Introduction

Research demonstrates that organizational structures and practices can encourage or discourage women from participating in educational programs and careers. The climate on college campuses can nurture or inhibit women faculty and students' "full personal, academic, and professional development".[1] In 1996, *The Campus Climate Revisited: Chilly for Women Faculty, Administrators, and Graduate Students* was published as a result of the belief that campus discrimination against women had ended and there was no longer a problem in higher education. In two earlier studies the research had shown an unfavorable climate for women students, *The Classroom Climate: A Chilly One for Women* (1982) and *Out of the Classroom: A Chilly Campus Climate* (1984).

As a part of an experimental project funded by the National Science Foundation, an institutional self-study on the climate for women faculty was conducted at a southern urban university. The study examined campus demographics, policies, special initiatives, and personal perspectives affecting the productivity and opportunity in mathematics and science for women. The researchers collected general demographic information, interviewed key personnel, surveyed undergraduate and graduate students, and s`urveyed faculty.

The items under review in the self-study were based upon recommendations offered by the Association of American Colleges' Project on the Status and Education of Women. The components of the current study were both structural and perceptual. Perceptual factors were important because they shape interaction and may lead to disparate perceptions within the institution. The institutional self-study invited faculty, students, and administrators to participate in describing the campus climate for women.

The institutional self-study was an effort to examine campus demographics, policies, special initiatives, and personal perspectives that may limit or advance women's opportunity and productivity in science and mathematics. The assessment attempted to improve the institutional climate for women by drawing attention to areas where obvious inequities and subtle barriers existed. Elements recommended for examination included academic departments, supporting structures, institutional leadership policies, and programs of study. Findings from the gender equity self-study may be used as institutional baseline data to identify local needs, inventory existing resources, and provide the foundation for program development and policy reform.

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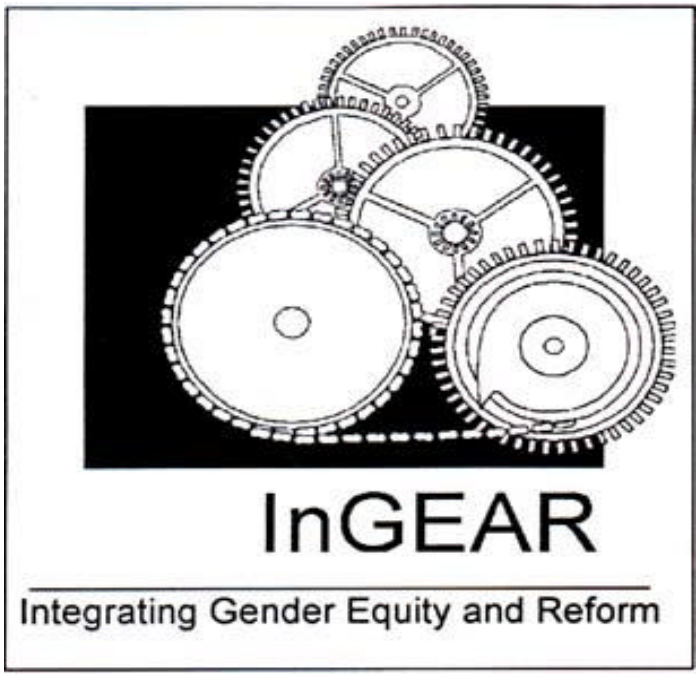
[1] *The Campus Climate Revisited: Chilly for Women Faculty, Administrators, and Graduate Students*. October 1996. . Project on the Status and Education of Women, Association of American Colleges,



Issues Dealing with Gender Equity:

Institutional Self-Study

1990-1998

Georgia State University

Elizabeth Farokhi, Ed.D.

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Introduction

Integrating Gender Equity and Reform (InGEAR), an experimental project funded by the National Science Foundation, promoted quality science and mathematics education. The project was a collaboration among five Georgia universities to address the issue of equal access and gender equity in science, engineering, and mathematics. The purpose of the project was to integrate strategies for equity and excellence with teacher education. Two main objectives were:

(1) To facilitate the redesign of teacher preparation programs in ways that will:
   (a) enhance the interest, motivation, and success of both women and men who are science, engineering, and mathematics majors, and
   (b) prepare future teachers who will promote equal access and gender equity in these fields in K-12 classrooms.

(2) To provide professional development opportunities for faculty and teaching assistants, who teach pedagogy and content courses in these fields, in order to:
   (a) increase awareness of the need for and barriers to equal access and gender equity,
   (b) identify strategies for promoting equal access and gender equity, and
   (c) provide resources that faculty and teaching assistants can use to equip science and mathematics education majors to promote equal access and gender equity in K-12.

To achieve the objectives, an institutional self-study, professional development for faculty, a toolkit of materials, and a framework for teacher education were the components that were implemented. InGEAR began with an institutional self-study in which each of the institutions examined campus demographics, policies, special initiatives, and personal perspectives affecting the productivity and opportunity in mathematics and science for women. Georgia Southern University developed a template for the self-study and each institution selected from the template those items which were of most interest to the particular institution. Georgia State University collected general demographic information, interviewed key personnel, surveyed undergraduate and graduate students, and surveyed faculty.

Self-Study Framework Outline *(used as a guideline at Georgia State University)*

A. Administrative issues: gender distribution of administrators

B. Faculty and departmental issues
   1. Gender distribution of faculty
   2. Promotion/tenure rates by gender
   3. Recruitment/retention strategies re: women
   4. Faculty perception of faculty differences by gender
   5. Student perception of faculty differences by gender

C. Structural Issues
   1. Policies/patterns of sexism and sexual harassment
   2. Perception of sexism and sexual harassment

D. Student Issues
   1. Gender distribution of majors
   2. Graduation rates by major and gender
   3. Recruitment/retention strategies re: women majors
   4. Faculty perception of student differences by gender
   5. Student perception of student differences by gender

E. Instructional Issues
   1. Gender and course offerings
   2. Faculty perception of classroom interaction
   3. Student perception of classroom interaction

These factors were both structural and perceptual. Perceptual factors were important because they shape interaction and may lead to disparate perceptions within the institution.

The items under review in the self-study were based upon recommendations offered by the Association of American Colleges' Project on the Status and Education of Women. Evaluation targeted selected departments in the Colleges of Education and Arts and Sciences offering mathematics and science courses for preservice teachers. The institutional self-study invited faculty, students, and administrators to participate in describing the campus climate for women.

The institutional self-study was an effort to examine campus demographics, policies, special initiatives, and personal perspectives that may limit or advance women's opportunity and productivity in science and mathematics. The assessment attempted to improve the institutional climate for women by drawing attention to areas where obvious inequities and subtle barriers existed. Elements recommended for examination included academic departments, supporting structures, institutional leadership policies, and programs of study. Findings from the gender equity self-study may be used as institutional baseline data to identify local needs, inventory existing resources, and provide the foundation for program development and policy reform.

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Chapter 1
Administrators and Faculty Members

Administrative Representation

In 1995, five out of twenty top university administrators at Georgia State University were women. Three of these were at the assistant level and two were associate level part-time positions. In 1998, only one top administrator was a woman, the registrar, and the part time associate positions were changed to full-time status and were held by men. (See Table 1-A.)

Two of the six deans of colleges in the university were women in 1995. These deans were in the colleges of Law and of Public and Urban Affairs. Their associate deans were men. The College of Public and Urban Affairs no longer existed in 1998. A new college, Policy Studies, created in 1997, had a male dean and a female associate dean. A woman continues to hold the position of dean of the College of Law in 1998. The position of dean of the College of Health Sciences, vacant in 1995, was filled by a woman who has since resigned. In 1998, only one of the six deans was a woman.

Three of the thirteen associate deans in the six colleges were women in 1995. They were in the Colleges of Health Sciences, Arts and Sciences, and Education. In 1998, these three associate dean positions were still held by the same women plus there was a female associate dean in the new School of Policy Studies.

There were no women administrators in the College of Business Administration in 1995 or in 1998. This was the only college in the university without a woman serving as either dean or associate dean. As stated previously, the deans of the Colleges of Law and Public and Urban Affairs were women and their associate deans were men, and women were associate deans in the Colleges of Health Sciences, Arts and Sciences, and Education.

In 1995, the university librarian was a man and the associate librarian was a woman. Three years later, both the university librarian and the associate librarian were women.
Source: *Georgia State University General Catalogs*

University Faculty
(See Table 1-B.)

During the academic year 1992-1993, Georgia State University employed 769 full-time instructional faculty, with 32% of those positions held by women. Full-time instructional faculty included the full-time faculty, the department heads, and the research faculty. Of 257 full professor positions, 14% were held by women. Of 260 associate professor positions, the number of women employed was 32%. Overall, the highest percentage of positions held by women were at the assistant professor and instructor

levels. Women held 49% of 219 assistant professor positions and 64% of 33 instructor positions.

During the academic year 1993-1994, 793 full-time instructional faculty were employed by the university. The number of positions held by women increased to 33%. Again, the full professor positions were predominantly held by men, with women accounting for only 14% of 258 positions. The number of women employed for associate professor positions increased to 33% of 254 total positions. Of 241 assistant professor positions, 48% were held by women. The instructor position was the only position in which more women than men were employed, with 57% of 40 available positions held by women.

During the academic year 1994-1995, Georgia State employed 798 faculty. Thirty-four percent of these positions were held by women. A total of 257 full professor positions were held, with only 15% administered by women. Of 255 associate professor positions offered, 35% were held by women. The only position administered equally by women and men were 236 assistant professor positions. The highest number of women were employed at the instructor level, with 60% of 50 positions held by women.

During the academic year 1995-1996, 800 full-time faculty were employed by the university. Only 35% of these positions were held by women. Women accounted for only 15% of 253 full professor positions held, and 35% of 260 associate professor positions. Assistant professor and instructor positions were held predominantly by women, with women holding 51% of 240 assistant professor positions and 62% of 47 instructor positions employed.

Overall, the number of women employed by Georgia State University for full-time faculty positions since 1992 has increased. The largest percentage increase was at the associate professor position. At the assistant professor level the percentage of women and men reversed themselves. However, women are still the largest percentage of faculty at the instructor and assistant professor levels.

College Faculty
(See Table 1-C.)

In the 1992-1993 academic year, the seven colleges composing Georgia State University were Arts and Sciences, Business Administration, Education, Developmental Studies, Health Sciences, Law, and Public and Urban Affairs. During this year, the College of Arts and Sciences employed 326 full-time faculty, of which 25% were women. Although the percentage of women administering positions in the college remained the same during the 1993-1994 academic year, the total number of faculty employed increased to 351. In the 1994-1995 academic year the total faculty decreased to 340, but women still maintained 25% of those positions. Again, during the 1995-1996 academic year, the number of faculty employed by the College of Arts and Sciences decreased to a total of 334. The number of positions held by women increased to 26%.

Table 1-B
Full-time Faculty by Rank and Gender
1992-1995 Academic Years

Rank	1992-1993		1993-1994		1994-1995		1995-1996	
	Female	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**
Professor	14%	86%	14%	86%	15%	85%	15%	85%
Assoc. Prof.	32%	68%	33%	67%	35%	65%	35%	65%
Assist. Prof.	49%	51%	48%	52%	50%	50%	51%	49%
Instructor	64%	36%	57%	43%	60%	40%	62%	38%

Source: *Georgia State University Fact Books*

During the 1992-1993 academic year, the College of Business Administration maintained 169 full-time positions with only 15% held by women. In 1993-1994, the total number of faculty stayed the same, while the positions held by women increased to 16%. During the academic year 1994 -1995 the college increased the total number of faculty, employing 173 positions. In 1995-1996, the College of Business Administration again increased total faculty to 174. For each of these years, women maintained 16% of the positions available.

During the academic year 1992-1993, women held 42% of the 128 faculty positions in the College of Education. Although the total number of faculty decreased in 1993-1994 to 122, the number of positions held by women increased to 43%. The 1994-1995 academic year showed an increase in faculty, with 50% of 127 positions held by women. Again, in 1995-1996 the college increased in total faculty employed and women still maintained an equal number of the positions.

The College of Health Sciences was the only college with faculty positions predominantly held by women. During the 1992-1993 academic year, women held 78% of 60 full-time faculty positions. In 1993-1994, the total number of faculty decreased to 57, with 77% of the positions held by women. The total number of faculty increased during the 1994-1995 academic year, with women responsible for 81% of 58 positions. In 1995-1996, women maintained 81% of the total positions, although the number of faculty employed decreased to 57.

During the 1992-1993 academic year, women held only 33% of 30 positions in the College of Law. In 1993-1994, the number of women employed increased to 41% of 32 available positions. Although the total number of faculty employed in 1994-1995 increased to 36, the number of those positions held by women decreased to only 36%. The number of full-time faculty stayed the same for the 1995-1996 academic year, but the number of positions held by women increased to 42%.

Table 1-C
Full-time Faculty by College and Gender
1992-1995 Academic Years

College	1992-1993		1993-1994		1994-1995		1995-1996	
	Female	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**
Arts & Sciences	25%	75%	25%	75%	25%	75%	26%	74%
	(326)		(351)		(340)		(334)	
Business Administ.	15%	85%	16%	84%	16%	84%	16%	84%
	(169)		(169)		(173)		(174)	
Education	42%	58%	43%	57%	50%	50%	50%	50%
	(128)		(122)		(127)		(135)	
Health Sciences	78%	22%	77%	23%	81%	19%	81%	19%
	(60)		(57)		(58)		(57)	
Law	33%	67%	41%	59%	36%	64%	42%	58%
	(30)		(32)		(36)		(36)	
Public/ Urban Affairs	45%	55%	47%	53%	49%	51%	49%	51%
	(38)		(43)		(45)		(47)	
Total University	**32%**	**68%**	**33%**	**67%**	**34%**	**66%**	**35%**	**65%**
	(769)		**(793)**		**(798)**		**(800)**	

Source: *Georgia State University Fact Books*

The College of Public and Urban Affairs employed 38 full-time faculty in the 1992-1993 academic year. Women held 45% of the positions. In 1993-1994, 47% of 43 positions were held by women. During the 1994-1995 academic year the college increased faculty positions to 45, with 49% of them held by women. In 1995-1996, the number of faculty increased to 47, and again women maintained 49% of the positions.

Over the four year period of time, the College of Arts and Sciences employed from 25% to an increase of 26% women; the College of Business Administration employed from 15% to an increase of 16% women; the College of Health Sciences employed 78% and increased to 81% women; the College of Education employed 42% and increased to 50%; the College of Law had 33% women faculty with an increase to 42%; and the College of Public and Urban Affairs had 45% women faculty with an increase to 49%. Even when the total number of positions increased, the number of

women remained relatively constant for Arts and Sciences and Business Administration. Developmental Studies, which employed predominantly women throughout the four year period, is no longer in existence at the university.

Selected Departmental Faculty
(See Table 1-D.)

Employment statistics for full-time faculty in the Departments of Mathematics and Computer Science, Biology, Chemistry, Physics and Astronomy, and Geology in the College of Arts and Sciences were available for the academic year 1994-1995. Both the physics and geology departments employed all male faculty. The physics department employed 15 full-time positions, of which 14 were tenured. The geology department employed six full-time positions, with five positions tenured. In the chemistry department, 18 full-time positions were employed, with only one position held by a woman. The one female and 13 of the men held tenured positions. The biology department employed 23 full-time positions, with seven held by women. A total of 16 positions were tenured, of which women held four. Of the seven women, three were employed as full professors, one as an associate professor, one as an assistant professor, and two were employed as non-tenure instructors. The mathematics and computer science department employed 32 full-time positions, with only eight positions held by women. Women held only four of the 20 tenured positions in mathematics and computer science. Of the eight women in the department, two were employed as associate professors, three as assistant professors, one as a non-tenure instructor, and one as an instructor.

During the academic year 1994-1995, a total of 94 full-time positions were employed in the five departments in science and mathematics. Only 16% of those positions were held by women. Women in these departments accounted for only 8% of 36 full professor positions employed and 13% of 32 associate professor positions. Of 17 assistant professor positions, 24% were held by women. Five instructor positions were employed, but only one (20%) was held by a woman. The non-tenure instructor level was the only position for which more women than men were employed, with 75% of four positions held by women.

Table 1-D
Full-time Faculty by Rank and Gender in Selected Departments
1994-1995 Academic Year

	Biology		Chemistry		Geology		Physics		Mathematics		Total	
Rank	M	F	M	F	M	F	M	F	M	F	**M**	**F**
Prof.	8	3	7	0	3	0	9	0	6	0	**33**	**3**
Assoc. Prof.	4	1	7	1	3	0	5	0	9	2	**28**	**4**
Asst. Prof.	6	1	3	0	0	0	1	0	7	3	**13**	**4**
NT Inst.	1	2	0	0	0	0	0	0	0	1	**1**	**3**
Inst.	1	0	0	0	0	0	0	0	3	1	**4**	**1**
Total	**20**	**7**	**17**	**1**	**6**	**0**	**15**	**0**	**25**	**7**	**79**	**15**

Source: Office of Provost

KEY:
Prof. = Professor
Assoc. Prof. = Associate Professor
Asst. Prof. = Assistant Professor
NT Inst. = Non-tenured Instructor
Inst. = Tenure Track Instructor

Chapter 2
Administrative Interviews

During the Fall of 1995, personal interviews with university administrators, deans, and department chairs were conducted by graduate research assistants to determine the perceived climate for women students and faculty at Georgia State University. The interviews took approximately twenty minutes. The responses were recorded by hand and the summaries were returned to the interviewees for clarification, corrections, or further information. (See Appendix A for interview questions.)

The selected university administrators were those who were most likely to be knowledgeable about university policies and practices: the Provost and Vice President for Academic Affairs, the Director of the Affirmative Action Office, and the Ombudsperson. The position of ombudsperson, a university-wide conflict resolution expert, is unique to Georgia State within the University System of Georgia. Because of the focus of the grant, only the deans from the College of Education and the College of Arts and Sciences were chosen. The specific department chairs interviewed in Arts and Sciences were selected from the science and mathematical fields. They were biology, chemistry, geology, mathematics and computer science, and physics and astronomy. In the College of Education, the departmental chairs selected were those in departments where mathematics and science were a strong component of the teacher education program. The chairs represented early childhood education, middle-secondary education, and kinesiology and health.

Of the thirteen interviews conducted, only four were with women: the Director of Affirmative Action, the Ombudsperson and two department chairs in the College of Education. One of the female department chairs in education had just been selected to that position, which previously had been occupied by a male. The provost, deans, and six of the department chairs were men. All five of the departments interviewed in the College of Arts and Sciences had male chairs. One of the deans and one of the department chairs requested another person be interviewed who could respond more knowledgeably.

The interviews focused on selected questions, which would help reveal the perceived climate for women faculty and students in the university community. Administrators were asked to share their perception of sexism and sexual harassment at Georgia State. In addition to questions about how supportive the local campus community was toward women, and rating the gender balance among tenure track faculty, administrators were asked to explain the institution's policy and procedure for instances of harassment in their area. They were also asked about how the sexual harassment policy was publicized within that particular administrator's domain. Administrators were asked to identify existing programs and institutional leaders who promoted gender equity on campus. Recruitment and retention strategies for faculty particularly, but also for women students, were explored. Information about previous assessments that focused on gender differences in faculty, gender climate, and/or gender equity were sought, as well as recommended protocols for ongoing assessment of gender issues.

Perception of Gender Equity

Most respondents felt that the campus community was supportive of women faculty. However, the degree of support did range from a rating of “very supportive” by two education department chairs, to “no better than average,” by key university administrators. Several respondents explained that they had not thought about it before. Others pointed out that there were some problems, depending on where in the community you looked.

One respondent related an incident involving the safety of women faculty, but the situation had been handled in ad-hoc fashion. A department chair in the College of Arts and Sciences indicated that since no female faculty had ever indicated a lack of support, he/she felt support was there. Another chair commented that he/she "still see[s] areas of good old boys club when people tell the chair that he is hiring too many female faculty." Another observation by a department chair was that there are still stereotypical fields for women. An administrator commented that women on campus were responded to differently than men stating, "Comments at meetings [are] not attributed to women but [are] acknowledged when someone else restates it." If a woman raised the issues, she was perceived as intrusive. This administrator believed that women felt that to be acknowledged they had to be twice as good as men.

The gender balance of tenure track faculty in the science and mathematics departments was found to be unacceptable by the university administrators, the deans, and two of the science and mathematics department chairs. Other chairs in both colleges stated that the gender balance was acceptable, but not ideal. Only one department in the College of Arts and Sciences felt the gender balance was ideal. One response stated the gender balance was acceptable because no one had complained that it was not acceptable. Reasons given for the less than ideal ratings centered on the low number of women faculty or the need for a more balanced ratio. One administrator keenly observed that numbers do not necessarily equate to power or equity. Numbers help, but the power differentials, persistent throughout society, can be significant.

Several factors contributing to the gender imbalance were identified. There were very few new positions available so departments were limited in the number of vacant slots to fill. Extra money for positions would increase possibility of hiring female candidates but it had been hard to agree on special initiatives when the university was under redirection of resources. One reason the gender balance was considered “acceptable, but not ideal” was the slow hiring process at Georgia State University which, it was thought, leads to the loss of many qualified candidates to other institutions. This was considered a particular problem in the sciences.

One respondent indicated that in order to make changes, the low number of females in the pipeline must be increased. It is important to begin by getting young females interested in the areas where few women are available with graduate degrees, mainly the physical sciences and chemistry, according to this administrator. The shortage of women scientists was a systemic problem, and educators should start in middle school with efforts to keep girls involved in science.

Sexual Harassment

When administrators were asked what avenues were available for women students and faculty in the event of sexual harassment, each one responded knowledgeably. The University Sexual Harassment Policy was in place and had been disseminated by the university to faculty, staff, and students. At the time of the interviews, the Faculty Affairs Committee of the Faculty Senate was revisiting and strengthening the policy with specific references to dating between faculty and staff, and faculty and students. The university had no policy prohibiting consenting relations between faculty and students. If sexual harassment occurred, several options were available to the person harassed. A formal complaint may be filed with the Office of Affirmative Action, Legal Affairs Office, Employee Relations/Human Resources, and/or the outside agency, Equal Employment Opportunity Commission. The ombudsperson's office is a confidential resource for individuals experiencing unwanted sexual advances, where options other than filing a formal complaint may be explored. The ombudsperson's office also maintained a record of university employees who were accused of harassment by persons who wished to remain anonymous. Although no formal action can be taken in cases where the victim was unwilling to make a formal complaint, maintaining confidential records allowed the ombudsperson to approach individuals who were repeatedly accused and suggest that some of their behaviors were putting them at risk of a formal complaint.

Most administrators depended on the university to disseminate information to faculty, staff, and students on sexual harassment policies mainly, through written publication, e.g. faculty handbook. Workshops were available from the ombudsperson's office upon request, as well as quarterly sexual harassment prevention training sessions. All new university employees attended a sexual harassment prevention training session. Faculty were not mandated to attend, but one administrator felt faculty should be required to attend.

Departments varied widely in their ways of publicizing sexual harassment policy among faculty. One department shared information received with each faculty member. Another department held a workshop for departmental faculty. One chair commented he hoped any student who felt harassed would feel comfortable in discussing the situation with the chair. While chairs jointly named all the resources mentioned, most individuals named only one or two of the available options. None mentioned sexual harassment as a possible contributing factor to the gender imbalance for either students or faculty.

Recruitment and Retention of Faculty

The data indicated that Georgia State University uses fairly standard procedures when selecting faculty for tenure track positions and follows Affirmative Action Guidelines. The Affirmative Action Office sent out policies and procedures to all deans and departmental chairs. Once a year the director met with the deans to discuss perspectives on the policies.

Departments determined if a position was needed, which was then approved by the dean and the provost. Once the position was approved, the search for the best-qualified candidate began. The hiring department developed the announcement to be submitted to various publications. Colleges and departments relied heavily on the Office of Affirmative Action to review advertisements and to approve the final pool of candidates. Many administrators did not know the specifics of the guidelines. Position announcements were usually placed in discipline specific publications or a broader field publication, e.g. *Science*. Within the College of Arts and Sciences, the departments decided where to place the announcements. Several chairs in the science area indicated that there were no gender specific publications available for announcements. Within the College of Education, position announcements were usually publicized in the *Chronicle of Higher Education* and *Black Issues in Higher Education*. Departments in the College of Education may also select additional publications, but each department must pay for any additional advertising. Neither of the colleges, nor six of the departments advertised specifically in publications geared toward women.

The Affirmative Action Office identified specific areas where faculty women and minorities were under represented for publicizing positions. The availability of women and minorities in the work force was also considered. Many of the departments, especially in Arts and Sciences, used the University Clearing House to obtain prospective candidate's names. Several sent out letters to colleagues in search of women and minorities. One department indicated there was no way to target minorities or women. "We do not select nor target advertisements to candidates because there are no suitable targets." Two departments were members of an Association for Women in their specific disciplines and utilized these in recruitment of candidates. However, one of these departments retained an all male faculty at the time of the interview.

The procedures for selecting interviewees for an advertised faculty position depended on the size of the department. Some interviewed at national meetings, while others invited a small number to campus. The Affirmative Action Office assisted the chair of the search committee by encouraging the chair to make special efforts to recruit females and minorities. The Affirmative Action Office also stressed that the committee must show that a "good faith effort" was made to recruit the under represented, and to give every applicant an equal chance. In the College of Education, the search committee was required to be demographically balanced in the areas of gender, minority, and departmental representation. The final pool of candidates was submitted to the dean of the college and to the Affirmative Action Office for approval. The department made final recommendations to the dean, who recommended to the provost.

Those interviewed indicated it was very difficult or somewhat difficult to recruit qualified women for tenure track positions in science and mathematics. Reasons given for the difficulty rested on the availability of

females in a particular science or mathematical field. That the small pool of applicants and the tough competition from other schools limited the hiring of female faculty was almost a uniform response. Only the biology department indicated that it was somewhat easier. Two education departments indicated that women filled at least half the tenure track positions for faculty, so no special efforts were directed toward recruiting them. One chair stated that it was "very easy" to recruit women faculty, a second said "somewhat easy," while the third felt it was "somewhat difficult," due to the small pool of qualified women candidates in that particular area.

The university had no formal procedures specifically for recruiting and hiring women candidates. However, there was a pool of funds and selected positions that can be used only for recruitment of African-American faculty. There were no current plans to create special efforts at the university level with regard to funds for recruitment of female faculty, and administrators reported that there had been no initiatives requested or suggested. In fields where Georgia State offers degree programs, the Affirmative Action Office did provide to hiring departments a list of minority and female candidates.

Several felt the university could aid in hiring more female faculty with initiatives similar to the initiatives already in place for African-Americans. One chair indicated that there was not anything the university could do to increase the number of female faculty hired. One respondent indicated that women tended to go into biochemistry instead of chemistry, and this trend contributed to the low number of possible female candidates in chemistry.

Neither the College of Education nor the College of Arts and Sciences had additional incentives to recruit female faculty. No official or unofficial resources were identified for providing incentives for women candidates. Administrators reported that there had been no discussions or requests for such. However, there were incentives for African-American and all the administrators interviewed were very aware of these. In the physics and astronomy department there was a NASA Fellowship (outside the department) which was targeted to under-represented groups. At the time of the interview, there were ten faculty in this fellowship. In the chemistry department there was a wider grant that included training for women who wanted to be professors, but it was recently cut by 30%. The department would have to absorb this amount, if they selected to provide the grant.

The university did not provide any formal support services for newly hired women faculty. However, one administrator pointed out that there was an "effort to form a women's center and the university is very sympathetic to that, and if it becomes more formal will probably support it." During informal monthly meetings between the provost and department chairs, a recent focus had been departmental resources for all new faculty. This was discussed since "we were particularly aware that African-American and women faculty were not always appraised of what those resources were because they were not part of the 'ole boy's network' which is not supposed to exist but clearly does exist at times."

The organizational structure at the university was such that there was wide variance in processes and procedures. One explanation: "The very difficult thing is not that particular faculty are overtly sexist, but for years have been used to men only, and they do not know how to embrace the idea of a woman faculty. Don't know how to bring into particular network." One administrator suggested that the university needed to examine "how to level the playing field." Making opportunities available to female faculty was critical, as well as examining processes so that they were not punished for being female (e.g. stopping the tenure clock for pregnancy).

Reportedly, support for newly hired women faculty varied by college. One college may support women faculty while others did not, and the Board of Regents allowed great variation among college practices. Some colleges had a "stop the clock" policy for tenure track faculty who became pregnant or had other family crises, while others do not. Unofficial policy in the chemistry department was "to be sensitive and reasonable with women when dealing with family issues and offering understanding in this area." Some departments provided good mentoring for new female hires while others did not. Both the College of Arts and Sciences and the College of Education had established mentors for new hires. It was not mandated, but was in practice. Four of the department chairs specifically mentioned that they provided mentoring for all new hires. The mentoring program was to make the new hires successful, and thus to retain them. Female faculty were not treated differently from other new hires. Two departments did not have any female faculty.

The ombudsperson was an additional resource people used, but only when things were very serious and other avenues had been unsuccessful. Usually the ombudsperson saw women who had a sexual harassment complaint, but she also heard about problems with competition and lack of cooperation. Many women left administrative positions saying they did not like the person they had to become to succeed. Women were frequently excluded from informal supports that existed for males such as golf, racquetball, or working out together.

Most administrators responded that they were unaware of any tenure track women faculty who had voluntarily left the university in the past five years, or they did not know any reason women faculty left other than retirement. The provost had recently hired two female associate provosts who were able to maintain connections in the university and may be better able to respond to questions about retention of female faculty. According to these responses, there was no formal exit interview with departing faculty, nor was there anyone who was responsible for maintaining this type of information.

Recruitment and Retention of Students

Responses to questions related to undergraduate and graduate students indicated that there were no formal informal mechanisms and/or incentives programs specifically for recruiting women students into the science and mathematics programs. This was also true for social support and informal support for women students. However, one

department chair indicated that experience showed that “the more formal it is, the less it works; [it] needs to be spontaneous." Another chair indicated that support was offered to all students regardless of gender, but did not specify what that support was. One department stated that one of the supports was its membership in the Association of Women in that science.

When responding to a question asking why female students transferred out of a program, all administrators indicated a low number who left, so the reasons were unknown. One department chair did cite grades as a cause and another indicated that the more advanced women went, the fewer who stayed, because of emotional scarring. He also saw a revolving door for female assistant professors. Another administrator commented that when women pay thousands for an education and feel unheard in the classroom, they often left the area as they advanced in their education.

One administrator indicated retention efforts must begin long before a young woman’s arrival at a university. Having teachers teach science as a hands-on, discovery subject was an approach that had been shown to be effective in maintaining girls’ interest. At the university level, future middle school teachers must be trained differently in order for their teaching methods to change. For years physical science was taught in a lecture-only format to future teachers. We need to know that prospective teachers need to understand that science cannot be learned well in lectures and is better for both students and teachers when taught in hands-on discovery courses. As a scientist, this administrator felt it was only when students themselves participated in the discovery process that they gained understanding. It is a long process, but change has to come about in order to keep female students interested in the sciences at the university level and beyond.

Previous Assessments

Georgia State University had not conducted previously and had no plans in the future to conduct a systematic investigation of gender differences. One administrator indicated that data on student retention by gender showed that female retention was higher than male retention. Another administrator was very interested in looking at salary and teaching loads by gender, but did not know of data that would allow easy access to this information. One chair in the College of Education commented that the college “has looked at the salary issue.”

Interviewees were asked if they were aware of any assessment of gender and/or racial climate and/or equality on campus that had already been conducted. Eleven responded no, while one indicated a recent merit market equity study that examined salary, but did not specifically look at gender. The other respondent indicated a study compiled in 1993 by the Women's Faculty Committee. This 55 page report, "1992-93 Report on the Status of Faculty Women: Measurements and Recognitions of Performance" determined whether women faculty members suffered from inequalities in related areas of salary, rank, and tenure.

Summary

While most respondents agreed the campus community was supportive of women, the degree of support they perceived was varied. Some stated that prior to receiving the interview questions, they had not thought about whether the community supported women. One felt that since female faculty had not voiced a lack of support, there must be adequate support for them. Others felt that some parts of the campus community were not supportive of women. Problems for women identified by administrators included safety, higher expectations of female faculty, lack of recognition, and a "good ole boys club." The good ole boys club was described as not overtly sexist, but more a failure to embrace the idea of women faculty and to bring them into existing networks.

No specific support systems for women were identified within the campus community during the 1995 interviews. However, in 1996, "A Women's Place" had been established with the mission of providing the campus community with a "supportive and challenging environment where women can work toward equality for all women and men through developing individual and collective potential." The goal was to improve the climate for women at the university and in society at large through education, advocacy, connection, and action. A strong area for support that was not mentioned in the interviews is the Child Development Center, a preschool and childcare center, that was created in the early 1970's. It is so much a part of the institution that apparently no one considered it a real strength for institutional support for women faculty, staff, and students.

The interviews revealed that the gender balance was thought to be less than ideal by twelve of the thirteen administrators because of the low number of female faculty. Several barriers were identified that prevented the university from attaining a better gender balance, including the low number of women candidates for positions, and the low number of new positions available. Another challenge was creating new positions or incentives to hire women when funds were limited. In the sciences, a particular problem was the slow hiring process at Georgia State University which allowed other institutions to hire women waiting to hear from Georgia State.

All the administrators appeared to be informed about the university's sexual harassment policy, although means of publicizing it to faculty, staff, and students varied widely. Most administrators indicated they depended on the university to disseminate information about sexual harassment, mostly through the faculty handbook or other written information. A number of resources were identified for discussing complaints, with particular emphasis on the Office of Affirmative Action for filing formal complaints, and the ombudsperson for confidential exploration of how best to resolve a complaint. The Office of the Ombudsperson also provided sexual harassment prevention training sessions to all new staff when hired, and to departmental faculty and staff upon request. Faculty were not required to attend the workshops for new employees, but did so if they wished. One university administrator felt that faculty should be required to attend the workshops.

Despite the less than ideal ratings of the gender balance and the emphasis on the difficulty of finding and recruiting the few qualified candidates, recruitment specifically

for women, was almost non-existent. Only two of the eight departments actually utilized specific women's organizations within their discipline for recruitment. Georgia State offered no incentives for recruitment and no special incentives to new women faculty. Efforts over the last five years had specifically targeted African-Americans, but this was the only specific target for recruitment at Georgia State University. No other minorities or women were specifically sought to expand the diversity among faculty members. In several of the science departments, candidates had to be heavily into experimental research or specifically had a grant to be competitive for faculty appointments. Since there were few women in these areas from which to recruit, there was less competition with male candidates in the research and funding arenas.

Departments and colleges relied heavily on and appeared to believe that the support and supervision of the Office of Affirmative Action assured adequate efforts had been made to locate female and minority candidates, regardless of their own efforts or knowledge. The degree of emphasis on the difficulty of recruiting females seemed discrepant with the lack of emphasis on efforts to identify and hire females. It appeared that some administrators were convinced that no competitive female candidates were in the pool, so they were content to meet the letter of the law with recruitment through the Office of Affirmative Action.

Specific recruitment efforts for women students in science and mathematics were not identified by these administrators. Specific formal or informal social supports for women students in these areas were also not identified. One chair indicated that all students received support, and another cited the department's membership in the women's association in that science as a support. Two administrators indicated that women left higher levels of science and mathematics studies because they felt unheard, were emotionally scarred, or they saw a dim future for themselves as female professors.

No systematic investigation of gender differences had been conducted at Georgia State University. One administrator suggested that student retention data showed female retention to be higher than male retention. However, he did not specify what colleges or majors were studied to result in this conclusion. Data allowing gender comparisons of faculty salary and teaching loads was not easily accessed. In 1993, a Georgia State University Task Force on Faculty Women's Concerns issued a 55 page report, "1992-93 Report on the Status of Faculty Women: Measurements and Recognition of Performance." Only one of the administrators indicated awareness of this report or of its implications and recommendations. Looking at this report may be required to understand the gender imbalance among faculty and to further assess gender equity issues at the university.

Most administrators perceived the social climate as supportive to women faculty and students, and most expressed a desire that Georgia State University provided equitable opportunities to women in the campus community. However, issues of inequity were clearly identified, even in the gender distribution of the administrators themselves. Beginning a systematic investigation of gender differences among faculty and students could reveal specific information about how these inequities were maintained in a system where the stated goal was to eradicate them. Through record keeping that allowed gender

comparisons of faculty and student data, a better understanding of the social climate for women at Georgia State could be obtained. While simply recording and reviewing the numbers is a good beginning, if administrators wish to create a more equitable climate, they must apply their analysis to the professional atmosphere for faculty as shown in teaching loads and course level, research support, committee selections, and inclusive networking. Expanding the initial efforts to keep accurate and accessible records of gender differences among students might include analyzing assistantship distribution and level, classroom participation, and role models available for women. The goodwill expressed by administrators and their concern about the gender imbalance among faculty were assets for the university in working toward gender equity in science, mathematics, and education programs. Taking action in understanding gender differences appears to be the next step in attaining the goal of equity on campus.

Chapter 3

Admissions and Graduations

Admissions

During fall quarter in the years 1990-1995, undergraduate admissions in selected majors (Table 3-A) increased from 214 to 659, an increase of 308%. Admissions for female students (Table 3-B) increased from 157 to 457 (291%), and for males from 57 to 202 (354%). More females entered early and middle childhood education, chemistry, mathematics, and biology programs, while more males entered geology and physics. Despite the difference in admission percentage rates for males and females over the five years, the total number of females admitted to the selected science, mathematics, and education programs was over twice the total number of males.

Table 3-A
Undergraduate Student Admissions by Major
Fall Quarters 1990-1995

MAJOR	ADMISSION YEAR						
	1990	1991	1992	1993	1994	1995	TOTAL
Biology	63	141	146	194	246	152	1129
Chemistry	19	30	43	41	59	52	244
Early Childhood Ed.	86	127	96	111	155	195	770
Geology	6	8	11	14	14	7	60
Health & P. E.		7	13	9	26	29	84
Middle Childhood Ed.	20	40	41	36	66	85	288
Mathematics	15	29	21	31	56	43	195
Physics	5	13	27	11	17	9	82
TOTAL	**214**	**395**	**398**	**448**	**639**	**659**	**2753**

Source: Student Information System

Table 3-B

Undergraduate Student Admissions by Gender and Major

Fall Quarters 1990-1995

GENDER		ADMISSION YEAR						
		1990	**1991**	**1992**	**1993**	**1994**	**1995**	**TOTAL**
FEMALE	**MAJOR**							
	Biology	38	93	91	116	159	152	649
	Chemistry	9	21	20	25	29	24	128
	Early Childhood Ed.	83	120	87	100	144	177	711
	Geology	2	2	7	7	6	2	26
	Health & P. E.		6	6	8	9	14	43
	Middle Childhood Ed.	16	34	34	24	54	62	224
	Mathematics	7	12	9	19	30	25	102
	Physics	2	5	3	2	1	1	14
	TOTAL FEMALES	**157**	**293**	**257**	**302**	**432**	**457**	**1898**
MALE	**MAJOR**							
	Biology	25	48	55	78	87	87	380
	Chemistry	10	9	23	16	30	28	116
	Early Childhood Ed.	3	7	9	11	11	18	59
	Geology	4	6	4	7	8	5	34
	Health & P. E.		1	7	1	17	15	41
	Middle Childhood Ed.	4	6	7	12	12	23	64
	Mathematics	8	17	12	12	26	18	93
	Physics	3	8	24	9	16	8	68
	TOTAL MALES	**57**	**102**	**141**	**146**	**207**	**202**	**855**
GRAND TOTAL		**214**	**395**	**398**	**448**	**639**	**659**	**2753**

Source: Student Information System

Fall quarter graduate admissions in the eight selected majors during the years 1990-1995 (Table 3-C) increased from 34 to 178, an increase of 523%. Early childhood education and mathematics were the two programs with the largest increases in graduate admissions. Between the years 1990 and 1991, graduate admissions in selected programs went from 24 to 134. Most of these students were admitted to graduate programs in education (early and middle childhood). However, the number of females admitted to graduate programs in chemistry and mathematics also increased (see Table 3-D). There was a less pronounced increase in the number of males admitted to graduate programs in the eight selected majors. Again, the increase resulted mostly from more students being admitted to education and mathematics graduate programs. Only one student was admitted in the fall to a graduate program in biology during the years 1990-1995, a female. While the number of female students admitted to graduate programs far exceeded the number of males (by more than 300 percent), males outnumbered females in physics, mathematics, and geology. The number of females admitted to graduate programs in education was more than nine times the number of males admitted.

Table 3-C
Graduate Student Admissions by Major
Fall Quarters 1990-1995

MAJOR	**ADMISSION YEAR**						
	1990	**1991**	**1992**	**1993**	**1994**	**1995**	**TOTAL**
Biology				1			1
Chemistry	6	17	19	12	22	21	97
Early Childhood Ed.	9	81	67	92	73	77	399
Geology	3	3	5	3	7	7	28
Health & P. E.		5	5	4	5	6	25
Middle Childhood Ed.	9	47	39	31	37	37	200
Mathematics	1	15	11	25	21	22	95
Physics	6	4	2	8	15	8	43
TOTAL	**34**	**172**	**148**	**176**	**180**	**178**	**888**

Source: Student Information System

Table 3-D
Graduate Student Admissions by Gender and Major
Fall Quarters 1990-1995

GENDER		ADMISSION YEAR						
		1990	**1991**	**1992**	**1993**	**1994**	**1995**	**TOTAL**
FEMALE	**MAJOR**							
	Biology				1			1
	Chemistry	4	11	7	7	13	10	52
	Early Childhood Ed.	9	74	63	87	64	69	366
	Geology	2		1	1	3	4	11
	Health & P. E.		3	4	3	4	3	17
	Middle Childhood Ed.	8	40	35	27	32	33	175
	Mathematics		6	6	13	9	10	44
	Physics	1		1		1	1	4
	TOTAL FEMALES	**24**	**134**	**117**	**139**	**126**	**130**	**670**
MALE	**MAJOR**							
	Biology							
	Chemistry	2	6	12	5	9	11	45
	Early Childhood Ed.		7	4	5	9	8	33
	Geology	1	3	4	2	4	3	17
	Health & P. E.		2	1	1	1	3	8
	Middle Childhood Ed.	1	7	4	4	5	4	25
	Mathematics	1	9	5	12	12	12	51
	Physics	5	4	1	8	14	7	39
	TOTAL MALES	**10**	**38**	**31**	**37**	**54**	**48**	**218**
GRAND TOTAL		**34**	**172**	**148**	**177**	**180**	**178**	**888**

Source: Student Information System

Graduations

During the fall quarter in the years 1990-1995, undergraduate graduations in the selected programs increased from 37 to 283, an increase of 765%. (See Table 3-E.) The increase was greater for males than for females, with the number of males graduating from science, mathematics, and education programs going from 10 to 80, an increase of 800%. (See Table 3-F.) The number of females graduating from the selected programs went from 27 to 203, an increase of 752%. The total number of females graduating over the five year period was 2.75 times the number of males who graduated. However, more males graduated in the disciplines of geology, mathematics, and physics. Women graduated in much greater numbers from education programs, and slightly more women graduated in biology and chemistry.

Table 3-E
Undergraduate Student Graduations by Major
Fall Quarters 1990-1995

MAJOR	**GRADUATION YEAR**						
	1990	**1991**	**1992**	**1993**	**1994**	**1995**	**TOTAL**
Biology	8	39	39	39	47	65	237
Chemistry		15	6	7	18	9	55
Early Childhood Ed.	10	83	70	93	91	98	445
Geology	2	7	3	6	15	10	43
Health & P. E.				5	11	5	21
Middle Childhood Ed.	8	34	44	40	60	59	245
Mathematics	8	25	19	30	29	26	137
Physics	1	3	10	4	11	11	40
TOTAL	**37**	**206**	**191**	**224**	**282**	**283**	**1223**

Source: Student Information System

Table 3-F
Undergraduate Student Graduations by Gender and Major
Fall Quarters 1990-1995

GENDER		GRADUATION YEAR						
		1990	**1991**	**1992**	**1993**	**1994**	**1995**	**TOTAL**
FEMALE	**MAJOR**							
	Biology	5	18	20	21	28	35	127
	Chemistry		9	3	4	10	4	30
	Early Childhood Ed.	10	81	69	91	88	89	428
	Geology	1	2		1	7	4	15
	Health & P. E.				2	5	2	9
	Middle Childhood Ed.	8	31	38	36	53	51	217
	Mathematics	3	11	5	16	13	16	64
	Physics		1	4			2	7
	TOTAL FEMALES	**27**	**153**	**139**	**171**	**204**	**203**	**897**
MALE	**MAJOR**							
	Biology	3	21	19	18	19	30	110
	Chemistry		6	3	3	8	5	25
	Early Childhood Ed.		2	1	2	3	9	17
	Geology	1	5	3	5	8	6	28
	Health & P. E.				3	6	3	12
	Middle Childhood Ed.		3	6	4	7	8	28
	Mathematics	5	14	14	14	16	10	73
	Physics	1	2	6	4	11	9	33
	TOTAL MALES	**10**	**53**	**52**	**53**	**78**	**80**	**326**
GRAND TOTAL		**37**	**206**	**191**	**224**	**282**	**283**	**1223**

Source: Student Information System

Fall quarter graduations from graduate programs in the sciences and education also increased from 1990 to 1995. In 1990, 20 students graduated from degree programs in selected areas. (See Table 3-G.) By 1995, that number had increased to 185. This represented an increase of 925%. Graduate programs in education (early childhood and middle childhood) and mathematics (mathematics education and mathematics) grew at a more pronounced rate than those in the sciences.

Females received most of the advanced degrees in education and chemistry, while males received most of the advanced degrees in geology, mathematics, and physic. (See Table 3-H.) The total number of females receiving graduate degrees during the five year period was 707, while the total number of males was 195. Females received 78% of the graduate degrees in the selected programs.

Table 3-G
Graduate Student Graduations by Major
Fall Quarters 1990-1995

MAJOR	**GRADUATION YEAR**						
	1990	**1991**	**1992**	**1993**	**1994**	**1995**	**TOTAL**
Biology			1	1	1	3	6
Chemistry		1	7	6	12	7	33
Early Childhood Ed.	9	53	75	73	81	85	376
Geology		3		2	5	2	12
Health & Physical Ed.	1	8	7	11	6	4	37
Middle Childhood Ed.	4	32	53	46	25	32	192
Mathematics Ed.	2	16	25	24	27	24	118
Mathematics	1	6	4	8	2	12	33
Physics	1	8	4	3	4	4	24
Science Education	2	19	15	14	9	12	71
TOTAL	**20**	**146**	**191**	**188**	**172**	**185**	**902**

Source: Student Information System

Summary

Overall, more female students were admitted in the fall to both undergraduate and graduate programs at the university. They tended to cluster in education, biology, and mathematics, and to a lesser degree, chemistry. Males tended to be admitted to programs in physics and geology in greater numbers than women. More females graduated fall quarters in biology, chemistry, and education, while more males graduated in geology, mathematics, and physics.

Table 3-H
Graduate Student Graduations by Gender and Major
Fall Quarters 1990-1995

GENDER		GRADUATION YEAR						
		1990	**1991**	**1992**	**1993**	**1994**	**1995**	**TOTAL**
FEMALE	**MAJOR**							
	Biology				1	1	1	3
	Chemistry			4	3	6	4	17
	Early Childhood Ed.	9	53	70	70	76	76	354
	Geology		1		1	1		3
	Health & Physical Ed.	1	4	4	3	4	2	18
	Middle Childhood Ed.	3	29	46	39	21	28	166
	Mathematics Ed.	2	13	18	15	19	15	82
	Mathematics		3	1	3	1	5	13
	Physics	1	4		1	1		7
	Science Education	1	9	10	10	7	7	44
	TOTAL FEMALES	**17**	**116**	**153**	**146**	**137**	**138**	**707**
MALE	**MAJOR**							
	Biology			1			2	3
	Chemistry		1	3	3	6	3	16
	Early Childhood Ed.			5	3	5	9	22
	Geology		2		1	4	2	9
	Health & Physical Ed.		4	3	8	2	2	19
	Middle Childhood Ed.	1	3	7	7	4	4	26
	Mathematics Ed.		3	7	9	8	9	36
	Mathematics	1	3	3	5	1	7	20
	Physics		4	4	2	3	4	17
	Science Education	1	10	5	4	2	5	27
	TOTAL MALES	**3**	**30**	**38**	**42**	**35**	**47**	**195**

Source: Student Information System

Chapter 4
Academic Majors

Change of Academic Majors

A sample of 2,643 undergraduate students, who were admitted to Georgia State University fall quarter during the years 1990 through 1995, was selected for this analysis. Students were selected if they enrolled in one of five science and three education major programs of study targeted by the InGEAR Project. The science majors were biology, chemistry, geology, mathematics, and physics. The education majors were early childhood education, middle childhood education and health and physical education. Of the 2,643 students admitted in these majors, 1,820 (70%) were female, and 823 (30%) were male. Student records were analyzed to determine rates of change in major program of study for students majoring in each of these programs.

Of 2,643 students who were admitted, 465 or 18% changed majors. For students admitted to the sciences during the six-year period, the average percentage of students changing their major each year ranged from 15% in geology to 25% in chemistry. In biology and mathematics 20% of students changed, and in physics, 21% of students admitted in this major changed majors each year. In education, 13% of students admitted in early childhood education, 15% of students entering middle childhood, and 17% of students entering in health and physical education changed majors. Overall, rates of changing major were higher for both males and females who entered science programs than for males and females who entered education programs. Four of the five science majors had higher percentages of students changing major than the 18% overall, and the three education majors had lower percentages than the overall rate. (See Table 4-A.)

Table 4-A
Selected Majors Rank-Ordered by Average Percent of Students Changing Academic Major Fall Quarters 1990-1995

SELECTED MAJORS	AVERAGE % LEAVING MAJOR EACH YEAR
Chemistry	25
Physics	21
Biology	20
Mathematics	20
Health and Physical Education	17
Geology	15
Middle Childhood Education	15
Early Childhood Education	13

Source: Student Information System

When overall rates of change for females were calculated, slightly fewer females (17%) than males (19%), changed major. However, for three majors, chemistry, physics, and biology, more females than males changed majors. For the remaining five majors, more males than females changed each year. The differences were greater between females and males in the areas of chemistry and physics where more females left, and in the areas of mathematics, physical education, and early childhood education, where more males left. (See Table 4-B.)

Table 4-B
Average Percent of Students
Changing Academic Major by Gender

SELECTED MAJORS	**AVERAGE % LEAVING MAJOR EACH YEAR**	
	Female	**Male**
Biology	20	19
Chemistry	27	22
Early Childhood Education	13	18
Geology	13	17
Health and Physical Education	13	21
Mathematics	18	23
Middle Childhood Education	14	16
Physics	29	20

Source: Student Information System

Of the 128 females who left biology, 16% transferred to a major in nursing, which was the highest percentage of women transferring to a single major. Of the 69 males who left biology, the most frequently chosen major was chemistry, with 13% transferring from biology to chemistry. For both the females and the males leaving chemistry, the most frequent choice was a biology major, with the largest single percentage transferring from chemistry to biology. The four females who left physics each transferred to a different major, so no trend could be identified. For males who left physics, 46% chose computer science for their new major. Women who left mathematics most frequently chose middle childhood education for their new major, while men most frequently chose computer information systems. Both women and men leaving health and physical education most frequently chose exercise science as their new major. Biology was the most frequent choice of women leaving geology, while men most frequently chose geography. For both men and women leaving middle childhood education, the most frequently chosen new major was early childhood education. Of 85 females who left early childhood education, 18% transferred into middle childhood education. The ten males who left early childhood education each went to a different major, so no trend could be identified. (See Table 4-C.)

Table 4-C
Most Frequently Chosen New Academic Major by Gender

Major of Admission	**Major After Transfer**	
	Female	**Male**
Biology	Nursing – 16%	Chemistry – 13%
Chemistry	Biology – 27%	Biology – 33%
Early Childhood Education	Middle Childhood Education – 18%	Evenly Distributed
Geology	Biology – 67%	Geography – 40%
Health and Physical Education	Exercise Science – 40%	Exercise Science – 38%
Mathematics	Middle Childhood Education – 28%	Computer Information Systems-15%
Middle Childhood Education	Early Childhood Education – 41%	Early Childhood Education – 30%
Physics	Evenly Distributed	Computer Science – 46%

Source: Student Information System

Summary

While these data showed no significant differences, some trends seemed apparent. Overall, 18% of students admitted in fall quarter changed academic majors each year, with slightly more males than females changing. If these selected majors were ranked in order of percentage of students who left, chemistry showed the highest percentage of change, while early childhood education showed the lowest rate. Generally, education majors showed fewer students leaving than do science majors. In chemistry, biology, and physics, more females than males changed, while in other majors more males than females changed majors. When females changed majors, they frequently moved out of a less traditional field and into a more traditional field for women, such as nursing or an education major. Often these fields were seen as less challenging academically. When males changed majors, they frequently chose another science field considered equally challenging, e.g. computer science. While this evidence was not strong, it seemed to contribute to a picture supported by other results in this study, which suggested that women may not find the environment in hard sciences as welcoming as the environment in education.

CHAPTER 5
Faculty Survey

Purpose of Survey

The survey was designed to elicit faculty's perception of the climate for women faculty and students at the university. A total of 149 faculty members were surveyed in the departments of mathematics and computer science, biology, chemistry, geology, physics and astronomy, and education department of early childhood education, middle secondary education and kinesiology and health. The education departments selected were based on areas where mathematics and science are strong components of the programs. There was a 50% response rate of those surveyed. (See Table 5-A.) The faculty's responses were analyzed for differences between males and females and for differences in academic areas. The narrative and tables that follow present the results of the analysis. Where assumptions of normalcy were met, results were analyzed using ANOVA or MANOVA as appropriate. When the data did not allow the more rigorous analysis, the Chi-Square statistic was used to test for significant differences between groups. The test statistic is indicated at the top of each table, with "F" indicating an analysis of variance and "χ^2" indicating that the Chi-Square was used. (See Appendix B for survey.)

Table 5-A
Demographic Data of Faculty Survey Respondents

Respondents N=74*	Number of males	Number of females	Total
Tenure or tenure track	29	14	43
Non-tenure track	11	16	27
Science department	35	12	47
Non-science department	5	18	23

* Four respondents did not indicate their gender.

Environmental Support

When the responses of the faculty on items measuring perceived support for women at the university were compared by gender, significant differences were found in male and female faculty's perceptions of support for women. (See Table 5-B.) Male faculty made stronger endorsements about the perceived support for women at the university and community level. In addition, male faculty responded in the direction of more perceived support for women from the administration at both the university and college level. There was no significant difference between female and male faculty in terms of the perceived support for women from students. Both male and female faculty disagreed with the statement that the faculty and staff within their respective departments were not supportive of women.

Table 5-B
Environmental Support by Gender
Faculty were asked to rate the following statements using the following options: strongly disagree (SD), disagree (D), neutral (N), agree (A), strongly agree (SA).

Statement	Gender	% SD	%D	%N	%A	%SA	F	p
1. The administration at the university level is supportive of women.	Female *Male	0 0	24.1 0	20.7 19.5	48.3 39.0	6.9 41.5	**18.15**	**.000**
2. The administration at the college level is not supportive of women.	Female *Male	21.4 50.0	42.9 37.5	7.1 7.5	21.4 2.5	7.1 2.5	**7.93**	**.006**
3. The administration at the departmental level is supportive of women.	Female Male	6.9 0	0 2.4	0 4.9	27.6 34.1	65.5 58.5	.09	.77
4. The faculty and staff within the university at large are supportive of women.	Female *Male	0 0	17.2 2.5	24.1 7.5	48.3 52.5	10.3 37.5	**10.14**	**.002**
5. The faculty and staff within your department are not supportive of women.	Female Male	65.5 63.4	27.6 29.3	3.4 2.4	3.4 2.4	0 2.4	.05	.83
6. The students across campus are supportive of women.	Female Male	0 0	0 0	35.7 30.0	42.9 40.0	21.4 30.0	.19	.66
7. The undergraduate students in your department are not supportive of women.	Female Male	37.9 45.0	41.4 27.5	20.7 22.5	0 5.0	0 0	.13	.72
8. The graduate students in your department are supportive of women.	Female Male	0 2.5	0 2.5	20.7 20.0	48.3 27.5	31.0 47.5	.001	.97
9. The community in which your institution is located is not supportive of women.	Female *Male	13.8 29.3	41.4 46.3	24.1 19.5	17.2 4.9	3.4 0	**7.50**	**.008**

Note: Percent reported is percent of those who responded to item. * Denotes more support for women

Responses to these items were also analyzed by academic area. (See Table 5-C.) While faculty in science departments responded in the direction of more perceived support for women from the administration at the college level, faculty in education departments endorsed more perceived support from the administration at the departmental level. These differences were significant. Education faculty more strongly disagreed with the statement their fellow faculty members and the staff within their departments were not supportive of women. The faculty as a whole perceived the students as supportive of women, and there was no significant difference between faculty in science and education areas with respect to the amount of perceived support for women in the community where the institution was located.

Gender Balance

The differences found with respect to perceptions of the gender balance among tenure track faculty were not significant. However, more males than females indicated they believed the gender balance was either ideal or unacceptable. More females responded that the balance was acceptable. Faculty in science and education departments responded similarly to each other to this statement; however, more science faculty responded that gender balance was either ideal or unacceptable, while more non-science faculty responded the balance was acceptable. (See Table 5-D.)

Table 5-C
Environmental Support by Academic Area

Faculty were asked to rate the following statements using the following options: strongly disagree (SD), disagree (D), neutral (N), agree (A), strongly agree (SA).

Statement	**Area**	**%SD**	**%D**	**%N**	**%A**	**%SA**	**F**	**p**
1. The administration at the university level is supportive of women.	Science Educ.	0 0	8.7 13.0	17.4 21.7	43.5 43.5	30.4 21.7	.487	.488
2. The administration at the college level is not supportive of women.	Science *Educ.	42.2 31.8	44.4 31.8	6.7 9.1	4.4 18.2	2.2 9.1	**3.845**	**.054**
3. The administration at the departmental level is supportive of women.	Science *Educ.	4.3 0	2.2 0	4.3 0	37.0 17.4	52.2 82.6	**6.375**	**.014**
4. The faculty and staff within the university at large are supportive of women.	Science Educ.	0 0	6.7 13.0	8.9 26.1	57.8 34.8	26.7 26.1	1.292	.26
5. The faculty and staff within your department are not supportive of women.	Science *Educ.	54.3 82.6	34.8 17.4	4.3 0	4.3 0	2.2 0	**6.052**	**.016**
6. The students across campus are supportive of women.	Science Educ.	0 0	0 0	31.1 31.8	44.4 31.8	24.4 36.4	.109	.742
7. The undergraduate students in your department are not supportive of women.	Science Educ.	35.6 60.9	37.8 21.7	22.2 17.4	4.4 0	0 0	2.313	.133
8. The graduate students in your department are supportive of women.	Science Educ.	2.2 0	2.2 0	22.2 13.0	37.8 30.4	35.6 56.5	2.481	.120
9. The community in which your institution is located is not supportive of women.	Science Educ.	19.6 34.8	50.0 30.4	19.6 21.7	8.7 13.0	2.2 0	.086	.771

Note: Percent reported is percent of those who responded to item.

Table 5-D
Gender Balance by Gender and Academic Area

Faculty were asked to respond to the statement below using the categories of ideal (I), acceptable but not ideal (A), and unacceptable (U).

Statement	**Gender**	**%I**	**%A**	**%U**	**t***	**p**	**Area**	**%I**	**%A**	**%U**	**t***	**p**
10. Overall, the gender balance among tenure-track faculty in your department is:	Female	17.9	67.9	14.3	.328	.745	Science	27.7	51.1	21.3	.621	.537
	Male	29.3	48.8	22.0	.650	.519	Education	22.7	63.6	13.6	.699	.492

* one sample t tests

Perceived Equity

In responding to a question concerning salaries, the majority of male and female faculty responded neither gender had higher salaries. However, when one gender was endorsed as having a higher salary both males and females were more likely to respond that males had higher salaries. Among science faculty, there was a significant difference in that they were more likely to respond that males had higher salaries.

Both females and males chose their own gender or neither gender when asked to respond to who had heavier teaching loads, who has more likely to teach lower level courses, who had a heavier undergraduate teaching load, who had a heavier committee load, and who had more research assistance. Science faculty responded men were more likely to mentor graduate students, while education faculty responded women did more mentoring. Science faculty indicated a perception that males had heavier committee loads, while faculty in education departments indicated that females have heavier loads. This probably reflected the gender balance in the departments and has consistent with the earlier finding that each gender was likely to feel that it had a heavier workload.

Science faculty were more likely to respond that males had better promotion rates. Females were more likely to respond males had better tenure rates, but males, although they were more likely to respond neither gender had a better rate of obtaining tenure, also responded males had better rates when they indicated a preference for one of the genders. Female faculty perceived that male faculty had more space allocated for their work and greater equipment allocations. Male, female, and science faculty were more likely to respond female faculty were taken less seriously by faculty and administrators within their departments, and to respond male faculty were taken more seriously by undergraduate and graduate students. Among faculty in science departments, there was a slight trend toward male faculty having less respect for female undergraduate and graduate students. (See Table 5-E.)

Table 5-E
Perceived Equity by Gender and Academic Area

Faculty were asked to respond to the following statements about their departments with the males (M), females (F), or neither (N).

Statement	**Gender**	**%M**	**%F**	**%N**	**%F**	**p**	**Area**	**%M**	**%F**	**%N**	**F**	**p**
12. M/F/N have higher salaries.	Females Males	32.1 28.6	3.6 14.3	64.3 57.1	.806	.373	Science Education	38.9 14.3	5.6 14.3	55.6 71.4	**4.50**	**.038**
13. M/F/N have heavier teaching loads.	Females Males	0 12.5	28.6 6.3	71.4 81.3	**9.06**	**.004**	Science Education	10.5 0	15.8 18.2	73.7 81.8	1.02	.316
14. M/F/N more likely to teach lower level courses.	Females Males	0 17.6	28.6 5.9	71.4 76.5	**11.3**	**.001**	Science Education	15.0 0	17.5 13.6	67.5 86.4	.679	.413
15. M/F/N have heavier undergrad advisement load.	Females Males	0 9.4	14.3 3.1	85.7 87.5	**5.00**	**.029**	Science Education	7.9 0	10.5 4.5	81.6 95.5	.037	.847
17. M/F/N have heavier committee loads.	Females Males	7.1 21.9	17.9 0	75.0 78.1	**7.57**	**.008**	Science Education	21.1 4.5	5.3 13.6	73.7 81.8	**3.89**	**.053**
18. M/F/N have better promotion rates.	Females Males	14.8 6.3	0 0	85.2 93.8	1.16	.286	Science Education	15.8 0	0 0	84.2 100	**3.99**	**.051**
19. M/F/N have better tenure rates.	Females Males	22.2 6.3	0 3.1	77.8 90.6	**3.99**	**.051**	Science Education	15.8 9.1	2.6 0	81.6 90.9	.164	.687
20. M/F/N have more space allocated for their work.	Females Males	28.6 6.1	0 9.1	71.4 84.8	**8.35**	**.005**	Science Education	15.4 18.2	7.7 0	76.9 81.8	.758	.387
21. M/F/N have greater equipment allocations.	Females Males	25.0 6.1	0 3.0	75.0 90.9	**5.25**	**.026**	Science Education	17.9 9.1	2.6 0	79.5 90.9	.370	.546

Table 5-E (continued)

Statement	Gender	%M	%F	%N	%F	p	Area	%M	%F	%N	F	p
22. M/F/N have more funding for travel.	Females Males	7.1 2.9	0 2.9	92.9 94.1	1.22	.274	Science Education	7.5 0	2.5 0	90.0 100	.546	.463
23. M/F/N have more hours of teaching assistance.	Females Males	7.1 0	3.6 0	89.3 100	.385	.538	Science Education	5.1 0	0 4.5	94.9 95.5	2.72	.104
24. M/F/N have more hours of research assistance.	Females Males	10.7 0	0 6.1	89.3 93.9	**5.52**	**.022**	Science Education	5.1 4.5	2.6 0	92.3 95.5	.083	.774
25. M/F/N get more recognition within the univ. for their research.	Females Males	14.8 12.5	7.4 12.5	77.8 75.0	.331	.568	Science Education	13.5 13.6	8.1 9.1	78.4 77.3	.005	.947
26. M/F/N in my dept. find it easier to receive secretarial assistance.	Females Males	10.7 3.1	0 6.3	89.3 90.6	2.94	.092	Science Education	10.5 0	5.3 0	84.2 100	.380	.540
27. M/F/N in my dept. appear to find it easier to receive leave time for personal reasons.	Female Male	7.4 0	3.7 9.4	88.9 90.6	2.51	.118	Science Education	5.4 0	10.8 0	83.8 100	.390	.535
28. M/F/N appear to find it harder to receive release time for research.	Females Males	0 6.3	10.7 3.1	89.3 90.6	2.94	.092	Science Education	5.3 0	7.9 4.5	86.8 95.5	.050	.824
29. M/F/N appear to be taken less seriously by faculty & administrators	Females Males	0 0	14.3 5.9	85.7 94.1	1.23	.273	Science Education	0 0	15.0 0	85.0 100	3.76	.057

Table 5-E (continued)

Statement	Gender	%M	%F	%N	%F	p	Area	%M	%F	%N	%F	p
30. M/F/N appear to be taken more seriously by graduate students within the department.	Females	10.7	0	89.3	.425	.517	Science	12.8	0	87.2	3.13	.082
	Males	6.1	0	93.9			Education	0	0	100		
31. M/F/N appear to be taken more seriously by undergrad. majors in the department.	Females	10.7	0	89.3	.379	.541	Science	13.2	0	86.8	3.22	.078
	Males	6.3	0	93.8			Education	0	0	100		
32. In general, M/F/N respect women undergrad. students less than men undergrad. students.	Females	7.1	0	92.9	.097	.756	Science	9.1	0	90.9	2.13	.149
	Males	5.3	0	94.7			Education	0	0	100		
33. In general, M/F/N respect women grad. students less than men grad. students.	Females	3.6	0	96.4	.103	.749	Science	6.8	0	93.2	1.56	.216
	Males	5.3	0	94.7			Education	0	0	100		

Note: Percent reported is percent of those who responded to item

Academic Major Change and Sexual Harassment

In response to the question why women students changed major, none of the respondents indicated that women undergraduate students left their intended academic majors because of gender inequity. A much higher percentage of males than females and science than education faculty indicated women graduate students left their majors because of gender inequity.

The majority of the respondents, regardless of gender or academic area, indicated they did not know how effective the policies and procedures were that addressed sexual harassment. Males were more likely than females to respond that sexual harassment was moderately to very common, but a higher percentage of females reported being harassed. Of those faculty who reported that they had been sexually harassed, females responded the harassment was by another faculty member or administrator (someone with equal or more power in the organization) while males responded the harassment was by a student or staff member (someone with less power in the organization). (See Table 5-F.)

Table 5-F

Change of Major and Sexual Harassment by Gender and Academic Area

Faculty were asked to respond to the following statements.

Statement	Response	% M	% F	% Sci	%Educ	Stat.	p
34. The most common reasons that women undergraduate majors transfer out of your program are ...	Future financial potential	3.2	7.7	2.7	10.0	*	
	Current financial problems	3.2	11.5	10.8	5.0		
	Immaturity	6.5	7.7	5.4	10.0		
	Personal reasons	29.0	46.2	37.8	35.0		
	Gender inequity	0	0	0	0		
	Other	58.1	26.9	43.2	40.0		
35. The most common reasons that women graduate students leave your program are ...	Program too difficult	6.7	20.0	7.9	22.2	*	
	Program too long	0	0	0	0		
	Family concerns/money	10.0	20.0	21.1	5.6		
	Personal reasons	33.3	52.0	28.9	66.7		
	Conflict with faculty	0	8.0	5.3	0		
	Gender inequity	23.3	0	18.4	0		
	Other	23.3	0	15.8	5.6		
36. In your opinion, the policies and procedures that address sexual harassment at GSU are ...	Very effective	22.0	13.3	19.1	17.4	*	
	Moderately effective	26.8	20.0	27.7	17.4		
	Somewhat effective	7.3	13.3	10.6	8.7		
	Somewhat ineffective	0	3.3	0	4.3		
	Moderately ineffective	0	0	0	0		
	Very ineffective	0	0	0	0		
	Don’t know	43.9	50.0	42.6	52.2		

Table 5-F (continued)

Statement	Response	% M	% F	% Sci	%Educ	Stat.	p
37. To the best of your knowledge, sexual harassment among women students at GSU is:	Rare or nonexistent Occasional Moderately common Very common Don't know/no answer	2.4 4.9 24.4 34.1 34.1	0 3.3 33.3 16.7 46.6	2.1 4.3 29.8 27.7 34.0	0 4.3 26.1 26.1 43.5	*	
38. Have you ever been sexually harassed by someone at GSU?	Yes No	10.0 90.0	30.0 70.0	15.6 84.4	21.7 78.3	χ^2= 4.53	.060
39. If selected yes, harassment was by ...	Student Staff Faculty Administrator	66.7 33.3 0 0	0 0 83.3 16.7	40.0 20.0 20.0 20.0	0 0 100 0	*	

* Analysis could not be conducted due to empty cells. Note: Percent reported is percent of those who responded to item.

Academic Participation of Undergraduate Students

When asked about students' participation in their classes, faculty indicated men undergraduate students were more likely to volunteer as group leaders in science departments while women were more likely to volunteer in non-science departments. All faculty members agreed women or both genders visited more during office hours. No faculty member responded that males visited more. All faculty members also indicated women or both genders performed well academically. Again, no one singled out males performing better academically. Female faculty were more likely to respond that they mentored and socialized with women undergraduate students. There seemed to be reluctance on the part of the faculty to acknowledge obviously biased behaviors. (See Table 5-G.)

Table 5-G
Academic Participation of Undergraduate Students by Gender and Academic Area

Faculty were asked to respond to whether the statement applies to men, women, or both (M/W/B) undergraduate students.

Statement	**Gender**	**%M**	**%W**	**% B**	**F**	**p**	**Acad. Area**	**%M**	**%W**	**% B**	**F**	**p**
40. M/W/B volunteer comments in class.	Female Male	7.4 7.3	10.0 9.8	73.3 82.9	.014	.905	Science Education	6.5 9.1	8.7 13.6	84.8 77.3	.046	.830
41. M/W/B volunteer answers in class.	Female Male	3.7 7.3	7.4 9.8	88.9 82.9	.017	.896	Science Education	6.5 4.5	6.5 13.6	87.0 81.8	.827	.367
42. M/W/B ask questions in class.	Female Male	3.7 2.4	11.1 9.8	85.2 87.8	.000	.992	Science Education	4.3 0	8.7 13.6	87.0 86.4	.997	.322
42. M/W/B volunteer as group leader.	Female Male	4.0 6.5	12.0 3.2	84.0 90.3	1.38	.245	Science Education	8.6 0	2.9 13.6	88.6 86.4	**4.30**	**.043**
43. M/W/B visit during office hours.	Female Male	0 0	11.1 22.5	88.9 75.5	1.41	.239	Science Education	0 0	19.6 13.6	80.4 86.4	.351	.555
44. M/W/B perform well	Female	0	7.4	92.6	.162	.689	Science	0	4.3	95.7	.592	.444

academically.	Male	0	5.0	95.0			Education	0	9.1	90.9		
46. M/W/B handle stress well.	Female Male	7.7 8.3	3.8 0	88.5 91.7	.319	.574	Science Education	7.1 9.5	2.4 0	90.5 90.5	.339	.563
47. M/W/B seem to care about subject.	Female Male	0 0	3.7 0	96.3 100	1.46	.232	Science Education	0 0	0 4.5	100 95.5	2.03	.159

Table 5-G (continued)

Statement	**Gender**	**%M**	**%W**	**% B**	**F**	**p**	**Acad. Area**	**%M**	**%W**	**% B**	**F**	**p**
48. M/W/B have serious career goals.	Female Male	0 2.4	3.7 0	86.7 97.6	2.09	.153	Science Education	2.2 0	0 4.5	97.8 95.5	2.29	.135
49. I know the names of M/W/B	Female Male	0 0	0 0	100 100	*		Science Education	0 0	0 0	100 100	*	
50. I call on M/W/B.	Female Male	0 0	0 0	100 100	*		Science Education	0 0	0 0	100 100	*	
52. I tease or ridicule M/W/B.	Female Male	0 0	0 0	100 100	*		Science Education	0 0	0 0	100 100	*	
53. I interrupt M/W/B.	Female Male	0 0	0 0	100 100	*		Science Education	0 0	0 0	100 100	*	
53. I make jokes about M/W/B.	Female Male	12.5 8.3	0 0	87.5 91.7	.084	.776	Science Education	15.4 0	0 0	84.6 100	1.15	.299
54. I select as group leaders M/W/B.	Female Male	0 0	0 0	100 100	*		Science Education	0 0	0 0	100 100	*	
55. I respect the opinions of M/W/B.	Female Male	0 0	0 0	100 100	*		Science Education	0 0	0 0	100 100	*	

56. I mentor professionally M/W/B.	Female Male	0 0	11.5 0	88.5 100	**4.80**	**.032**	Science Education	0 0	2.3 10.0	97.7 90.0	1.69	.198
57. I socialize with M/W/B.	Female Male	0 0	13.0 0	87.0 100	**4.04**	**.050**	Science Education	0 0	3.0 11.1	97.0 88.9	1.23	.273
58. I recommend for grad. education M/W/B.	Female Male	0 2.5	0 0	100 97.5	.672	.415	Science Education	2.2 0	0 0	97.8 100	.475	.493

- For these statements, there was not enough variance in the responses to conduct an analysis

Note: Percent reported is percent of those who responded to item.

Academic Participation of Graduate Students

While no significant differences were found in this section addressed at faculty's perceptions of their relationships with graduate students, perhaps again reflecting an unwillingness to acknowledge obviously biased behaviors, some trends were observed in the data. (See Table 5-H.) Female faculty were more likely than male faculty to respond they preferred women graduate students as teaching and research assistants, and to report they socialized with and mentored women graduate students. However, they were also more likely to respond that they made job contacts for men graduate students. Both genders were more likely to respond they co-authored publications with men graduate students, maybe because there are simply more men graduate students with which to co-author. Science and non-science faculty were more likely to respond that they mentored women graduate students. Science faculty responded that they co-authored publications with men when they endorsed one gender over the other.

Table 5-H
Academic Participation of Graduate Students by Gender and Academic Area

Faculty were asked to indicate whether the statement applies to men, women, or both (M/W/B) graduate students.

Statement	**Gender**	**% M**	**%W**	**% B**	**F**	**p**	**Area**	**% M**	**%W**	**%B**	**F**	**p**
60. Prefer M/W/B as teaching assistants.	Female Male	3.6 2.6	14.3 0	82.1 97.4	3.25	.076	Science Education	4.5 0	4.5 9.1	90.9 90.9	1.27	.263
61. Prefer M/W/B as research assistants.	Female Male	3.6 5.1	10.7 0	85.7 94.9	2.77	.101	Science Education	6.7 0	4.4 4.5	88.9 95.5	.731	.396
62. Spend office hours with M/W/B.	Female Male	3.8 0	3.8 0	92.3 100	.000	1.00	Science Education	2.2 0	0 5.0	97.8 95.0	2.32	.133
62. Socialize with M/W/B outside work.	Female Male	4.3 3.1	13.0 0	82.6 96.9	2.07	.156	Science Education	5.4 0	2.7 5.6	91.9 94.4	2.49	.120
63. Serve as committee chair for M/W/B.	Female Male	0 0	4.5 0	95.5 100	1.75	.191	Science Education	0 0	0 5.3	100 94.7	2.09	.154
65. Mentor professionally M/W/B.	Female Male	0 0	7.4 0	92.6 100	3.025	.087	Science Education	0 0	2.2 4.8	97.8 95.2	.268	.606
66. Make job contacts for M/W/B.	Female Male	7.1 0	0 0	92.9 100	2.759	.102	Science Education	4.7 0	0 0	95.3 100	1.09	.301
67. Co-author publications with M/W/B.	Female Male	8.3 5.4	0 0	91.7 94.6	.198	.658	Science Education	9.5 0	0 0	90.5 100	2.04	.159

Faculty Comments

The surveys included several open-ended questions and opportunities given to respondents to select an "other" choice in an open-ended way. Four items asked for open-ended suggestions or comments: (1) faculty who felt dissatisfied with the gender balance among tenure-track faculty in their departments were asked about what changes they would like to see, (2) they were asked what strategies they could suggest to implement these changes, (3) all respondents were asked for what reasons female undergraduate students transferred out of their program, and finally (4) they were asked for what reasons female graduate students left their programs. Faculty were also asked to identify programs, institutional leaders, courses, and faculty who used materials and methods which promoted gender equity. From 74 completed surveys, 51 respondents offered a total of 87 comments.

Of eleven comments regarding the gender balance, six from science faculty (n=47) recommended more female faculty, and five from education faculty (n=23) recommended more male faculty. A tenured male in physics suggested, "We should have at least one more woman in the department. Allow us to fill all vacancies – if two posts/year were available the chance of being able to locate a qualified woman would rise dramatically." A tenured male astronomy professor echoed this strategy, "Need women on faculty. New faculty posts needed (plus replacement)." Similar strategies were offered by education faculty for increasing the number of male faculty, "more aggressive hiring practices," and "recruit men." A farsighted strategy offered by a tenured male chemistry, professor referred to the lack of qualified candidates for faculty positions: "long-term program to increase women graduates in science."

In considering why women students left undergraduate and graduate programs, faculty offered a range of reasons, including "to get a job" and changing "career goals" or "academic interests." However, the majority of these comments suggested females left when the "program is too difficult," their performance was "weak," they "lack competence," or they have "mathematics difficulties." Only two respondents noted that both men and women left for these reasons, and at about the same rate. The majority of comments indicated faculty perceived women to be less academically competent, particularly in the areas of science and mathematics. None of the respondents felt the faculty or school had any responsibility for students leaving the program. For example, no faculty mentioned a lack of academic support, or role models for women as a possible cause of transfer.

Faculty were asked about programs that supported gender or racial equity within mathematics, science, and science or mathematics education courses. Only five programs were named and these all related to racial, not gender equity. Thirteen respondents named 15 institutional leaders who actively supported gender or racial equity. One tenured female in an administrative position offered an interesting insight about responses to this question, "I guess I'm not sure what you mean by 'actively.' For some it could mean not being an obstacle."

Of twelve comments about courses in science, mathematics, or science and mathematics education which addressed gender or racial equity, only one came from a science professor and named a science course, Biology 450/650. Education faculty named ten courses which addressed gender and racial equity, with most in the early childhood program. One professor seemed especially unaware of literature which showed girls fall behind in mathematics courses from middle school through college. He said, "Gender is not an issue in mathematics. All people are equal in learning math." This tenured male mathematics professor further commented, "Mathematics is objective. No one should get special treatment in mathematics. A white male, if he does not perform well, he deserves an 'F.' The same should apply to anyone else. There should [be] no excuse for women or minorities to avoid poor grades, if they do not study hard and do not perform well. We should play fairly. Madam Curie (Nobel Pize's (sic) twice winner) is a good positive example to inspire women or men."

Several general comments reflected a defensive stance on the part of science and mathematics faculty. For example, "I'm about as a politically correct SOB as you can find anywhere," said the tenured geology professor. A tenured male professor in physics commented on his response that the gender balance in his all-male department was "ideal" by saying, "We get virtually no women applicants and we have no women on the faculty – What else could we do?" A tenured male chemistry professor could not answer questions asking whether male or female faculty received greater support from the university because, "Our department consists of one exceptional female and a broad spectrum of males, therefore most of these questions do not have a meaningful answer among the three choices (male, female, neither)." A tenured male physics professor felt, "Actually [sexual harassment policies] are, for the most part silly; they trivialize <u>real</u> harassment by being over broad."

Summary

Faculty Perception of Gender Differences among Faculty

Regarding the gender balance of faculty, science faculty recommended more female faculty and education faculty recommended more male faculty.

Most male and female faculty responded in the direction of neither gender having higher salaries; however, when one gender was endorsed as having a higher salary both males and females were more likely to respond that males had higher salaries.

Science faculty were more likely to respond that males had better promotion rates.

Females were more likely to respond that males had better tenure rates, but males, although they were more likely to respond that neither gender had a better rate of obtaining tenure, also responded that males had better rates when they indicated a preference for one of the genders.

Female faculty perceived that male faculty have more space allocated for their work and greater equipment allocations.

Male, female, and science faculty were more likely to respond that female faculty were taken less seriously by faculty and administrators within their departments, and to respond that male faculty were taken more seriously by undergraduate and graduate students.

Faculty Perception of Sexism and Sexual Harassment

The majority of the faculty respondents, regardless of gender or department, indicated that they did not know how effective the policies and procedures were that addressed sexual harassment.

Male faculty were more likely than females to respond that sexual harassment was moderately to very common, but a higher percentage of female faculty reported being harassed.

Of those faculty who reported that they had been sexually harassed, females responded that the harassment was by a faculty member or administrator (someone with equal or more power in the organization) while males responded that the harassment was by a student or staff member (someone with less power in the organization).

Faculty Perception of Gender Equity among Majors

Male faculty made stronger endorsements about the perceived support for women at the university and community level.

- Faculty in science departments responded there was more perceived support for women from the administration at the college level. Faculty in education departments endorsed more perceived support from the administration at the departmental level. These differences were significant.

Education faculty more strongly disagreed with the statement that their fellow faculty members and the staff within their departments were not supportive of women.

The faculty as a whole perceived the students as supportive of women.

There was no significant difference between faculty in science and education fields with respect to the amount of perceived support for women in the community in which the institution was located.

Faculty Classroom Interaction Assessment

Faculty indicated that men undergraduate students were more likely to volunteer as group leaders in science departments while women were more likely to volunteer in education departments.

All faculty members agreed women (or both genders) visited more during office hours; no faculty member responded that males visited more.

All faculty members also indicated that women (or both genders) performed well academically; again, no one singled out males as performing better academically.

Female faculty were more likely to respond they mentored and socialized with women undergraduate students.

Female faculty were more likely than male faculty to respond that they preferred women graduate students as teaching and research assistants, and that they socialized with and mentored women graduate students.

Female faculty indicated that they made job contacts for men graduate students more than for women graduate students.

Both genders perceived that they co-authored publications with more men graduate students.

Science and education faculty were more likely to mentor women graduate students.

Reasons Students Leave a Major

The majority of faculty indicated that women students left undergraduate and graduate programs when the "program is too difficult," their performance was "weak," they "lack competence," or they had "math difficulties."

None of the respondents felt the faculty or school had any responsibility for students leaving the program.

Chapter 6
Student Survey

Data were collected on students enrolled in academic classes during the Winter quarter, 1997 at Georgia State University (GSU), a large urban university in the southeast. The intact classes sampled were chosen because their teachers were willing to allow students 10 or 15 minutes to complete a survey on climatic gender differences for students at the university. Students were given standardized instructions stating the survey's purpose was to assess the social climate at the university. Teachers' participation was requested based on their teaching either science or math classes, or teacher preparation classes.

Students completed an 85 item survey designed to gather data about perceived treatment of male and female students by faculty, staff, and administration, and the degree to which students perceived that GSU is supportive of women. The survey sections addressed the gender balance among faculty, the environmental support of women, faculty respect, sexual harassment, personal confidence and satisfaction, use of technology, and demographic data. Incomplete surveys were included in the analysis for the items completed on each. Thus, the number included in analyzing each item varies slightly. (See Appendix C for survey.)

Surveys were completed by 505 students, including 63 graduate and 442 undergraduate students. Twenty-six students did not indicate their gender. Of the 479 who did respond, 315 (65.7%) were female, and 164 (34.2%) were male. The students majors or graduate area of study were distributed as follows: Math = 15; Math Education = 12; Science = 197; Science Education = 36; Other Education = 165; and Other Major = 57. Twenty-three students did not indicate their major or area of graduate study. The majors were divided into three groups with science, mathematics, science and math education combined into a group called *Science/Math.* Other education majors made up the group called *Education*, and other majors made up the group called *Liberal Arts.*

Table 6-A:
Demographic Data of Student Survey
Respondents by Age, Ethnicity, and Year in College

Age	N	Ethnicity	N	Year	N
17 - 20	47	African-American.	92	1st	17
21 - 24	177	Asian	57	2nd	41
25 - 30	154	Caucasian	293	3rd	123
31 - 40	70	Hispanic	8	4th	162
41 - older	35	Other	27	Post Bac	70
no age	22	None given	28	no data	13
				graduate	63

Students ranged in age from 17 to above 41 years old. Most students (331) were between 21 and 30 years of age. There was a wide range of ethnicities. Several commented about the validity of this question, seeing themselves as without racial identity or with multiple racial identities. Student status as far as years attending GSU varied. (See Tables 6-A and 6-B.)

The narrative and tables that follow present the results of the analysis of the student survey. Where assumptions were met, results were analyzed using ANOVA or MANOVA as appropriate. When the data did not allow the more rigorous analysis, the Chi Square statistic was used to test for significant differences between groups. The test statistic is indicated at the top of each table, with "F" indicating an analysis of variance and 'χ^2' indicating that the Chi Square was used.

Table 6-B
Demographic Data of Student Survey
Respondents by Gender and Area of Major

Respondents	**Education Level**	**Number of males**	**Number of females**	**Total**
Science	Undergraduate	88	113	201
	Graduate	31	21	52
Education	Undergraduate	19	134	153
	Graduate	2	7	9
Liberal Arts	Undergraduate	19	37	56
	Graduate	0	0	0

Gender Balance Among Faculty

Students were asked to describe the gender balance among tenure-track faculty in their academic departments. There were no differences in the ways that male and female students responded to this question. No differences were found when the responses to this item were compared by academic area. Most students responded that the gender balance among tenure-track faculty in their academic departments was acceptable. (see Table 6-C.)

Table 6-C
Gender Balance of Faculty by Gender and Academic Area

Students were asked to respond to the statement below using the categories of ideal (I), acceptable but not ideal (A), and unacceptable (U).

Statement	Gender	%I	%A	%U	c^2	p	Area	%I	%A	%U	c^2	p
2. Overall, the gender balance among tenure-track faculty in your department is:	Female Male	29.8 39.7	62.9 51.9	7.3 8.3	5.31	.07 0	Science Educ. L. Arts	30.6 36.7 35.3	59.1 59.5 56.9	10.3 3.8 7.8	6.51	.163

Academic Major Change

When asked to select from a list of reasons why women undergraduate students transfer from one academic major to another, male students were more likely to select gender inequity and immaturity while female students were more likely to select financial issues. Students in science and liberal arts areas were more likely than students in education areas to choose gender inequity as the reason women undergraduates change majors. Students in education areas more frequently selected financial issues and personal reasons.

When graduate students were asked about why women graduate students leave their intended academic majors, only female and only students in the science areas selected gender inequity. The majority of students responded that women graduate students leave their programs of study because of personal reasons. (See Table 6-D.)

Table 6-D
Academic Major Change by Gender and Academic Area

Statement	Response	%M	%F	%Sci.	%Ed	%Lib. Arts	c^2	p

4. The most common reasons that women undergraduate majors transfer out of your program are ...	Future financial potential	21.5	29.0	18.4	32.6	36.4	Gender	
	Current financial problems	2.2	9.1	3.7	13.2	2.3	**10.9**	**.053**
	Immaturity	4.3	2.1	3.1	2.3	2.3		
	Personal reasons	39.8	38.6	39.3	42.6	34.1	Area	
	Gender inequity	4.3	2.1	3.1	1.6	4.5	**41.00**	**.000**
	Other	28.0	19.1	32.5	7.8	20.5		
6. (graduate). The most common reasons that women graduate students leave your program are ...	Future financial potential	20.7	12.5	18.2	0	0	Gender	
	Current financial problems	0	8.3	4.5	0		5.04	.41
	Immaturity	3.4	0	2.3	0			
	Personal reasons	51.7	54.2	47.7	87.5		Area	
	Gender inequity	0	4.2	2.3	0		4.62	.46
	Other	24.1	20.8	25.0	12.5			

Note: Percent reported is percent of those who responded to item.
There were no liberal arts students in the graduate sample.

Environmental Support

Students were asked to respond to a number of items measuring perceived support for women at the university. When their responses were compared by gender, males perceived the administration to be more supportive of women than women did. There were no other statistical differences in the responses of male and female students for these items. The general trend was toward supportiveness of women. (See Table 6-E.)

Students' responses to items focused on environmental support were also compared by academic areas (science, education, and liberal arts). Students in the science and the liberal arts areas more frequently responded that the administration at the college level and the community in which the university is located are not supportive of women. Students in liberal arts more strongly agreed the undergraduate students in their academic areas were not supportive of women. Students in education more strongly endorsed support for women at the level of departmental administration. (See Table 6-F.)

Table 6-E

Environmental Support by Gender

Students were asked to rate statements using the following options: strongly disagree (SD), disagree(D), neutral(N), agree(A), strongly agree(SA).

Statement	Gender	%SD	%D	%N	%A	%SA	F	p
5. The administration at the university level is supportive of women.	Female Male	1.0 .6	5.8 0	31.6 36.9	48.7 40.6	12.9 21.9	**3.75**	**.053**
6. The administration at the college level is not supportive of women.	Female Male	17.5 21.3	38.8 31.9	32.7 38.1	9.1 5.0	1.9 3.8	.002	.963
7. The administration at the departmental level is supportive of women.	Female Male	1.0 0	4.2 0	23.3 34.8	54.4 43.7	17.2 21.5	.309	.578
8. The faculty and staff within the university at large are supportive of women.	Female Male	1.3 0	4.2 0	24.8 37.3	56.4 42.4	13.4 20.3	.927	.336
9. The faculty and staff within your department are supportive of women.	Female Male	2.6 1.3	5.9 6.3	22.1 29.6	45.0 33.3	24.4 29.6	.102	.749
10. The students across campus are supportive of women.	Female Male	1.0 .6	3.9 1.9	30.3 36.9	53.0 39.5	11.8 21.0	.854	.356
10. The undergraduate students in your department are not supportive of women.	Female Male	22.1 27.0	44.6 29.6	26.4 38.4	5.9 3.1	1.0 1.9	.416	.519
11. The graduate students in your department are supportive of women.	Female Male	1.0 1.3	3.6 1.3	39.2 40.3	42.8 33.3	13.4 23.9	3.456	.064

12. The community in which your institution is located is not supportive of women.	Female Male	17.3 24.7	43.6 28.5	27.7 38.6	9.8 6.3	1.6 1.9	.158	.690

Note: Percent reported is percent of those who responded to item

Table 6-F
Environmental Support by Academic Area

Students were asked to rate statements using the following options: strongly disagree (SD), disagree (D), neutral (N), agree (A), strongly agree (SA).

Statement	**Area**	**%SD**	**%D**	**%N**	**%A**	**%SA**	**F**	**p**
5. The administration at the university level is supportive of women.	Science Ed. L. Arts	.4 1.2 1.8	4.3 3.1 1.8	36.3 28.2 43.6	43.0 49.7 41.8	16.0 17.8 10.9	2.12	.121
6. The administration at the college level is not supportive of women.	Science Ed. L. Arts	16.9 23.3 12.7	34.9 38.7 30.9	37.3 29.4 43.6	7.8 6.7 10.9	3.1 1.8 1.8	**3.56**	**.029**
7. The administration at the departmental level is supportive of women.	Science Ed. L. Arts	0 1.2 1.9	4.3 1.2 0	30.6 20.9 41.5	49.4 52.8 43.4	15.7 23.9 13.2	**4.57**	**.011**
8. The faculty and staff within the university at large are supportive of women.	Science Ed. L. Arts	0 1.9 1.8	3.6 1.9 1.8	30.6 23.5 45.5	51.6 55.6 38.2	14.3 17.3 12.7	2.36	.096
9. The faculty and staff within your department are supportive of	Science Ed.	1.6 3.1	6.7 4.9	27.7 18.5	41.1 41.4	22.9 32.1	2.43	.089

women.	L. Arts	1.8	5.5	38.2	36.4	18.2		
10. The students across campus are supportive of women.	Science Ed. L. Arts	.8 .6 1.9	3.6 3.1 1.9	32.9 30.6 47.2	46.4 51.9 41.5	16.3 13.8 7.5	2.22	.109

Table 6-F (continued)

Statement	**Area**	**%SD**	**%D**	**%N**	**%A**	**%SA**	**F**	**p**
11. The undergraduate students in your department are not supportive of women.	Science Ed. L. Arts	24.1 25.9 10.9	34.4 46.9 36.4	35.6 21.6 43.6	4.3 4.9 7.3	1.6 .6 1.8	**4.94**	**.008**
12. The graduate students in your department are supportive of women.	Science Ed. L. Arts	.8 1.2 1.8	3.6 3.1 0	38.3 37.3 58.2	39.1 41.6 30.9	18.2 16.8 9.1	2.04	.131
13. The community in which your institution is located is not supportive of women.	Science Ed. L. Arts	18.7 21.0 16.4	34.5 48.1 27.3	35.7 24.7 38.2	9.5 4.9 14.5	1.6 1.2 3.6	**5.65**	**.004**

Note: Percent reported is percent of those who responded to item

Respect for Faculty

Students were asked to respond to items about the perception of respect for male and female faculty members of the university. Their responses were compared on the basis of gender and academic area. More female students responded that male faculty have more respect for those of their own gender than for female faculty. This difference was statistically significant. More female students and more students in science seem to perceive that both female and male students have more respect for male faculty, although these differences were not statistically significant. (See Table 6-G.)

Table 6-G
Respect for Faculty by Gender and Academic Area

Students were asked to respond to statements by selecting more (M), about the same (S), or less (L).

Statement	**Gender**	**%M**	**%S**	**%L**	**F**	**p**	**Area**	**%M**	**% S**	**%L**	**F**	**p**
14. Male students have M/S/L respect for male faculty than for female faculty.	Females Males	20.6 15.5	75.7 83.2	3.7 1.3	1.06	.305	Science Ed. L. Arts	19.6 16.8 23.1	77.1 80.7 73.1	3.3 2.5 3.8	.290	.748
15. Female students have M/S/L respect for male faculty than for female faculty.	Females Males	13.6 10.9	84.4 85.0	2.0 4.1	1.08	.300	Science Ed. L. Arts	15.2 9.4 13.5	81.9 88.8 82.7	3.0 1.9 3.8	.991	.372
16. Male faculty have M/S/L respect for male faculty than for female faculty.	Females Males	19.8 8.9	76.2 87.7	4.0 3.4	**4.04**	**.045**	Science Ed. L. Arts	16.0 17.8 13.7	81.0 77.1 82.4	3.0 5.1 3.9	.194	.823
17. Female faculty have M/S/L respect for male faculty than for female	Females Males	6.5 7.5	90.8 87.0	2.7 5.5	.156	.692	Science Ed. L. Arts	8.2 6.3 2.0	87.1 91.8 91.8	4.7 6.3 6.1	1.31	.272

faculty.												
18. I have M/S/L respect for male faculty than for female faculty.	Females Males	3.3 5.1	94.4 94.3	2.3 .6	1.16	.282	Science Ed. L. Arts	5.6 1.8 5.7	91.9 96.9 94.3	2.4 1.2 0	1.41	.246

Note: Percent reported is percent of those who responded to item.

Academic Participation of Students

Undergraduate and graduate students were asked to respond to items about the patterns of participation in academic activities. Both genders responded that female students visit professors during office hours more than male students; however, there was a statistically significant difference with more females endorsing this perception. Students in science and liberal arts perceive that males more than females volunteer in class as group leaders. (See Table 6-H.)

Table 6-H
Academic Participation of Students by Gender and Academic Area

Students were asked to respond to whether the statement applies to men (M), women (W), or both/neither (B).

Statement	**Gender**	**%M**	**%W**	**% B**	**F**	**p**	**Acad. Area**	**%M**	**%W**	**%B**	**F**	**p**
19. M/W/B volunteer comments in class.	Female Male	5.2 9.9	13.6 8.6	81.2 81.5	1.68	.195	Science Education Liberal Arts	8.2 3.7 9.1	11.0 13.6 12.7	80.8 82.7 78.2	.304	.738
20. M/W/B volunteer answers in class.	Female Male	5.2 8.0	14.6 8.0	80.3 84.0	1.14	.286	Science Education Liberal Arts	7.5 3.1 7.3	12.5 13.0 10.9	80.0 84.0 81.8	.378	.685
21. M/W/B ask questions in class.	Female Male	3.6 5.6	14.2 12.3	82.2 82.1	.000	.996	Science Education Liberal Arts	4.7 3.1 7.3	13.3 14.2 12.7	82.0 82.7 80.0	.022	.978

22. M/W/B volunteer as group leader.	Female Male	13.1 19.5	16.7 5.0	70.2 75.5	2.85	.092	Science Education Liberal Arts	18.1 8.6 24.1	9.6 17.9 11.1	72.3 73.5 64.8	.725	.485
23. M/W/B visit during office hours.	Female Male	2.1 2.0	20.1 14.8	77.8 83.2	**3.95**	**.048**	Science Education Liberal Arts	1.7 2.0 4.3	19.5 16.6 17.0	78.8 81.5 78.7	1.57	.210
24. M/W/B perform well academically.	Female Male	3.6 2.5	4.6 5.0	91.7 92.5	.280	.597	Science Education Liberal Arts	5.2 1.2 3.8	5.6 3.7 3.8	89.2 95.0 92.3	.190	.827
25. M/W/B handle stress well.	Female Male	13.6 19.1	11.7 10.8	74.7 70.1	2.31	.129	Science Education Liberal Arts	17.4 13.0 13.7	13.8 6.8 15.7	68.8 80.2 70.6	.632	.532
26. M/W/B seem to care about subject.	Female Male	1.0 4.4	13.5 6.3	85.5 89.4	2.19	.139	Science Education Liberal Arts	3.9 0 0	10.9 11.8 9.1	85.2 88.2 90.9	.096	.908
Statement	**Gender**	**%M**	**%W**	**% B**	**F**	**p**	**Acad. Area**	**%M**	**%W**	**%B**	**F**	**p**
27. M/W/B have serious career goals.	Female Male	2.9 6.9	4.5 1.3	92.5 91.9	1.61	.205	Science Education Liberal Arts	6.3 1.9 3.8	2.0 5.0 5.8	91.8 93.2 90.4	.845	.430

Note: Percent reported is percent of those who responded to item.

Perception of Equity by Undergraduate Students

Undergraduate students responded to a set of items assessing their perception of equity in their interactions with faculty. Men and women disagree about who is interrupted by faculty, both believe their gender is interrupted more than the other. Each gender seems to believe that the other enjoys more socialization with faculty. These differences in perception were statistically significant. Education and liberal arts majors perceive that women are interrupted more than men, while science majors responded that men and women are interrupted approximately equally. A significant difference was also found in students' perceptions of who receives more praise in class. While the majority of both male and female students responded that both genders receive praise, of those who choose one gender over the other, more females and more males indicated that males are praised by faculty in class. (See Table 6-I.)

Table 6-I
Perception of Equity by Undergraduate Students by Gender and Academic Area

Undergraduate students were asked to respond to whether the statement applies to men (M), women (W), or both (B). While the multivariate analysis of these items by department was not significant, we are reporting F values for all items.

Statement	Gender	%M	%W	% B	F	p	Department	%M	%W	%B	F	p
28. Faculty know the names of M/W/B.	Female Male	6.0 2.3	3.2 3.9	90.7 93.8	1.78	.183	Science Education Liberal Arts	5.4 5.2 1.9	3.9 1.3 7.7	90.7 93.5 90.4	2.03	.132
29. Faculty call on M/W/B.	Female Male	6.0 3.9	3.2 3.9	90.7 92.2	1.08	.299	Science Education Liberal Arts	5.4 6.5 3.7	2.5 3.9 5.6	92.2 89.5 90.7	.210	.811
30. Faculty tease or ridicule M/W/B.	Female Male	5.0 7.0	4.6 3.1	90.4 89.8	1.04	.307	Science Education Liberal Arts	5.4 7.8 0	2.9 4.6 7.7	91.7 87.6 92.3	1.93	.147
31. Faculty interrupt	Female Male	.4 4.0	7.5 1.6	92.1 94.4	**10.5**	**.001**	Science Education	3.0 0	3.4 7.8	93.6 92.2	**3.10**	**.046**

M/W/B.							Liberal Arts	0	7.8	92.2		
32. Faculty make jokes about M/W/B.	Female Male	2.5 3.9	2.2 3.1	95.3 92.9	.142	.706	Science Education Liberal Arts	4.0 1.9 2.0	4.0 0 4.0	92.1 98.1 94.0	.589	.556
Statement	**Gender**	**%M**	**%W**	**% B**	**F**	**p**	**Department**	**%M**	**%W**	**%B**	**F**	**p**
33. Faculty select as group leaders M/W/B.	Female Male	4.3 5.5	2.9 0	92.8 94.5	2.86	.092	Science Education Liberal Arts	7.0 2.6 3.8	2.0 2.6 0	91.0 94.8 96.2	2.25	.107
34. Faculty respect the opinions of M/W/B.	Female Male	4.7 2.3	0 .8	95.3 96.9	1.92	.167	Science Education Liberal Arts	5.4 2.6 1.9	.5 0 0	94.1 97.4 98.1	.861	.423
35. Faculty mentor professionally M/W/B.	Female Male	7.8 5.7	2.6 .8	89.6 93.5	.034	.852	Science Education Liberal Arts	9.9 4.7 5.8	1.6 2.7 1.9	88.5 92.7 92.3	1.91	.450
36. Faculty socialize with M/W/B.	Female Male	5.6 .8	1.5 2.4	92.9 96.7	**4.70**	**.031**	Science Education Liberal Arts	4.7 3.3 4.0	2.1 1.3 2.0	93.2 95.3 94.0	.032	.969
37. Faculty recommend for graduate education M/W/B.	Female Male	6.6 4.3	1.2 1.7	92.2 93.9	.861	.354	Science Education Liberal Arts	9.7 2.1 6.7	1.6 1.4 0	88.6 96.5 92.3	**3.19**	**.042**
38. Faculty praise in class M/W/B.	Female Male	2.9 2.4	1.4 1.6	95.7 96.0	**.438**	**.508**	Science Education Liberal Arts	3.5 2.0 2.0	1.5 1.3 2.0	95.0 96.7 96.1	.153	.858

Note: Percent reported is percent of those who responded to item.

Perception of Equity by Graduate Students

Graduate students were asked to respond to items measuring their perceptions of gender equity in interactions with faculty. Because graduate students have different kinds of interactions with faculty than undergraduate students, the items were changed to reflect the kinds of interaction important to graduate students' progress. Male and female graduate students agreed that male faculty mentor men more than women but that they prefer women as teaching assistants. While more females responded that female faculty mentor women more than men, more male students felt that men were mentored by female faculty. Each gender seems to perceive that the other serves as co-author with male faculty and socializes with female faculty. There were no significant differences when the responses to these items were compared by academic area; however, there was a trend for graduate students in education to have a stronger perception of males receiving more interaction from male faculty and females receiving more interaction from female faculty. (See Table 6-J.)

Table 6-J
Perception of Equity by Graduate Students by Gender and Academic Area

Graduate students were asked to indicate whether the statement applies to men (M), women (W), or both (B). While the multivariate analyses of these items by gender and area were not significant, we are reporting individual F values.

Statement	Gender	%M	%W	%B	F	p	Area	%M	%W	%B	F	p
31. Male faculty prefer M/W/B as teaching assistants.	Female Male	3.7 0	14.8 13.3	81.5 86.7	.041	.839	Science Education Liberal Arts	2.1 0 *	14.6 11.1	83.3 88.9	.013	.910
32. Male faculty prefer M/W/B as research assistants.	Female Male	18.5 6.7	7.4 10.0	74.1 83.3	1.41	.241	Science Education Liberal Arts	14.6 0	10.4 0	75.0 100	.061	.805
33. Male faculty spend office hours with M/W/B.	Female Male	14.3 0	0 10.0	85.7 90.0	8.01	.007	Science Education Liberal Arts	4.1 22.2	6.1 0	89.8 77.8	3.66	.062

34. Male faculty serve as committee chair for M/W/B.	Female Male	11.5 3.4	0 3.4	88.5 93.1	2.10	.153	Science Education Liberal Arts	6.4 12.5	2.1 0	91.5 87.5	.404	.528
35. Male faculty mentor professionally M/W/B.	Female Male	18.5 10.3	0 3.4	81.5 86.2	1.44	.236	Science Education Liberal Arts	12.8 22.2	2.1 0	85.1 77.8	.700	.407

* There are no liberal arts majors in the graduate sample.

Table 6-J (continued)

Statement	**Gender**	**%M**	**%W**	**%B**	**F**	**p**	**Area**	**%M**	**%W**	**%B**	**F**	**p**
36. Male faculty socialize with M/W/B outside of work.	Female Male	23.1 6.9	7.7 3.4	69.2 89.7	2.05	.159	Science Education Liberal Arts	12.8 25.0	6.4 0	80.9 75.0	.847	.362
37. Male faculty make job contacts for M/W/B.	Female Male	21.4 6.9	0 3.4	78.6 89.7	3.78	.058	Science Education Liberal Arts	12.5 22.2	2.1 0	85.4 77.8	.700	.407
38. Male faculty co-author publications with M/W/B.	Female Male	11.5 0	0 3.6	88.5 96.4	**4.56**	**.038**	Science Education Liberal Arts	6.7 0	2.2 0	91.1 100	.187	.667
39. Female faculty prefer M/W/B as teaching assistants.	Female Male	3.7 0	14.8 10.3	81.5 89.7	.073	.787	Science Education Liberal Arts	2.1 0	10.6 22.2	87.2 77.8	1.64	.207
40. Female faculty prefer	Female	3.8	11.5	84.6	2.10	.153	Science	4.3	6.5	89.1	.404	.528

M/W/B as research assistants.	Male	3.4	3.4	93.1			Education Liberal Arts	0	11.1	88.9		
41. Female faculty spend office hours with M/W/B.	Female Male	3.6 3.4	7.1 13.8	89.3 82.8	.073	.787	Science Education Liberal Arts	4.2 0	12.5 0	83.3 100	.714	.402
42. Female faculty serve as committee chair for M/W/B..	Female Male	0 3.7	3.7 7.4	96.3 88.9	.003	.954	Science Education Liberal Arts	2.2 0	6.7 0	91.1 100	.187	.667
Statement	**Gender**	**%M**	**%W**	**%B**	**F**	**p**	**Area**	**%M**	**%W**	**%B**	**F**	**p**
43. Female faculty mentor professionally M/W/B.	Female Male	3.8 7.1	15.4 3.6	80.8 89.3	**4.10**	**.048**	Science Education Liberal Arts	6.5 0	8.7 12.5	84.8 87.5	.285	.596
44. Female faculty socialize with M/W/B outside of work.	Female Male	0 11.1	22.2 7.4	77.8 81.5	**5.42**	**.024**	Science Education Liberal Arts	6.7 0	15.6 11.1	77.8 88.9	.027	.870
45. Female faculty make job contacts for M/W/B.	Female Male	7.1 0	3.6 7.1	89.3 92.9	.887	.351	Science Education Liberal Arts	4.3 0	4.3 11.1	91.5 88.9	.858	.359
46. Female faculty co-author publications with M/W/B.	Female Male	3.7 3.7	3.7 3.7	92.6 92.6	.365	.548	Science Education Liberal Arts	4.4 0	4.4 0	91.1 100	.061	.805

Note: Percent reported is percent of those who responded to item.

Perception of Equity in Lab Experiences

Undergraduate students were asked to respond to a number of items about their interactions with lab assistants. The majority of students of both genders and all majors responded that lab assistants interrupt both men and women during class. Of those who selected one gender over the other, more male students indicated that men are interrupted and more female students indicated that women are interrupted. Science majors indicated males are interrupted more while students in education and liberal arts indicated females are interrupted more by lab assistants. (See Table 6-K.)

Table 6-K
Perception of Equity in Lab Experiences by Gender and Academic Area

Undergraduate students were asked to respond to whether the statement about lab assistants (lab assts) applies to men (M), women (W), or both/neither (B).

Statement	**Gender**	**%M**	**%W**	**%B**	**F**	**p**	**Department**	**%M**	**%W**	**%B**	**F**	**p**
39. Lab assts know the names of M/W/B.	Female Male	7.4 5.8	0 0	92.6 94.2	.796	.373	Science Education L. Arts	9.7 2.5 7.7	0 0 0	90.3 97.5 92.3	2.80	.062
40. Lab assts call on M/W/B in class.	Female Male	3.9 3.8	.9 2.9	95.2 93.3	.586	.445	Science Education L. Arts	4.0 4.2 2.6	2.8 0 0	93.2 95.8 97.4	.569	.566
41. Lab assts tease or ridicule M/W/B in class.	Female Male	1.3 3.8	2.2 2.9	96.5 93.3	.532	.466	Science Education L. Arts	2.3 1.7 2.6	4.0 .8 0	93.8 97.5 97.4	.928	.396
42. Lab assts interrupt M/W/B during class.	Female Male	.4 1.9	3.9 0	95.6 98.1	**5.95**	**.015**	Science Education L. Arts	1.1 .8 0	.6 5.9 2.6	98.3 93.3 97.4	**3.08**	**.047**

43. Lab assts make jokes about this group (M/W/B) in class.	Female Male	.4 5.8	3.5 1.0	96.1 93.3	**9.43**	**.002**	Science Education L. Arts	3.4 0 2.6	3.4 .8 5.1	93.2 99.2 92.3	.236	.790
44. Lab assts select as group leaders (M/W/B).	Female Male	5.8 4.9	1.8 1.0	92.5 94.2	.001	.977	Science Education L. Arts	6.4 4.2 5.3	1.7 .8 2.6	91.9 94.9 92.1	.14	.864
Statement	**Gender**	**%M**	**%W**	**%B**	**F**	**p**	**Department**	**%M**	**%W**	**%B**	**F**	**p**
45. Lab assts respect the opinions of (M/W/B).	Female Male	4.3 2.9	0 1.0	95.7 96.1	1.05	.307	Science Education L. Arts	5.1 3.4 0	.6 0 0	94.3 96.6 100	.836	.434
46. Lab assts socialize with (M/W/B).	Female Male	4.0 2.9	1.8 3.9	94.2 93.1	1.18	.279	Science Education L. Arts	5.3 2.5 0	2.9 1.7 2.6	91.8 95.8 97.4	.659	.518
47. Lab assts praise in class (M/W/B).	Female Male	3.5 2.9	0 1.0	96.5 96.1	.502	.479	Science Education L. Arts	4.0 2.5 2.6	.6 0 0	95.4 97.5 97.4	.114	.892

Note: Percent reported is percent of those who responded to item.

Sexual Harassment

Undergraduate and graduate students were surveyed about their perception of sexual harassment at the university. There was a significant difference between the genders in perception of the prevalence of sexual harassment among women students at the university, with female students endorsing a higher prevalence. More males reported being harassed, and most of them reported the harassment was by someone in a position of equal or less power than themselves, while women who reported experiencing sexual harassment were more likely to report the harassment was by someone in a position of equal or greater power. Education majors were least likely to report experiencing sexual harassment. Approximately twice as many science majors and three times as many liberal arts majors reported experiencing sexual harassment at the university. (See Table 6-L.)

Table 6-L
Sexual Harassment by Gender and Academic Area

Students were asked to respond to the following statements.

Statement	**Response**	**%M**	**%F**	**%Sci**	**%Educ**	**%L.Arts**	c^2	**p**
48. To the best of your knowledge, how extensive is sexual harassment among women students at the university?	Rare or nonexistent Occasional Moderately common Very common Do not know/no answer	29.4 11.0 2.5 3.1 54.0	18.8 17.9 6.1 .6 56.5	24.9 18.3 3.9 2.3 50.6	19.6 11.7 4.9 1.2 62.6	14.0 17.5 10.5 0 57.9	Gender **15.91** Dept. 2.96	 **.003** .224
49. Are you aware of university policies and procedures regarding sexual harassment?	No Yes	55.2 44.8	58.5 41.5	55.9 44.1	58.9 41.1	54.4 45.6	Gender .493 Dept. .518	 .280 .772
50. If yes, in your opinion, how effective are the policies and procedures that address sexual	Very effective Moderately effective Somewhat effective Somewhat ineffective	42.4 3.5 2.4 1.2	43.7 1.2 1.2 4.8	37.0 3.1 1.6 4.7	47.1 1.1 1.1 2.3	52.6 2.6 2.6 5.3	Gender 6.06	 .416

harassment at the university?	Moderately ineffective Very ineffective Do not know	10.6 24.7 15.3	13.2 26.3 9.6	11.8 27.6 14.2	12.6 26.4 9.2	15.8 15.8 5.3	Dept. 8.98	 .705
51. Have you ever been sexually harassed by someone at the university?	Yes No	8.0 92.0	6.4 93.6	8.2 91.8	4.3 95.7	12.5 87.5	Gender .394 Dept. 4.62	 .326 .099
Statement	**Response**	**%M**	**%F**	**%Sci**	**%Educ**	**%L.Arts**	c^2	**p**
52. If selected yes, harassment was by ...	Not harassed Student Staff Faculty Administrator *Other	92.0 2.5 .6 0 .6 4.3	93.6 1.6 .6 1.6 0 2.6	91.8 2.3 .8 .8 .8 3.5	95.7 1.2 0 .6 0 2.5	87.5 1.8 1.8 3.6 0 5.4	Gender 5.96 Dept. 9.88	 .310 .451

* Due to the urban location of the university, students are subject to harassment from persons other than university employees and other students.

Note: Percent reported is percent of those who responded to item.

Confidence and Satisfaction with Major/Program

Students were asked to respond to items about the degree to which they felt confident, expected to be successful after graduation, and felt that their major/program had been a good choice. More females than males responded their major was a good choice for women students and for themselves. More male students expressed their desire for more female students in their majors. (See Table 6-M.)

Education majors were more likely to strongly endorse items related to their competence and confidence in their chosen field and to perceive that their major is a good choice for women. They were also more likely to strongly endorse a high expectancy for success. Science majors were least likely to strongly endorse items related to their competence, confidence, and expectancy of success. They were also least likely to respond that the contributions of women are included in their coursework. (See Table 6-N.)

Table 6-M
Confidence and Satisfaction with Major/Program by Gender

Students were asked to respond to statements with these options: strongly disagree(SD), disagree(D), neutral(N), agree(A), strongly agree (SA).

Statement	Gender	%SD	%D	%N	%A	%SA	F	p
53. I feel very confident about my ability in the area of my major.	Female Male	2.9 .6	2.3 3.1	2.9 4.3	40.6 39.5	51.3 52.5	.483	.487
54. I have done very well in my major/graduate courses.	Female Male	1.9 .6	4.2 5.5	7.4 14.7	43.0 41.1	43.4 38.0	.748	.388
55. I think my major/program is a good choice for men students.	Female Male	5.2 1.8	1.6 6.1	14.5 20.2	42.6 31.9	36.1 39.9	.309	.578
56. I think my major/program is a good choice for women students.	Female Male	3.2 3.1	.6 4.9	11.3 24.1	41.6 32.7	43.2 35.2	**5.06**	**.025**

57. I think my major/program was a good choice for me.	Female Male	1.9 3.1	.3 3.7	3.9 6.7	28.7 31.9	65.2 54.6	**4.27**	**.039**
58. I expect I will be successful working in my major/area after graduation.	Female Male	1.9 1.2	1.6 4.3	6.5 6.7	28.1 33.1	61.9 54.6	.677	.411
59. I wish there were more women students in my major/program.	Female Male	6.1 4.9	19.4 6.8	52.8 52.5	10.0 11.7	11.7 24.1	**13.2**	**.000**
60. I wish there were more women instructors/professors in my major/program.	Female Male	5.8 6.2	14.6 5.6	48.9 60.9	16.5 11.8	14.2 15.5	.559	.455
Statement	**Gender**	**%SD**	**%D**	**%N**	**%A**	**%SA**	**F**	**p**
61. I am very interested in attending graduate school in my major or a related area (for undergraduate only)	Female Male	3.9 6.2	5.3 4.7	15.2 17.8	27.3 31.0	48.2 40.3	1.61	.206
62. I will probably attend graduate school in my major or a related area (for undergraduate only).	Female Male	3.6 6.9	6.1 5.4	13.6 16.2	29.0 29.2	47.7 42.3	1.70	.194
60. I prefer to do research with male faculty (for graduate only).	Female Male	3.6 9.4	10.7 3.1	57.1 65.6	14.3 12.5	14.3 9.4	.392	.534
61. I prefer to do research with female faculty (for graduate only).	Female Male	14.3 12.5	3.6 6.3	64.3 75.0	17.9 6.3	0 0	.252	.617
63. I prefer to take classes from female professors.	Female Male	3.5 5.6	13.2 9.3	68.2 71.0	9.6 5.6	5.5 8.6	1.52	.219
64. I prefer to take classes from male professors.	Female Male	3.5 6.2	14.8 6.8	68.5 71.6	6.4 8.6	6.8 6.8	2.71	.101
65. The contributions of women professionals are included in courses I have taken	Female Male	5.5 4.9	11.3 8.6	29.7 31.5	37.7 34.6	15.8 20.4	1.90	.168

Statement*	Attribution	%M	%W	Statistic	p
66. When I am successful in an aspect of my major or a task related to my major/program of study, it is usually due to...	Internal External	96.3 3.8	97.4 2.6	.491	.483

*Choices coded as internal included "my ability" and "my effort or hard work". Those coded as external included "luck," and "the ease of the task."

Note: Percent reported is percent of those who responded to item

Table 6-N
Confidence and Satisfaction with Major/Program by Academic Area

Students were asked to respond to statements with these options: strongly disagree(SD), disagree(D), neutral(N), agree(A), strongly agree (SA).

Statement	Area	%SD	%D	%N	%A	%SA	F	p
53. I feel very confident about my ability in the area of my major.	Science Education L. Arts	1.6 2.5 3.5	4.3 0 1.8	5.1 .6 5.3	45.5 33.1 38.6	43.5 63.8 50.9	**5.59**	**.004**
54. I have done very well in my major/graduate courses.	Science Education L. Arts	.8 1.8 3.5	7.5 1.8 0	12.5 2.5 19.3	47.5 36.2 38.6	31.8 57.7 38.6	**11.4**	**.000**
55. I think my major/program is a good choice for men students.	Science Education L. Arts	3.9 3.7 5.3	4.7 1.2 1.8	19.1 10.4 19.3	42.2 37.4 36.8	30.1 47.2 36.8	2.51	.082
56. I think my major/program is a good choice for women students.	Science Education L. Arts	3.5 1.8 7.0	3.5 0 1.8	21.2 5.5 19.3	42.7 35.0 36.8	29.0 57.7 35.1	**13.9**	**.000**
57. I think my major/program was a good choice for me.	Science Education L. Arts	2.0 2.5 3.5	2.3 0 1.8	7.4 .6 5.3	36.3 21.5 26.3	52.0 75.5 63.2	**4.81**	**.009**
58. I expect I will be successful working in my major/area after graduation.	Science Education L. Arts	.8 2.5 3.5	3.1 1.2 3.5	11.0 0 7.0	36.1 20.9 28.1	49.0 75.5 57.9	**6.74**	**.001**

Table 6-N (continued)

Statement	Area	%SD	%D	%N	%A	%SA	F	p
59. I wish there were more women students in my major/program.	Science Education L. Arts	3.5 8.0 10.7	7.9 25.8 16.1	53.5 52.1 51.8	13.8 6.1 7.1	21.3 8.0 14.3	**19.5**	**.000**
60. I wish there were more women instructors/professors in my major/program.	Science Education L. Arts	4.7 6.7 10.7	5.9 19.6 14.3	52.2 57.1 44.6	19.4 9.2 8.9	17.8 7.4 21.4	**15.6**	**.000**
61. I am very interested in attending graduate school in my major or a related area (for undergraduate only).	Science Education L. Arts	4.5 5.2 5.3	5.0 5.8 3.5	17.4 12.9 17.5	27.9 29.7 26.3	45.3 46.5 47.4	.038	.962
62. I will probably attend graduate school in my major or a related area (for undergraduate only).	Science Education L. Arts	5.4 4.5 3.6	4.5 7.8 3.6	15.8 11.0 17.9	28.7 31.2 25.0	45.5 45.5 50.0	.291	.748
59. I prefer to do research with male faculty (for graduate only).	Science Education	7.8 0	2.0 33.3	62.7 55.6	15.7 0	11.8 11.1	.885	.351
60. I prefer to do research with female faculty (for graduate only).	Science Education	15.7 0	3.9 11.1	72.5 55.6	7.8 33.3	0 0	2.91	.094
63. I prefer to take classes from female professors.	Science Education L. Arts	4.7 2.4 5.4	9.4 14.6 16.1	73.3 68.9 53.6	6.7 8.514 .3	5.9 5.5 10.7	.177	.838

Statement	Area	%SD	%D	%N	%A	%SA	F	p
65. The contributions of women professionals are included in courses I have taken.	Science Education L. Arts	7.5 2.4 3.6	12.9 7.3 10.7	35.3 24.4 28.6	32.2 44.5 32.1	12.2 21.3 25.0	**8.74**	**.000**

Statement*	Attribution	% M	% W	%Science	%Educ.	%L.Arts	? ^{2}	p
66. When I am successful in an aspect of my major or a task related to my major/program of study, it is usually due to...	Internal External	96.3 3.8	97.4 2.6	96.8 3.2	98.2 1.8	94.7 5.3	1.80	.406

*Choices coded as internal included "my ability" and "my effort or hard work." Those coded as external included "luck," and "the ease of the task."
Note: Percent reported is percent of those who responded to it.

Use of Computer Technology

Students were asked to indicate the kinds of computer technology they used, their purposes for using them, where they used computers, and their degree of enjoyment and confidence in using computer technology. The results indicate a pattern of more use of computer technology by male students. Results indicate that males use the following computer technologies to a greater extent than do females: statistics, e-mail, games, telnet, gopher, world wide web, and file transfer protocol. There were no gender differences in the use of word processing, library databases, and discussion groups. Females responded that they use computers more at home, while males responded that they use them more at the computer lab. Males were more likely to strongly agree with the statement that they have a special talent for learning computer applications even though they were more likely to disagree with the statement that they enjoyed learning new applications. (See Table 6-O.)

Use of computer technology varied among the academic areas surveyed. Students in the science area indicated a more frequent use of computer technology, followed by education and the liberal arts students. The academic area did not influence the degree to which students enjoyed learning or believed that they were talented at learning new applications.

Table 6-O
Use of Computer Technology by Gender and Academic Area

Students were asked to indicate how they used computer technologies during the past two academic quarters by selecting from these choices: for school use only (S), for personal use only (P), for both (B), or for neither (N).

Computer Technology	**Gender**	**S**	**P**	**B**	**N**	**? ^{2}**	**p**	**Department**	**S**	**P**	**B**	**N**	**? ^{2}**	**p**
67. Word processing	Female Male	13.7 15.0	4.6 3.8	74.2 76.3	7.5 5.0	1.35	.718	Science Education L. Arts	16.0 13.6 9.1	5.6 3.1 3.6	70.8 77.8 83.6	7.6 5.6 3.6	5.89	.436
68. Statistics	Female Male	31.0 29.6	1.0 5.9	14.0 20.4	54.0 44.1	**13.7**	**.003**	Science Education L. Arts	30.7 34.0 16.4	4.1 1.3 0	20.3 36.3 7.3	44.8 8.1 76.4	**25.1**	**.000**
69. Library databases	Female Male	46.4 39.2	2.6 6.3	38.1 39.9	12.9 14.6	5.08	.166	Science Education L. Arts	41.7 52.5 32.1	5.3 3.1 0	39.7 36.3 42.9	13.4 8.1 25.0	**17.9**	**.006**
70. E-mail	Female Male	11.7 12.0	13.0 16.5	43.5 55.1	31.8 16.5	**13.1**	**.004**	Science Education L. Arts	10.0 14.2 14.5	16.8 14.2 9.1	49.2 41.4 50.9	24.0 30.2 25.5	6.87	.333
70. Internet games	Female Male	5.6 2.6	18.3 27.6	16.3 18.6	59.8 51.3	**7.89**	**.048**	Science Education L. Arts	2.8 7.5 3.7	23.2 19.4 16.7	17.5 16.9 14.8	56.5 56.3 64.8	6.65	.355
Computer Technology	**Gender**	**S**	**P**	**B**	**N**	**? ^{2}**	**p**	**Department**	**S**	**P**	**B**	**N**	**? ^{2}**	**p**

71. Discussion groups	Female Male	24.0 20.1	5.1 7.8	25.0 24.7	45.9 47.4	1.97	.579	Science Education L. Arts	20.7 28.0 14.8	7.9 3.8 3.7	24.5 26.8 18.5	46.9 41.4 63.0	12.1	.059
73. Telnet	Female Male	15.3 22.3	3.3 5.1	22.7 36.9	58.7 35.7	**21.9**	**.000**	Science Education L. Arts	19.0 13.3 25.5	7.7 1.3 0	35.9 17.7 14.5	37.5 67.7 60.0	**49.8**	**.000**
74. Gopher	Female Male	11.3 17.8	3.0 3.9	16.9 25.0	68.8 53.3	**10.6**	**.014**	Science Education L. Arts	13.6 13.8 16.7	3.7 3.1 1.9	22.7 17.0 9.3	59.9 66.0 72.2	6.85	.335
75. World wide web	Female Male	22.5 7.6	6.9 11.5	50.0 68.2	20.6 12.7	**25.4**	**.000**	Science Education L. Arts	12.7 27.5 14.5	11.6 5.0 9.1	59.0 50.6 52.7	16.7 16.9 23.6	**19.3**	**.004**
76. File transfer protocol	Female Male	7.5 13.0	1.7 6.5	11.9 39.6	78.8 40.9	**68.2**	**.000**	Science Education L. Arts	11.2 9.0 5.7	6.2 .6 0	28.9 9.0 17.0	53.7 81.3 77.4	**41.7**	**.000**

Note: Percent reported is percent of those who responded to item.

Students were asked to indicate whether they used computer services at a university lab (L), at home (H), or both (B).

Statement	**Gender**	**%L**	**%H**	**%B**	**? ^{2}**	**p**	**Department**	**%L**	**%H**	**%B**	**? ^{2}**	**p**
77. I use computer services primarily at...	Female Male	32.1 54.5	50.0 18.2	17.9 27.3	**6.98**	**.031**	Science Education Liberal Arts	46.2 33.3 0	32.7 33.3 0	21.2 33.3 0	.698	.705
Statement	**Gender**	**%SD**	**%D**	**%N**	**%A**	**%SA**	**X^2**		**p**			
78. I enjoy learning	Female	4.1	11.4	21.3	34.0	29.2	**17.9**		**.001**			

new computer applications.	Male	1.9	21.0	11.1	28.4	37.7		
79. I have a special talent for learning computer applications.	Female Male	10.2 9.9	17.5 18.6	44.1 32.9	20.3 17.4	7.6 21.1	**20.3**	**.001**

Statement	**Department**	**%SD**	**%D**	**%N**	**%A**	**%SA**	**X^2**	**p**
78. I enjoy learning new computer applications.	Science Education Liberal Arts	3.5 3.0 3.5	20.7 9.1 3.5	18.4 15.8 21.1	24.6 42.4 38.6	32.8 29.7 33.3	3.78	.129
79. I have a special talent for learning computer applications.	Science Education Liberal Arts	11.8 7.9 8.8	20.4 15.8 12.3	35.3 49.1 43.9	17.3 21.2 19.3	15.3 5.5 15.8	1.32	.486

Note: Percent reported is percent of those who responded to item.

Student Comments

Students were invited to offer any comments about the survey as a final item. Three additional items asked for open-ended suggestions or comments: (1) students who felt dissatisfied with the gender balance among faculty in their departments were asked about what changes they would like to see, (2) what strategies they could suggest to implement these changes, and (3) all students were asked for what reasons female students left their major, if they did. Of 505 students completing the survey, 148 offered comments. Most were from science or mathematics classes. These comments suggest that science/mathematics majors are more dissatisfied with the gender balance among faculty and/or students in their departments, or, at least, they appear more willing to express their dissatisfaction. A number of students made comments (22%), either in response to the open-ended questions or elsewhere in the survey, that were unrelated to the survey's purpose. Usually these comments indicated the student's perceived inability to answer the survey because of a limited number of courses taken or length of time at Georgia State University.

The relevant comments seemed to address four major themes. They referred to gender balance among faculty (38%), gender balance among students in particular majors (14%), and strategies to improve the gender balance (29%). Comments that questioned the purpose of the survey or were openly hostile toward a survey exploring gender differences made up 19% of the relevant comments.

The overwhelming majority of comments about the gender balance among faculty suggested "more women" are needed. One student related, "I used to be in physical therapy. I found the faculty in the chemistry department to be very sexist and only concentrate attention and assistance on the males. I transferred to education." An astronomy graduate student said, "There are no female professors in astronomy and with five female graduate students out of 10-15, that should change." Several majors, including computer science, biology, mathematics, and kinesiology and health were represented by students making similar comments about how few female professors they have had. A computer science major (gender not indicated) said, "I estimate a 5-1 ratio (men-women) now. Ideally, it would be closer to 1-1." A male computer science student commented, "I'm a junior and so far I have had only two female professors. Is this just coincidence?" A female biology major said, "I have noticed up to this point that all male teachers have taught me as a science major."

A few comments from education majors identified a need for more male instructors in order to establish a better gender balance. "More men teachers," said an Early Childhood major, a science education major, and several nonspecific "education" majors. An exception to this trend, where only education majors suggest more males, was found in one male mathematics major who identified a need for more male instructors, and suggested that only females should answer this survey.

In explaining why women students leave their major, students identified gender based problems for women. Several male students felt women do not have "the experience with these matters (computer science)," which is necessary to succeed. Other

males felt women's "inability to grasp" difficult scientific subject matter led to their changing majors. The difficulty of the subject was also proposed by a male as a reason female students leave a major. Some female students felt more flexibility in class scheduling would increase the likelihood of retaining female majors. Several students of both genders commented that women do not leave their majors at any greater rate than men do.

From a broad perspective, students recommended strategies which would offer long-term ways of increasing the participation of women in particular majors and improve the gender balance among faculty and students. "Scholarships and affirmative action," a female geology student explained, are ways to promote "more females in general" in science departments. A male in computer science said, "I would like to see more capable qualified females in the field in general. Our faculty's numbers are just a result of this preparation. Encourage solid teaching and fairness in hiring, but I think the discipline will equalize." "More female role models," suggested a female physics student.

A second recommendation was made to reduce bias in the curriculum. A female student in biology commented, "I feel that GSU is very multicultural and diverse, but it does not reflect in their culturally-biased curriculum." A second female student in geology related that the contributions of female professionals were included in her courses "only occasionally and then often not attributed, whereas males' work cited by name." A female kinesiology and health student encouraged the university to "promote women's studies and contemporary issues" and felt a strategy for change might be "requir[ing] a women's studies upper division class for every undergrad degree."

Through addressing gender equity issues early in the educational process, students believed better balance would be found at the university level. "I am not sure how to encourage more numbers of women in my particular department (bio). It makes sense to me that if children were supported, that there would come a time when there would be equal gender distribution," one biology student (gender missing) stated. "Encourage the women in science" urged a female physics student. "More support for women" and "support higher ed[ucation] for women," advised two female biology students.

Specific strategies were offered to improve the gender balance among faculty. Students identified a need for "more acceptance of women in these fields" (female, biology student). Many comments recommended increasing the number of female faculty. Examples were "hire more women," "fairness in hiring," and "hire more female instructors." Some students addressed university policies and practices which might bring and keep more female faculty. "Effort should be made to find more female professors" and "more aggressive search for qualified individuals" suggested two female biology students. "Hiring strategies that focus on merit, not politics," said a female kinesiology and health student. "More women considered for tenure," proposed a female physics student. "Have a more even distribution in the classes taught," and offer courses by "teachers of both genders each quarter" suggested a male computer science major and a female kinesiology and health student. Two comments addressed strategies at the departmental level. First, a female computer science student believed that a better gender balance might be achieved, "if the chair of the department would focus more females in

this profession." Second, a male physical therapy major said, "There needs to be politics implemented in each dep[artment] that requires a balance." Two strategies offered by a female graduate student seem to summarize these issues, "fairness" and "get rid of [the] good ol' boy syndrome."

One the other hand, several students advised avoiding quotas and one said, "not affirmative action." A biology major suggested, "There shouldn't be some quota requirement but efforts should be made to find more female professors." Perhaps these students feared quotas would result in less qualified women being preferred over more qualified men. "Employ more female faculty members, if they are found to be equally competent, of course," remarked a computer science student (gender not indicated). Another computer science student (gender not indicated) said, "the gender balance should not be a reason for allowing a less qualified/capable instructor to replace a more qualified/capable [one]."

Many comments expressed hostility toward the survey topic or questioned the usefulness of a survey that compared the treatment of women and men in the university community. Some students seemed to resent the survey's implication that gender is important, saying, "I'm here to study, not count noses" (male, biology student) and "the gender of my professors is not a concern for me. [I] just look at how well they teach" (female, kinesiology and health student). Two students, a male in kinesiology and health, and a female in computer science directly stated that they did not think faculty gender ratios are important. "Gender balance among faculty should not even be an issue, as long as the professors we have are capable of teaching their subjects." "I do not like the questions regarding gender. I think gender, in this case, is irrelevant. It should not be an issue!"

Examples of not understanding a comparison of genders are “don’t know purpose of survey between male and female” (female, computer science) and “A lot of questions seemed to be directed if their (sic) male or female. It should be a teacher is good or not good” (female, biology). Examples of hostile comments are from male computer science and biology students: “[Have you been sexually harassed?] I’m not sure, maybe with this survey,” and, “I feel that the survey was bias (sic), and that the creators of it were women that felt they had been rejected by GSU in some way. I also feel that this survey will be misrepresented by these individuals when it is presented.”

Overall, students recommended that the gender balance be improved among faculty, especially in the sciences where the balance greatly favors males. Some education majors indicated a need for more male faculty because their departments had more female than male faculty. Student imbalances were seen by some students as a result of the faculty imbalance where women were not recognized either as faculty or as students. Many strategies were recommended to improve the gender balance, from direct suggestions to hire more women and ways that might be done, to changing early educational experiences so that more women are represented in scientific fields in general. Some students seemed to feel that women are not prepared or perhaps capable of studying science and some students seemed uncomfortable with any attention to gender equity in education

Summary

Student Perception of Gender Differences among Faculty

Male and female graduate students agreed that male faculty mentor men more than women.

More male students perceive the gender balance among faculty to be ideal, and more females perceive the balance as acceptable.

Students perceive the gender balance more positively than do faculty, with 92% of students rating the gender balance as ideal or acceptable while only 81% of faculty do so.

More faculty found the balance unacceptable, as well.

Both education and liberal arts students and faculty saw the balance more positively than those from science departments.

The Perception of Sexism and Sexual Harassment

There was a significant difference between the genders on the part of students in the perception of the prevalence of sexual harassment among women students at the university, with female students endorsing a higher prevalence.

- More males than females reported actually being harassed, and most of them reported the harassment was by someone in a position of equal or less power than themselves Women who reported experiencing sexual harassment were more likely to report the harassment was by someone in a position of equal or greater power.

Twice as many science majors than education majors and three times as many liberal arts majors than education reported experiencing sexual harassment at the university.

Reasons Students Leave a Major

In explaining why women students leave their major, students identified gender based problems for women

Several males felt women's "inability to grasp" difficult scientific subject matter led to their changing majors.

Female students felt more flexibility in class scheduling would increase the likelihood of retaining female majors.

- All of the student groupings sited personal reasons as the most common reason undergraduate women change major.

- Interestingly, undergraduate males were more than twice as likely to cite gender inequity as the reason for an undergraduate woman changing her major. Science majors were about twice as likely as education majors to site gender inequity, while liberal arts majors were almost three times as likely to respond that undesgraduate women change majors because of gender inequity.

- None of the respondents indicated that women *undergraduate* students leave their majors because of gender inequity. A much higher percentage of males than females and science than non-science faculty indicated that women *graduate* students leave their majors because of gender inequity.

Student Perception of Gender Equity among Majors

Males perceive the administration of the university to be more supportive of women than women do.

Students in education responded that the administration within their department was supportive of women.

Both genders responded that female students visit during office hours more than male students; however, there was a statistically significant difference with more females endorsing this perception.

Males perceive greater environmental support for women than females do. Education faculty and students perceived greater environmental support for women, while science faculty and staff perceived lower environmental support for women. The administration=s supportiveness at both the college and departmental level showed education students and faculty perceived greater support for women.

The faculty perceive more support for women from the administration, faculty and staff than do students. There were no significant differences in the way faculty and students perceive the students across campus and the community=s supportiveness toward women.

- Education majors were more likely to strongly endorse items related to their competence and confidence in their chosen field, and to perceive that their major is a good choice for women. They were also most likely to strongly endorse a high expectancy for success.

Science majors were least likely to strongly endorse items related to their competence, confidence, and expectancy of success. They were also least likely to respond that the contributions of women are included in their coursework.

Student Classroom Interaction Assessment

Students believe that male faculty mentor men graduate students professionally, and make job contacts for men.

Education and liberal arts majors perceive that women are interrupted more than men, while science majors responded that men and women are interrupted approximately equally.

The majority of both male and female students responded that both genders receive praise, of those who choose one gender over the other, more females and more males indicated that males are praised by faculty in class