

Assessing the Science and Engineering Work Environment

**Table 1 - Gender Related University Climate Indicators by Gender and Race-Ethnicity**

	faculty of color men in science and engineering				white men in science and engineering				faculty of color women in science and engineering				white women in science and engineering			
	2001 (n=24) <sup>†</sup>		2006 (n=28) <sup>†</sup>		2001 (n=70) <sup>†</sup>		2006 (n=107) <sup>†</sup>		2001 (n=17) <sup>†</sup>		2006 (n=26) <sup>†</sup>		2001 (n=106) <sup>†</sup>		2006 (n=91) <sup>†</sup>	
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
Disparaging comments about women	1.80 <sup>a</sup>	2.42	1.45	1.38 <sup>*</sup>	1.42 <sup>ab</sup>	2.26	1.42 <sup>c</sup>	1.75	1.83	1.03	1.65	1.54	1.94 <sup>b</sup>	1.29	1.89 <sup>c</sup>	1.45
Disparaging comments about men	1.77	2.29	1.51	1.89	1.52 <sup>a</sup>	3.12	1.59	2.76	1.66	1.44	1.32	0.86	1.91 <sup>a</sup>	1.30	1.66	1.50
	percentage		percentage		percentage		percentage		percentage		percentage		percentage		percentage	
Gender discrimination	6% <sup>a</sup>		6% <sup>b</sup>		1% <sup>c</sup>		6% <sup>d</sup>		32% <sup>a</sup>		47% <sup>b</sup>		41% <sup>c</sup>		42% <sup>d</sup>	
Unwanted sexual attention	6%		6%		6% <sup>a</sup>		4%		6%		3%		21% <sup>a</sup>		10% <sup>*</sup>	
Individuals reporting others reported unwanted sexual attention	35%		9% <sup>*</sup>		17% <sup>a</sup>		14%		23%		27%		39% <sup>a</sup>		24% <sup>*</sup>	

<sup>†</sup>Ns vary slightly by item; Ns reported represent the maximum number of responses by group for the items in the table

<sup>abcd</sup>Matching symbols identify groups that are significantly different from each other at the p ≤ .05 level of significance

<sup>\*</sup>Symbol represents significant differences – comparing time 1 and time 2 – within groups at the p ≤ .05 level of significance

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**Table 2 - Race-Ethnicity Related University Climate Indicators by Gender and Race-Ethnicity**

	faculty of color men in science and engineering				white men in science and engineering				faculty of color women in science and engineering				white women in science and engineering			
	2001		2006		2001		2006		2001		2006		2001		2006	
	(n=24) <sup>†</sup>		(n=28) <sup>†</sup>		(n=70) <sup>†</sup>		(n=107) <sup>†</sup>		(n=17) <sup>†</sup>		(n=26) <sup>†</sup>		(n=106) <sup>†</sup>		(n=91) <sup>†</sup>	
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
Disparaging comments about racial-ethnic minorities	1.68 <sup>a</sup>	2.79	1.35	1.20 <sup>*</sup>	1.29 <sup>a</sup>	1.99	1.30	1.54	1.66	1.33	1.65	1.33	1.46	0.89	1.39	0.99
	percentage		percentage		percentage		percentage		percentage		percentage		percentage		percentage	
Racial-ethnic discrimination	36% <sup>a</sup>		20% <sup>b</sup>		3% <sup>a</sup>		3% <sup>b</sup>		18% <sup>c</sup>		31% <sup>d</sup>		0% <sup>c</sup>		0% <sup>d</sup>	

<sup>†</sup>Ns vary slightly by item; Ns reported represent the maximum number of responses by group for the items in the table

<sup>abc</sup>Matching symbols identify groups that are significantly different from each other at the p ≤ .05 level of significance

<sup>\*</sup>Symbol represents significant differences – comparing time 1 and time 2 – within groups at the p ≤ .05 level of significance

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**Table 3 - Department Climate by Gender and Race-Ethnicity**

	faculty of color men in science and engineering				white men in science and engineering				faculty of color women in science and engineering				white women in science and engineering			
	2001		2006		2001		2006		2001		2006		2001		2006	
	(n=24) <sup>†</sup>		(n=28) <sup>†</sup>		(n=70) <sup>†</sup>		(n=107) <sup>†</sup>		(n=17) <sup>†</sup>		(n=26) <sup>†</sup>		(n=106) <sup>†</sup>		(n=91) <sup>†</sup>	
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
Overall climate	3.60 <sup>a</sup>	2.12	3.76 <sup>b</sup>	1.71	3.75 <sup>c</sup>	2.07	3.89 <sup>d</sup>	1.71 <sup>*</sup>	2.78 <sup>ae</sup>	1.39	2.74 <sup>bf</sup>	1.26	3.33 <sup>ce</sup>	0.99	3.36 <sup>df</sup>	1.17
<b>Climate for diversity:</b>																
Tolerant climate	3.65 <sup>a</sup>	2.92	4.02 <sup>b</sup>	2.37	3.88	2.78	4.10 <sup>c</sup>	2.02 <sup>*</sup>	2.99 <sup>ad</sup>	1.67	3.03 <sup>b</sup>	1.45	3.62 <sup>d</sup>	1.15	3.49 <sup>c</sup>	1.44
Gender egalitarian atmosphere	3.60 <sup>ae</sup>	3.00	3.79 <sup>b</sup>	1.79	3.93 <sup>ce</sup>	2.68	3.99 <sup>d</sup>	2.05	2.85 <sup>a</sup>	1.47	2.84 <sup>b</sup>	1.24	3.23 <sup>c</sup>	1.31	3.09 <sup>d</sup>	1.50
Tokenism	2.72 <sup>a</sup>	4.01	2.17 <sup>de</sup>	3.29 <sup>*</sup>	1.46 <sup>ab</sup>	3.43	1.61 <sup>ce</sup>	2.47	3.43 <sup>f</sup>	2.50	3.46 <sup>dg</sup>	1.80	2.61 <sup>bf</sup>	1.79	2.69 <sup>cg</sup>	2.12
Department chair committed to racial-ethnic diversity	3.94 <sup>a</sup>	3.32	3.92 <sup>b</sup>	3.37	3.81	3.82	3.95	2.70	2.33 <sup>ac</sup>	2.15	2.29 <sup>bd</sup>	2.23	3.69 <sup>c</sup>	1.58	3.74 <sup>d</sup>	1.65
<b>General climate:</b>																
Positive climate	3.51	2.41	3.58 <sup>a</sup>	2.91	3.51 <sup>b</sup>	3.50	3.79 <sup>c</sup>	2.51 <sup>*</sup>	2.85	2.07	2.92 <sup>a</sup>	1.50	3.15 <sup>b</sup>	1.30	3.34 <sup>c</sup>	1.86
Scholarly isolation	2.68	1.30	2.08 <sup>a</sup>	1.93 <sup>*</sup>	2.65	1.98	1.97 <sup>b</sup>	2.36 <sup>*</sup>	2.99	0.81	2.62 <sup>a</sup>	1.63	2.71	0.74	2.33 <sup>b</sup>	1.40 <sup>*</sup>
Felt surveillance	2.81 <sup>a</sup>	2.67	2.33 <sup>d</sup>	2.82 <sup>*</sup>	2.32 <sup>ab</sup>	3.67	2.31 <sup>c</sup>	3.06	3.30	2.00	3.41 <sup>d</sup>	1.60	2.85 <sup>b</sup>	1.49	2.87 <sup>c</sup>	1.63
Department chair as fair	3.80 <sup>a</sup>	3.01	3.60 <sup>b</sup>	2.90	3.62	3.66	3.70 <sup>c</sup>	2.68	2.58 <sup>ad</sup>	1.98	2.50 <sup>be</sup>	1.93	3.33 <sup>d</sup>	1.57	3.33 <sup>ce</sup>	1.82
Department chair creates positive environment	3.73 <sup>a</sup>	3.19	3.44 <sup>b</sup>	2.62	3.46	3.93	3.50	3.14	2.67 <sup>a</sup>	2.18	2.48 <sup>bc</sup>	1.96	3.16	1.59	3.31 <sup>c</sup>	1.93

<sup>†</sup>Ns vary slightly by item; Ns reported represent the maximum number of responses by group for the items in the table

<sup>abcdef</sup> Matching symbols identify groups that are significantly different from each other at the p ≤ .05 level of significance

<sup>\*</sup>Symbol represents significant differences – comparing time 1 and time 2 – within groups at the p ≤ .05 level of significance

**Table 4 - Career Satisfaction by Gender and Race-Ethnicity**

	faculty of color men in science and engineering				white men in science and engineering				faculty of color women in science and engineering				white women in science and engineering			
	2001		2006		2001		2006		2001		2006		2001		2006	
	(n=24) <sup>†</sup>		(n=28) <sup>†</sup>		(n=70) <sup>†</sup>		(n=107) <sup>†</sup>		(n=17) <sup>†</sup>		(n=26) <sup>†</sup>		(n=106) <sup>†</sup>		(n=91) <sup>†</sup>	
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
Overall career satisfaction	3.73	2.65	3.85 <sup>a</sup>	1.90	3.71	3.16	3.88 <sup>b</sup>	2.18	3.28	1.52	3.31 <sup>a</sup>	1.45	3.58	1.04	3.56 <sup>b</sup>	1.42
Opportunity to collaborate with other faculty	4.21	3.21	4.27	2.51	3.88	5.05	4.39 <sup>a</sup>	3.03 <sup>*</sup>	3.78	2.78	3.98	1.73	3.76	1.83	3.93 <sup>a</sup>	2.32
Amount of social interaction with members of department/unit	3.72	3.88	3.82 <sup>a</sup>	3.17	3.62	5.24	3.76 <sup>b</sup>	3.14	2.86	2.84	2.66 <sup>a</sup>	2.36	3.41	1.94	3.16 <sup>b</sup>	2.21
Level of funding for research or creative efforts	3.68	3.22	3.07	3.75	3.82	4.59	3.44	3.92 <sup>*</sup>	3.46	2.48	3.33	2.58	3.50	1.87	3.33	2.10
Current salary in comparison with the salaries of UM colleagues	3.61	4.22	3.22	3.46	3.18	4.76	3.62	3.76 <sup>*</sup>	2.84	1.66	2.71	2.20	3.03	1.82	3.31	2.32
Ability to attract students to work with me	3.48	3.12	4.01	2.97	3.37 <sup>a</sup>	5.55	3.75	3.73 <sup>*</sup>	3.51	2.75	3.54	1.91	3.87 <sup>a</sup>	1.67	3.45	2.20
Sense of being valued as a teacher by students	4.06	3.14	4.28	2.13	4.10	4.39	4.17	2.71	3.90	2.31	3.99	2.18	4.27	1.37	4.07	1.79
Sense of being valued as a mentor or advisor by students	4.21	2.81	4.36	2.12	4.35	3.97	4.46	2.42	4.25	2.21	4.18	2.03	4.60	1.06	4.25	1.62
Sense of being valued for my teaching by members of department/unit	3.86	3.97	3.91 <sup>a</sup>	2.70	3.50	5.02	3.67	3.46	2.96	2.72	2.81 <sup>a</sup>	2.07	3.44	1.88	3.53	2.11
Sense of being valued for research, scholarship, or creativity by members of department/unit	3.44	3.95	3.77 <sup>a</sup>	3.40	3.61	5.12	3.71	3.66	2.67	3.04	2.84 <sup>a</sup>	2.73	3.38	1.98	3.40	2.25
Level of intellectual stimulation in day-to-day contacts with faculty colleagues	3.62	3.05	3.79	3.01	3.59	4.83	3.91	3.51 <sup>*</sup>	3.28	3.20	2.99	2.41	3.45	2.00	3.50	2.28
Sense of contributing to theoretical developments in my discipline	3.74	2.94	4.16	2.42	3.92	4.26	4.20	2.71 <sup>*</sup>	3.54	2.43	4.21	1.82	3.98	1.50	3.84	1.94
Balance between professional and personal life	3.21	3.76	3.50	3.06	3.28 <sup>a</sup>	4.67	3.50	3.95	3.47	2.49	2.73	2.28	2.68 <sup>a</sup>	1.86	3.02	2.33

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<sup>\*</sup>Symbol represents significant differences – comparing time 1 and time 2 – within groups at the p≤.05 level of significance

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**Table 5 - Overall Satisfaction and Desire to Leave UM by Gender and Race-Ethnicity**

	faculty of color men in science and engineering				white men in science and engineering				faculty of color women in science and engineering				white women in science and engineering			
	2001		2006		2001		2006		2001		2006		2001		2006	
	(n=24) <sup>†</sup>		(n=28) <sup>†</sup>		(n=70) <sup>†</sup>		(n=107) <sup>†</sup>		(n=17) <sup>†</sup>		(n=26) <sup>†</sup>		(n=106) <sup>†</sup>		(n=91) <sup>†</sup>	
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
Overall satisfaction	3.60	3.38	3.79	2.10	3.81 <sup>a</sup>	3.54	3.91 <sup>b</sup>	3.46	3.09	2.13	3.20	1.89	3.36 <sup>a</sup>	1.64	3.49 <sup>b</sup>	2.11
Want to leave			2.82	3.49			2.81	3.63			3.49	1.83			3.27	2.08

<sup>†</sup>Ns vary slightly by item; Ns reported represent the maximum number of responses by group for the items in the table

<sup>a</sup>Matching symbols identify groups that are significantly different from each other at the  $p \leq .05$  level of significance

\*Symbol represents significant differences – comparing time 1 and time 2 – within groups at the  $p \leq .05$  level of significance