

A Study of the Campus Climate for Diversity: The Impact of Campus Climate on Engineering Women Students

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Introduction

In this paper we will compare responses of all female and male undergraduate students to responses of female and male engineering students on a campus climate survey. The survey was one of three conducted to assess respondents' personal opinions and experiences regarding diversity and their perceptions of the campus climate for people of diverse backgrounds.

Methodology

The surveys were conducted during the fall semester, 1993. A stratified sampling design was used with students being defined by ethnic minority status and gender. The overall student response rate was 33.5%. Of the 137 engineering respondents included in this sample, 21.2% were female (n=29) and 78.8% were male (n=108). Weights were constructed to account for differences in sampling rates and response rates.

Climate Issues

Students were asked to respond to several items about the climate for diversity within their department and the university. Table 1 summarizes this information.

Table 1. About the faculty: How many faculty are...

% Responding	All Female	Eng Female	Eng Male	All Male
Sensitive to student needs in general				
None/Few	19.1	22.8	6.7	11.2
Most/All	50.7	49.1	64.3	61.2
Sensitive to issues and concerns of women students				
None/Few	21.9	33.0	9.5	11.9
Most/All	39.3	31.4	53.2	56.8
Sensitive to issues and concerns of ethnic/racial minority students				
None/Few	21.3	43.8	12.0	13.9
Most/All	41.8	39.6	52.7	47.9
Sensitive to issues and concerns of gay, lesbian, and bisexual students				
None/Few	34.0	48.0	40.1	31.0
Most/All	24.2	25.1	30.5	30.7

For each item in the scale, a higher percentage of female engineers than any other group responded that "none" or "few" faculty were sensitive to the needs of students in general or to students in special populations. On the other hand, on three out of four items, a lower percentage of male engineers than any other group responded that "none" or "few" faculty were sensitive to the needs of students. A higher percentage of male

engineers did agree with their female classmates that “none” or “few” of their faculty were sensitive to the concerns of gay, lesbian, and bisexual students.

Table 2 summarizes information about students' experiences with faculty.

Table 2. Interaction with faculty: Since coming to ISU, how frequently have you . . .

% Responding	All Female	Eng Female	Eng Male	All Male
Had difficulty scheduling an appointment with faculty?				
sometimes/often	41.2	54.9	36.0	32.7
never/seldom	58.6	45.2	64.0	67.3
Received advice about your major or career from a faculty member?				
sometimes/often	60.4	50.2	55.7	57.2
never/seldom	39.3	49.8	44.2	42.8

A higher percentage of female students (41.2%) than male students (32.7%) and higher percentages of female engineering students (54.9%) than male engineering students (36%) indicated they “sometimes” or “often” had difficulty scheduling an appointment with faculty. Over 57% of all male and female students have “sometimes” or “often” received advice about their major or career in comparison to 50.2% of female engineering students and 55.7% of male engineering students.

Students were asked to evaluate the climate for diversity at the university using pairs of antonyms such as friendly or hostile. Respondents selected a number between 1 and 5 on a Likert scale for each of these antonyms with 5 representing the most positive response. Table 3 presents this information.

Table 3. The climate for diversity at [the university] is:

(Mean Response)		All	Eng	Eng	All
Five	One	Female	Female	Male	Male
Non-Sexist/Sexist about males		3.84	3.97	3.54	3.27
Accepting/Unaccepting of religious differences		3.56	3.65	3.94	3.67
Friendly/Hostile		3.51	3.55	3.83	3.55
Respectful/disrespectful		3.33	2.84	3.50	3.40
Improving/Worsening		3.31	3.00	3.31	3.14
Concerned/Indifferent		3.21	2.82	3.37	3.26
Sensitive/Insensitive		3.18	2.81	3.45	3.29
Accepting/Unaccepting		3.18	3.10	3.45	3.35
Communicative/Reserved		3.07	2.99	3.18	3.12
Non-racist/racist		3.05	2.93	3.43	3.19
Non-sexist/Sexist about females		2.78	2.79	3.19	3.15
Non-Homophobic/Homophobic		2.60	2.84	2.74	2.66

In general, the mean responses of engineering female students were lower than those of all other groups. By contrast, the mean responses of engineering male students were the highest. These results suggest that, compared to male engineering students and all female students, female engineering students perceive the campus climate to be more negative. The mean response of 2.79 on the sexist/non-sexist about females item was the lowest score on the scale for female engineering students.

Table 4 summarizes information on students' attitudes toward diversity and diversity-related issues.

Table 4. Thinking of the University as a Whole

% Responding	All Female	Eng Female	Eng Male	All Male
There is a need for more diversity at the University.				
Agree	62.0	60.9	46.1	45.5
Disagree	18.5	18.6	33.7	34.9
I feel that there are role models for me at the University				
Agree	61.8	48.4	68.4	59.8
Disagree	25.0	36.2	6.9	16.5
Academic Counselors in my major are sensitive to my needs and concerns.				
Agree	67.1	74.7	63.2	70.7
Disagree	20.1	10.1	18.0	13.9
The University actively recruits students from under-represented groups.				
Agree	46.5	68.5	55.9	44.9
Disagree	11.2	3.3	9.7	11.4
The top administration should be genuinely committed to promoting respect for group differences at [the university].				
Agree	82.8	79.9	72.6	66.5
Disagree	5.9	7.0	12.2	12.6

In general, we found that women students were more likely to agree that there is a need for more diversity at the university. Female engineering students were the least likely to agree that there are role models for them at the university. On the other hand, female engineering students were most likely to agree, and male engineering students least likely to agree, that academic counselors are sensitive to their needs. The majority of all groups agreed that the top administration should be genuinely committed to promoting respect for group differences at the university.

Students were asked to indicate how strongly they agreed or disagreed with a series of statements about diversity at the university. Table 5 lists the percent of students who agreed somewhat or strongly with these statements.

Table 5. About diversity at the university...

% Agreeing	All Female	Eng Female	Eng Male	All Male
Diversity is good for us and should be actively promoted.	87.5	92.2	75.6	73.1
The top administration should be committed to diversity.	85.7	92.3	82.3	79.8
The top administration is committed to diversity.	44.5	38.9	51.6	47.3
Results in admission of too many underprepared students.	39.6	30.4	53.3	65.1
ISU has achieved a positive climate for diversity	37.7	39.2	70.0	43.2
We have placed too much emphasis on diversity at expense of enhancing its prestige as a top research university.	37.3	45.7	44.9	50.8
Affirmative action leads to the hiring of less qualified faculty and staff.	28.9	23.0	45.7	53.3
Feel I must change some of my personal characteristics to fit in.	24.4	38.6	29.4	25.4

The majority of all students agreed that diversity is good for the university and that the top administration should be genuinely committed to promoting respect for group differences; female engineers agreed with these statements more frequently than other groups. Compared to the other groups, a higher percentage of engineering females

agreed that diversity is good and should be promoted (92.2%) and that top administration should be committed to it (92.3%). Female engineering students were more likely to agree that they feel the need to change some of their personal characteristics in order to "fit in" at the university. Fewer engineering females agreed that the top administration is committed to diversity (38.9%) and that diversity results in the admission of too many underprepared students (30.4%). They were less likely to agree that affirmative action leads to hiring less qualified faculty and staff (23%), or that the university administration is genuinely committed to promoting respect for group differences (38.9%). In comparison to other groups, engineering males were more likely to agree that the university has achieved a positive climate for diversity (70%).

Respondents were asked to rate the campus and community climates for diversity. Table 6 presents this information. While female engineering students' mean scores on both items were lower than those of comparison groups, male engineering students' mean scores were higher on both items.

Table 6. Rating Climate for Diversity

	All Female	Eng Female	Eng Male	All Male
Mean Response: (1) Poor, (2) Fair, (3) Good, (4) Excellent				
In your opinion, how would you rate the climate for diversity here at Iowa State?				
	.402	2.18	2.74	2.54
How would you rate the climate for diversity in the Ames community?				
	2.24	1.86	2.68	2.50

Respondents were asked about experiences with discrimination and harassment at the university. Table 7 summarizes this information.

Table 7. Discrimination and Harassment

	All Female	Eng Female	Eng Male	All Male
In the past five years, have you been discriminated against (denied access or equal opportunity) in any way while at [the university]?				
% Responding Yes	28.1	35.0	32.4	24.8
How frequently have you been discriminated against at ISU in the last five years because of each of the following reasons?				
% Responding Sometimes or Often				
gender	14.9	23.8	2.8	4.7
ethnicity/race	8.7	9.7	9.7	9.2
age	9.4	6.6	5.4	4.4
Who was it that treated you this way?				
% Responding yes				
Students	20.3	25.0	15.4	15.0
Faculty	18.1	31.4	9.9	9.6
Administrators	5.2	1.4	14.4	7.3
Staff	8.3	3.5	4.9	4.0
In the past five years have you been sexually harassed at ISU?				
% responding yes				
	17.7	17.6	0.2	2.3
Who was it that sexually harassed you?				
% responding yes				
Students	13.6	14.7	0.2	2.2
Faculty	2.8	1.9	0.0	0.8
Staff	1.3	0.0	0.0	0.0
Administrators	0.2	0.0	0.0	0.0

Approximately 35% of female engineering students, 32% of male engineering students, 28% of all female students, and 25% of all male students reported they had been discriminated against at the university. While females were more likely to report discrimination due to gender, males were more likely to report discrimination due to ethnicity/race. Students were identified as those who discriminated against participants by 25% of female engineers, 20.3% of all females students, 15.4% of male engineers and 15% of all male students. While the three comparison groups were more likely to identify students as their main source of discrimination, female engineering students were more likely to identify faculty members as those who discriminated against them most frequently.

Almost 18% of females in both groups reported they had experienced sexual harassment at the university, most often from other students, while less than 2.5 percent of males reported the experience of sexual harassment.

Students were asked to respond to a series of questions regarding hearing insensitive remarks about diverse groups. Table 8 summarizes this information.

Table 8. Indicate how frequently you have heard insensitive or disparaging remarks or comments about each of the following groups in the past 5 years?

% Responding Sometimes or Often.	All	Eng	Eng	All
	Female	Female	Male	Male
Racial/Ethnic by Faculty	10.5	7.8	7.5	6.3
Racial/Ethnic by Staff	11.2	7.9	7.7	8.9
Racial Ethnic by Students	74.8	69.4	70.7	75.0
Internationals by Faculty	10.7	7.5	11.4	11.4
Internationals by Staff	10.1	2.1	6.5	11.7
Internationals by Students	66.7	67.2	61.4	68.6
Women by Faculty	15.6	20.8	1.4	6.8
Women by Staff	12.0	8.6	3.6	8.5
Women by Students	56.1	58.9	36.6	52.0

Respondents from all groups were most likely to hear insensitive or disparaging remarks about racial or ethnic groups, internationals and women from other students. Between group differences on most items were small. The one exception was that both female groups reported hearing more insensitive remarks about women by faculty, staff and students than did their male counterparts.

Students were asked about their participation in diversity activities and their interest in learning about this topic. Table 9 presents this information.

Table 9. Interest in learning about diversity.

% Responding yes.	All	Eng	Eng	All
	Female	Female	Male	Male
In the past year, have you participated in any organized activity (conference, workshop, etc.) designed to promote sensitivity toward issues of diversity?				
	23.9	37.4	32.7	24.3
Would you be interested in attending a workshop on issues pertaining to each of the following groups?				
Racial or Ethnic groups	54.3	46.8	40.4	42.4
Women	67.5	66.0	24.9	30.6
People with Disabilities	43.5	18.7	24.8	30.2
Gays, Lesbians, Bisexuals	33.8	25.2	14.9	18.6

Both male (32.7%) and female (37.4%) engineering students reported more participation in an organized activity to promote sensitivity to diversity, while over 40%

of all groups expressed interest in learning about different ethnic or racial groups. Fewer males expressed interest in learning about women or gays, lesbians and bisexuals in comparison to female respondents.

Students were asked about their satisfaction with the university and if, given the choice, they would return. Table 10 presents this information.

Table 10. Situation at this university

% Responding	All Female	Eng Female	Eng Male	All Male
In general, how satisfied are you with your situation here?				
Dissatisfied	19.6	24.3	20.9	24.2
Satisfied	63.3	54.8	60.4	57.2
If you had to choose again, would you come here?				
Yes	63.2	60.1	74.7	63.9
No	12.3	16.8	7.8	11.2
Maybe	24.1	23.2	17.5	24.6

Approximately 63% of all female students, 60% of male engineering students, 57% of all male students, and 55% of female engineering students reported they are satisfied with their situation at the university. The majority of all students also reported that they would return to the university, if they had to choose again. Male engineering students were most likely to report they would return (74.7%), while fewer female engineering students chose this response (60.1%).

Discussion

In general, this study found that the majority of students from all four groups understand the need for diversity and agree that diversity should be promoted within the university. However, female students display more sensitivity to diversity than male students. The greatest disparity in responses is between male and female engineering students with males in this group demonstrating less positive views than the other three comparison groups.

Female engineering students are more likely to report that faculty are less sensitive to students' needs, or to issues of women and racial and ethnic minority groups. They have more difficulty scheduling appointments with faculty, or receiving advice about their major or careers with faculty. Female engineering students also feel there are not enough role models for them at the university. While a significant number of both males and females believed they have been discriminated against, females were more likely to experience discrimination based upon gender, while for males, discrimination was based upon ethnicity/race. A similar percentage of all females and women engineering students experienced sexual harassment on campus. Finally, while the majority of students were satisfied with their situation at the university, male engineering students were most likely, and female engineering students were least likely, to state they would return to the university, if given the choice.

While a third or more of the engineering students have participated in an organized activity addressing sensitivity to diversity, these results suggest that there is a need to develop educational programs about diversity that are more effective than those currently being offered. Educational strategies should also be developed that will inform faculty members of the ways they contribute to feelings of discomfort for female engineering students and what they can do to improve the campus climate for all students.