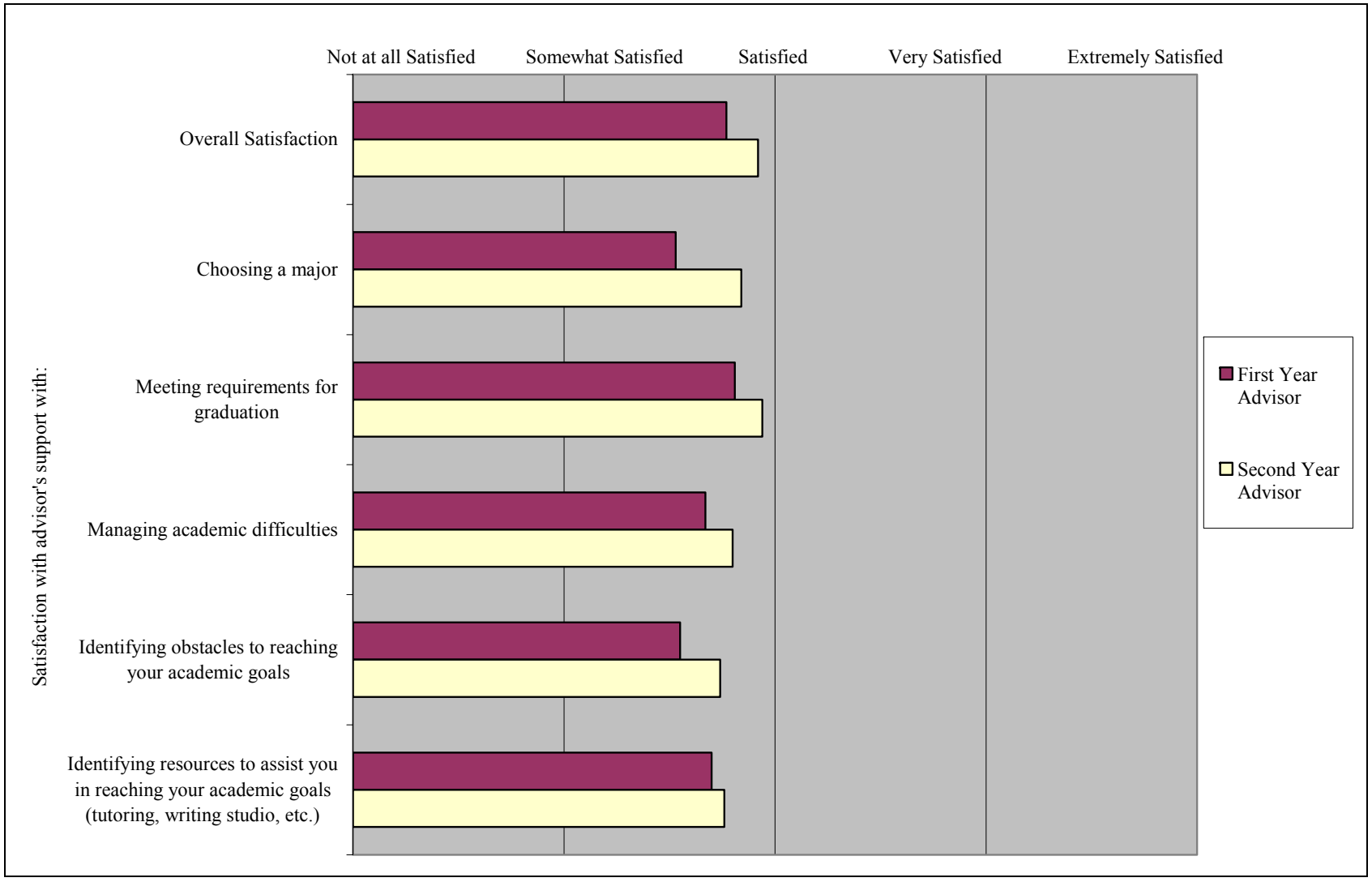


Figure 4.21. Satisfaction with Advisors' Support and Assistance, First and Second Years

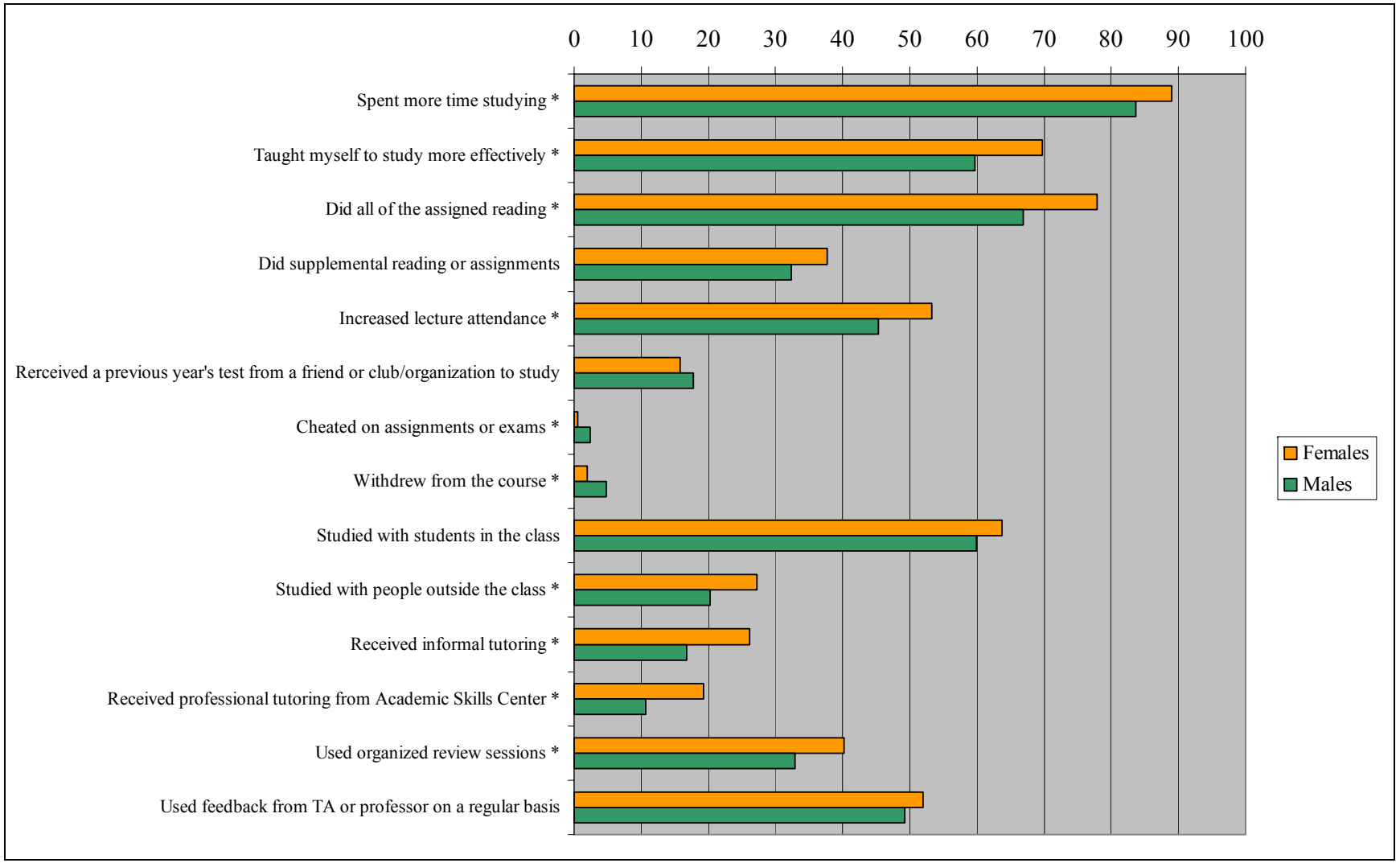


Academic Engagement, Disengagement, and Resource Use

As part of monitoring the academic experience, we wanted to get a sense of the strategies and resources that Duke students used in academic endeavors, particularly the challenging ones. In both the first and second year surveys we asked students to report the specific courses that they took in the previous (Fall) semester, and from among these, to designate that course which they considered to be the most challenging. The courses range across virtually all departments, but were somewhat more likely to be mathematics and science classes. We then asked students to report on the things they did to address the challenges in the class, using a checklist of 15 different items/strategies. The patterns in the data were highly similar for year one and year two, so we report only data for the first college year.

Figure 4.22 reports the percent of students reporting use of the selected activities by gender. First, there is wide variation in the strategies that students use to engage challenging classes. The top five most frequently used strategies include: 1) Spending more time studying (85-90 percent); 2) Studying by myself (80-85 percent); 3) Did all of the assigned reading (65-80 percent); 4) Taught myself to study more effectively (60-70 percent); and, 5) Studies with students in the class (60-65 percent). Second, while men and women are generally similar in which strategies they use most often, women are more likely to use 12 of the 15 strategies compared with men. In this sense, young Duke women were more resourceful than young Duke men. For only three "strategies," (received a previous year's test from a friend or club/organization to study, cheated on assignments or exams, and withdrew from the course), did young men use a strategy more than young women. However, small or very small minorities of students of either gender used these three strategies.

Figure 4.22. Preparation for Student's Most Challenging Class, First Semester
Percent Reporting Use of Selected Activities, by Gender

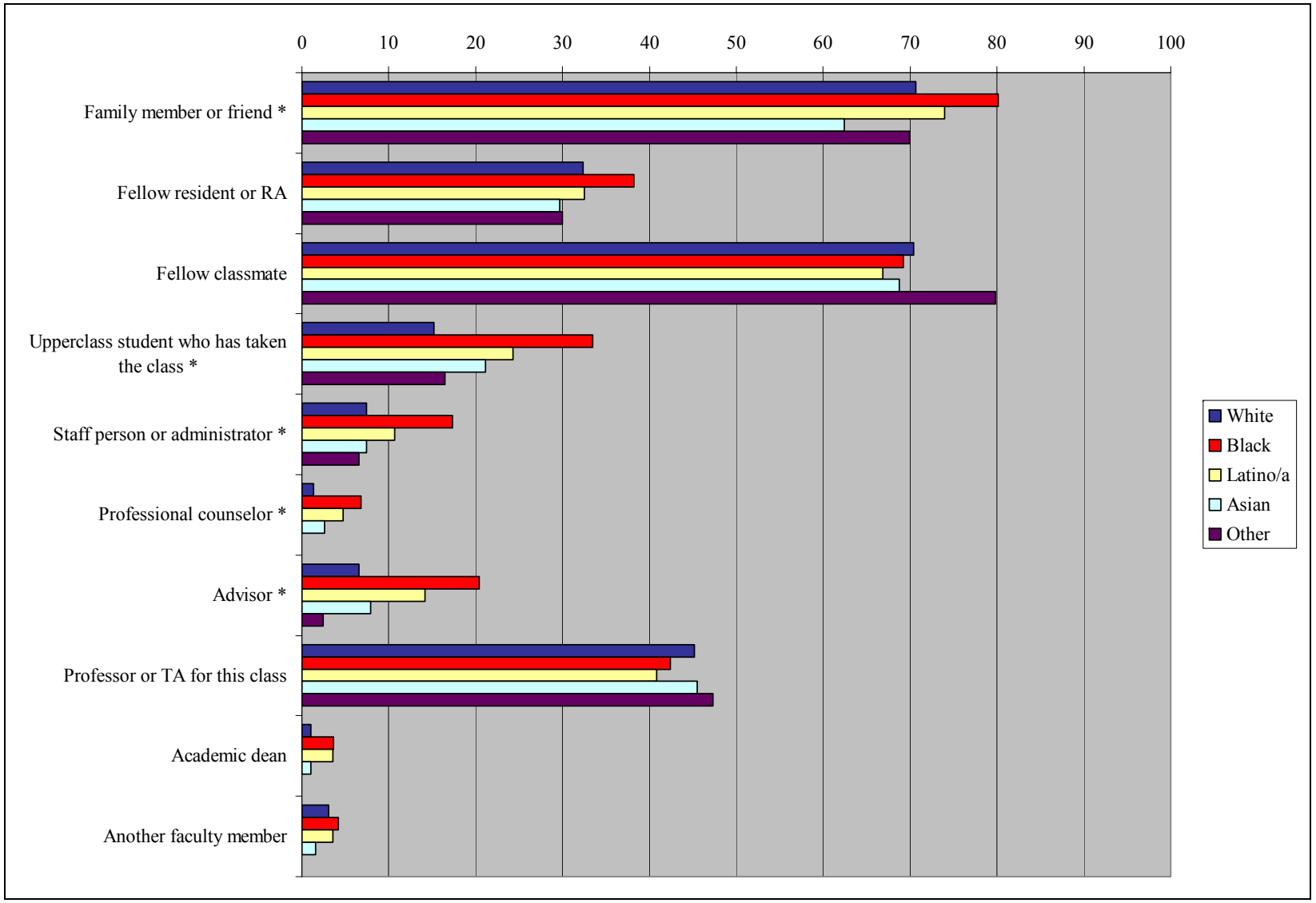


Finally, we asked students about the sources of encouragement in this most challenging class. Figure 4.23 gives the percentage of students reporting encouragement or helpful advice from ten different sources, ranging from friends and family members to academic deans, by racial and ethnic category. Several patterns are apparent. During their first semester at Duke, to whom do students turn for encouragement in their most challenging academic class?

Overwhelmingly, they receive encouragement from those that are interpersonally or academically closest to them: a family member, friend or classmate. The professor or teaching assistant for the class is ranked third across all students. Utilizing professional support networks (i.e., staff, counselors, deans or other faculty) is negligible among this group of students. Undergraduate resident assistants and other students in the residence hall rank fourth, thereby having the potential to serve as a bridge between a students' intimate social support and university support systems.

Several trends regarding academic support become evident. First, students of all racial and ethnic groups tend to rely most on the same categories of encouragement, with the top three being: a family member or friend (65-80 percent); a fellow classmate (65-80 percent); and the professor or TA for the class (40-50 percent). Second, for any given source of encouragement there are significant variations in the extent to which students from different racial and ethnic groups draw upon that source. For example, 80 percent of Black students drew encouragement from family and friends compared with about 65 percent if Asian students. Nearly 35 percent of Black students drew upon an upper-class student who had taken the class; but 15 percent of White and bi- and multi-racial students used the same source. Third, in general, Black students were more likely to report more sources of encouragement for challenging classes, White students reported the least and the other racial ethnic groups were intermediate, when judging

Figure 4.23. Sources of Encouragement for Students' Most Challenging Course, First Semester
Percent Reporting Encouragement, by Racial Ethnic Group



across all of the different sources. Fourth, academic advisors were not a major source of encouragement, used by slightly over 20 percent of Black students, about 15 percent of Latino students, and fewer than 10 percent of White, Asian, and Bi-Multiracial students. University staff people and administrators (non-Dean, non-faculty) had as strong an encouragement profile as academic advisors.

When examining student grade profiles, one way to discern academic disengagement is to review patterns of course withdrawals. Although not "fool proof," withdrawals offer an early warning indicator of academic challenges in a particular course or major. As we move forward in our analyses of the cohorts across four years, we will need to illuminate the relationships between academic preparedness, course and classroom dynamics, major choice and course withdrawals. Table 4.4 reports the science (coded here as grades in biology and chemistry classes) and math GPA's, and withdrawals in these courses and courses overall in the first semester (percent of students in each group). The percentages of withdrawals across the board are small, however Black women and men withdraw in greater percentages and in different ways. Specifically, Black women are more likely to disengage from their math and science classes, while Black men disengage from non-math and science classes at a greater rate.

Summary

Our journey through the academic lives of the Classes of 2005 and 2006 revealed a number of features. Duke students spent more time studying in high school than they reported in the each of the first two years of college. They spend more time in classes and labs than in studying outside of class. Further, time spent socializing with friends and partying exceeded the time spent studying outside of class. The "Play Hard" part of the "Work Hard/Play Hard" motto is clearly confirmed; we are still trying to understand the "work hard" portion of the motto.

Table 4.4. First Semester Grade Point Averages and Course Withdrawals in Biology, Chemistry and Mathematics Courses

		Bio, Chem, and Math GPA		Bio, Chem, and Math			All Other Courses		
				WP	WF	W - all	WP	WF	W – all
		mean		%	%	%	%	%	%
Total		2.92		1.92	0.34	2.30	1.48	0.82	2.35
White		2.99		1.35	0.48	1.83	1.27	1.19	2.55
Black		2.34		5.31	0.45	5.76	3.98	--	3.98
Latino/a		2.66		2.91	--	3.41	0.98	0.98	1.96
Asian		3.20		1.52	--	1.52	1.52	--	1.51
Other		2.80		1.70	--	1.70	--	--	--
Female	Female	2.87		1.76	0.48	2.24	1.69	0.97	2.54
	White	3.02		0.66	0.66	1.32	1.83	1.66	3.15
	Black	2.34		6.31	0.64	6.95	2.54	--	2.54
	Latino/a	2.66		2.99	--	2.99	--	--	1.01
	Asian	3.14		2.16	--	2.16	2.16	--	2.16
	Other	2.65		--	--	--	--	--	--
Male	Male	2.96		2.09	0.20	2.37	1.26	0.66	2.15
	White	2.97		1.99	0.30	2.29	0.76	0.76	1.99
	Black	2.32		2.99	--	2.99	7.34	--	7.34
	Latino/a	2.66		2.85	--	3.81	1.91	1.91	2.87
	Asian	3.24		0.95	--	0.95	0.94	--	0.95
	Other	3.03		4.69	--	4.69	--	--	--

There were small to modest differences in time use patterns by gender, racial ethnic group, and Greek/non-Greek status.

Duke students strongly rely on advanced placement credits. This pattern is strongest for young Asian men and women.

Duke closely mirrors other elite colleges and universities in the academic performance differences by racial ethnic group as these are measured by grade-point-average. The differences are fully apparent after but one semester of college and are highly persistent through the first four semesters. The differentials are to the advantage of Asian students and to the disadvantage of Latino and Black students, with White and Bi-Multiracial students intermediate to these groups. Consistent with other national studies, about one-half of the Black-White differential in grades at Duke is eliminated when we adjust for pre-college differences in family background and test scores. We found gender and Greek/non-Greek differences in grades at Duke to be negligible.

We encountered a major puzzle: Students reported almost no difference in a number of rated academic and intellectual skills between their first and second college years. Why? We listed several explanations that we will be investigating in our future comparisons.

We reported on students' plans and activities in majoring in science, mathematics and engineering. Consistent with national evidence, engineering remains a preserve of Asian, White and Bi-Multiracial students, and to a certain extent, of males, not females. Also consistent with national evidence, significant minorities of Duke students plan to major in science and mathematics but there is significant attrition from these plans in the first two college years for young women and for Latino and Black students. In contrast, only small percentages of students plan social science and humanities majors but many more than planned pursue these majors in

the first two years. Finally, we found that changing majors was frequent at Duke, to and from every sector of major with the single exception of engineering.

We investigated classroom environments and atmosphere. On balance, classes appeared surprisingly comfortable for students at Duke, with perhaps the exception of some complaints about class sizes in the second college year. In contrast to prominent -- and sometimes heated -- arguments in the national and local media, we found precious little evidence that Duke students felt like they did not "fit in" their classroom environments or that their professors made prejudiced comments in classes. Reports of either activity were in the range of "rarely" whether for males of females, or students from different racial ethnic groups.

Finally, we reported on academic advising and support. In a clear, unequivocal pattern, Duke students are dissatisfied with the quality of their academic advising, whether in the first college year or the second, and as assessed on a number of dimensions. This is a clear instance where Duke's aspirations are at odds with the measured reality. Finally, Duke students used rich mixtures of sources of support for their academic endeavors. Critically, these centered on family, friends and classmates, and less so on professors, TA's and other university support personnel. Black students reported the most sources of support; White students reported the fewest sources of support.

5. Social Life and Extracurricular Activities

As a compliment to discussions of students' academic achievement and personal development, there are several areas of interest in the Duke "social scene." Considering that students spend, on average, less than fifteen hours per week attending classes or labs (see Figure 4.1), it is important to examine the activities and experiences that comprise students' social life in and around the Duke campus. These include a detailed set of comparisons of students who are members of fraternities or sororities (i.e., Greek Life) and other extracurricular clubs or groups. As described in an earlier section (see Table 2.2), Duke students enter the university having demonstrated an eager involvement in extracurricular activities during their high school years, and they largely continue this behavior throughout the first two years on campus. Additionally, this section will explore the importance of alcohol and drugs to students' social life. While we do not ask questions about students' alcohol or drug use directly, we are able to gauge how often alcohol and drugs are present at social events. We also determine how important students consider alcohol and drugs to be in their enjoyment of campus life.

At its best, the Duke "social scene" is a domain in which students, administrators and faculty create, connect and engage in the civic activities that are central to the university mission. For example, earlier this year, Duke's Hurricane Katrina Website listed a range of activities all designed to assist those affected by Hurricane Katrina, including: concerts on the quad, a Mardi Gras concert in the Durham community, student organization relief efforts and raffling of Rolling Stones tickets.[10] At its most contentious, social life and extracurricular activity are marked by conflict among the students, administrators, and community members as they negotiate tailgating, alcohol enforcement, parties that disrupt local neighborhoods and social events that require students to pass through metal detectors. Social engagement, responsibility,

[10] http://www.duke.edu/hurricanerelief/

freedom of exploration, diversity, civility and respect comprise the fulcrum upon which these polarities swing back and forth.

Extracurricular Participation

Figure 5.1 illustrates students' extracurricular participation during their senior year in high school, by gender. Displayed are the ten most popular activities, taken from a list of sixteen clubs or groups, for which students were asked to indicate if they were members or held leadership positions (e.g., president, captain, treasurer, social chairperson). Being a member of an extracurricular club or activity is nearly universal, as over 98 percent of students from all racial ethnic backgrounds participated in at least one club or activity. Further, most students held at least one leadership position, ranging from over 71 percent for White students to about 79 percent for Asian students. For male and female students, as well as students from all racial ethnic backgrounds (not shown), membership in an honor society is the most popular form of extracurricular participation. Almost three-quarters of Duke students were members of an honor society during their senior year in high school. For female students, community service clubs and volunteer organizations are the next most popular activities, and females participated in these activities at significantly greater levels than male students (66% and 62%, versus 58% and 51%). For male students, school organized sports and academic clubs (e.g., math team, Spanish club) are among the most popular, with about 64 percent of males participating in these activities, compared with about 55 percent of females.

Students continue this high level of involvement in extracurricular activities into their second college year. Figure 5.2 reports students' extracurricular participation in the first and second year. Students were asked if they were members, or in the process of becoming

Figure 5.1. High School Extracurricular Participation, by Gender

Percent Reporting Membership in Selected Activities during the Senior Year of High School

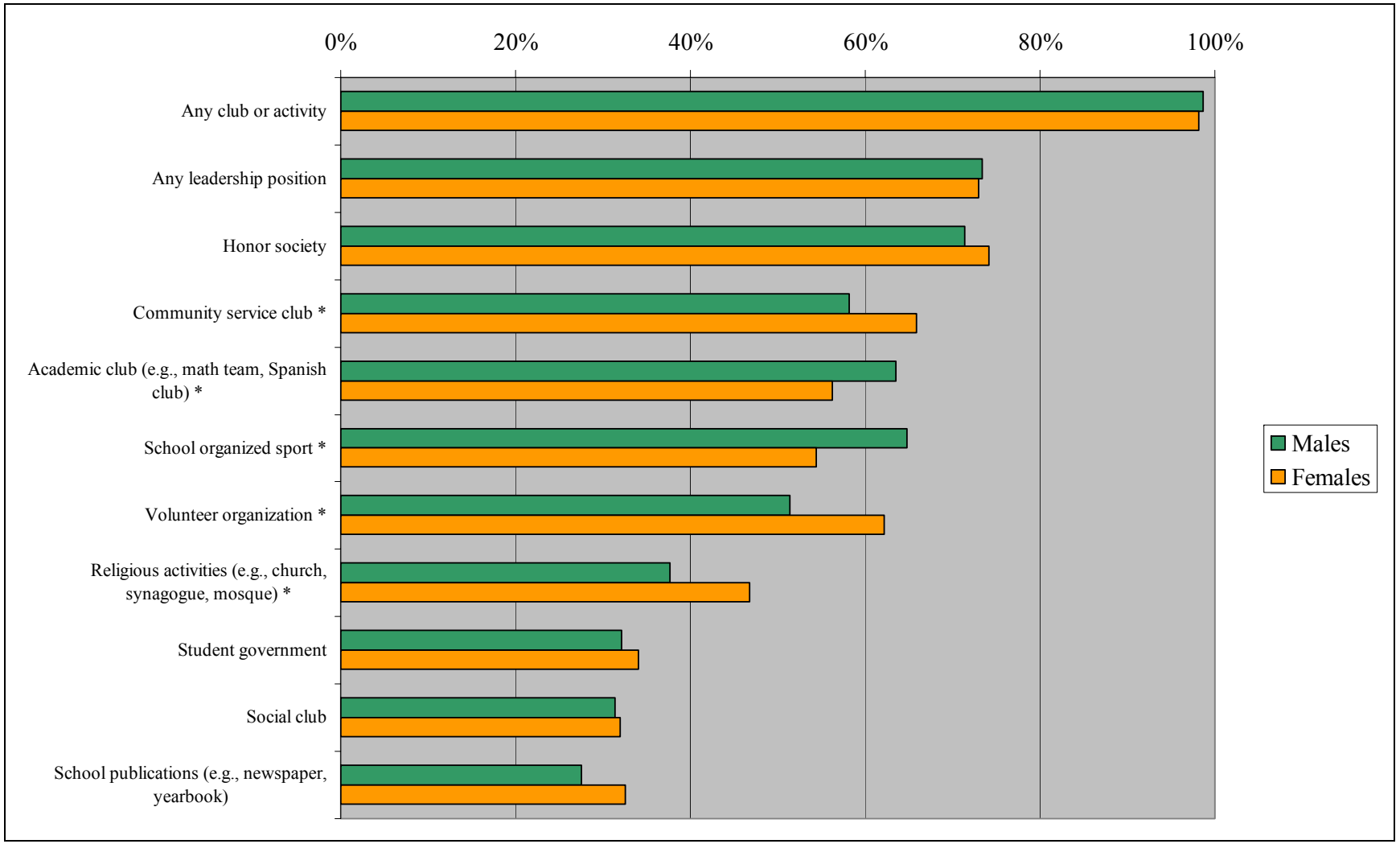
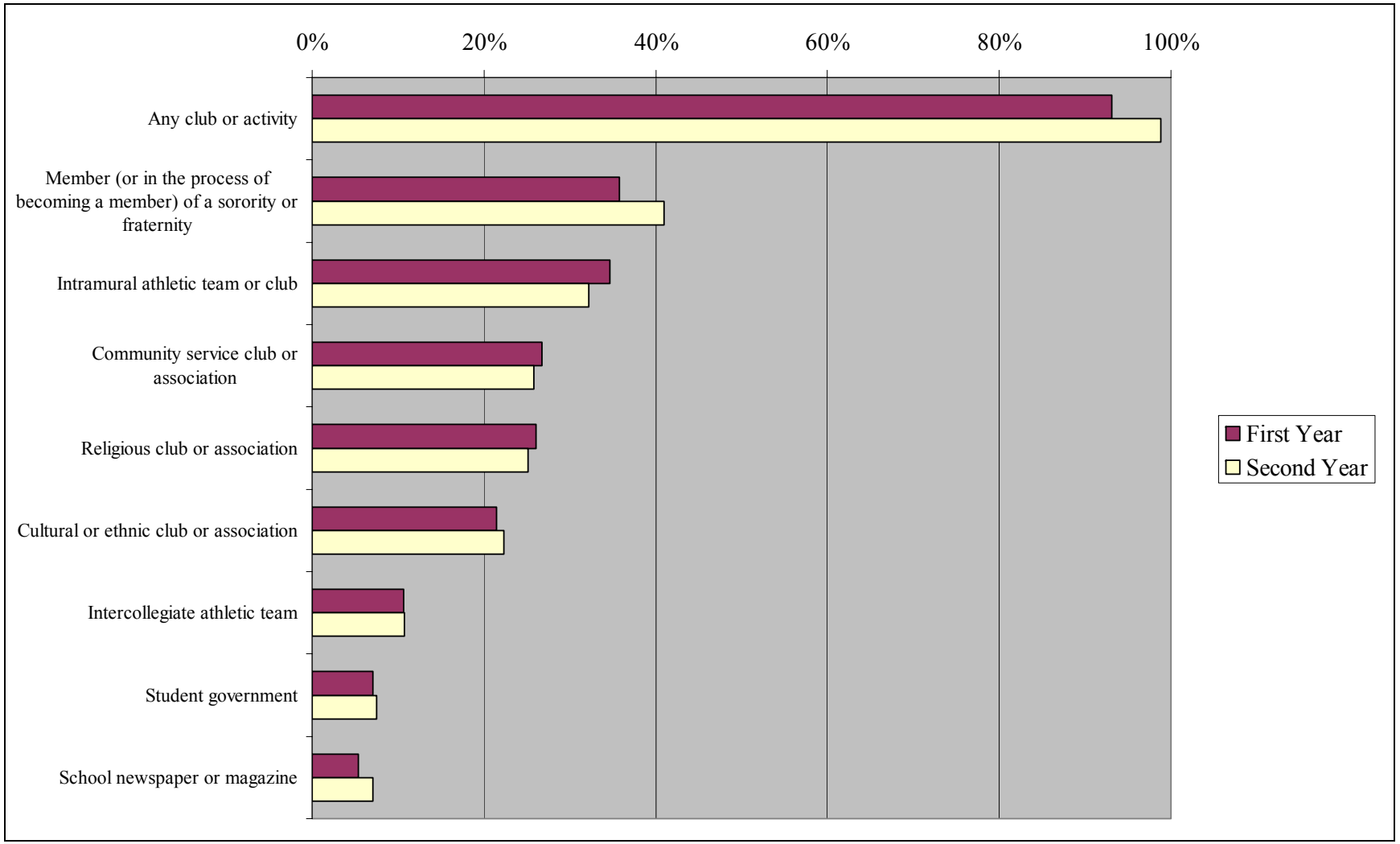


Figure 5.2. Extracurricular Participation, First and Second Years
Percent Reporting Membership in Selected Activities



members, of any of eight types of groups or organizations. As in high school, the general rate of extracurricular involvement is quite high, with over 93 percent of students participating in any club or activity during the first year and over 98 percent participating during the second year. In both years, fraternities and sororities are the most popular activity as about 41 percent of Duke students are involved in Greek life by the spring semester of their second year. About one-third of students were members of intramural sports teams, and over 20 percent were involved with service, religious or cultural clubs during each of the first two years on campus. Intercollegiate athletics, student government and writing for *The Chronicle* or other student publications are relatively less popular activities. Less than 11 percent of students participate in these activities each year. While there is a slight increase in the general rate of extracurricular participation between the first and second year, this difference is not statistically significant.

Figures 5.3 and 5.4 provide descriptions of second year extracurricular memberships, by racial ethnic background and gender, respectfully. Across all racial ethnic groups, students are highly active in extracurricular life, with between about 97 percent and 99 percent of students reporting involvement in at least one club or group. Yet, while all students are highly involved in extracurricular activities, there are significant differences in the type of participation between racial ethnic groups. For White and Latino students, fraternities or sororities are the most popular activity, and about half of these students are involved in Greek life. In contrast, about 14 percent of Black students and 20 percent of Asian students are members of fraternities or sororities. For Black students, the most popular clubs include: cultural/ethnic groups (54% participating), community service clubs (44%) and religious clubs (34%). Asian students are also highly involved in cultural/ethnic clubs or groups, although only about 8 percent of White students are members of such groups. White students and Bi-Multiracial students are more

Figure 5.3. Extracurricular Participation, Second Year

Percent Reporting Membership in Selected Activities, by Racial Ethnic Group

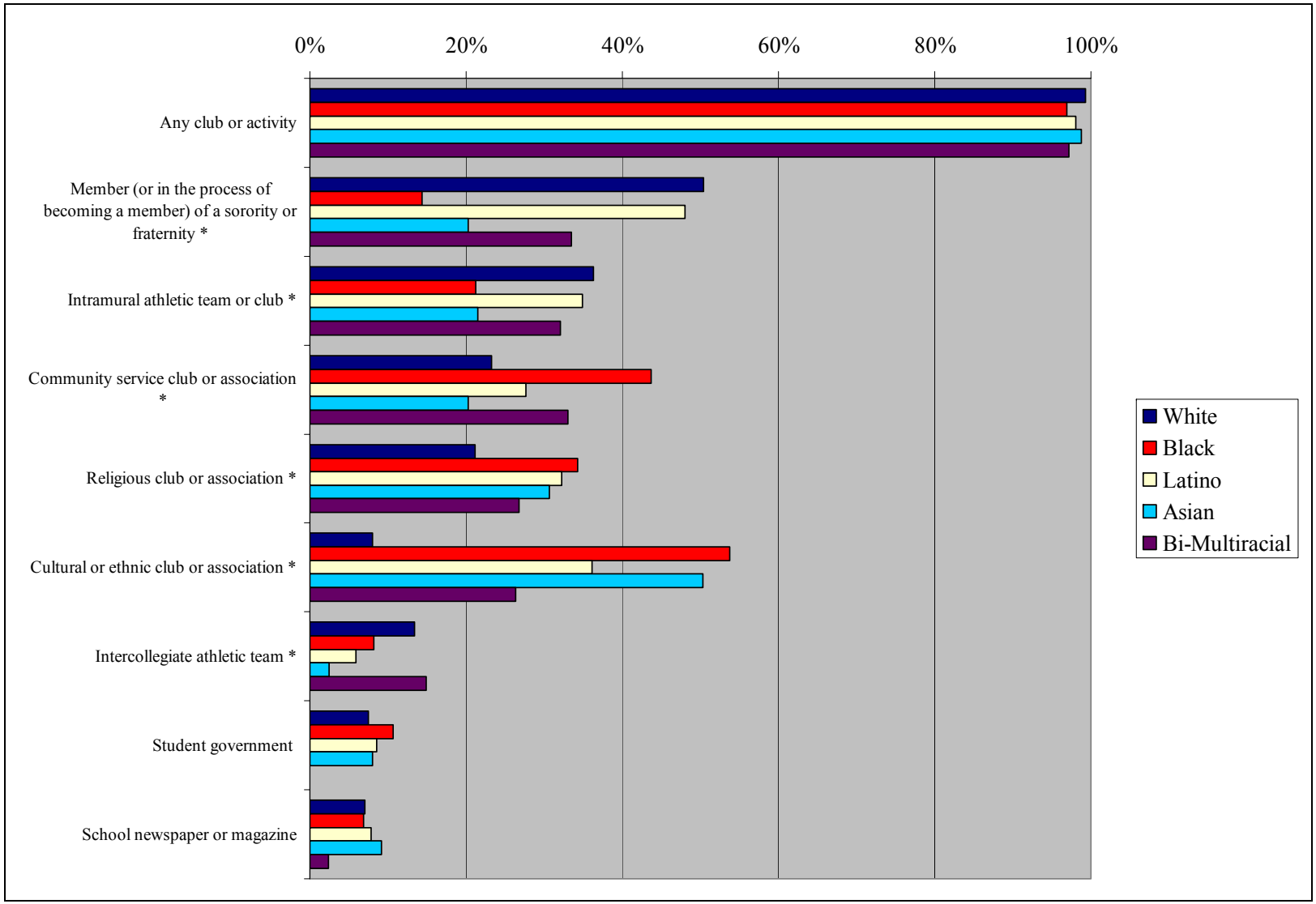
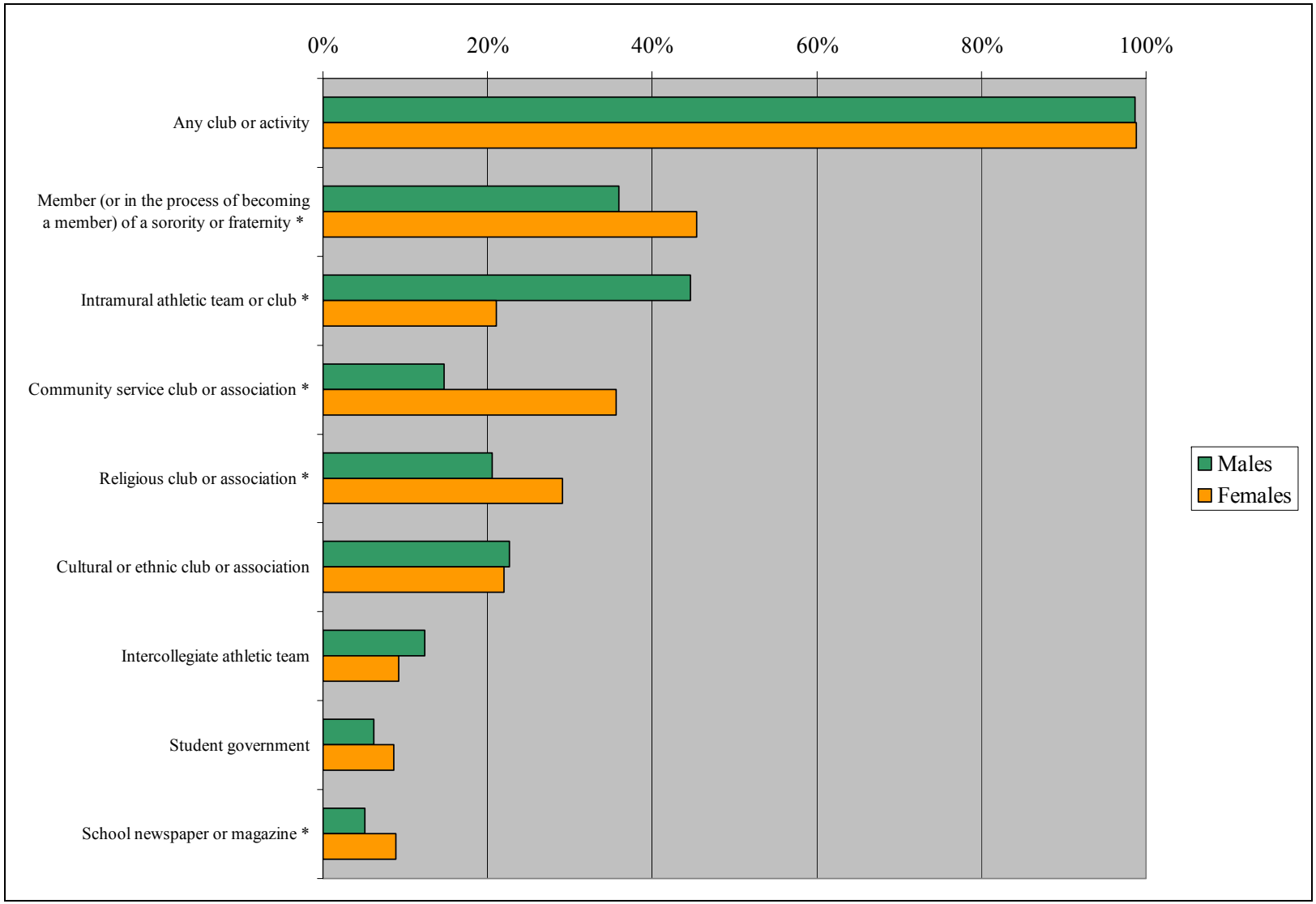


Figure 5.4. Extracurricular Participation, Second Year

Percent Reporting Membership in Selected Activities, by Gender



likely to be involved in intercollegiate athletics, and between 13 and 15 percent of these respondents are student-athletes. While Black students are slightly more likely to be involved in student government, the between-group differences are not statistically significant. Generally speaking, students from all racial ethnic backgrounds exhibit a high level of extracurricular memberships, although White and Latino students concentrate their participation on Greek life and intramural athletics while Black and Asian students are most active in cultural or ethnic clubs.

Exploring second year extracurricular participation by gender reveals significant differences, though less profound than for those by racial ethnic group (Figure 5.4). More than 98 percent of male and female students were members of at least one club or group during their second year at Duke. While both genders are highly involved in terms of memberships, as shown in the previous section females devote slightly more time each week to extracurricular activities (see Figure 4.3). Female students are more likely to be involved with Greek life than male students, with 45% of females reporting membership compared to about 36% of male students. As in the senior year in high school, females are more highly involved with community service clubs or associations, while males are more active with intramural athletics. Almost one-half of male students reported involvement with an intramural sports team, compared to about 21 percent of female students. Conversely, over one-third of females were members of community service organizations, compared to about 15 percent of males. Females are more likely to be involved with religious clubs or associations, student publications and student government, although the gender difference for student government is not statistically significant. Males are slightly more likely to be members of intercollegiate athletic teams and cultural or ethnic clubs, but these differences are not significant.

Figure 5.5 explores other student background predictors for participating in five of the more popular clubs or activities. Compared with US citizens, non-citizens are more likely to be members of cultural or ethnic clubs. About 48 percent of non-citizens were members of cultural or ethnic clubs during their second year, compared to about 20 percent of US citizens. Distinguishing students based on the type of high school attended also reveals a few notable differences. Private high school graduates are more highly involved with intramural athletics, while parochial school graduates are more active in religious associations. Duke legacy students are comparatively less active in intercollegiate athletics and cultural or ethnic clubs. Only about 5 percent of these respondents are intercollegiate athletes, compared to about 12 percent of other students. Looking at students' declared major, engineering students are more likely to be involved in intramural athletics and slightly less likely to be members of community service groups, relative to other fields of study. While examining the association with these student background characteristics on extracurricular participation reveals several significant differences, students' racial ethnic group and gender appear to provide better explanations for patterns of extracurricular involvement.

Greek Life

Participation in Greek life is listed as the most popular activity for Duke students during the first two years on campus, although membership is unevenly distributed across different student subgroups (Figure 5.6). As described above, White and Latino students are considerably more likely to members of fraternities or sororities than are Black and Asian students, and female students are slightly more likely to be involved in Greek life than are males. Citizenship status appears to be a strong predictor of Greek involvement, and about 43 percent of US citizens are

Figure 5.5. Extracurricular Participation, Selected Student Background Predictors
Percent Reporting Second Year Membership in Selected Activities

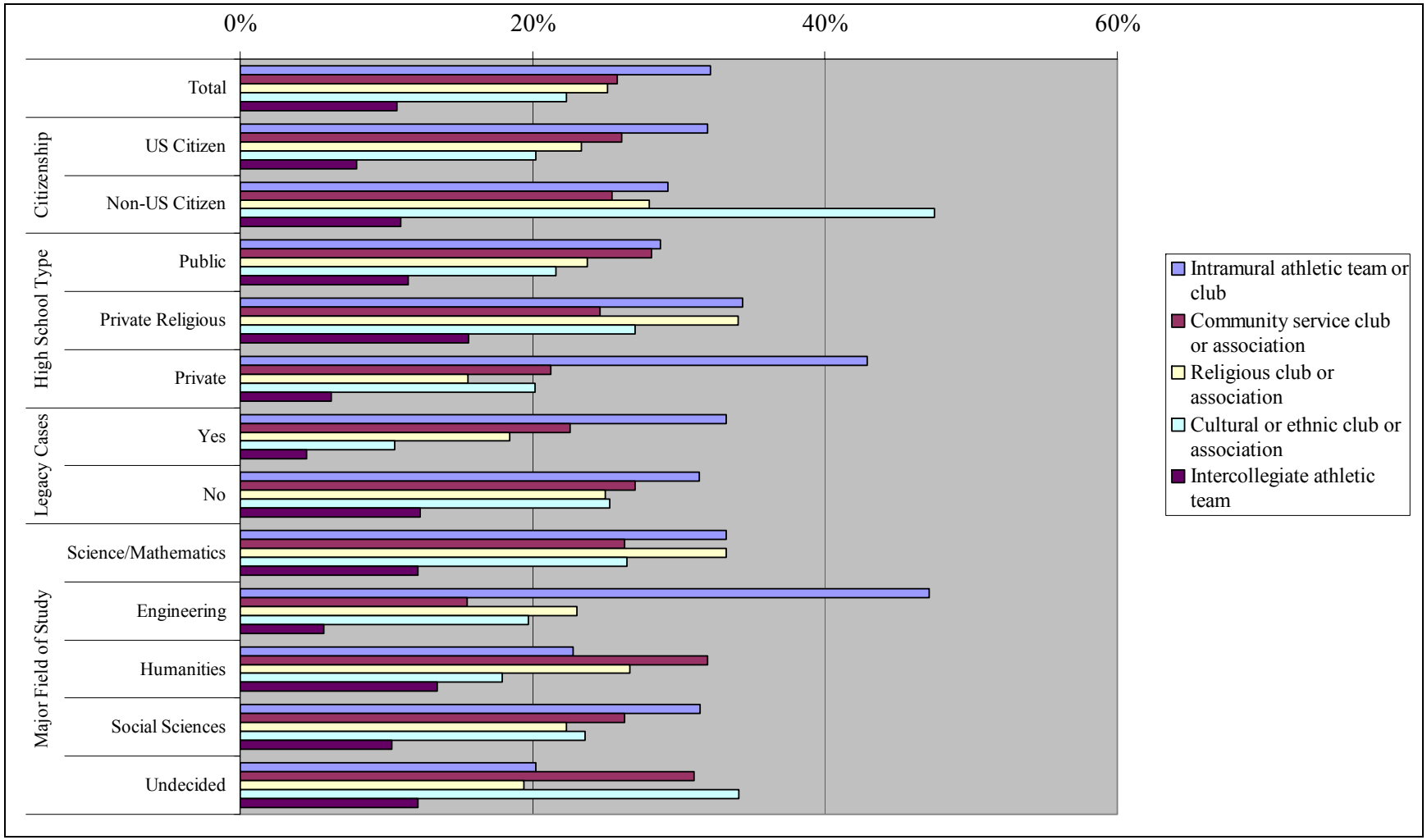
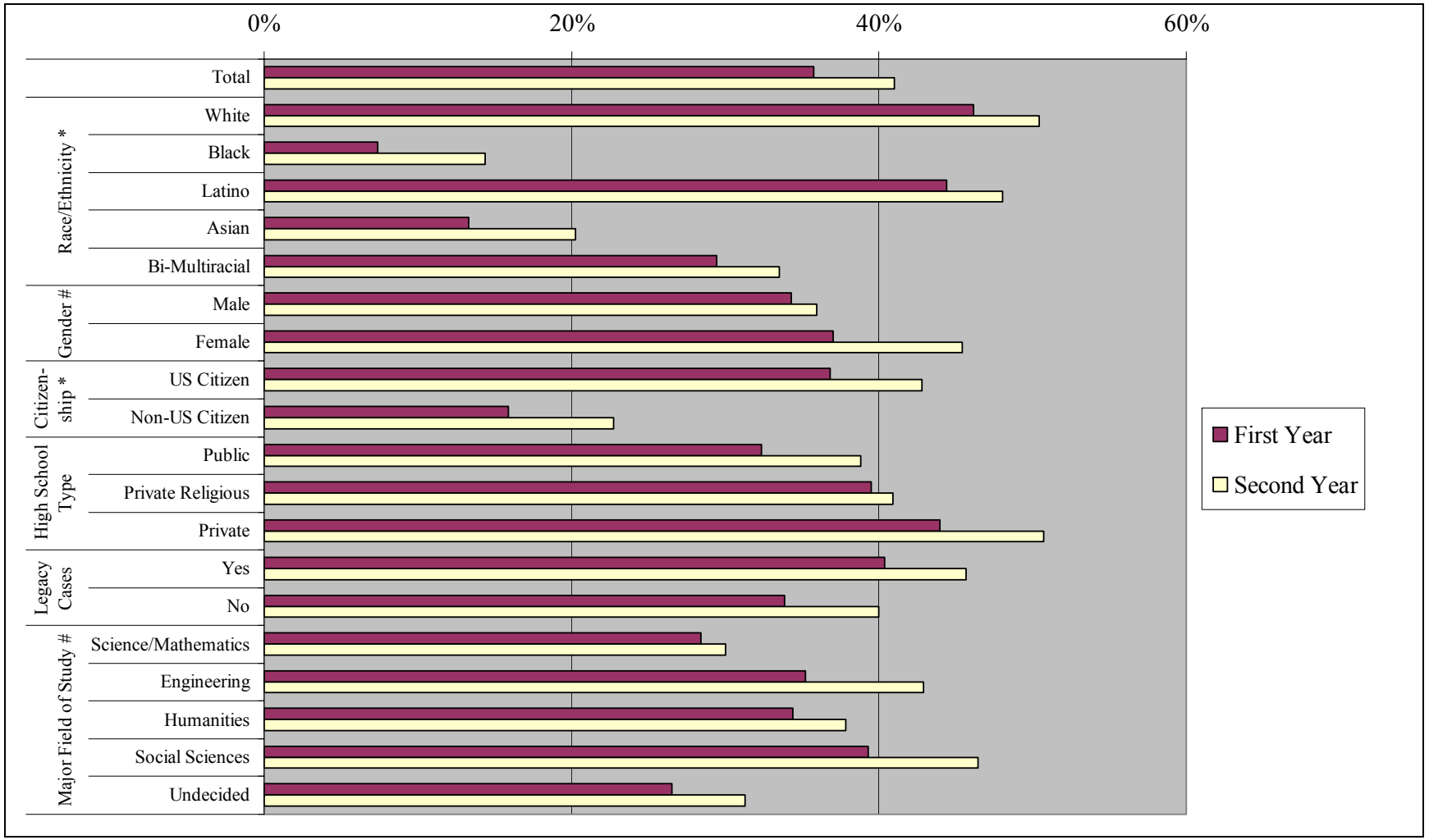


Figure 5.6. Fraternity/Sorority, Selected Student Background Predictors
Percent Reporting Membership, First and Second Years



members, compared with about 23 percent of non-US citizens. Relative to other majors, students studying science and mathematics are less likely to be members of fraternities or sororities during the second year. Additionally, students who graduated from private, non-religious high schools are more likely to be members of fraternities/sororities, as are legacies, although these differences are not statistically significant.

Importance of Alcohol and Drugs

While we did not ask students about alcohol and drug use directly, two sets of survey items provide an indirect tool to explore the use of alcohol and drugs in the enjoyment of social life at Duke. First, respondents were asked to describe how important alcohol and drugs are to their enjoyment of campus life, with a 5-point scale ranging from "not at all important" to "extremely important" (Figure 5.7). Second, students were asked to describe how frequently alcohol and drugs are present at social events they attend, using a similar scale ranging from "never" to "always" (Figure 5.8).

Overall, students report alcohol to be of only moderate importance to their social lives, although significant group differences exist (see upper panel, Figure 5.7). Male students rank alcohol as more important than do females, and White and Latino students consider alcohol to be more important than do Black or Asian students. While members of religious and cultural or ethnic clubs report alcohol to be slightly, yet significantly, less important than non-members, intercollegiate and intramural athletes rank alcohol to be slightly more important to social life (not shown). Of all comparisons between members and non-members of particular extracurricular activities, the largest difference is found in comparing fraternity/sorority members with non-Greeks. Greek students consider alcohol to be more important by a

Figure 5.7. Importance of Drugs and Alcohol in Students' Enjoyment of Campus Life
First and Second Year Comparison, by Racial Ethnic Group, Gender and Fraternity/Sorority Membership

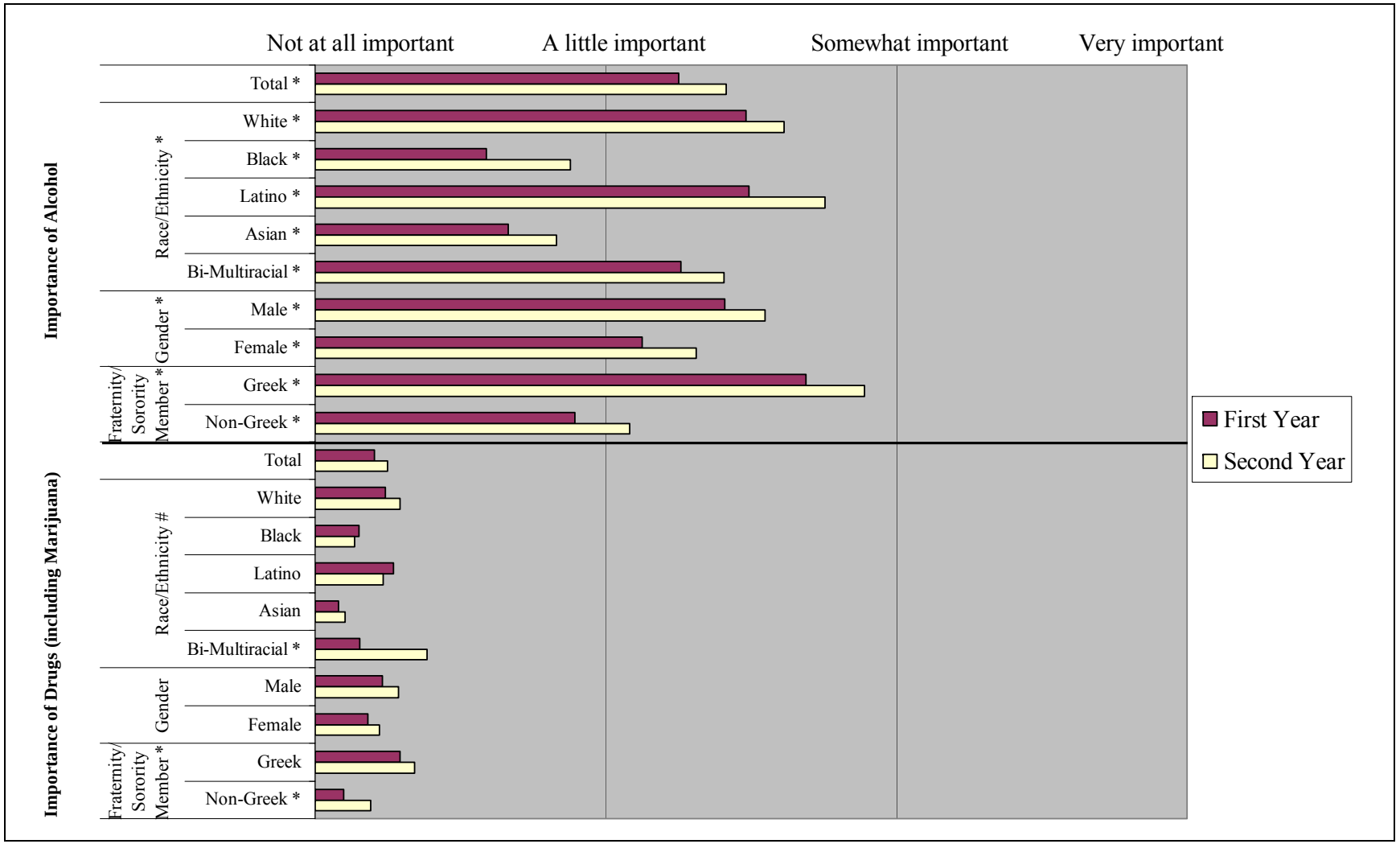
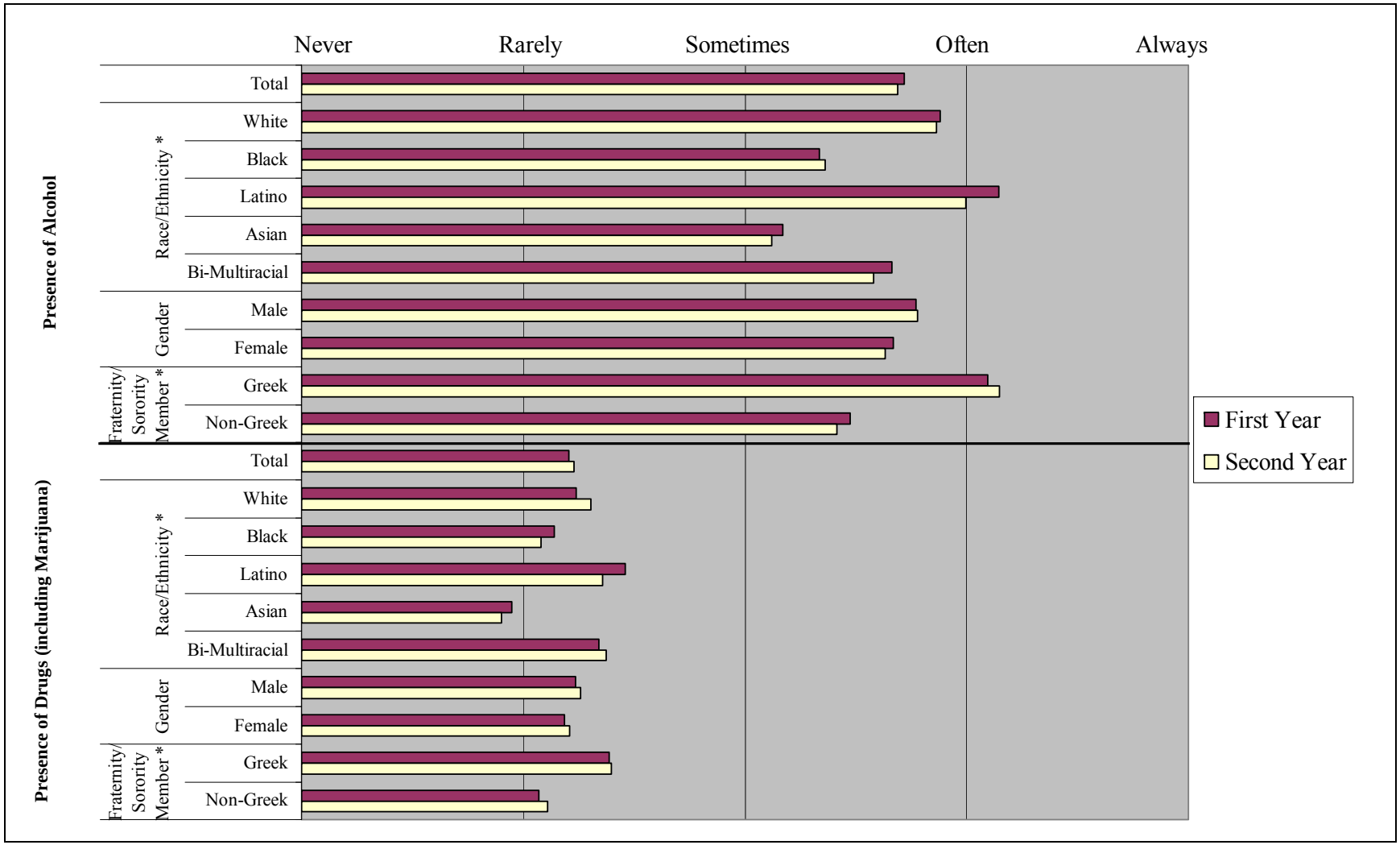


Figure 5.8. Presence of Drugs and Alcohol in Students' Enjoyment of Campus Life
First and Second Year Comparison, by Racial Ethnic Group, Gender and Fraternity/Sorority Membership



magnitude of about one scale unit, a difference comparable to the racial ethnic differences discussed above. These group patterns are consistent across the first and second years. However, while alcohol is still considered to be less than "somewhat important" during the second year on campus, it is regarded as significantly more important than in the first year.

Students consider drugs to be noticeably less important to their enjoyment of campus life than alcohol (see lower panel, Figure 5.7). For all groups of students, drugs are rated at slightly above "not at all important" to their social lives, although a small, significant difference exists across racial ethnic categories for the second year. White, Latino and Bi-Multiracial students report a slightly higher rating for the importance of drugs than Black or Asian students. For both years, Greek students rate drugs as more important than non-Greeks. This low level of importance largely persists across the first two years on campus. Just as drugs are considered to be of little importance, students report that drugs are rarely present at the social events they attend (see lower panel, Figure 5.8). Additionally, a similar pattern of group differences exists, as White and Latino students report drugs to be present slightly more frequently than Black or Asian students, and Greeks report a higher incidence than non-Greeks.

In contrast, students report that alcohol is present at social events relatively frequently, even as it is considered to be of little importance to the enjoyment of campus life (see upper panel, Figure 5.8). Alcohol can be found at parties or other gatherings regularly, and is present just as frequently during the first year as in the second. The same pattern as the previous few comparisons again holds true. White and Latino students, and fraternity/sorority members report that alcohol is present more frequently than Black and Asian students, and non-Greek students. Relative to drugs, alcohol is regularly present at social functions, and is considered to be of moderate importance for the enjoyment of campus life for many students. While alcohol appears

to become slightly more important to students from the first to the second year, first year students find alcohol at social functions as frequently as second year students.

Summary

As they did in high school, Duke students are highly involved in campus extracurricular activities. Yet, different student subgroups are more active in different types of clubs or groups. Generally speaking, White and Latino students are more active in Greek life, Black and Asian students are more active in cultural or ethnic clubs, females participate more frequently in community service and religious groups, and males are more often members of athletic teams. Perhaps in contrast to conventional wisdom, academic achievement varies little by type of club or group, and the average GPA is similar across extracurricular activities (data not shown). Just as extracurricular activities are shown to play an important role in students' social life, alcohol is reported to be at least moderately important to students' enjoyment of social life, and it is present relatively frequently at campus events.

6. Residential Life and Diversity

Nationally, residential life and programming are viewed as prime venues where students can engage across cultural and intellectual boundaries. Residence halls often serve as the initial place in which sustained dialogue around issues of diversity and respect can take place. Additionally, residence halls provide opportunities for students to gain exposure to broadened social networks. This section includes examinations of the level of diversity found in students' friendship and social networks, as well as issues of residential climate for students living on campus. As shown in an earlier section, the majority of White students grew up in neighborhoods and attended high schools that were mostly White. Students from other racial ethnic backgrounds were more likely to have experienced more diverse networks in their pre-college years (see Figures 2.4 and 2.5). Yet, after two years on the Duke campus, students' friendship networks do not become more diverse, and in some cases may become more racially and ethnically homogenous.

This section includes detailed comparisons mapping the transition from East Campus in the first year to West Campus in the second year. Since the fall of 1995, all first-year students were consolidated on East Campus. This move was the first of many efforts to enrich the quality of the first year experience. From the FOCUS and faculty-in-residence programs to the new linkages of Pre-Major advisors with residence halls, East Campus is heralded as a success by students, faculty and administrators. By the fall of 2003, all sophomores were guaranteed residential space on West Campus. The West Campus overhaul was designed to accomplish several things, including: fostering a sense of continuity between the East and West campus communities, creating "communities within communities" by using a quadrangle model, and

balancing residential space for use by selective/Greek organizations and students not affiliated with these groups.

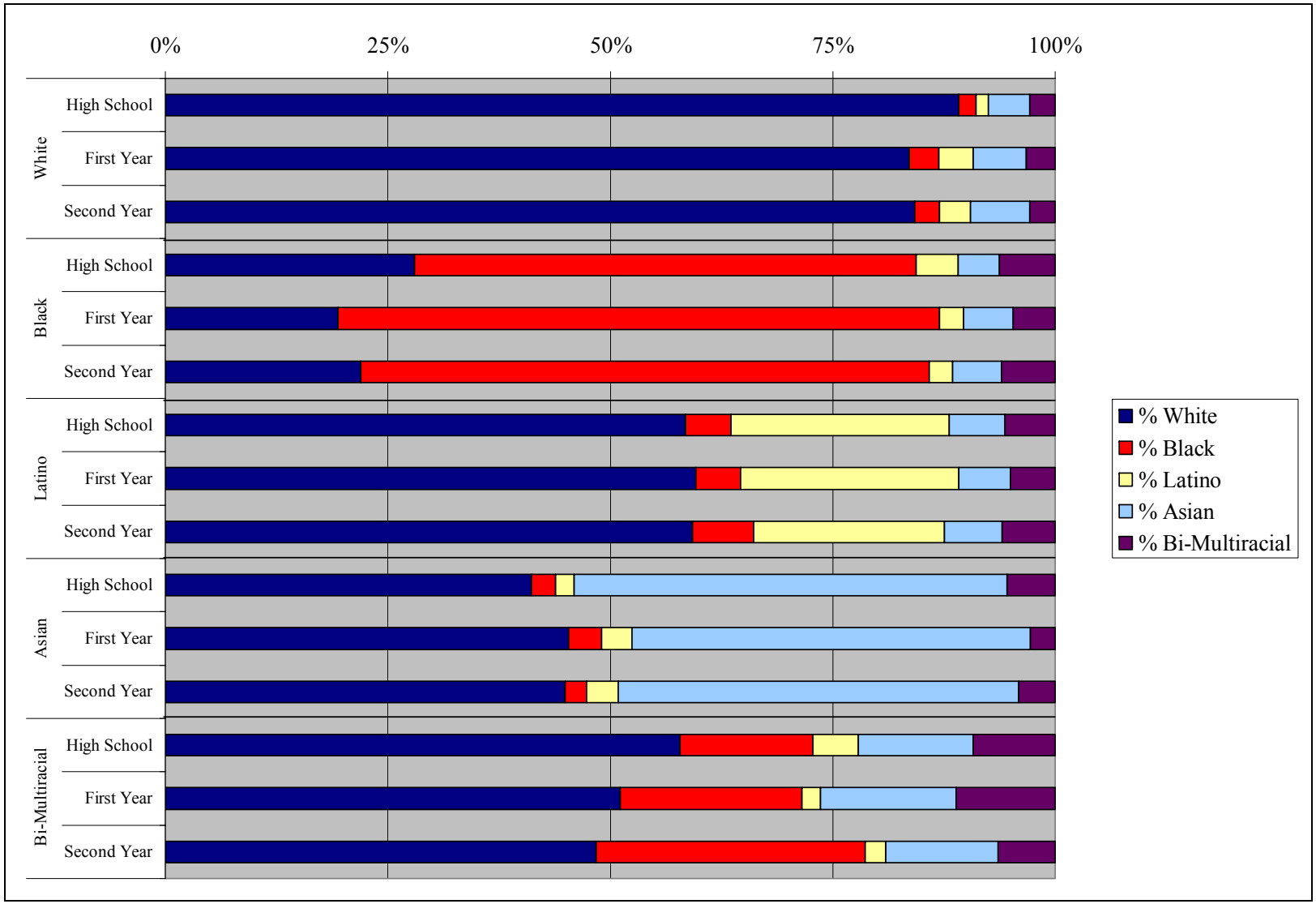
Close Friends Networks

Figure 6.1 illustrates the racial ethnic composition of students' closest friends, from the senior year in high school through the second year at Duke. In each survey wave, students were asked to list basic demographic characteristics for their closest friends, excluding immediate family members. For the pre-college survey, respondents could list up to five friends, and for the first- and second-year surveys, respondents could list up to eight friends. Using this information, we are able to provide a measure of the racial ethnic composition of students' closest, most important friends.

Looking at these close-friends networks reveals many of the same patterns found in examinations of the racial ethnic diversity within students' pre-college neighborhoods and high schools. During the senior year of high school, about 90 percent of White students' closest friends were also White, and about 56 percent of Black students' closest friends were also Black. Similarly, about half of Asian students' closest friends were also Asian, while about 41 percent were White. Over half of Latino students' closest friends were White, compared to about 5 percent who were Black. For all groups except Latinos, most of the students' closest friends were of the same racial ethnic background. These results are consistent with other studies of the pre-college experiences of students at selective colleges and universities (Massey et al. 2003: 110).

These close-friends networks remain largely unchanged after two years at Duke, in terms of racial ethnic composition. Generally by our measure, White students' friendship networks

Figure 6.1. Racial Ethnic Composition of Students' Closest Friends
Percent from Each Racial Ethnic Group, High School through Second Year

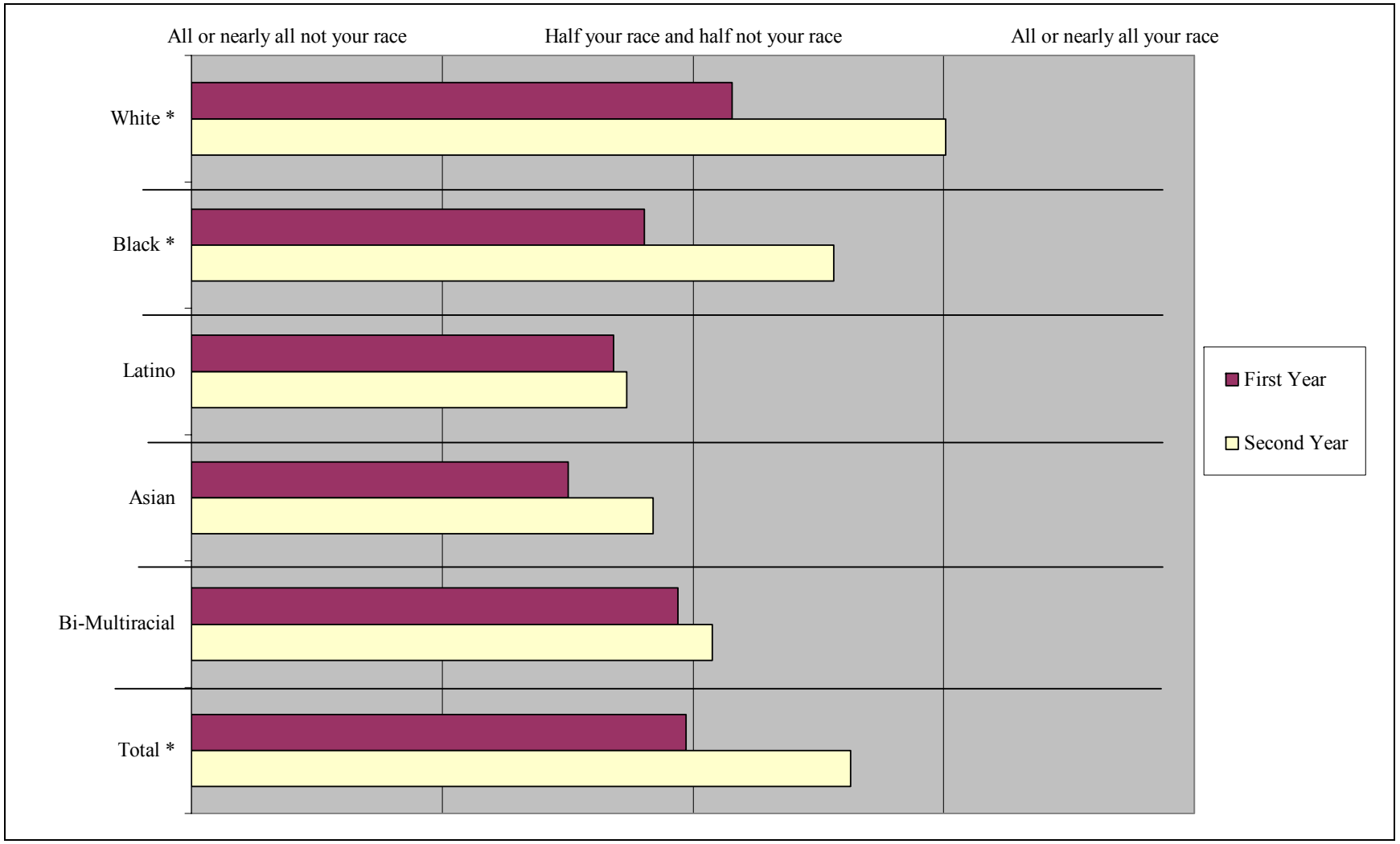


become marginally more diverse. Still, about 83 percent of White students' close-friends are also White in the first year, and about 84 percent in the second year. In the first year, only about 3 percent of White students' friends were Black, about 4 percent were Latino, and about 6 percent were Asian. In contrast, Black students' close-friend networks grow increasingly racially homogenous after arriving on campus. Over two-thirds of Black students' closest friends were also Black in their first year, and the proportion of friends who were White decreases from about 28 percent to about 19 percent in the year after high school. For Asian and Latino students, the racial ethnic composition of their closest friend networks remains relatively stable across these three years.

Social Network Diversity

A different survey item provides another opportunity to gauge the diversity of students' social networks (Figure 6.2). In both the first and second year surveys, students were asked to describe the racial ethnic background of their friends at Duke through one of five categories, ranging from "all or nearly all not your race" to "all or nearly all your race." Compared with measure of close friends in the previous section, this measure expands the circle of friends under consideration. Results are consistent with those for students' close-friend networks. White students' friends are found to be the least racially diverse, and Asian and Latino students' friendship networks are comparatively more diverse. Yet, this measure reveals a somewhat greater degree of racial ethnic diversity within students' broader friendship networks than described above. For example, during the first year, about 83 percent of White students' closest friends were also White, while about 46 percent of White students described their friends at Duke as mostly, nearly all, or all White. Similarly, about two-thirds of Black students' closest

Figure 6.2. Race and Ethnicity of Students' Friends at Duke, First and Second Years
"What best describes your friends at Duke?"

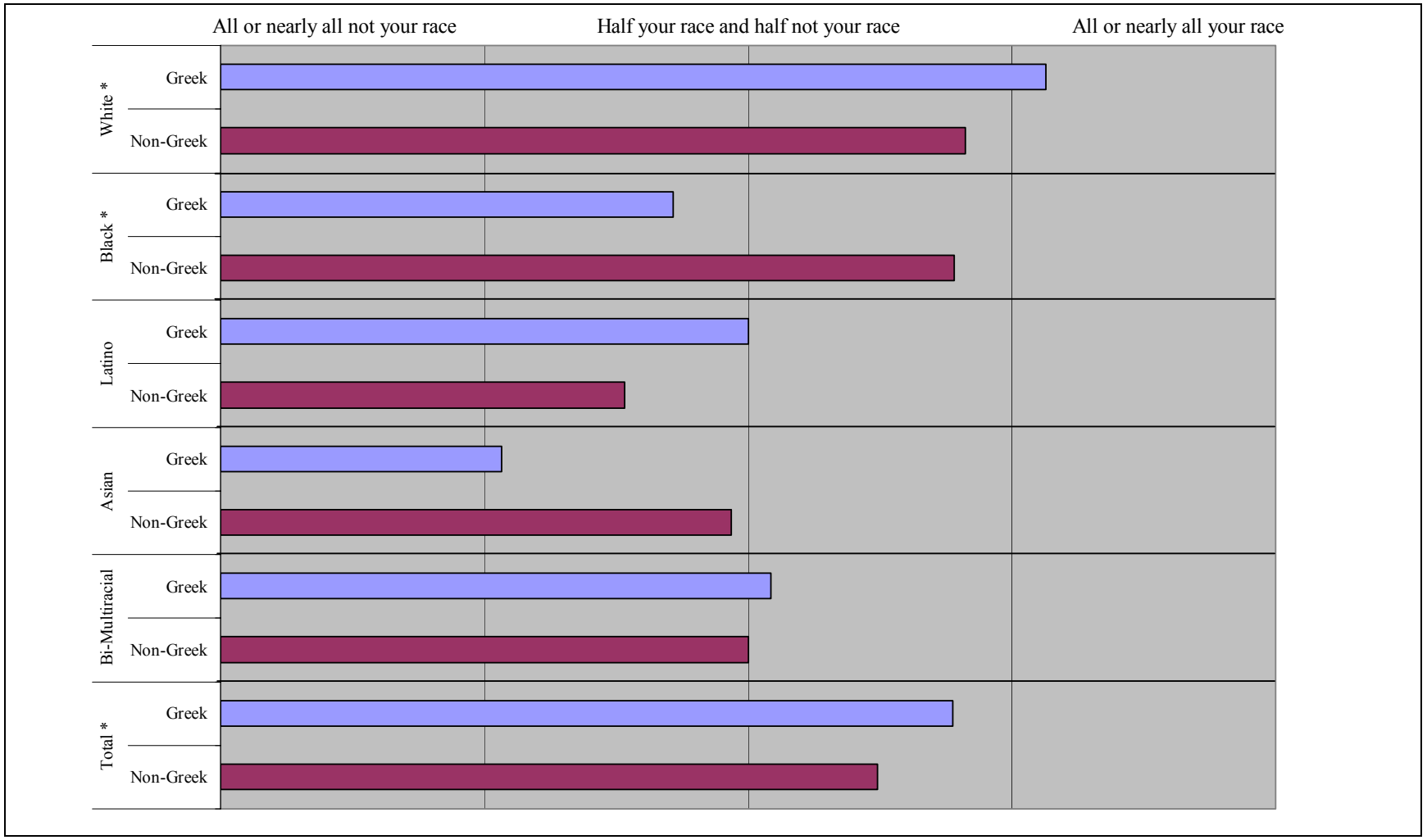


friends were also Black, although about one-third of Black respondents reported that their friends at Duke were predominately of the same racial ethnic background. Overall, it appears that students' broader friendship networks are slightly more diverse than their close-friends networks.

However, while the racial ethnic composition of students' closest friends remained largely unchanged from high school through the second year, Figure 6.2 describes a general trend towards decreased levels of racial ethnic diversity between the first and second years at Duke. For students of all racial ethnic backgrounds, friends at Duke were described as being more of the same race in the second year than in the first, and this difference is significant for White and Black students. While about 46 percent of White students report that their friends were predominately White during the first year, this proportion increases to about 76 percent of White students by the second year. A similar trend of less friendship diversity can be found among Black students, with about 52 percent describing their friends as at least mostly Black in the second year, compared to about 33 percent in the first year. Taking Figures 6.1 and 6.2 together, it appears that, at best, students' friendship networks remain as racially diverse as they were in high school, although they may become even less diverse by the second year on campus.

In considering possible explanations for this persistent racial ethnic homogeneity within students' friendship networks, it may be helpful to look to extracurricular activities. As discussed in the previous section, extracurricular participation differs by racial ethnic background (see Figure 5.3), with fraternities/sororities most popular among White and Latino students, and cultural or ethnic clubs most popular among Black and Asian students. Figure 6.3 describes the racial ethnic background of students' friends at Duke, by student's race/ethnicity and Greek status. White students, both Greek and non-Greek, have the least racially diverse friends, followed by Black students who are non-Greek. Conversely, Asian and Black students

Figure 6.3. Racial Ethnic Background of Students' Friends at Duke, by Second Year Fraternity/Sorority Membership
"What best describes your friends at Duke?"



who are fraternity/sorority members, and Latinos who are non-Greek have the most diverse friendship networks at Duke. Looking at other popular extracurricular activities, we find few substantial differences in the degree of friendship diversity between members and non-members of intramural sports, and community service, religious and cultural or ethnic clubs for students of all racial ethnic backgrounds (results not shown). The sole exception is that Black students who were members of cultural or ethnic clubs have significantly more racially homogenous friendship networks than do non-members.

Residential Climate

To explore aspects of residential life, we ask students a series of questions about how often issues related to diversity and community are present in the residential halls during the first and second years (Figures 6.4 and 6.5). Residential halls are generally seen as venues for students to engage in diverse interactions and friendships, especially during the first year. Opportunities to interact with students of diverse backgrounds, form cross-racial ethnic friendships and find an acceptance of diverse interests are present relatively frequently in the residential halls. In the first year, students report that these diverse experiences are present just slightly less than "often," although they are present significantly less frequently during the second year. Community spirit and involvement in hall activities are regularly present, but less frequently than opportunities for diverse friendships and experiences. Acceptance of students from diverse sexual orientations only occurs sometimes in the residence halls. Alternatively, harassment based on gender, race or sexual orientation, and intra- or interracial tension is rarely present in the residential halls. Students from all racial ethnic backgrounds provide similar assessments about the level of diversity and acceptance within the residential halls (results not

Figure 6.4. Residential Life, First and Second Years

"Please indicate how often the following are present in your residential hall"

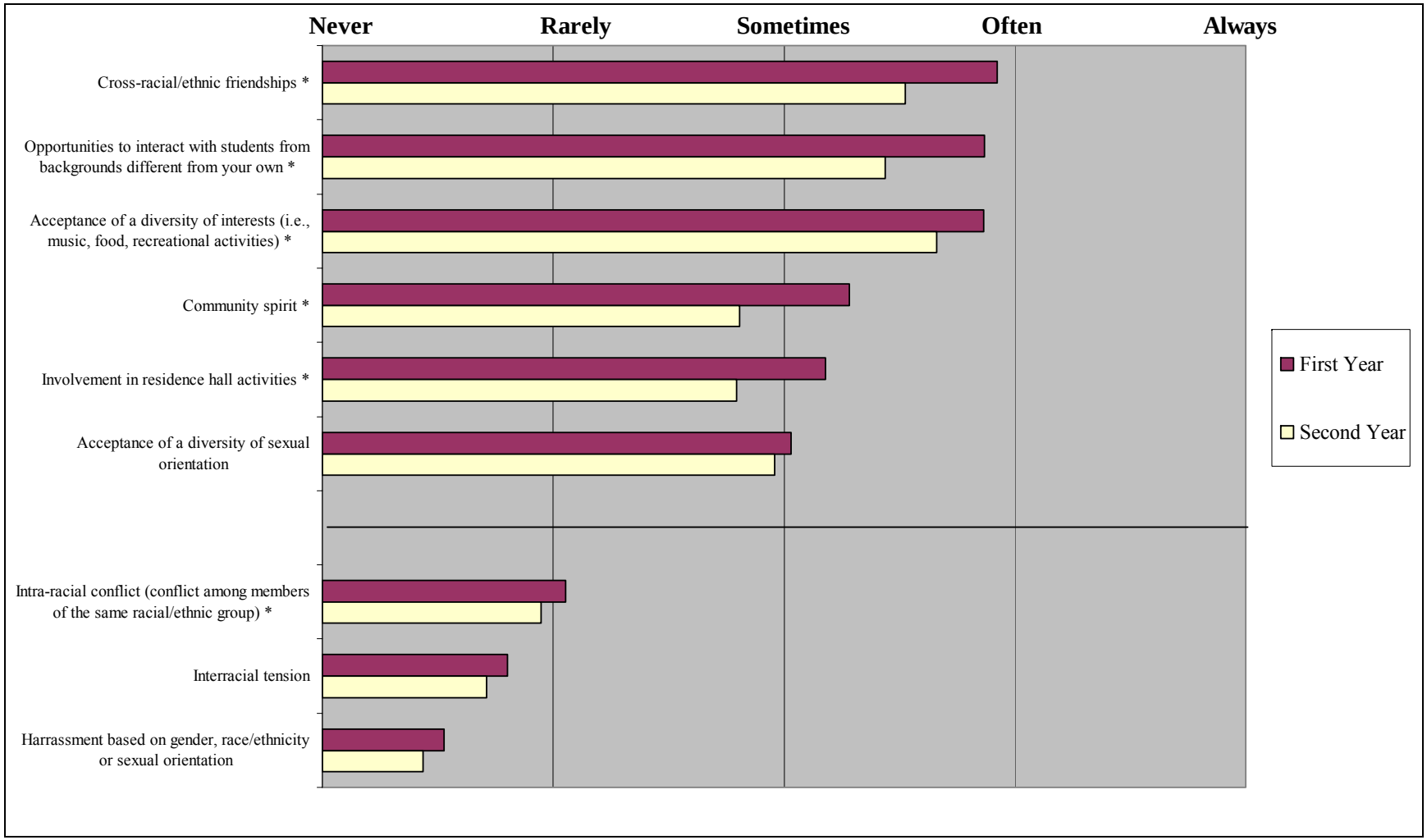
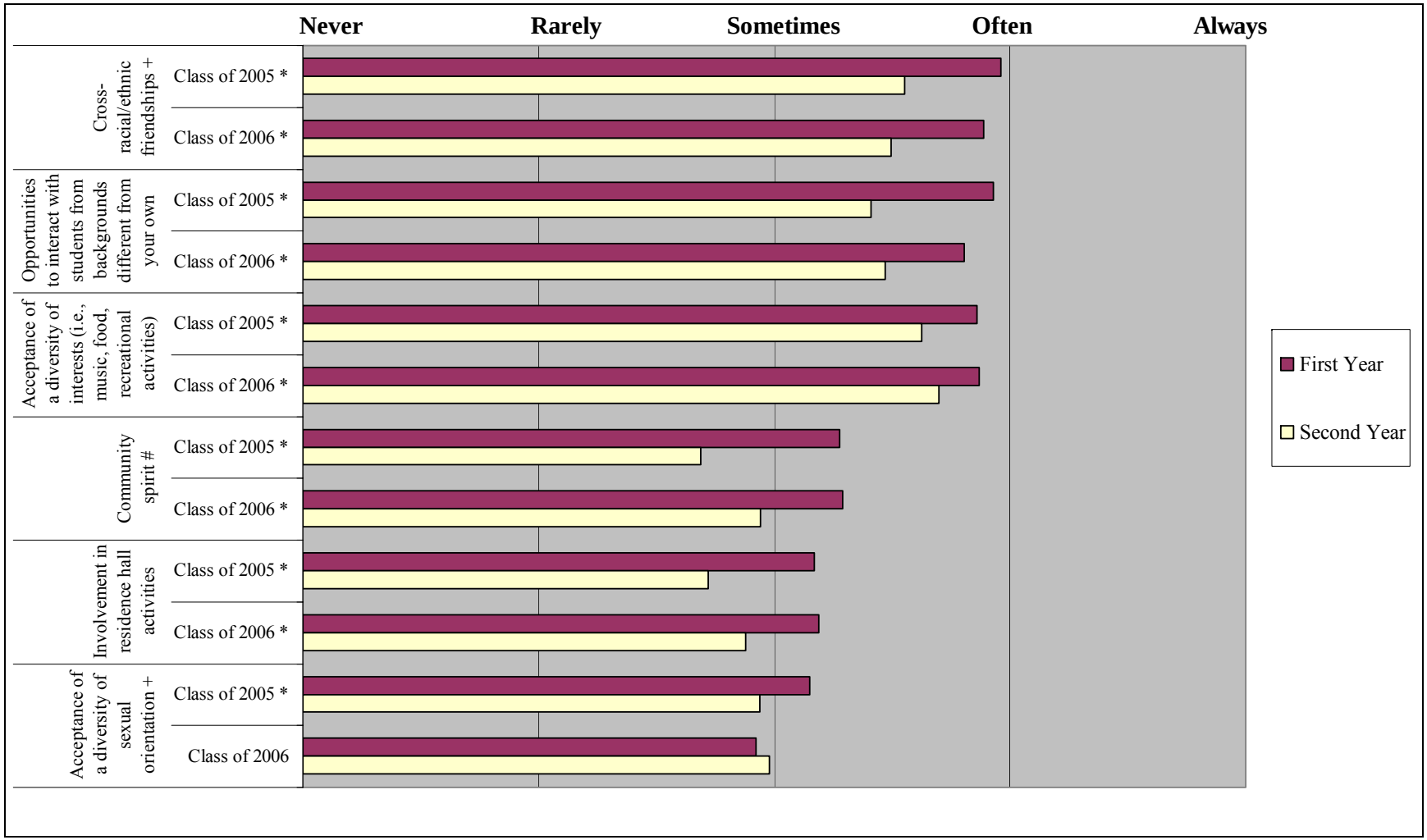


Figure 6.5. Residential Life, First and Second Years, by Cohort

"Please indicate how often the following are present in your residential hall"



shown). Finally, the Class of 2006 was the first cohort to experience the new Housing Policy, with all second year students living on West Campus. A detailed cohort comparison between the Classes of 2005 and 2006 reveals few significant differences (Figure 6.5). In fairness to the new policy, it may well be that tangible results will be borne out over several years versus for the first cohort affected.

Summary

The mission statement of Duke's Residential Life and Housing Services emphasizes the goals of creating and maintaining a community where students can grow, both as individuals and as scholars, in a safe, respecting environment.[11] In many ways, students' perceptions of residential climate are in line with these objectives. Students generally report that residence halls provide strong opportunities to interact and form friendships with students from different backgrounds. Also, residence halls are viewed as sites of an acceptance of diverse ideas, interests and orientations, while conflict and harassment occur relatively infrequently. However, it remains unclear to what extent students take advantage of these opportunities to engage in friendships with students of different racial ethnic backgrounds. During the first two years at Duke, students' friendship networks, at best, remain as racially or ethnically homogenous as they were during the high school years. At worst, they become even less racially or ethnically diverse.

[11] http://rlhs.studentaffairs.duke.edu/index.html

7. Policy Review

We conclude with a discussion of the policy implications of our research. The CLL research team is committed to the generation of research that contributes not only to the fields of scholarly inquiry, but is "use-inspired", timely, and focused clearly on recommendations for policy and procedural revision We choose the five areas of investigation for several reasons. The most important is that there is a clear and compelling commitment from the Duke administration to vigorously pursue interventions that address differences in educational outcomes among students. Our research design provides a stable and ongoing portal through which university policy evaluation can be conducted at regular intervals. An added advantage is that through continuous assessment, findings from one student cohort can be easily exported to design policy change for incoming cohorts.

When we conclude our data gathering and analysis, the goal will be linking policy recommendations to educational outcomes. Since we are "mid-stream" and our results are descriptive, we choose to discuss policy in a way suggested by the CLL Policy committee. Simply, the policy recommendations bridge the gap between the aspirations of the university, students and actual experiences. Where these aspirations and experiences overlap, there are successful policies to build upon. Where there are gaps, there are opportunities to create new and explore existing policies. This model seems an appropriate framework for our discussion.

Area 1: Analyze patterns of students' academic disengagement and engagement/integration

Medalie (1981) notes that during the first year, it is critical for students to invest in the collegiate and academic experience. This investment can be described as engagement or integration into the core of a university education---the academic experience. Programs that are

designed to support this academic transition are critical during the first and sophomore years. We did not explicitly analyze the FOCUS programs in our report.[12] This program has as core components, high student-to-student and student-faculty interaction. It is widely heralded by faculty, administrators and students, yet it remains accessible only to a fraction of the first year student population. Roughly, 30 percent of students have access to this academic capital.

Our data suggests that no group of students in either college year reports spending more than 15 hours per week on studying outside of class. This would be the equivalent of a part-time job, or less than four hours per week per enrolled course. Students are reporting almost no difference in a number of rated academic and intellectual skills between their first and second college years.

We begin to hypothesize that although we desire a rich, meaningful and engaged academic life for our students, we need to create more opportunities for them to do so. This is evident not only in the first year experiences, but in the second year experiences as well. Stated simply, the first-year FOCUS experience could be established as a norm and accessible for greater numbers of students in both the first college year and beyond.

In the area of integration across the disciplines, we see concerning trends suggesting disengagement from science and mathematics majors for Black, Latino and Bi-Multiracial students. White and Asian students are stable in the shares of planned versus declared science and mathematics majors. While we recognize that changes in majors are indeed part of the developmental process, meaningful engagement is arrested when students navigate an exodus from one arena and re-engagement in other disciplines.

[12] In other scholarly analyses (Spenner, Bryant, Bonneau, Landerman and Thompson, 2006), we find that FOCUS group participation appears to have a wide range of positive consequences including enhanced academic performance for students from all groups, racial ethnic and gender. The findings are robust after controls for the selectivity of the program (i.e., background, test scores), the size of classes that students take and whether classes are in the sciences and mathematics or in other areas.

- The FOCUS experience should be accessible to greater numbers of students so that the experience of intellectual engagement, high student faculty interaction and high student-to-student interaction is the norm and not the exception. This is critical during the first two years of intellectual development. Further, there may be other, "FOCUS-like" experiences that could be defined for upper-class years that would be less costly than full-blown FOCUS programs.
- The exodus of students from mathematics and science majors and into other disciplines should receive intentional scaffolding to minimize the disruption of the academic engagement process during the first two years. Further, enhancing opportunities to retain a greater diversity of students in these majors is essential.

Area 2: Analyze patterns of classroom racial discrimination

During a 1989 panel presentation entitled, "The Problem Defined: The Nature of Racism and How it Operates in an Academic Setting," Black students noted pressure they felt to dispel notions of academic inferiority. A follow-up descriptive study (1992) revealed, not surprisingly, that these perceptions and experiences differed for Black and White students. Given that students discuss this as a part of their collegiate experience, a follow-up examination of this issue was timely.

In the first and second college years we asked Duke students to evaluate their classroom environments on eight different dimensions, ranging from feeling respected in class to class size, to an instructor or students making prejudiced comments, to feeling like they did not fit in. On balance the items suggest rather comfortable classroom environments. These data offered no support for assertions that Duke undergraduate classrooms contain prejudiced statements on

gender, race, or ethnicity on any consistent, even occasional basis. If our measures are also capturing prejudiced political statements (liberal or conservative), then we find little if any support for this assertion either.

We also ask students targeted questions about being treated badly because of their race/ethnicity, perceptions of discrimination, and if so, in what context the discrimination took place. Disaggregating the data reveals different findings for different groups of students. If we use a simple "snapshot" metric of grading the university, with 90-100 equaling an A, then the university context for discrimination for Asian, Latinos and Whites would receive a solid B+. For Black students, the university receives a poor if not failing grade. Within the residence halls, the university would receive an overall grade of "A" for the first year and the second year, although there is a decline between first and second year. Thus, the significant differences between Black students and their peers with regards to experiences of discrimination are concerning. We cannot speculate about this data temporally, meaning we have no gauge of whether discrimination has increased, decreased or stayed the same since 1989.

- Units within the Division of Student Affairs and Academic Affairs should explicitly monitor trends in perceived discrimination through data collection. The methodology should include disaggregated data, targeted questions about discrimination, appropriate metrics, and operationalization of successful goals and outcomes. With slight alterations, course evaluations and the COEFHE senior survey may be useful assessment portals.
- Resources for undergraduates that outline how to address and deal with discrimination should be available.

Area 3: Analyze individual and institutional processes related to academic distress prevention and management

A significant concern of academic affairs has been the early detection of academic difficulty and efficacious interventions. We have witnessed a strong and positive trend of over 90 percent of faculty reporting mid-term grades of undergraduates. These grades are often the first red flag that the course challenge-to-success ratio is in jeopardy. Pre-major advisors and other academic specialists are in much stronger positions to collaborate with students experiencing academic challenges and mitigate catastrophic educational outcomes. We hypothesized that successful resolution of academic distress is based on the interaction between a student's problem solving abilities as well as institutional agents' abilities to help resolve academic crises. We proposed that an analysis of distress indicators and resolution methods would be helpful in designing interventions.

Our analysis revealed that women use more strategies to engage challenging classes than men. Overall, students use individualized methods including spending more time studying, teaching oneself to study more effectively, and doing assigned reading. We could extrapolate that students may not gauge the effectiveness of their problem solving strategies, because they tend to problem-solve in isolation. One question of interest would be at what point of academic jeopardy do students reach out to others and is there a tipping point at which the level is so severe that students are reluctant to do so?

Secondly, we see that students overwhelming turn to those that are interpersonally or academically closest to them; a family member, friend or classmate. The professor or teaching assistant for the class is ranked third across all students as a source of support. Academic

advisors were not a major source of encouragement, but were used most frequently by Black students.

We have determined that academic withdrawals, although not fool proof, offer an early warning indicator of academic distress in a particular course or major. The percentages of withdrawals across the board are small. However Black women and men withdraw in greater percentages and in different ways. Specifically, Black women are more likely to disengage from their math and science classes, while Black men disengage from non-math and science classes at a greater rate.

In the area of admissions, an interesting picture emerges. Men show a negligible relationship between criteria used to determine admissions and their GPA. The relationship, although modest, is stronger for Black, Latina and Bi-Multiracial women. Although we indicate that students receive admission to Duke because we believe they can succeed academically, the relationship between admissions scores and GPA is negligible for most students.

- Continue to stress the important relationship between mid-term grade reporting and academic distress.
- Invest in metrics in addition to admissions ratings that can better determine academic success and distress once entering college.
- Create a culture of academic risk-taking and collaborative problem solving that fosters greater relationships between students and academic support professionals and advisors.
- Consider re-shaping academic challenges as normative and to be resolved collaboratively.
- Evaluate the impact of pre-major advising in residence halls to determine if this model increases greater utilization of those resources.

- Foster stronger collaborations between families, RA's and students. Provide ongoing developmental "coaching" for families and RA's regarding academic problem-solving and distress prevention.

Area 4: Analyze the impact of increasing residence hall diversity

The placement of all first-year students on East Campus produced a substantial increase in residential diversity. Our entering 2001 cohort was the first cohort to stay on an all sophomore West Campus. This provided a unique and historic opportunity to gauge the effectiveness of a new housing pattern that is absent in other social climate research. We expected that more diverse residential experiences will increase the sense of integration into the community and decrease perceptions of discrimination.

Nationally, residential life and programming are viewed as prime venues in which students can engage across cultural and intellectual boundaries. Residence halls often serve as the initial place in which sustained dialogue around issues of diversity and respect can take place. Additionally, residence halls provide opportunities for students to gain exposure to broadened social networks.

The close-friend networks remain largely unchanged after two years at Duke, in terms of racial ethnic composition. They closely mirror pre-college networks as measured in close friends, schools, and neighborhoods; results are consistent with other national surveys (Massey, et al., 2003). Broader measures of social network diversity reveal a somewhat greater degree of racial ethnic diversity.

Opportunities to interact with students of diverse backgrounds, form cross-racial ethnic friendships, and find an acceptance of diverse interests are present relatively frequently in the

residential halls. In the first year, students report that these diverse experiences are present just slightly less than "often," although they are present significantly less frequently during the second year. Community spirit and involvement in hall activities are regularly present, but less frequently than opportunities for diverse friendships and experiences. Students from all racial ethnic backgrounds provide similar assessments about the level of diversity and acceptance within the residential halls

In many ways, students' experiences in the residence halls are closely aligned with the mission of Residential Life. Students generally report that residence halls provide strong opportunities to interact and form friendships with students from different backgrounds. Also, residence halls are viewed as sites of an acceptance of diverse ideas, interests and orientations, while conflict and harassment occur relatively infrequently. It remains unclear to what extent students take advantage of these opportunities to engage in friendships with students of different racial ethnic backgrounds.

We can conclude that Residential Life has achieved its initial goals of increasing diversity and acceptance in the residence halls over the first two years. This places Residential Life in the position of determining how to maximize its success with existing policies and consider what the next developmental phase of enhancing diversity within closer social networks might look like.

Area 5: Analyze the types of extracurricular support networks in which students participate

Considering that students spend, on average, less than fifteen hours per week attending classes or labs it is important to examine the activities and experiences that comprise students' social life in and around the Duke campus. Differences between residential, social,

academically-focused (e.g., majors organizations, scholars programs) and affinity (cultural, fraternity and sorority) groups provide different opportunities for interaction and ecological integration. Students' out-of-class networks and involvement are a vital part of their collegiate experience.

The general rate of extracurricular involvement is quite high, with over 93 percent of students participating in any club or activity during the first year and over 98 percent participating during the second year. In both years, fraternities and sororities are the most popular activity as about 41 percent of Duke students are involved in Greek life by the spring semester of their second year. About one-third of students were members of intramural sports teams, and over 20 percent were involved with service, religious or cultural clubs during each of the first two years on campus.

For White and Latino students, fraternities or sororities are the most popular activity, and about half of these students are involved in Greek life. In contrast, about 14 percent of Black students and 20 percent of Asian students are members of fraternities or sororities. While both men and women are highly involved in terms of memberships, women devote slightly more time each week to extracurricular activities and are more likely to be involved in Greek life.

Participation in Greek life is listed as the most popular activity for Duke students during the first two years on campus, although membership is unevenly distributed across different student subgroups. In contrast to conventional wisdom, academic achievement varies little by type of club or group, and the average GPA is similar across extracurricular activities. Of all comparisons between members and non-members of particular extracurricular activities, the largest difference is found in comparing fraternity/sorority members with non-Greeks.

Greek students consider alcohol to be more important by a magnitude of about one scale unit, a difference comparable to the racial ethnic differences. These group patterns are consistent across the first and second years. However, while alcohol is still considered to be less than "somewhat important" during the second year on campus, it is regarded as significantly more important than in the first year. White and Latino students, and fraternity/sorority members report that alcohol is present more frequently than Black and Asian students, and non-Greek students. Relative to drugs, alcohol is regularly present at social functions, and is considered to be of moderate importance for the enjoyment of campus life for many students.

We recognize that there are several discussions and revisions of social life underway. For example, the Division of Student Affairs released a comprehensive report on alcohol use that provided several policy suggestions. Several academic, administrative, and co-curricular units have commented on and given specific suggestions about how to improve the undergraduate co-curricular experience during their strategic planning processes.

- Review existing reports and emerging strategic plans that document ways to improve and enhance the quality of undergraduate social life.
- Use disaggregated data to uncover the multiple "social lives" of different groups of students and, related to this;
- Consider whether and how a "vocal minority" of Greek affiliated students determine the characterizations of and opportunities for social connections for the "underrepresented majority" of the undergraduate population.

Methodological Appendix

Sampling Design, Response Rates and Measurement

The sampling design for the Campus Life and Learning Project was selected to provide sufficient statistical power for subgroup comparisons by gender and by racial ethnic group (Black, White, Asian, Latino but not Bi-Multiracial as there were too few in the population), and to stay within the boundaries of our available resources. We defined the target population as all undergraduate students in the Trinity College of Arts & Sciences and the Pratt School of Engineering who had been accepted for admission to the Classes of 2005 and 2006 (incoming classes of 2001 and 2002) and who had accepted admission.

Appendix Tables 1 and 2 provide the population breakdowns by racial ethnic group, the corresponding sampling fractions and sizes by group, and the response rates to the pre-college survey. In this appendix, unlike the text analyses, all of the data we use will refer to un-weighted sample sizes. This provides the reader with the over-sampling features of the design for certain racial ethnic groups, and the relative numbers of respondents per group.

The sampling design (and corresponding numbers by racial ethnic) relies upon the Duke admissions application form as a basis for measurement of racial ethnic group. Of importance, this measure offers respondents the options of checking categories for White, Black, Latino, Native American, Asian and Bi-Multiracial. A few respondents in each cohort (less than 10) did not provide any racial ethnic category. Because of their small numbers, we combined categories for Native American, Bi-Multiracial, and no racial ethnic category and label these "Bi-Multiracial." The sampling process used this

Appendix Table 1: Population, Sample, and Response Rates: Pre-college Survey, Incoming Class of 2001.

	Total	Asian	Black	Latino	Bi-Multi-Racial[a]	White
POPULATION	1631	238	182	123	114	974
SAMPLED	836	147	177	120	36	356
(sampling fraction)	(.51)	(.62)	(.97)[b]	(.98)[b]	(.32)	(.37)
COMPLETED	673	114	137	103	26	293
(response rate 8/01)	(.80)	(.78)	(.77)	(.86)	(.75)	(.82)
REFUSALS (n)	21	2	1	3	3	12
OTHER NONRESPONSE	143	31	39	14	7	51
INFORMED CONSENT (8/01)	598	98	120	86	25	269
(% of COMPLETED)	(.89)	(.86)	(.88)	(.83)	(.96)	(.92)
INFORMED CONSENT (2/05)[c]	694	121	139	107	28	299

Notes:
a. "Bi-multiracial" includes Native American, bi- and multiracial ethnic identification, no ethnic identification. The vast portion of sample members in this category were in the Bi-Multiracial group.
b. Sampling fractions for Black and Latino are not 100% because of late changes in intention to matriculate.
c. Some respondents provided informed consent after the pre-college survey period.

Appendix Table 2: Population, Sample, and Response Rates: First Year Survey, Incoming Class of 2002

	Total	Asian	Black	Latino	Bi-Multi-Racial[a]	White
POPULATION	1623	240	168	122	102	991
SAMPLED	700	143	163	117	31	246
(sampling fraction)	(.43)	(.60)	(.97)[b]	(.96)[b]	(.30)	(.25)
COMPLETED	534	106	125	92	19	192
(response rate)	(.76)	(.74)	(.77)	(.79)	(.61)	(.78)
REFUSALS (n)	5	0	0	0	1	4
OTHER NONRESPONSE	161	37	38	25	11	50
INFORMED CONSENT (8/02)	428	87	96	71	15	159
(% of COMPLETED)	(.80)	(.82)	(.77)	(.77)	(.79)	(.83)
INFORMED CONSENT (8/03)[c]	530	112	120	96	19	184
INFORMED CONSENT (8/04)	554	117	126	101	19	191

Notes:

a. "Bi-Multiracial" includes Native American, bi-racial ethnic identification, multi-racial ethnic identification, no racial ethnic identification. The vast portion of sample members in this category are in the Bi-Multiracial category.

b. Sampling fractions for Blacks and Latinos are not 100% because of late changes in intention to matriculate.

c. Some respondents provided informed consent after the pre-college survey period.

measure. All of the analyses in the text of this volume use a U.S. Census type measure of race and ethnicity that differs from the Duke Admissions Form. The Census measure is considered to be more accurate, and was obtained in the pre-college survey. The Admission and Census measures for our respondents provide for identical racial ethnic category placement in about 98 percent of cases. The Census measures first ask a respondent if he or she is Hispanic (yes or no). It then asks respondents to respond to the self-assigned racial category, which in our case included: White, Asian, Black, Bi-Multiracial and Other. The Census measure is more accurate because it allows for Black Hispanic responses. Among CLL sample member we encountered no Black Hispanic responses, hence any sample member who identified as Hispanic is included in the Latino category in tables and figures in the text. In the instrumentation, we used the label "Hispanic" as this allows precise comparisons with Census 2000 data based upon the Census measures of race and ethnicity. We also asked all respondents who self-identified as Bi- or Multiracial to identify the specific racial groups that applied. Inspection of these responses did not show any dominant pairing. That is, there was substantial diversity in the sub-categories that respondents reported (Black-White, White-Asian, Latino-Black, Native American-White, and so on).

The sampling design selected all Black and Latino students in each cohort, and randomly sampled about two-thirds of Asian students, and about one-third of White and Bi-Multiracial students. In retrospect, we wish we had saturation sampled all Bi-Multiracial students. Further, we did not over-sample student-athletes; hence, our sample is not ideal for detailed comparisons involving this group. The overall response rate to the pre-college survey for the incoming class of 2001 was 80 percent with subgroup response rates varying from a low of 75 percent for Bi-Multiracial students, and a high of 86 percent for Latino students. In general, racial ethnic group differences in response rates were small for both cohorts. Appendix Table 2 shows the overall

response rate for the incoming class of 2002 was 76 percent. It was slightly lower for this cohort as we elected to economize and did not do a telephone response option for this cohort as we did for the incoming class of 2001. In mail survey methodology, we closely followed Dillman's (1978) Total Design Method, which provides for up to 8-12 sequential contacts with non-respondents via mail, telephone and e-mail reminders, and multiple mailing of the instrument. All respondents received modest compensation for their participation. By survey research standards for scientific research, these response rates are good but far from perfect. In the next section we provide some comparisons on possible patterns of non-response bias.

The refusal rate was very low, less than two percent for the overall sample. This is exceptional by survey research standards. We suspect that newly admitted students are typically pleased to participate in a survey involving their new college choice.

In the pre-college survey we also included a detailed informed consent document as per institutional Human Subjects Protocols. The design and instrumentation were fully reviewed by Duke Human Subject Review Committee. The informed consent document also asked participants to provide for signed release to their institutional records, which included course grades. At the pre-college wave, 89 percent and 80 percent of respondents provided signed release. In subsequent waves we continued to ask respondents for signed release to their institutional records if they had not provided such previously. Hence, the number with signed release to records has continued to grow over the course of the Project and now stands at over 90 percent of those who responded to one or more waves, and over 80 percent of original sample members. In analyses in this volume that involve course grades or grade point average, we are reporting only on those respondents who have given signed consent for access to their records.

We also note that a small number of respondents from each cohort accepted admission to Duke University but did not actually matriculate for the fall semester as a function of a change in plans. Hence, the overall initial sample members listed in this appendix are slightly larger than the effective sample sizes listed in the text of the report, which focuses on sample members who actually enrolled at Duke. Further, once in college, in any given year a small number of students in each sample cohort (less than 20 per cohort in the first two college years; it varies by year) matriculated at Duke but are not currently enrolled. These students were not surveyed in the year in question.

Appendix Table 3 provides cross-wave response rates for the incoming classes of 2001 and 2002. Note that Wave 1 refers to the pre-college survey, Wave 2 to the first year survey, and Wave 3 to the second year survey. As might be imagined, some sample members complete all waves, while others vary in their participation, some participating in but a single wave. This is customary in multi-wave panel studies. In part this occurs as students take leaves of absence and some experience academic or disciplinary probation. 52 and 50 percent of the incoming classes of 2001 and 2002, respectively, participated in all three waves of data collection. These rates are at the lower range of acceptable for social science research. On the other hand, 88 percent and 87 percent of the incoming classes of 2001 and 2002, respectively, participated in at least one of the CLL waves of data collection. Depending upon the comparison in the text, the respondent base could be as low as 50 percent of the sampled population to nearly 90 percent of the original sample. Most tables and figures in this volume are based upon data that are somewhere in between or toward the upper end of this range.

Appendix Table 3: Cross-Wave Response Rate, Incoming Classes of 2001 and 2002.

	INCOMING CLASS OF 2001		INCOMING CLASS OF 2002	
	n	%	n	%
TOTAL SAMPLE	836	100.0	700	100.0
COMPLETED W1, W2, W3	437	52.3	348	49.7
COMPLETED W1, W2	56	6.7	65	9.3
COMPLETED W1, W3	86	10.3	25	3.6
COMPLETED W2, W3	32	3.8	42	6.0
COMPLETED W1 ONLY	93	11.1	71	10.1
COMPLETED W2 ONLY	12	1.4	36	5.1
COMPLETED W3 ONLY	22	2.6	19	2.7
INFORMED CONSENT 8/01	598	73.0 (of sample group)	----	----
INFORMED CONSENT 8/02	----	----	431	65.2 (of sample group)
INFORMED CONSENT 8/04	685	81.9 (of sample group)	540	77.1 (of sample group)
INFORMED CONSENT 2/05	694	83.0 (of sample group)	----	----

Note: W1 – Wave 1, pre-college survey
W2 – Wave 2, first-year college survey
W3 – Wave 3, second-year college survey
Some respondents provided informed consent after the pre-college survey and first year survey period

Generalizability and Response Bias

Our study was not designed to be representative of all of higher education. However, we would argue it is likely more representative of highly selective institutions of higher education. In their sample of the cohort entering college in 1989, Bowen and Bok (1998: 337), define their top tier of selective institutions as those with combined SAT scores of 1300 or higher. Their sample included institutions like Bryn Mawr, Swarthmore, Wellesley and Williams colleges, Princeton, Duke, Rice, Stanford, Yale, Columbia, Northwestern, the University of Michigan and the University of North Carolina at Chapel Hill. Duke's entering cohort of students in 2001 had combined SAT scores above 1350 but below 1400.

Appendix Table 4 provides a further comparison of the racial ethnic composition the Duke student body compared with all U. S. public and private higher education institutions at the end of 1999 (close to the 2001 entrance cohort). Duke is fairly comparable to other universities with the exception that Duke has about twice the percentage of Asian students (similar to other private elite institutions) and somewhat more students in the "Other" category. The latter difference is likely because the Duke admissions form includes a category in which can describe themselves as "Bi- or Multiracial."

We also made comparisons (data available upon request) of Duke to other so-called "Elite" (Harvard, Princeton, Yale, Dartmouth, Brown, Stanford and Columbia Universities, and the University of Pennsylvania) and "Top 50" (based on SAT scores) universities. In general, Duke is identical to or slightly below the elite institutions and clearly above the top 50 institutions. For example, Duke first year retention rate is 93% of those matriculating, compared

Appendix Table 4: Percentage Enrollment by Racial Ethnic Category for U.S. Four-Year Public and Private Higher Education Institutions and Duke University (1999 data).

Racial Ethnic Category	Public Four-Year	Private Four-Year	Duke University
White, non-Hispanic	74.9	75.8	69.7
Black, non-Hispanic	10.7	11.4	8.0
Hispanic	6.9	6.2	4.2
Asian	6.5	6.0	14.2
Other	1.0	.6	3.9

NOTES: "Other" for public and private four-year institutions includes those for whom racial ethnic category is unknown. For Duke this category includes racial ethnic category unknown and a category for "Bi- or Multiracial." Data sources: For public and private four-year institutions: U. S. Department of Education, National Center for Education Statistics. 2002. *Digest of Education Statistics, 2001.* NCES 2000-130, by Thomas D. Snyder. Washington, D.C. For Duke University, Office of the Registrar (unpublished data). We use the label "Hispanic" as this is the term used in NCES reports.

with 93% for the elite and 80% for the top 50 institutions. The student-faculty ratio is 9.0:1, versus 8.22:1 for the elite and 10.69:1 for the top 50 institutions. Finally, the 25th and 75th percentile of SAT scores for Duke are 1300 and 1500; for elite institutions, 1334 and 1522; and for top 50 institutions, 1234 and 1424. These comparisons help situate Duke University in the national distribution. Overall, we suggest that Duke is likely fairly representative of elite institutions and similar but less close to the top 50 U.S. institutions, as measured by SAT scores.

Finally, we conducted some initial comparisons that might inform the extent of possible non-response bias in our results. Non-response bias occurs when non-respondents (or refusal or those who have left the institution) to a give wave are not a random subset of the full sample. We used admissions file data on eleven background variables to compare those in the pre-college and first year analysis (i.e., respondent) sub-sample compared to all other members of the original sample who are not in this analysis group (i.e., non-respondents). In general, the differences are quite small. Five variables show no significant differences: percent Asian, Latino, White, high school rank, and whether the respondent applied for financial aid. Seven variables show small but statistically significant differences. For example, these included percent Black (fewer in the analysis sample), SAT verbal and math scores (10-20 points higher in the analysis sample), and father's and mother's education (80 and 73 percent high school graduates in the analysis sample versus 72 and 68 percent, respectively, for those original sample members who were non-respondents in the first and second survey waves). Overall, there likely is a small response bias in many of our findings in the direction of non-Black and socio-economically advantaged sample members. These need to be kept in mind when considering results.

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