

Appendix 1.
Institutional Data Tables and Graphs

Table 1: New Mexico State University Faculty by Category, Fall 2004

Faculty Category	All NMSU ¹			STEM and SBS Departments			Social and Behavioral Science Departments			ADVANCE (STEM) Departments		
	All	Female		All	Female		All	Female		All	Female	
		#	%		#	%		#	%		#	%
Tenure/ Tenure Track	639	203	31.8%	290	62	21.4%	50	20	40.0%	240	45	18.8%
Temporary/ Non-tenure Track ²	87	53	60.9%	35	20	57.1%	11	5	45.5%	24	14	58.3%
Total	726	256	35.3%	325	82	25.2%	61	25	41.0%	264	59	22.3%

Table 2: Distribution of NMSU STEM Faculty by Category and Gender, Fall Semesters 1995 - 2004

	Tenure/Tenure Track			Non-Tenure Track			All Categories		
	Total	Female	% Female	Total	Female	% Female	Total	Female	% Female
1995	251	34	13.5%	35	15	42.9%	286	49	17.1%
1996	246	33	13.4%	31	15	48.4%	277	48	17.3%
1997	250	40	16.0%	31	17	54.8%	281	57	20.3%
1998	247	41	16.6%	36	18	50.0%	283	59	20.8%
1999	240	42	17.5%	27	16	59.3%	267	58	21.7%
2000	231	40	17.3%	32	22	68.8%	263	62	23.6%
2001	233	37	15.9%	30	18	60.0%	263	55	20.9%
2002	232	41	17.7%	39	19	48.7%	271	60	22.1%
2003	236	42	17.8%	24	16	66.7%	260	58	22.3%
2004	241	46	19.1%	23	13	56.5%	264	59	22.3%

Table 3: Fall 2004 STEM and SBS Departmental Faculty Sex Composition

	Tenured and Tenure Track			Non-Tenure Track			Non-Tenure Track as % All Females
	All	Female	% Female	All	Female	% Female	
Agriculture and Home Economics	59	18	30.5%	3	1	33.3%	5.3%
Agronomy and Horticulture	15	4	26.7%	1	0	0.0%	0.0%
Animal and Range Science	18	2	11.1%	1	0	0.0%	0.0%
Entomology, Plant Pathology and Weed Science	11	3	27.3%	0	0	0.0%	0.0%
Family and Consumer Science	8	7	87.5%	1	1	100.0%	12.5%
Fishery and Wildlife Sciences	7	2	28.6%	0	0	0.0%	0.0%
Arts and Sciences	106	20	18.9%	17	12	70.6%	37.5%
Astronomy	8	1	12.5%	1	1	0.0%	50.0%
Biology	19	4	21.1%	1	1	100.0%	20.0%
Chemistry and Biochemistry	19	1	5.3%	3	1	33.3%	50.0%
Computer Sciences	11	2	18.2%	2	2	100.0%	50.0%
Geological Sciences	6	2	33.3%	0	0	0.0%	0.0%
Mathematical Sciences	29	10	34.5%	9	7	77.8%	41.2%
Physics	14	0	0.0%	1	0	0.0%	0.0%
Engineering	75	7	9.3%	4	1	25.0%	12.5%
Electrical and Computer Engineering	20	1	5.0%	2	1	0.0%	50.0%
Chemical Engineering	7	1	14.3%	0	0	0.0%	0.0%
Civil and Geological Engineering	15	2	13.3%	0	0	0.0%	0.0%
Engineering Technology	12	2	16.7%	0	0	0.0%	0.0%
Industrial Engineering	5	1	20.0%	2	0	0.0%	0.0%
Mechanical Engineering	13	0	0.0%	0	0	0.0%	0.0%
Survey Engineering	3	0	0.0%	0	0	0.0%	0.0%
Social and Behavioral Sciences	50	20	40.0%	11	5	45.5%	20.0%
Communications	6	2	33.3%	3	2	66.7%	50.0%
Criminal Justice	8	3	50.0%	3	1	50.0%	25.0%
Geography	5	0	0.0%	0	0	0.0%	0.0%
Government	9	2	33.3%	0	0	0.0%	0.0%
Psychology	11	4	38.5%	0	0	0.0%	0.0%
Sociology and Anthropology	11	9	63.6%	5	2	25.0%	18.2%

Table 4. Distribution within Sex and Field of Rank and Tenure Status of NMSU Faculty, Fall 2004

	Social and Behavioral Sciences				NMSU-ADVANCE STEM Fields			
	Females		Males		Females		Males	
	#	%	#	%	#	%	#	%
Non-Contract								
Instructor	1	50.0%	1	50.0%	3	60.0%	2	40.0%
Assistant	3	50.0%	3	50.0%	7	63.6%	4	36.4%
Associate	1	50.0%	1	50.0%	3	50.0%	3	50.0%
Full	0	0.0%	1	100.0%	1	50.0%	1	50.0%
Tenure-Track/Tenured								
Assistant, Tenure-track	7	50.0%	7	50.0%	20	27.4%	53	72.6%
Assistant, Tenured	1	50.0%	1	50.0%	0	0.0%	2	100.0%
Associate, Tenure-track	0	0.0%	0	0.0%	0	0.0%	4	100.0%
Associate, Tenured	9	52.9%	8	47.1%	11	15.7%	59	84.3%
Full, Tenured	3	42.9%	4	57.1%	14	15.4%	77	84.6%
Total	25	49.0%	26	51.0%	59	22.3%	205	77.7%
Non-Contract, Total	5	45.5%	6	54.5%	14	58.3%	10	41.7%
Tenure-Track, Total	7	50.0%	7	50.0%	20	26.0%	57	74.0%
Tenured, Total	13	50.0%	13	50.0%	25	15.3%	138	84.7%
Percent Within Sex and Discipline								
	SBS				STEM			
	Females		Males		Females		Males	
Non-Contract, Total	20.0%	23.1%			23.7%	4.9%		
Tenure-Track, Total	28.0%	26.9%			33.9%	27.8%		
Tenured, Total	52.0%	50.0%			42.4%	67.3%		

Table 5: Faculty by Gender and Ethnicity, Number and Percent of Total within Tenured and Tenure-Track and Non-Tenure Track

2003		Tenured and Tenure-Track					Non-Tenure Track					
		Hispanic	Asian	Black	White	Not Coded	Hispanic	Asian	Black	White	Not Coded	
STEM	Female	5 2.1%	5 2.1%	0 0.0%	30 12.7%	2 0.8%	2 8.3%	0 0.0%	0 0.0%	13 54.2%	1 4.2%	
	Male	14 5.9%	22 9.3%	2 0.8%	154 65.3%	2 0.8%	0 0.0%	0 0.0%	0 0.0%	8 33.3%	0 0.0%	
	Total	19	27	2	184	4	2	0	0	21	1	
SBS	Female	3 5.8%	1 1.9%	0 0.0%	16 30.8%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	4 36.4%	0 0.0%	
	Male	2 3.8%	0 0.0%	0 0.0%	30 57.7%	0 0.0%	1 9.1%	1 9.1%	0 0.0%	5 45.5%	0 0.0%	
	Total	5	1	0	46	0	1	1	0	9	0	
2004		Tenured and Tenure-Track						Non-Tenure Track				
		Hispanic	Asian	Black	White	Am. Indian	Not Coded	Hispanic	Asian	Black	White	Not Coded
STEM	Female	7 2.9%	5 2.1%	0 0.0%	32 13.3%	0 0.0%	1 0.4%	1 4.2%	0 0.0%	0 0.0%	12 50.0%	1 4.2%
	Male	14 5.8%	21 8.8%	2 0.8%	156 65.0%	1 0.4%	1 0.4%	0 0.0%	1 4.2%	0 0.0%	9 37.5%	0 0.0%
	Total	21	26	2	188	1	2	1	1	0	21	1
SBS	Female	3 6.0%	1 2.0%	0 0.0%	15 30.0%	0 0.0%	1 2.0%	0 0.0%	0 0.0%	0 0.0%	4 36.4%	1 9.1%
	Male	2 4.0%	0 0.0%	0 0.0%	28 56.0%	0 0.0%	0 0.0%	1 9.1%	0 0.0%	0 0.0%	4 36.4%	1 9.1%
	Total	5	1	0	43	0	1	1	0	0	8	2

Table 6A: Assistant Professor Cohorts, STEM

Cohort Year	# In Cohort		Tenured		Left Institution				Not yet tenured	
					After P/T		Without P/T			
	M	F	M	F	M	F	M	F	M	F
1995	9	4	8	1	1	1	0	2	0	0
1996	10	1	5	1	2	0	3	0	0	0
1997	10	0	7	0	0	0	3	0	0	0
1998	5	3	4	2	0	1	0	0	1	0
1999	7	4	1	0	0	0	2	0	4	4
2000	6	2	2	0	0	0	0	1	4	1
2001	18	1	0	0	0	0	4	0	14	1
2002	11	6	1	0	0	0	1	0	9	6
2003	14	4	0	0	0	0	0	1	14	3
2004	7	5	0	0	0	0	0	0	7	5
Total	97	30	28	4	3	2	13	4	53	20

Table 6B: Assistant Professor Cohorts, Non-STEM*

Cohort Year	# In Cohort		Promoted		Left Institution				Not yet tenured	
					After P/T		Without P/T			
	M	F	M	F	M	F	M	F	M	F
1995	10	14	6	5	1	1	3	7	0	1
1996	9	15	7	7	0	1	2	7	0	0
1997	8	13	2	6	1	2	5	5	0	0
1998	10	5	3	1	0	0	7	3	0	1
1999	8	5	0	0	0	0	1	3	7	2
2000	10	9	1	0	0	0	3	3	6	6
2001	4	13	0	0	0	0	0	1	4	12
2002	14	19	0	0	0	0	1	2	13	17
2003	12	7	0	0	0	0	0	0	12	7
2004	3	7	0	0	0	0	0	0	3	7
Total	88	107	19	19	2	4	22	31	45	53

*Note: Non-STEM includes ALL non-STEM at NMSU, not just the SBS fields.

Table 7A: Associate Professor Cohorts, STEM

Cohort Year	# In Cohort		Promoted		Left		Not yet promoted		Not yet tenured	
	M	F	M	F	M	F	M	F	M	F
1995	6	1	0	1	2	0	4	0	0	0
1996	7	3	2	1	2	1	3	1	0	0
1997	9	1	2	0	3	0	4	1	0	0
1998	8	4	4	1	0	1	4	2	0	0
1999	10	2	2	0	2	1	6	1	0	0
2000	9	3	0	0	3	2	6	1	0	0
2001	7	1	0	0	1	1	6	0	1	0
2002	5	1	0	0	0	0	5	1	1	0
2003	7	7	0	0	0	0	7	7	0	0
2004	8	2	0	0	0	0	8	2	2	0
Total	76	25	10	3	13	6	53	16	4	0

Table 7B: Associate Professor Cohorts, Non-STEM*

Cohort Year	# In Cohort		Promoted		Left		Not yet promoted		Not yet tenured	
	M	F	M	F	M	F	M	F	M	F
1995	8	11	1	2	2	5	5	4	0	0
1996	11	6	5	5	2	0	4	1	0	0
1997	5	3	1	1	0	1	4	1	0	0
1998	7	9	2	1	2	4	3	4	0	0
1999	6	11	1	2	1	4	4	5	0	0
2000	4	4	0	0	0	1	4	3	0	0
2001	2	5	0	0	0	0	2	5	0	0
2002	11	7	0	0	0	1	11	6	2	1
2003	5	7	0	0	2	0	3	7	1	2
2004	4	4	0	0	0	0	4	4	2	2
Total	63	67	10	11	9	16	44	40	5	5

*Note: Non-STEM includes ALL non-STEM at NMSU, not just the SBS fields.

Table 8: Tenured and Tenure Track Age, Time at NMSU, Experience and Time to Tenure

	SBS Departments			STEM Departments		
	Males	Females	Gender Gap	Males	Females	Gender Gap
Age						
Mean	49.27	43.9	5.4	47.5	44.8	2.7
Median	52.5	43	9.5	47	44	3
Std. Dev.	7.9	7.8		8.9	7.8	
Minimum	29	31		29	30	
Maximum	60	57		72	63	
# of valid cases	30	20		195	45	
Time at NMSU						
Mean	12.93	8.85	5	12.44	8.27	4.1
Median	13	8.5	4.5	11	6	5
Std. Dev.	7.8	5.5		9.4	6.4	
Minimum	1	0		0	0	
Maximum	29	21		40	21	
# valid cases	30	20		195	45	
Years of Experience						
Mean						
Median	17.43	11.1	6.3	17	12.8	4.2
Std. Dev.	18.5	11	7.5	16	12	4
Minimum	8.6	6.7		9.5	7.2	
Maximum	2	1		2	2	
# valid cases	33	26		42	29	
	30	20		195	45	
Time to Tenure						
Mean	4	5	-1	4.7	4.5	0.2
Median	5	5	0	5	5	0
Std. Dev.	1.7	1.1		1.4	2.1	
Minimum	0	2		0	0	
Maximum	6	6		7	8	
# valid cases	23	13		138	25	

Years of experience: Current year minus date of Ph.D.

Gender Gap: Male minus Female.

Table 9: Tenure and Tenure Track Monthly Salary by Rank

2004

	SBS Departments			STEM Departments		
	Males	Females	Gender Gap*	Males	Females	Gender Gap
Monthly Salary:						
Assistant Professors						
Mean	\$4,445.49	\$4,041.80	\$403.69	\$5,624.15	\$5,544.97	\$79.18
Median	\$4,313.40	\$3,879.50	\$433.90	\$5,439.50	\$5,314.90	\$124.60
Std. Dev.	\$493.28	\$501.97		\$935.70	\$875.86	
Minimum	\$3,720.60	\$3,666.70	Ratio:	\$3,986.00	\$4,500.00	Ratio:
Maximum	\$5,130.80	\$5,240.60	0.9	\$7,568.70	\$7,515.30	0.98
# valid cases	8	8		55	18	
Monthly Salary:						
Associate Professors						
Mean						
Median	\$5,818.28	\$5,001.08	\$817.20	\$6,269.35	\$5,626.38	\$642.97
Std. Dev.	\$5,925.50	\$5,073.20	\$851.80	\$5,972.30	\$5,662.80	\$309.50
Minimum	\$811.19	\$438.04		\$1,003.53	\$426.19	
Maximum	\$4,296.20	\$4,260.10	Ratio:	\$4,433.80	\$4,776.40	Ratio:
# valid cases	\$6,813.60	\$5,561.00	0.86	\$8,600	\$6,344.30	0.95
	8	9		63	11	
Monthly Salary:						
Full Professors						
Mean	\$6,524.07	\$7,433.97	-\$909.90	\$7,236.31	\$6,598.63	\$953.25
Median	\$6,603.70	\$7,013.30	-\$409.60	\$7,135.50	\$6,605.30	\$778.40
Std. Dev.	\$1,310.72	\$1,326.90		\$1,296.91	\$727.19	
Minimum	\$4,651.70	\$6,368.40	Ratio:	\$4,924.60	\$5,758.50	Ratio:
Maximum	\$90,473.60	\$8,920.20	1.06	\$11,103.00	\$8,561.80	0.89
# valid cases	14	3		70	14	

* Gender Gap: Male minus Female.

** Ratio: consistent with conventional reporting on pay gaps between men and women, the ratio of women's to men's median earnings was computed and reported. This ratio is interpreted as the amount the average woman earns for every dollar the average man earns.

Table 10: Non-Contract Age, Time at NMSU, Experience and Monthly Salary

	SBS Departments			STEM Departments		
	Males	Females	Gender Gap	Males	Females	Gender Gap
Age						
Mean	48	60	-12	46.5	41.9	4.6
Median	51	61	-10	46	42	4
Std. Dev.	12.7	2.8		13.1	8.7	
Minimum	28	56		28	24	
Maximum	62	62		65	61	
# valid cases	7	4		8	16	
Time at NMSU						
Mean	6	6.5	-0.5	4.13	7.1	-2.9
Median	2	2	0	1.5	3.5	-2
Std. Dev.	9.9	10.5		6.7	7.3	
Minimum	0	0		0	1	
Maximum	28	22		20	22	
# valid cases	7	4		8	16	
Years of Experience						
Mean	9.7	15	-5.3	16.4	12.8	3.6
Median	8	14	-6	17	9.5	7.5
Std. Dev.	9.7	12.3		9.8	9.3	
Minimum	1	1		4	2	
Maximum	30	31		34	36	
# valid cases	7	4		8	16	
Monthly Salary: All Non-Contract						
Mean						
Minimum	\$3,824.71	\$3,241.67	0.85**	\$4,344.99	\$3,735.89	0.86**
Maximum	\$3,000.00	\$2,983.80		\$2,940.50	\$2,340.00	
# valid cases	\$5,000.00	\$3,666.67		\$6,716.00	\$5,351.70	
	7	4		8	16	
Monthly Salary: Excluding Instructor Rank						
Mean	\$3,962.02	\$3,241.67	0.82**	\$4,937.25	\$3,955.98	0.80**
Minimum	\$3,228.00	\$2,983.80		\$3,108.30	\$2,955.90	
Maximum	\$5,000.00	\$3,666.67		\$6,716.00	\$5,351.70	
# valid cases	6	4		5	13	

** Ratio: consistent with conventional reporting on pay gaps between men and women, the ratio of women's to men's median earnings was computed and reported. This ratio is interpreted as the amount the average woman earns for every dollar the average man earns.

Table 11: NMSU Administrative Leadership Positions, Fall 2002-2004

	2002			2003			2004		
	Total	Female	%Female	Total	Female	%Female	Total	Female	%Female
STEM Department Heads	19	2	10.5%	19	1	5.3%	19	2	10.5%
STEM Associate Department Heads	7	1	14.3%	6	1	16.7%	6	0	0.0%
STEM Assistant Department Heads	1	0	0.0%	2	0	0.0%	3	0	0.0%
Vice Presidents/Provosts	5	2	40.0%	5	2	40.0%	5	2	40.0%
Vice Provosts	3	2	66.7%	4	1	25.0%	5	1	20.0%
Deans¹	8	2	25.0%	8	3	37.5%	8	3	37.5%
Associate Deans	11	4	36.4%	14	4	28.6%	10	3	30.0%

Note: ¹The two female deans in 2002 were the Dean of the Graduate School and the Library Dean. In 2003 two of three searches for academic college deans were successful. The new Dean of the College of Arts and Sciences is the only female academic dean. A search is in progress to fill the position of the Dean of the College of Engineering.

Table 12: SBS and STEM Faculty Holding Regents' Professorships, 2004

	Total	Men	Women
SBS Departments	1	0	1
STEM Departments	3	3	0
Non SBS/STEM	5	5	0
Total	9	8	1

Table 13: Gender Distribution of Tenure and Promotion Committees 1997-2004

	College of Agriculture & Home Economics			College of Arts & Sciences			College of Engineering		
	Total	Female	% Female	Total	Female	% Female	Total	Female	% Female
1997-1998	N/A	N/A	N/A	6	0	0.0%	6	0	0.0%
1998-1999	5	1	20.0%	6	0	0.0%	7	0	0.0%
1999-2000	5	2	40.0%	6	1	16.6%	6	0	0.0%
2000-2001	5	2	40.0%	6	1	16.6%	7	0	0.0%
2001-2002	5	2	40.0%	6	1	16.6%	6	0	0.0%
2002-2003	5	2	40.0%	6	1	16.6%	6	0	0.0%
2003-2004	5	2	40.0%	6	2	33.3%	5	0	0.0%
2004-2005	5	2	40.0%	6	2	33.3%	5	0	0.0%

Table 14: Women as a Percent of All Ph. D. Recipients Nationwide, 1999, Academic Employment, 1999 and NMSU Faculty, 2004

	Physical Sciences	Biological and Agricultural Sciences	Earth and Atmospheric Sciences	Mathematical Sciences	Computer Sciences	Engineering
National, 1999	23.20%	40.80%	26.00%	25.50%	18.40%	14.80%
Employed in Academia, 1999	12.62%	32.60%	17.95%	14.47%	12.62%	8.24%
NMSU Faculty, 2004	4.88%	21.43%	33.33%	34.48%	18.18%	9.33%

Note:

Physical Sciences Includes: Astronomy, Chemistry and Biochemistry, and Physics

Biological and Agricultural Sciences Includes: Agronomy and Horticulture; Entomology, Plant Pathology and Weed Science; Animal and Range Sciences; Fishery and Wildlife Sciences and Biology

Earth and Atmospheric Sciences Includes: Geological Sciences

Mathematical Sciences Includes: Mathematical Sciences

Computer Sciences Includes: Computer Science

Engineering Includes: Chemical Engineering; Civil and Geological Engineering; Electrical and Computer Engineering; Engineering Technology; Industrial Engineering; Mechanical Engineering and Survey Engineering

Note:

NMSU Faculty includes only Tenure and Tenure-Track Female Faculty

Figure 1. Tenure Status by Sex and Discipline, 2004

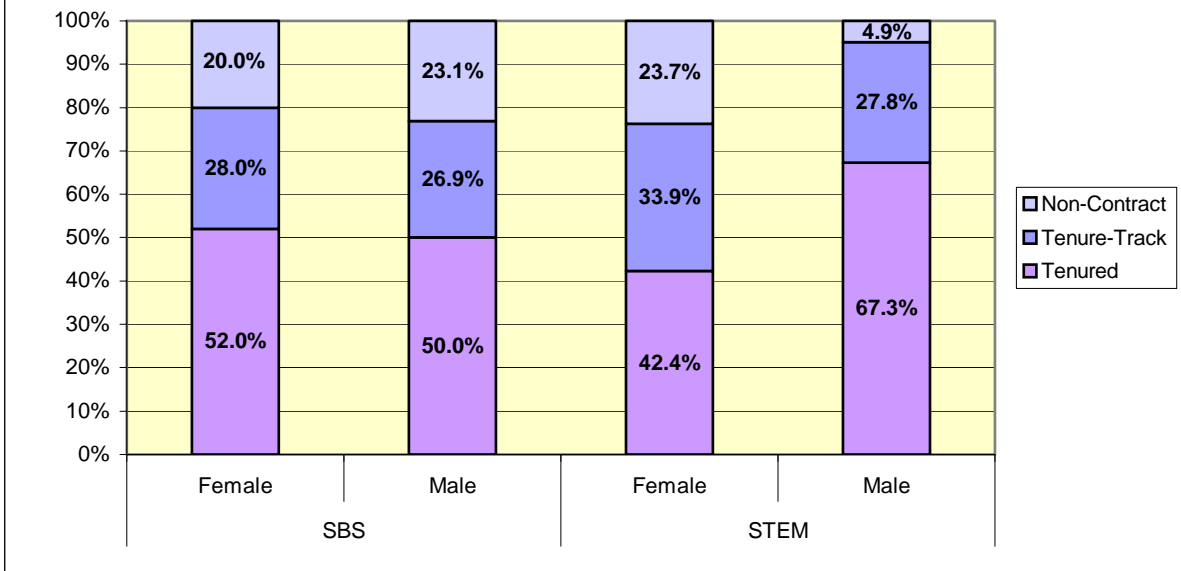
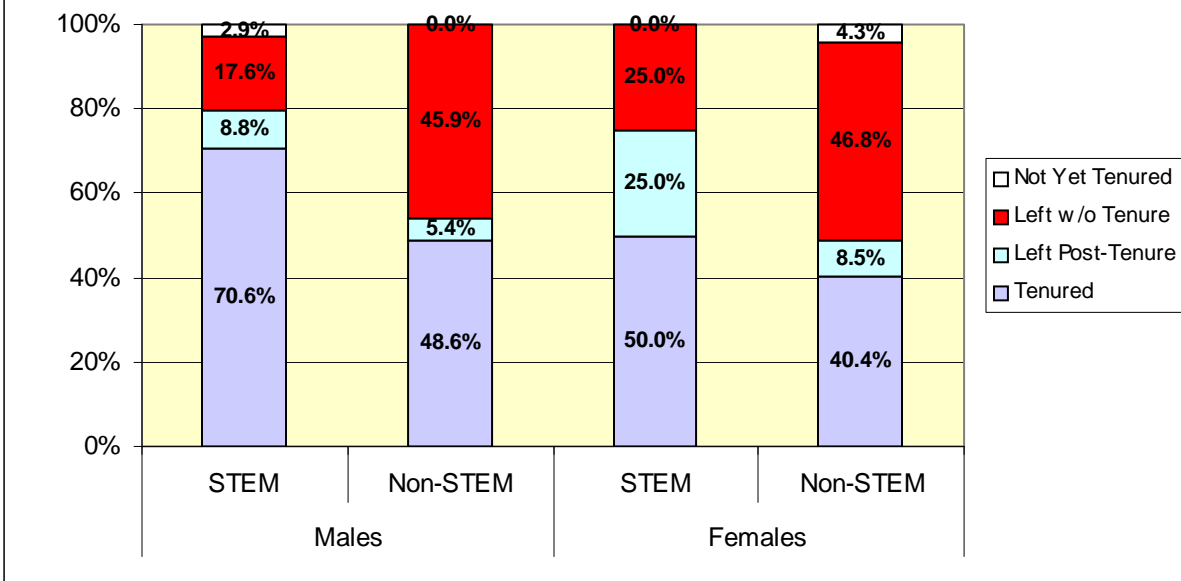
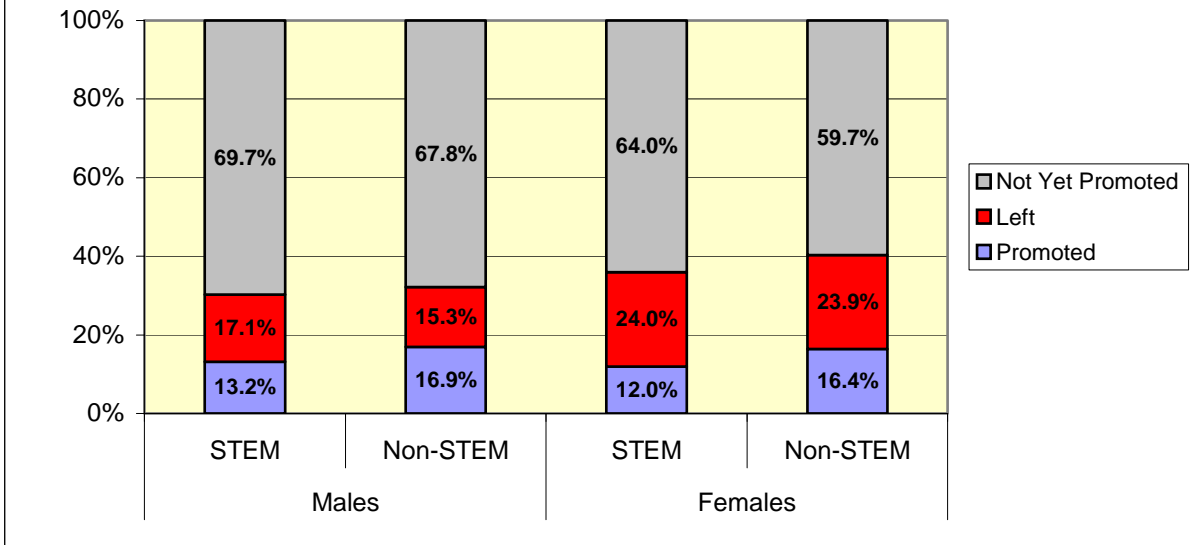


Figure 2. Status in 2004 of Assistant Professors Recruited 1995-1998, by Sex and Discipline Group



Note: Non-STEM in Figure 2 refers to ALL non-STEM fields at NMSU, not just the Social and Behavioral Sciences used in most other tables and graphs.

Figure 3. Status in 2004 of Faculty Promoted to Associate Professor 1995-2004, by Sex and Discipline Group



Note: Non-STEM in Figure 3 refers to ALL non-STEM fields at NMSU, not just the Social and Behavioral Sciences used in most other tables and graphs.

Appendix 2.
Space Allocation Study Report

ADVANCE: Space Allocation Study
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December, 2004

Overview

The well-publicized study of the status of women faculty at MIT's schools of sciences noted a significant difference in space allocation by sex. For science, technology, engineering, and mathematics (STEM) faculty, the availability of adequate space – in terms of both quantity and quality – affects researchers' productivity and the quality of work life. We completed our first study of space allocation in the STEM fields in December 2003. Last year, our conclusions were:

- There was no clear pattern of institutional sex discrimination when allocating space.
- There are no uniform processes for departments to assign space to faculty members.
- The data are difficult to analyze because there are small numbers of female faculty.
- The quality and reliability of the data needed to be improved.

The study outlined here sought to determine whether there were sex differences in the allocation of space at New Mexico State University (NMSU) after improving the data quality and reliability from last year. We improved the data by collaboratively working with Facility Space Management (FSM). We also collected more qualitative data concerning research space and the processes of space allocation from department heads and faculty members in order to better explain the limitations of our quantitative data. In addition, space allocation in six social and behavioral science (SBS) departments was also studied to enable better comparability of our findings with those at ADVANCE institutions that target the social sciences.

Our key conclusions this year, even after improving the quality and reliability of the quantitative data and interviewing 23 faculty members, 25 department heads, and the deans in five of NMSU's six academic colleges are relatively unchanged from last year's conclusions:

- There was no clear pattern of institutional sex discrimination in space allocation at the department or college level.
- Quality of space and its fitness for particular research projects is an even more essential issue than amount of space.
- Quality of equipment necessary for research is important to study.
- Departments need to develop a process for space allocation that enables faculty members to have a voice in how space is allocated and to be able to understand the college-level processes that affect their lives.

Data Collection

Data collection began with a meeting between Cecily Jeser-Cannavale and Ron Washburn, Manager, Facilities Space Management. We discussed our goals and determined how we could work together to achieve those goals. We concentrated on the physical space and the utilization of that space. We created a plan to improve the quality of the data for FSM and the ADVANCE program. Data were collected in four stages:

1. Space audit (Jointly: Washburn and Jeser-Cannavale)
2. Department head interviews (Mostly jointly: Washburn and Cannavale)

3. Dean interviews (Jointly: Washburn and Jeser-Cannavale)
4. Faculty phone interviews. (Jeser-Cannavale)

January to May 2004 data collection began with a space audit of the STEM and SBS departments. We walked through each department looking at the physical space that belonged to that department. We used the floor plans and spreadsheets to determine if there were any physical changes to the space, if a new person was using the space, or if the use of the space had changed.

The next step in data collection was to conduct department head interviews. The interviews began in June 2004 and were completed in October, 2004. Most interviews were conducted jointly by Ron Washburn and Cecily Jeser-Cannavale. Jeser-Cannavale separately interviewed heads from the following departments due to logistical constraints: Animal and Range Sciences, Entomology, Plant Pathology, and Weed Science, Biology, Chemistry, Math, Electrical Engineering, Chemical Engineering, Survey Engineering, Criminal Justice, Government, Sociology and Anthropology, Psychology, and Communication Studies.

The joint interviews began with Ron Washburn asking for clarification of any of the changes we noted during the space audit and then Washburn proceeded to ask how each room was utilized. When Washburn completed his interview, Jeser-Cannavale would ask questions about the process the department used for space allocation. These interviews generally last 15-60 minutes depending, to some extent, upon the size of the department and the department head's experience. The interviews were semi-structured and that they followed a line of inquiry that emerged within each interview. (See Appendix A)

In August 2004, we interviewed the deans of five of the academic colleges (all except for the dean of the College of Business Administration and Economics). The dean of the College of Agriculture and Home Economics was in the interview for the first fifteen minutes, but Washburn and Jeser-Cannavale interviewed administrative staff, who were knowledgeable of space allocation in the college in the remaining hour and fifteen minutes. The other four deans' interviews were each conducted in forty-five minutes or less. ADVANCE sought to learn more about the colleges' role in space allocation as well as their involvement in space disputes. We also looked at the amount and type of spaces that were controlled by the colleges. The discussion with the deans varied based upon the information we had received from departments in their colleges, but there were general questions that Jeser-Cannavale asked each dean, as shown in Appendix B.

In the original space audit interviews, each department head was asked the names of faculty members who could also discuss space allocation in their department to generate a snowball sample of other faculty members who had a historical view of space utilization. Interestingly, some department heads referred us to junior faculty, which provided a different perspective about the processes of space allocation. Faculty members identified by department heads were contacted for phone interviews (about 10-15 minutes in length). Other senior faculty who had participated in the ADVANCE Program (e.g., the mentoring program) were contacted as well to supplement the information that we received about space allocation. These interviews explored the extent to which faculty were satisfied with their space, how equitable they felt the processes of space allocation were, and their general level of knowledge about how space was allocated. The semi-structured questions that were asked are located in Appendix C.

Jeser-Cannavale interviewed at least one faculty member from 17 of the 25 (68.0%) STEM and SBS departments. Twenty-eight faculty members were contacted: three faculty members failed

to return phone calls or emails, and two faculty members refused to be interviewed for an 82% response rate. Those who refused did so because one felt that the department head needed to answer those types of questions and the other was too busy at the time. The interviews were between 5 and 15 minutes long. Characteristics of the interviewees:

- 42.1% females and 57.9% males
- 21.0% assistant professors, 15.8% associate professors, and 63.2% full professors.

Data Analysis

Based upon the square footage data collected by Facilities Space Management and the ADVANCE program, an excel data file was developed that included information about the space allocated to all tenured and tenure track STEM and SBS faculty members. The variables included the sex and rank as well as total square footage of space. Total space for each faculty member was computed as the sum of office space plus lab space plus a fraction of shared space (e.g. if two people shared a lab, then each was considered as controlling half of that space). Department heads' space was included in the analysis associated with their faculty rank (i.e., associate professor or full professor).

A table reporting square footage by rank, sex, and department was constructed but will not be presented in this report due to confidentiality issues. That is, there are so few women in STEM (n=38) that to present these data would reveal individuals' space allocations. Instead, we will report some general findings from this analysis in this report but will then review these findings individually with each of the deans in our annual ADVANCE status meetings with the deans early in spring, 2005.

We present the individual level space data aggregated in several ways. First, we present these data for the 19 STEM and six SBS departments by rank and sex. Then we present these data by rank and college. Within college, we then aggregated by the highest degree offered within the department. In this way, we can make comparisons within doctoral-granting departments versus those that offer the bachelors or masters degree as the terminal degree. For example, in the college of engineering, five of the seven departments offer a doctoral degree with both engineering technology and survey engineering offering a masters degree as the highest degree. These bachelors-granting departments have different teaching and research requirements than the doctoral-granting departments within the same college.

Departmental level data on space were compiled within the following categories:

- Communal Spaces
- Classrooms

Communal spaces included conference or seminar rooms, libraries, break rooms, some laboratories, laboratory preparation rooms, etc. Classrooms are important to departments because they enable greater control over working conditions—specifically time and location of classes. Communal spaces, like conference rooms, are also important in permitting easy scheduling of graduate program meetings or comprehensive exams. Again, the flexibility and access to particular kinds of shared spaces can have an impact upon individual faculty members' work lives as well as the climate (in terms of collegiality) in a department.

The departmental level analysis enabled us to compare/contrast department level resources to see if the departments with higher percentages of female faculty controlled

less space than those with proportionately fewer female faculty members. Such an analysis could reveal the presence of structural/institutional discrimination based on sex.

Limitations of Data

Departmental differences in space policies and practices hindered the ability to consistently assign ownership to individual faculty members. Departments allocate shared research space very differently and usually the space was not assigned to faculty members. However, some departments would identify the primary user(s) of shared research space. Assignment of graduate students' space varied by department and that space was generally not assigned to a specific faculty member.

Data do not reflect the quality or type of space needed for a faculty member's research program. Faculty members within a department could have different space needs based upon their type of research. Likewise, faculty satisfaction with the space was not measured in any systematic way, although this was a theme in the faculty phone interviews.

Differences in the relative numbers of men and women hindered data analysis and sex comparisons. With so few female STEM faculty, we took great care in aggregating to a level that would not pose confidentiality problems.

Finally, specific buildings had limitations to studying space based upon how space was assigned. For example, Skeen Hall was originally built for the College of Agriculture and Home Economics as a research building. The original plan did not have faculty located in the building. The Commission of Higher Education would not recognize it as an instructional building that would receive Instructional and General (I & G) funds, which are allocated based on the teaching mission. But utilization of a building for purely research purposes at a public land-grant institution at which few faculty members are dedicated exclusively to research was problematic, especially given the crowding that the college had experienced in its principal building, Gerald Thomas Hall. Therefore, the College of Agriculture and Home Economics found that it was imperative to place three departments in the new building despite the fact that the College was to receive no I & G funds to support that building (although the College will receive partial I & G funding associated with Skeen Hall). Faculty who were relocated to Skeen Hall were universal in their praise for the quality and quantity of space to which they now had access. This means that, because of the past history of funding for Skeen Hall, many of the research laboratories that were located in Skeen Hall were not allocated to departments but were managed by the College making it hard to determine who used the space. Several of the research laboratories cross departmental lines and were shared by faculty members of Agronomy and Horticulture and Entomology, Plant Pathology, and Weed Science.

Findings

Individual-Level Quantitative Space Data

Tables 1 and 2 present mean square footage of space by sex and rank. Figure 1 shows the same data presented in Table 1 in a graph format. The gap in space allocation was narrowest for assistant professors and widest for associate professors. Overall, on average, male STEM faculty controlled 222 square feet of space more than female faculty. Within the six SBS fields, the gap between women's and men's allocated space was widest for full professors, with female full professors controlling just over 350 additional square feet of space when compared to SBS male full professors. Male assistant professors controlled an average of just less than a 200

square feet more than female assistant professors. The sex gap was very narrow for the SBS fields overall and for associate professors.

Table 1: Means and Standard Deviations (in parentheses) of Square Footage of Space for STEM Faculty Members by Rank and Sex

	Male		Female		Sex Gap M-F
	Mean	N	Mean	N	
Full Professor	908.6 (901.2)	77	700.8 (1,185.3)	12	207.8
Associate Professor	809.6 (1,218.8)	61	402.3 (565.9)	8	407.3
Assistant Professor	779.1 (1,056.3)	55	657.5 (685.0)	19	121.6
All Ranks	840.4 (1,050.1)	193	618.5 (837.0)	39	221.9

Figure 1. Mean Space by Rank and Sex in the 19 STEM Fields

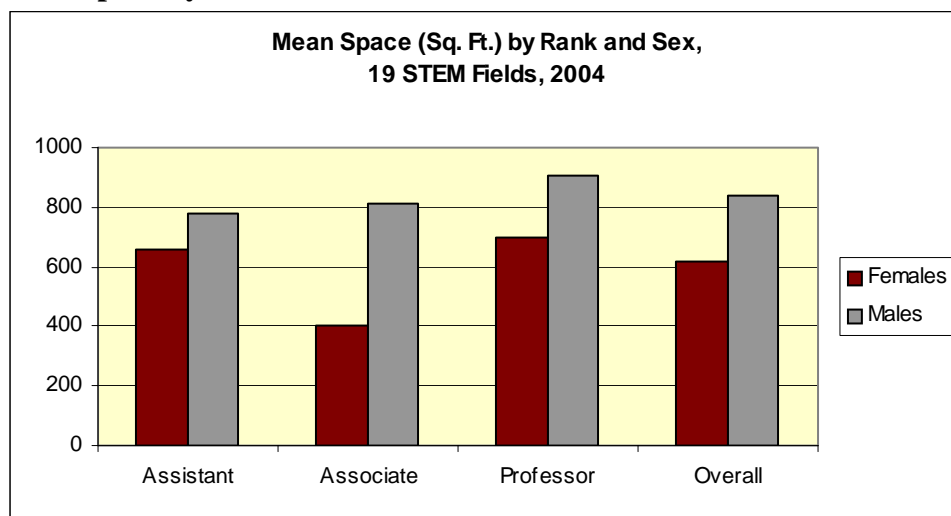


Table 2: Means and Standard Deviations (in parentheses) of Square Footage of Space for SBS Faculty Members by Rank and Sex

	Male		Female		Sex Gap M – F
	Mean	N	Mean	N	
Full Professor	333.4 (291.8)	13	688.0 (332.1)	3	-354.6
Associate Professor	427.7 (344.4)	10	388.7 (302.4)	9	39.0
Assistant Professor	422.9 (304.9)	9	232.1 (128.5)	8	190.8
All Ranks	388.0 (305.8)	32	371.0 (283.4)	20	17.0

Table 3 reports aggregate space data by sex and college. The College of Agriculture and Home Economics had the smallest mean difference in the amount of space controlled by males compared to females. In the College of Engineering, the gap between men and women is the widest with men controlling 474 square feet more of space than women, on average. Finally, men controlled an average of over 200 square feet of space compared to women in the College of Arts and Sciences, although it should be noted that 12 of the 19 women in the STEM fields in this college were in Mathematics and Computer Science, which are not “bench sciences.”

Table 3: Mean Square Footage of Space by College and Sex

College	Male		Female		Sex Gap M-F
	Mean & (S. d.)	N	Mean & (S. d.)	N	
Agriculture and Home Economics	1,055.9 (1,481.0)	42	973.1 (1,211.5)	13	82.8
Arts and Sciences	654.6 (640.9)	83	434.4 (543.6)	19	220.2
Engineering	934.1 (1,111.0)	68	459.6 (454.1)	7	474.5
Social & Behavioral Sciences	388.0 (305.8)	32	371.0 (283.4)	20	17.0

Figure 2 reports the space allocation for men and women within each college separately for discipline groups based upon the highest degree awarded by the departments. Faculty in doctoral-granting departments would be expected to have more research requirements and fewer teaching responsibilities, while those faculty in non-doctoral departments would have the opposite: more teaching responsibilities and less research requirements for promotion and tenure. There were relatively small sex gaps in space allocation in non-PhD engineering and arts and sciences departments and the SBS fields (which includes only one PhD-granting department, Psychology). Moderate gaps were found in the Arts and Sciences and agriculture PhD-granting fields. The widest sex gaps were for the engineering PhD departments and the agriculture no-PhD departments.

Although the data are not presented here (as mentioned earlier), there were few differences between faculty members of the same rank within the same departments. A brief summary of these findings follows. Three departments had no female faculty members:

- Mechanical Engineering
- Physics
- Survey Engineering

Within rank, six departments had an equitable distribution of space (a difference of less than 200 square feet):

- Astronomy
- Computer Science
- Electrical and Computer Engineering
- Engineering Technology
- Family and Consumer Sciences
- Mathematical Sciences

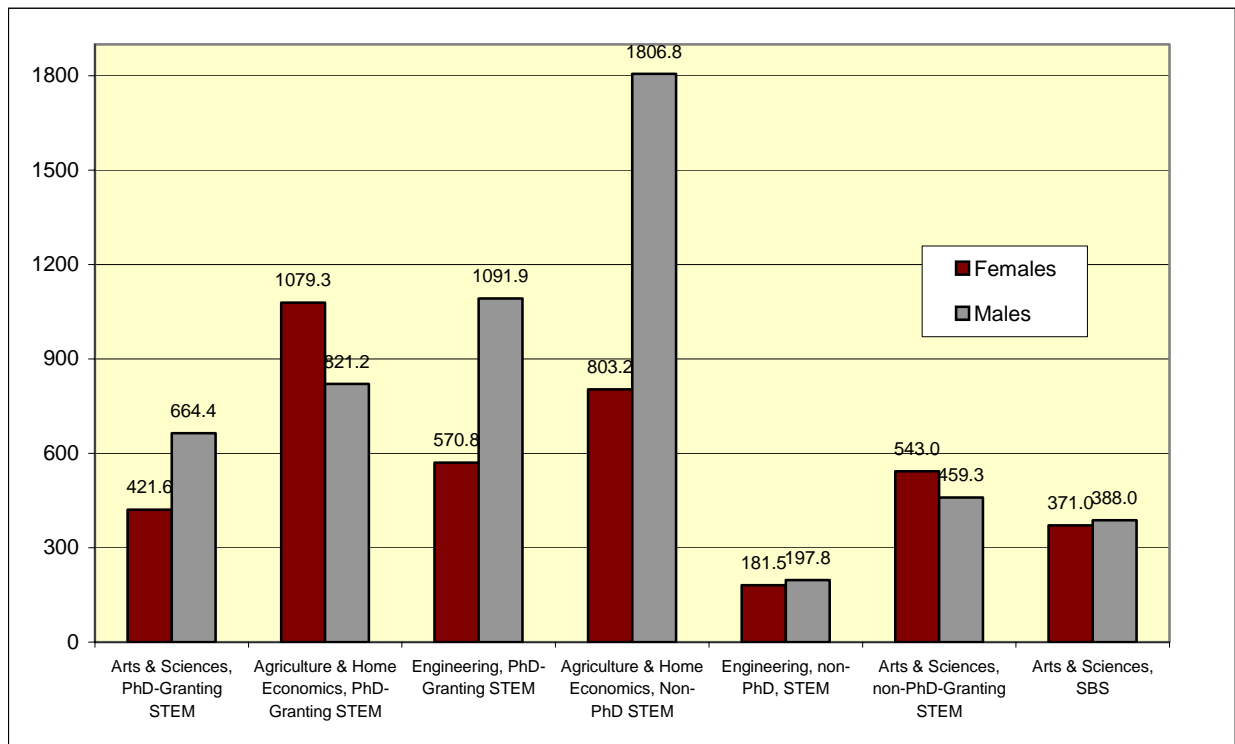
More space was allocated to females than to males in the following:

- Geological Sciences at the Full Professor level.
- Biology at the Assistant and Associate Professor levels.
- Animal and Range Sciences at the Assistant Professor level.
- Agronomy and Horticulture at the Full Professor level.
- Entomology, Plant Pathology, and Weed Science at the Assistant Professor level.

More space was allocated to males than females in the following:

- Chemical Engineering at the Associate Professor level.
- Civil and Geological Engineering at the Assistant and Full Professor levels.
- Industrial Engineering at the Assistant Professor level.
- Agronomy and Horticulture at the Associate Professor level.
- Fishery and Wildlife Sciences at the Assistant Professor level.
- Chemistry and Biochemistry at the Assistant Professor level.
- Entomology, Plant Pathology and Weed Science at the Full Professor level.

Figure 2. Space Allocation (Mean Square Feet) by College, Discipline Group and Sex



College-Level and Departmental-Level Analysis

The interesting aspect of the colleges is that there is a large difference in square footage controlled by the College of Agriculture and Home Economics in comparison to the College of Arts and Sciences and College of Engineering. Some light was shed on this issue in the course of the interviews with the deans and their representatives. The College of Agriculture has 68,277 square feet in spaces such as the Dean’s offices, conference rooms, faculty offices,

classrooms, seminar rooms, graduate assistant offices, and research laboratories. The College of Arts and Sciences reported 8,949 square feet for its Dean's offices, advising center, and conference rooms. The College of Engineering controlled 13,212 square feet of Dean's offices, conference rooms, student organization offices, and computer labs. While the administrators from the colleges of Arts and Sciences and Engineering reported more decentralized control of space—that is, they distributed lab and office spaces to the departments for use—the College of Agriculture and Home Economics maintained control of those same spaces. In other words, departments within Arts and Sciences and Engineering had a sense of ownership of space but departments within the College of Agriculture and Home Economics were more like long-term leasees, with the College retaining control over the space. Of course, more centralized control enables the College to redistribute space as research needs change or new grants are awarded, while the decentralized processes make such actions difficult for the Dean's office.

But the extent to which the centralized process is equitable is difficult to assess, given that one member of that college was highly critical of the process by which she had to request space for administrative personnel for a large research award (Kramer 2003). Furthermore, faculty who had left that college reported that one aspect of their dissatisfaction was the particularistic rather than universalistic processes within the college (Frehill, Clary, Cooper, and Huenneke 2003).

Another aspect of space allocation was the amount of communal space and number of classrooms for departments. (See Table 4) Communal spaces and classrooms are important in several ways.

- These spaces provide the department with more flexibility in scheduling classes and meetings.
- Communal spaces provide the infrastructure for the development of a sense of community and solidarity in a department.
- Communal spaces can potentially be transformed into individually controlled spaces (e.g. labs, offices, etc.).

All 19 STEM departments, combined, had 76,719 square feet of communal spaces and the six SBS departments as a group had 3,417 square feet of communal space excluding classrooms. That means that on average, STEM departments control over 4,000 square feet of common space (not including classrooms) while SBS departments had comparatively little space, about 570 square feet on average.

Three STEM departments had no conference room: Agronomy and Horticulture, Entomology, Plant Pathology, and Weed Science, and Geological Sciences. Although it should be noted that the new building in which part of the very large Department of Agronomy and Horticulture and all of the Department of Entomology, Plant Pathology, and Weed Science faculty are located have many conference rooms that are generally accessible but, due to particular administrative structures within the College of Agriculture and Home Economics (see above), such spaces are not formally under the control of these departments, but, instead reside in the college dean's office.

Geography, and Sociology and Anthropology do not have conference rooms. Communications Studies has a seminar room, which can serve as a conference room for the faculty in that

department even though a specific conference room does not belong to that department. The location of Geography, Geology, and Sociology and Anthropology in the voluminous but still crowded Breland Hall has limited how these departments use their space, trading off communal spaces for individual lab space, which is at a premium.

The types of communal space varied greatly between departments. Some examples of communal spaces were:

- Most of the research laboratories in Family and Consumer Sciences (with a couple of exceptions)
- Many departments had work rooms for the faculty
- Biology has several laboratory preparation rooms and equipment rooms that are communal
- Mathematical Sciences and Electrical Engineering have departmental libraries.

Geological Sciences is the only department that does not control any classrooms. The number of classrooms for departments varied greatly, ranging from 28 for the Department of Chemistry and Biochemistry to 0 for the Department of Geological Sciences. On average, STEM departments controlled 6.5 classrooms, while SBS departments controlled 2.2.

Table 4: Total Square Footage of Communal Space by Department, 2004

Department	Communal Space (Square Feet)	N	Average Communal Space	Number of Classrooms	Average Classrooms	Percent Female
Agronomy & Horticulture	182.0	15	12.1	1	0.07	26.7%
Animal & Range Science	3,865.0	18	214.7	2	0.11	11.1%
Entomology, Plant Pathology & Weed Science	1,155.0	11	105.0	1	0.09	27.3%
Family & Consumer Sciences	8,578.0	8	1,072.3	1	0.13	87.5%
Fishery & Wildlife Sciences	753.0	4	44.3	1	0.25	28.6%
Astronomy	2,654.0	8	331.75	1	0.13	12.5%
Biology	8,938.0	19	470.4	2	0.11	21.1%
Chemistry & Biochemistry	6,644.0	18	369.1	27	1.50	5.3%
Computer Science	6,965.0	11	663.2	4	0.36	18.2%
Geological Sciences	174.0	6	29.0	0	0.00	33.3%
Mathematical Sciences	12,790.0	29	441.0	16	0.55	34.5%
Physics	2,938.0	18	163.2	18	1.00	0.0%
Chemical Engineering	5,368.0	7	766.9	3	0.43	14.3%
Civil & Geological Engineering	3,715.0	15	247.7	2	0.13	13.3%
Electrical & Computer Engineering	5,329.0	21	253.8	15	0.71	5.0%
Engineering Technology	1,920.0	12	160.0	17*	1.42	16.7%
Industrial Engineering	2,128.0	5	425.6	1	0.20	20.0%
Mechanical Engineering	1,748.0	13	134.5	10	0.77	0.0%
Survey Engineering	875.0	3	291.7	2	0.67	0.0%

*The research laboratories for Engineering Technology are used as teaching laboratories too. The number of classrooms includes these laboratories.

Interview Findings

The common theme in the deans' interviews was that most space allocation happens at the departmental level, with the dean's role limited to making recommendations on space allocation. Therefore, all but one of the five colleges we interviewed allocated space to the departments, except for the College of Agriculture and Home Economics (CAHE). The interview with the dean's office in the CAHE interview was quite different from the other deans' interviews. Not only did the interview take twice as much time, but also involved administrative staff rather than the dean, himself, who was present only for the first 15 minutes. These staff members were also more leery of the interview, expressing their concerns about confidentiality on a number of occasions throughout the interview. The CAHE administrative staff were very particular about following space policies, reflecting the greater degree of centralized control within this college versus the decentralized control by the remaining colleges. That is, decisions about space were made at a higher level within the CAHE, while most space decisions within the Colleges of Arts and Sciences and Engineering (and in the Colleges of Education and Health and Social Services) were made at the departmental level.

In the College of Arts and Sciences, the associate dean for research managed the space for the college. Dr. Paap stated that in all the time he had been the associate dean (i.e., since fall, 2001), there had not been a space dispute brought to the College of Arts and Sciences—these disputes were settled within departments, with no intervention by the college.

The College of Health and Social Services dean was very excited about his new building, which enabled, for the first time, all of the faculty and the dean's office for that college to be co-located. With rapid growth in enrollments and programs within the college, the new building has ample space to accommodate some growth and there are already plans to build an addition to this new building. Health and Social Service faculty members were very satisfied with the quality as well as the quantity of space. Prior to moving into the new building, some faculty had been located far from the center of campus in a building that had no windows.

Dean Moulton of the College of Education expressed concerns about serious space problems that would be somewhat relieved when O'Donnell Hall was renovated. However, even with the renovation, there would still be no room for the College of Education to grow. Enrollments in both graduate and undergraduate programs have sky-rocketed in the past five years in the College of Education. The State of New Mexico relies upon this college to provide skilled teachers, and to improve the educational standing of existing teachers through continuing education and graduate programs, mandates that have been intensified by the national "No Child Left Behind" requirements.

In the College of Engineering, Dean Castillo prefers for faculty members to make a recommendation for improvement of space allocation. That means that departments are allocated spaces, which are then allocated within the department by whatever processes are seen fit by the department heads. Most space disputes are handled at the departmental level. Just like in the College of Arts and Sciences, though, if a dispute spans more than one department or a department is having difficulty resolving a space dispute, the College of Engineering will become involved to bring about a resolution. The ADVANCE Program is aware

of one such dispute, involving an untenured female faculty member, in which the Dean's office did get involved to aid the department in solving the space allocation problem to ensure fairness.

The most interesting aspect of our space allocation study was the information collected by interviewing department heads and faculty members. In nine of the 25 departments, the department head made decisions concerning space allocation. Some department heads felt that it was easier to allocate space without faculty discussions and sometimes faculty were in agreement with this assertion. For example, in one department the head suggested to the faculty that they form a space committee, but the faculty declined, stating that they trusted the department head to allocate space fairly. In this particular case, the department was awash in space and had a highly experienced department head. Therefore, disputes concerning space allocation were unlikely to occur and if these disputes did occur, the faculty valued the department head's experience to guide the disputants to a satisfactory resolution. However, in other departments, faculty felt that there should be more of a consensus process in space allocation. This was particularly the case in departments where space was tight or in which the department head had less experience at NMSU.

Five departments had a faculty space and facilities committee that made recommendations to the department head. In some departments, the committees were successful and the faculty members were satisfied with their level of input into the space allocation procedure, especially when the department head followed the committee's recommendations. In other departments, however, faculty members felt that the committee was a waste of their time because the department head ultimately did not follow the committee's recommendations and, instead, did what (s)he or she thought was best. The smaller departments (less than eight faculty members) were able to discuss space allocation informally and usually came to a consensus.

How department heads made decisions about space varied greatly. When we asked about the process of space allocation in their departments, the first reaction by most of the faculty was that there was no process or the department head made the decisions. As a result of probing, however, we were able to determine that some departments had space committees (n=4) and in some departments the faculty preferred to avoid another committee, while in still other departments (n=5) the faculty or head made reference to a process of "discussion" by which space decisions were made.

Most of the time "history" or "legacy" were how space was allocated regardless of whether a formal committee, departmental discussion, or department head decision formed the basis for space allocation. Seven department heads mentioned that they allocated space based upon seniority or history. "Research need" was the most frequently cited criterion in allocating space. Many department heads also based space allocation on the number of graduate students in a specific research area. Of course, this meant that in departments with multiple disciplinary areas, if the department head was not familiar with the "research needs" of one of the disciplines within the department, then space allocation could be a source of friction among faculty from the different disciplines.

Most of the STEM department heads were satisfied with their space. Most of the department heads felt that they lacked equipment more than space. Storage space and graduate assistant space were also cited as insufficient.

Not all department heads were satisfied with their space. Some department heads felt that the colleges had given them less space than other departments within the same college. One department head, when asked about the lack of communal spaces, stated: "There is a divorce between the social and the intellectual in the department." Other department heads felt that they lacked research laboratories. Another department head stated that he has changed his focus regarding space from quantity to quality. Just over half of the department heads were satisfied (n=13) with their space, with just under one-fourth (n=6) expressing outright dissatisfaction. Five department heads indicated that they were somewhere between satisfied and dissatisfied, such as one department head who indicated that the research spaces were satisfactory but that office spaces were less than satisfactory. (Note: one department head did not answer the questions about space).

Faculty members had a different perception of how space was allocated in their departments. It should be noted, however, that there were no systematic differences between how women versus men discussed space allocation. That is, in terms of discussing the extent to which they were satisfied with the spaces (quantity, quality, and adequacy) and the processes by which space was allocated, there were no sex differences in these assessments. And, in the one case of a disputed space, the faculty members were satisfied that the dispute was in the process of satisfactory resolution. Eleven faculty in nine different departments stated that they were satisfied with their spaces. Most of the faculty who expressed satisfaction had moved to new buildings, had space renovated, or space was slated for renovation.

Conclusions

Is there institutional sex discrimination when allocating space? Our findings show that there does not appear to be a clear pattern of institutional sex discrimination when allocating space. It is hard to answer this question because of the complexity of space allocation. Inequality in the distribution of space among faculty members is rationalized by making reference to issues like seniority or the type of research. Therefore, it is overly limiting to consider the amount of space measured in square feet to determine whether space allocation is fair to all. The issues related to the quality of the space, its proximity to a faculty member's office, the extent to which the space has the proper safety equipment and whether the space is in a secure area for after-hours work are not encapsulated in square footage calculations.

In order to better understand the complex issues of space allocation, we conducted short interviews with department heads and faculty members. These interviews provided us with a deeper understanding of how the processes by which space are allocated impact departmental climate. In departments where the faculty have developed a sense of trust in a long-term department head with ample space, faculty members were happy to allow the department head to make the decisions about space allocation. But this was not the case in departments in which department heads operated under more stringent centralized control by the college (e.g.,

the College of Agriculture and Home Economics) or in which there was less space to go around. Smaller departments were more likely than larger ones to make use of consensus processes, while in some of the larger departments committees make decisions about space allocation.

The data has some significant limitations. Departments do not uniformly assign space to faculty members, which made it difficult to analyze the shared space within departments. That is, some department heads insisted that space was never allocated to individual faculty members, despite the reality that, as bench scientists, those faculty required specific space for their research. The types of spaces that were included in computations of “communal spaces,” also varied between the departments. For example, while Communication Studies reported that they did not have a “conference” room, the program controls a “seminar room,” which does double-duty as both a classroom and a conference room. Also, the faculty laboratory spaces in the Department of Engineering Technology serve double-duty as faculty research spaces AND as student classrooms.

Another important limitation in a study of this type is the small sample sizes of female faculty members, especially when rank was considered. Visual inspection of the data reported in Table 4 reveals some broad differences between men’s and women’s space allocation, which are not significant due to the small sample sizes. The small sample sizes make inferential statistics meaningless.

Finally, it should be noted that, in all, this study consumed about 20 hours a week of a professional staff member’s time for about one full year. While the Facilities Space Management Office auditing procedures have been improved with the help of ADVANCE, it is unclear whether the results reported herein merit continuation of such a time and labor intensive study. In short, as indicated above, merely improving the accuracy of our data on the square footage of space will provide us with little understanding of the complex processes by which sex may play a role in space allocation. Instead, our focus needs to shift to more qualitative data collection procedures (e.g., in-depth interviews) that can tap into the many dimensions of space needs and allocation processes to ensure that these processes are fair to all faculty regardless of ethnicity, gender, rank, etc.

Appendix 3.

EVALUATION REPORT FOR THE NEW MEXICO STATE UNIVERSITY ADVANCE PROGRAM

**Evaluator: Ann E. Austin
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Submitted April, 2004

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EVALUATION REPORT FOR THE NEW MEXICO STATE UNIVERSITY ADVANCE PROGRAM

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Professor of Higher, Adult, and Lifelong Education
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Submitted April, 2004

Abstract

The ADVANCE Program at New Mexico State is now well established, with committees, strategies, and opportunities well underway. A number of women faculty members in engineering and science fields have participated in aspects of the program. At this point, key issues concern how ADVANCE is affecting the institution as a whole, including both STEM and non-STEM faculty, as well as issues concerning the long-term institutionalization of ADVANCE-related opportunities and efforts. This report includes the following sections: a) The Culture at NMSU; b) The Changing Environment for Women Faculty at NMSU; c) Components of ADVANCE (including suggestions for next steps); d) Final Suggestions. The report begins with a discussion of the culture that highlights positive features, and then explains areas of concern to many members of the NMSU community: inconsistencies in expectations for faculty work related to the multiple land-grant missions; promotion and tenure issues; concerns about support for research and for teaching; concerns about student motivation and preparedness; salary issues; red tape and bureaucracy; concerns about mentoring opportunities; concerns about the institutional funding system; and leadership issues. Concerns specific to women and faculty of color include: “subtle sexism;” time constraints; isolation and loneliness; discrimination; hiring policies; and the two-body problem. The section on the Changing Environment for Women Faculty asserts that improvements are evident, due to the efforts of the recent President and Provost, the ADVANCE Program, and other initiatives such as the Commission on the Status of Women. Challenges facing ADVANCE include changes in the senior level administrators of the university, the need to address long-term sustainability of program components, and pockets of resistance in various units. The report continues with a discussion of the various program components of ADVANCE and suggestions from respondents about next steps to consider pertaining to strengthening and sustaining each component. Finally, the report emphasizes those next steps deemed by the evaluator to be particularly important for the long-term impact of ADVANCE: 1) working with the Provost’s Office to identify a respected person to have on-going institutional responsibility for key activities currently associated with the ADVANCE Program; 2) connecting with the Development Office to determine ways to raise funding for start-up packages; 3) developing a Department Head Training Program and Leadership Training Program; 4) planning for the future of the mentoring program, and studying faculty preferences for mentoring arrangements; and 5) involving a wide array of faculty and administrative leaders in ADVANCE work.

EVALUATION REPORT FOR THE NEW MEXICO STATE UNIVERSITY ADVANCE PROGRAM

Evaluator: Ann E. Austin
April, 2004

Overview

The ADVANCE Program at New Mexico State is now well established, with committees, strategies, and opportunities well underway. A number of women faculty members in engineering and science fields have participated in aspects of the program. At this point, key issues concern how ADVANCE is affecting the institution as a whole, including both STEM and non-STEM faculty, as well as issues concerning the long-term institutionalization of ADVANCE-related opportunities and efforts. Dr. Frehill, Director of the Program, asked that this evaluation study be focused on several key questions: How do faculty members and administrators view the mission of the university? What is the “pulse” at the campus concerning the status of women in STEM and non-STEM areas? To what extent is change occurring? How should leaders of the ADVANCE Program look to the future? How can ADVANCE efforts be embedded for the long-term at the university? How can ADVANCE affect the broad university, in addition to its specific focus on science and engineering?

My campus visit took place from March 9-13, 2004. During the visit, I conducted individual interviews or focus groups with about 65 faculty members and administrators, as well as a few students. Among those with whom I talked were people in the following kinds of positions: Deans; STEM Department Heads; non-STEM Department Heads; institutional leaders responsible for various units and programs; professors, associate professors, and assistant professors in a wide range of departments in science, engineering, humanities, social science, and professional areas including business, health and social services, and education; individuals involved with the AGEP Program, the Women’s Resource Center, the Teaching Academy, and the Provost’s Office. Confidentiality was promised to participants, so the report will not attribute comments to specific individuals. In places, departmental affiliations are not provided in order not to reveal identity of participants. Those interviewed seemed very comfortable offering their perspectives in response to the questions I asked. In a number of focus groups and interviews, the conversations could have easily continued well beyond the specified time.

I used several specific questions to guide the interviews and focus groups:

- 1) Assessment of Culture: What are the positive aspects of working at NMSU? What are the problems or challenges?
- 2) Mission: What do you see as the mission of NMSU? What is the balance expected between teaching and research?

- 3) Gender Issues: What are the “gender issues” throughout the campus (in STEM fields as well as non-STEM fields)? Overall, what is the status of women faculty and the status of minority men and women?
- 4) Change: To what extent and how has NMSU changed in the past two years in regard to faculty work? In regard to the status of women? Is transformation happening?
- 5) Next Steps: What are the key next steps for improving the workplace for women? How can steps be taken to institutionalize ADVANCE initiatives? What are “easy” steps? What are more challenging steps?

This report includes the following sections: a) The Culture at NMSU; b) The Changing Environment for Women Faculty at NMSU; c) Components of ADVANCE (including suggestions for next steps); d) Final Suggestions.

The Culture at NMSU

While ADVANCE has focused specifically on women in the STEM fields, Dr. Frehill hopes that its initiatives also will impact in positive ways both women and men faculty, including faculty of color, in non-STEM as well as STEM fields. Thus, part of the site visit involved extensive conversations with faculty members and administrators in non-STEM fields as well as in STEM fields. The sections below include the following: a) summary of perceptions of important positive aspects of the university’s culture; b) a summary of concerns about aspects of the culture; c) a summary of concerns particularly relevant to women and faculty of color, in both STEM and non-STEM fields.

Positive Aspects of the Culture

Faculty and administrators across fields were fairly consistent in highlighting positive features of the culture. Key words often used by respondents to characterize the environment included: “very comfortable,” “friendly,” “warm,” “enriching,” “invigorating,” “challenging.” (In contrast, however, one women faculty member in a science area specifically commented that NMSU is “not a particularly warm place”). Both women and men faculty members sometimes mentioned “supportive” Department Heads who try to be responsive to the needs of individual faculty members. For some faculty members, the diversity of students is a feature of the institution that is interesting and stimulating. Others mentioned appreciation that NMSU is not experiencing fiscal crisis to the same extent as some universities in other parts of the country. The flexibility and opportunity to pursue one’s interests, even in areas not of wide interest, are appealing features to others.

Observations and Concerns about Aspects of NMSU’s Culture: Perceptions of Women and Men, STEM and Non-STEM Faculty Members, Department Heads, and Institutional Leaders

The concerns discussed below were mentioned both by STEM and non-STEM respondents. Overall, respondents across fields had similar concerns.

Institutional Mission

I specifically asked respondents in the various interviews and focus groups to comment on their understanding of NMSU’s mission. Respondents offered a range of views. A group of STEM Department Heads particularly emphasized the land-grant mission and history of the university. One Head said that all three missions of the land-grant institution (teaching, research, and service) are important and should be balanced, “but teaching is number one.” In contrast, another STEM Head stated that “land-grant scholarship is vital,” but in his department, “our choice is to put research first.” Another STEM leader said he emphasizes “education.” He continued by explaining that research and teaching are both part of the mission, but to do research, money is needed—so grants are necessary to support the research program. He expects all faculty members to engage in both teaching and research, though some flexibility in emphasis is possible. He also expects senior faculty to be involved in service. He commended the President for his emphasis on a “student-centered research university.”

While this group of STEM Heads was quite articulate about their understanding of the institution’s mission(s), other respondents seemed less certain. Faculty members across disciplines tended to mention “mixed messages” about institutional missions. Often respondents said the mission varies across colleges and departments. One institutional administrator, for example, said that the College of Health Sciences values a strong service orientation, while the Department of Physics emphasizes research.

Faculty respondents—both in STEM and non-STEM fields—offered a range of views about the mission, including “economic development of the state” and “teaching more than research.” Questions about the institutional mission led quickly to comments about tensions or problems faculty members experience in relation to the mission. One early career STEM faculty member said: “NMSU takes the land-grant mission to ridiculous lengths. The university will take any students.” (On the other hand, an experienced non-STEM faculty member who has been at the university for many years observed that, despite its professed land-grant commitment to students, the university does not open offices for student services, such as advising offices, during evening hours convenient to working students.) Other faculty members and Heads claimed that the institution is “schizophrenic,” with different emphases on teaching, research, and service across the various colleges and departments. Another aspect of the “schizophrenic nature” is the coupling of Research University I status (along with accompanying expectations for significant research productivity) with institutional commitment to accepting and meeting the needs of a diverse group of students, many of whom are first generation and from the working class. An early career STEM faculty member lamented that, in his opinion, the university “has no plan” and that “it says it is Research I but does not have the resources to support the claim.” An experienced female faculty member in a non-STEM field expressed the opinion that the mission

statement is vague, leaving her to wonder: “Is NMSU a low-cost education provider? A high-quality niche institution? How do attention to research and students relate?”

Questions about the institutional mission led quickly to comments about tensions or problems faculty members experience in relation to the mission. Often faculty respondents (STEM and non-STEM) said that the challenging issue for them pertains to how the institutional mission relates to faculty evaluation. One issue (discussed more fully in a subsequent section on Promotion and Tenure Issues) is that guidelines concerning expectations for faculty work are not clear. Due to the multiple missions (teaching, research, service), a number of faculty respondents explained that they are asked to do various tasks and assume responsibilities for which they receive “no credit.”

Faculty members were also concerned about the fact that different departments emphasize the teaching, research, and service elements of the institutional mission to different degrees. However, the Graduate School has criteria for eligibility to join the Graduate Faculty that primarily emphasize traditional research productivity. These criteria reportedly create uncertainty and a sense of “second class status” among some faculty members who are doing work valued by their departments that emphasizes the service and teaching elements of the institutional mission. One non-STEM Department Head was concerned that faculty members in his field sometimes win grants for applied work that is important in the field, but that is not recognized as a traditional form of research by the Graduate School.

These concerns and uncertainties about the mission of the institution relate closely to other observations and concerns (discussed in sections following) about promotion and tenure issues, support for research, support for teaching, and issues about students.

Promotion and Tenure Issues

Not surprisingly, one of the major issues on the minds of the early career STEM faculty interviewed, and also addressed by some of the non-STEM Department Heads, is the process for tenure and promotion. Among the STEM early career faculty, several indicated that they had received clear indication of criteria from their Dean and that they were “comfortable” with the standards and expectations. Several others, however, perceive the criteria to be vague and unclear, and reported instances where they only learned about how to organize their time and what endeavors would be supported or not through a process of trial and error. Some institutional leaders also mentioned that the tenure and promotion process generates a fair amount of controversy and confusion. Several respondents, noting that departments may emphasize the balance between research, teaching, and service differently than the university, called for some universal consensus around the criteria for tenure. One respondent expressed the opinion that senior institutional leaders “only count publications” without allowing for the range of forms of faculty work, including artistic accomplishments and performances.

Faculty members of various ranks in several departments said that expectations are increasing for what constitutes appropriate faculty work. As an example, a woman faculty member mentioned that faculty now may be expected to contribute to fund raising and engage in travel to talk with prospective students. For some faculty members, there is a sense that no matter what one does,

“it is never enough.” The perception of some faculty members that the university is committed to strengthening its characteristics as a strong research environment adds to the perception that research standards are increasing.

One faculty member in a non-STEM field who has attended some national conferences on academic work advanced the notion that the promotion and tenure standards should recognize a range of kinds of faculty work. Several non-STEM Department Heads offered a similar idea and also suggested that departments should address the multiple dimensions of the institutional mission (teaching, research, and service) as a collective body, while individual faculty members should be supported to emphasize the specific kind of work that plays to their strengths and interests (e.g., some might emphasize teaching for a period of time, while others might focus most of their time on research).

A female faculty respondent in a health-related area expressed concern that some tenure and promotion review committees apparently include members who do not hold doctoral degrees. A few other respondents observed that members of promotion and tenure committees and new Department Heads have no particular training to assess promotion and tenure portfolios. These respondents suggested that such training would be very useful in ensuring the integrity of the process.

Concerns about Support for Research

Respondents in several focus groups—including early career and established faculty in STEM and non-STEM fields—expressed concern about the level of university support for research. These respondents said that expectations for research productivity are high, but resources to support research are not as extensive as these faculty believe is necessary. Specifically, some early career STEM faculty reported that recruitment of talented graduate students is difficult since graduate fellowships are too low and not competitive with other universities; furthermore, some students who are attracted to the university’s assistantships do not have advanced research skills. Several faculty members also suggested that the number of Research Assistants is not as high as necessary for a research university.

Early career and advanced faculty members in several STEM and non-STEM departments also mentioned that other universities have research offices that provide more research support than they believe is available at NMSU. Continuing this point, one early career STEM faculty member said that the Research Center at NMSU only “handed her forms to complete” when she sought help with a proposal.

Faculty members in various education fields commented on what they perceive to be fairly high teaching loads (3 courses each semester) for a research university. One non-STEM Department Head observed that interdisciplinary research (as well as teaching) is not particularly encouraged. All these concerns contribute to a fairly strong perception among a number of faculty members and Department Heads with whom I met that the university’s aspirations to be a strong research university are not matched with sufficient support for expected levels of research activity.

Concerns about Support for Teaching

Early career faculty members also reported concerns about the level of support for teaching. On one hand, a number of respondents (including Heads and institutional administrators, as well as faculty members from STEM and non-STEM fields) commended the Teaching Academy both for the workshops and opportunities it offers to help faculty improve their teaching, and its symbolic value in showcasing the importance of teaching to the institution. On the other hand, however, several early career STEM faculty members noted that the university seems to undervalue teaching in some ways. Specifically, several respondents felt that the availability of Teaching Assistants to provide important educational support is sometimes insufficient.

Concerns about the Students

A frequent theme as I talked with early career STEM faculty was their concern about the “quality” of the students. Faculty members across STEM departments perceived that students often seem unmotivated and disrespectful of faculty, and that they sometimes express a “sense of entitlement” about how much faculty members should be available to help them. One male faculty member in a science field offered several stories of students failing to attend his office hours but expecting him to change his schedule and help them at their convenience. Other early career STEM faculty agreed with his concerns and offered their own stories. They were particularly worried about how to reconcile the time they needed to do research with the needs and demands of their students.

My conversation with senior faculty in a non-STEM field offered a different view. These faculty members described many students at the university as bright and motivated, but often not well-prepared by their high school experiences. Furthermore, they explained, many students are first-generation college attendees, and many must hold jobs to meet their financial needs. These faculty members felt that NMSU faculty sometimes show a lack of respect, particularly for the Latino student population. They urged faculty members to learn how to meet the needs and circumstances of the students, who often face significant barriers or challenges to their success with college work.

These two views were each expressed thoughtfully and passionately. My observation is that the university may want to help new faculty understand more fully the characteristics, circumstances, and needs of the students. Additionally, faculty members may not know various strategies that are particularly effective for working with first-generation college students. At the same time, the university’s faculty evaluation systems perhaps should include consideration of special efforts and time faculty members may direct to helping students succeed.

A related concern expressed by faculty members in STEM and non-STEM departments, as well as by a number of Department Chairs, pertains to what is perceived as the University’s interest in increasing the number of students. Various respondents said that they believe the administration wants to increase enrollment in response to state-level pressures and essentially create an “open door” to the institution. Some also asserted that, once students are admitted, the university is not attentive enough to whether students succeed. Along with this press to increase student numbers, however, the respondents felt they also were being pressed to increase their research

productivity. A number of respondents experienced these simultaneous pressures (to increase the number of students--many of whom need considerable support from faculty-- and to increase research productivity) as a contradictory set of expectations.

Salary Issues

Respondents (including some Department Hhairs, faculty members, and some senior-level administrators) mentioned some concerns pertaining to compensation. Salaries are perceived as low compared to peer institutions, which makes it possible for other institutions to offer attractive offers to “lure away” current faculty. Several respondents noted that strong minority faculty members are sometimes recruited elsewhere by attractive salaries, and that the university has difficulty competing in such situations. A few non-STEM Heads asserted that the university does not work hard enough to hold the best faculty members. One respondent noted a college policy not to engage in competitive bidding, but observed that, in contrast, a new person to replace someone who has left may be paid more than the previous person. The opinion offered was that the university should work harder to retain excellent faculty members, including women and faculty of color.

Concern about inequitable salaries provided to males and females in similar positions and with similar rank and experience pervaded the comments of a female respondent. The individual offered specific details pertaining to her situation that provided evidence supporting the assertion. Other respondents felt that salary often depended on how well one could negotiate, which was perceived to disadvantage women.

Red Tape and Bureaucracy

Many respondents acknowledged that the university has improved its bureaucratic processes significantly in recent years. The Provost’s attention to this matter was frequently cited as an important factor resulting in recent improvement in such processes as travel reimbursement. Nevertheless, faculty members and Heads in a range of departments observed that continuing attention should be directed to improving processes and systems. One women faculty member explained, “The university does not function on a ‘what can I do to help you’ basis.” Some mentioned particular concerns: perceived barriers to departments interested in fund-raising (although I am aware that universities often monitor and coordinate departmental fund-raising to ensure coherence across a university’s development plan); a major national financial award to a STEM faculty member that has not been appropriately processed after significant time has passed; required training for grant PIs, even for those who are experienced researchers and grant leaders (again, I am aware from my own experiences as a faculty member that federal guidelines sometimes require training, such as pertaining to human subjects review, that experienced researchers may find redundant). One female faculty member observed that support staff members appear to be more helpful to males than to females. While respondents indicated improvements in institutional bureaucratic processes, there are, nevertheless, continuing perceptions that institutional employees and offices sometimes erect barriers rather than facilitate what faculty perceive to be important and legitimate work or requests.

Concerns about Mentoring

A number of faculty across the university mentioned that recent mentoring opportunities (particularly the mentoring provided by ADVANCE) has been very helpful. However, faculty members also indicated a need for more mentoring within departments. One female early career faculty member in a STEM field told a poignant story of realizing that a number of her male colleagues had arranged to attend an important conference but had never mentioned the conference or arrangements to her. She finds that interactions with departmental colleagues are not easy and that she typically is left on her own. While she has appreciated a mentor through the ADVANCE Program, she would like more natural and regular mentoring from her immediate colleagues. An early career male faculty member in a STEM field told a similar story. He spoke with some bitterness about lack of concern and support from his departmental colleagues; he feels, in fact, that they set up barriers when he offers ideas or they simply let him flounder. My overall assessment is that attention to mentoring continues to be an important area for institutional attention in order to support the success of early career faculty. While the ADVANCE Program has provided an important example of how to organize mentoring and has helped a number of women STEM faculty, there are early career men and women across campus who feel the need for more institutional attention to mentoring arrangements within and across departments.

Institutional Funding System

Several department chairs and other institutional leaders in non-STEM fields commented on how the formula for funding affects their units. As the process was explained, units are urged to increase the number of students they enroll. Such increases in student credit hours produce more income. The concern, however, is that the increased income goes to the university budget and not necessarily to the unit's budget. The unit that has increased its enrollment, however, faces the costs of meeting the needs of the greater number of students. The perception of individuals working in non-STEM fields is that the efforts of non-STEM faculty are providing increased resources to the sciences but not to the non-STEM units with the growing numbers of students. Perceptions about this situation seem to be of considerable concern to a number of Heads and some Deans.

Leadership Issues

The meetings with department heads raised an issue that is prevalent, I believe, at many universities: Department Heads or Chairs hold a position with increasing demands. In addition to providing academic leadership, organizing and maintaining the processes within a department, serving as liaison with more senior-level administrators, and meeting the needs of individual faculty members, department heads are increasingly asked to engage in fund-raising (as one example of an additional and, in some cases, new expectation). Interest in leadership development and in increasing the opportunities for Department Heads to interact seems high. Some current Heads expressed interest in enhancing their leadership skills, and in meeting from time to time with their counterparts from other departments. Other respondents suggested that women and faculty of color may sometimes hesitate to assume leadership positions because of

the considerable work and expectations involved. A number of respondents expressed interest in opportunities that would help interested individuals (especially women and people of color, but also white men) learn about leadership strategies and skills. (This issue is discussed later in the report as a recommendation. I mention it here as a need evident within the culture of the institution.)

Concerns Pertaining Specifically to Women and Faculty of Color

While the number of women faculty members and administrators is increasing, various concerns are still prevalent specifically for women and people of color in faculty and administrative roles.

“Subtle Sexism”

Some women respondents across STEM and non-STEM fields reported that they experienced their departments as supportive and welcoming environments, but “outside [in other parts of the university] it is different.” While the resources and supports for women were praised, a number of respondents highlighted ongoing concerns.

One mentioned that “higher education is a sexist environment,” and several explained that the culture of the region is known to be conservative, with sexist attitudes often tolerated. Generally, however, expressions of sexism are subtle, rather than blatant. A Department Head commented that a particular woman scientist had left the institution not because of experiencing hostility, but rather because of subtle pressure and sexism.

Some women reported that they serve on committees on which few women serve. Some perceive such situations as “tokenism.” Other women reported a perception that men more frequently have opportunities to serve on “power committees,” such as committees pertaining to research.

One female respondent asserted that “being female on this campus means you have to prove ten times over that you are better.” She suggested that women’s accomplishments are sometimes minimized by male colleagues. Another feels that her male colleagues express some jealousy over her successes and more rapid professional progress.

The most frequently mentioned concern about sexism pertained to verbal comments, some of which are fairly explicit and others apparently made casually and sometimes seemingly unwittingly. A woman who had applied unsuccessfully for a leadership role reported that colleagues had said: “A woman could not do the job” and “I just don’t think you could go into a controversy [in a particular unit] and handle this.” A male faculty member in a non-STEM field was explaining the impact of the region’s conservative, male-oriented local culture. He asserted that language reflects sexism, as in such comments about a female faculty member as “she’s not ‘perky’ tonight.” This same faculty member suggested that women faculty members are sometimes “given a harder time” by male students because of habits embedded in the regional culture. Furthermore, he suggested, students sometimes seem to think they can interact differently with female professors. The students may “whine” more or expect their female faculty to be more lenient or “nice.” Comments perhaps made unwittingly still convey sexism:

“C’mon you guys’ this woman in beating you up [in her ability to get grants].” Another subtle issue is the use of first names by students when addressing a female faculty member or the use of “Ms.” by professors or students to refer to a female faculty member, while using “Dr.” to refer to male professors. One women administrative leader wondered why the term “female Department Head” is often used; why not simply “Department Head”? All in all, summarized one female faculty member, there are subtle “ways to put you in your place.” This same faculty member, however, also noted immediately upon stating this assertion that “things are changing with the new administration.”

Time

Both women faculty and men and women faculty of color, in STEM and non-STEM fields, feel a sense of time pressure related to their status as members of underrepresented groups within the faculty, and as role models for large numbers of students. Hispanic faculty members, for example, reported that they find themselves “flooded” with Hispanic students (who are represented significantly in the student population). With less than 10 percent of the faculty (as reported to me) being faculty of color, these faculty members bear a heavy burden in terms of the extent to which they are sought out by minority students.

Some women reported that they believe women are often the first asked to assume service and committee responsibilities, partly because, often as the most vulnerable and junior colleagues, they are willing to say yes. Several other respondents who are women or people of color said they are often tapped to advise or provide service, but they perceive that they receive little “credit” for such work in promotion and tenure considerations. Another time problem is that the University Handbook requires that committees must include faculty members from underrepresented groups. Thus, Hispanic faculty members and women are called on frequently to engage in committee service, which requires time away from research and other involvements.

Unbalanced Representation, Isolation, and Loneliness

Low numbers of female faculty and male and female individuals of color in Department Head roles, in senior administration, and in the faculty ranks of some departments also raise concerns. Several respondents commented that the administration has made significant advances in increasing the number of women and minority administrators, but the faculty ranks still are unbalanced in terms of diverse representation. Those faculty members of color or women who are the only such individuals on the faculty of their departments sometimes feel alone or experience diminished “comfort” in the position. As one minority faculty member explained, “Hiring opens the door but being the forerunner is hard.” A women department head observed that she gives support to faculty members, but no one is available to help and support her, particularly since there are few women Department Heads.

Discrimination toward Faculty of Color

Several women in leadership roles in STEM and non-STEM areas observed that discrimination does not always come solely from males. They suggested that women of color experience discrimination from white women as well as from men. A sense of differential status is also sometimes expressed across fields.

Hiring Policies concerning Faculty of Color

Several non-STEM department heads expressed concerns with changes in the university's policy regarding the state-wide project to provide tuition support for minority students to pursue Ph.D.s if they agree to return to the supporting university to teach. These Department Heads perceived that the university is "backing off" from funding the position lines for such minority individuals, and instead "pushing these costs onto the colleges." They believed this perceived change would make it more difficult to find and recruit faculty of color.

Two-Body Problem

ADVANCE is recognized as making important efforts to address the two-body problem (a situation where two individuals are married or partnered and wish to work in the same geographic area). While the efforts to date within the University are welcome and appreciated, several faculty members who face two-body issues feel that the institution's help remains limited. One person said that the "University follows procedures, but does not provide real help." Speaking of a specific case, a STEM faculty member said that "once she learned of the situation, Lisa Frehill accomplished more in a half hour than the university at large had accomplished in half a year." The challenge of finding opportunities for spouses and partners of faculty members deserves continuing attention by both ADVANCE staff and by institutional leaders. Not surprisingly, this issue is often of considerable concern to female scholars considering whether they can accept or stay in a faculty position at the university.

The Changing Environment for Women at NMSU

Several key factors are improving the support for women faculty at NMSU. These factors contribute to fertile ground in which ADVANCE can make its impact. A key force has been the recent President and the Provost, who are widely recognized as very committed to increasing the diversity of the faculty and administration and improving the climate for women and people of color. Institutional leaders and faculty commend the Provost for his vision and commitment, his willingness to take risks, and his "great openness to suggestions." He has a very strong and clearly articulated commitment to hiring more women and people of color. He also has made clear that sexual harassment will not be tolerated, and he has supported initiatives and programs that address issues relating to women and individuals of color. With strong commitment from the top two institutional leaders, NMSU has filled several key posts with women and/or minority individuals in recent years: the Dean of Arts and Sciences, the Vice President for Student Services, the Vice President for Distance Education, the Graduate Dean, and the Associate Dean of the Graduate School. One factor on which Deans are reportedly now evaluated is whether they

are hiring women and people of color. Provost Flores initiated a Roles and Rewards Committee, which is addressing the elements of faculty work as they relate to the tenure and promotion process. He also has appointed a Commission on the Status of Women.

This Commission will take on several responsibilities: a) monitoring national issues and literature in higher education concerning women; b) conducting institutional data analysis, identifying appropriate metrics, and generating data; c) reviewing governance and policy manuals to ensure gender equity balance; d) making recommendations. Dr. Titus, the Chair of the Commission, indicated that the first year and a half will be used to gather data, conduct studies, and monitor and identify issues. Then the Commission will engage in problem-solving and make recommendations for institutional change.

A Campus Climate Study, which has come out of the work of the Roles and Rewards Committee and the Commission, is working with various campus groups to design an appropriate climate survey. The survey is scheduled to occur in the fall. Additionally, the university has conducted salary surveys twice in the past; a new Faculty Salary Equity Survey will occur in the near future.

Members of the Hispanic Caucus reported that, from their perspective, while important issues still need attention, changes are happening. As one person explained, “we were always called to their table. Now we are calling them to our table.” Issues of concern to minority individuals and women are getting more attention.

A Teaching Academy has been established to focus on supporting faculty with general professional development, and teaching in particular. The Academy offers a one-semester course on “Publishing and Flourishing,” a workshop series and short courses, field trips (e.g., a trip to a national “boot camp” for new faculty), mentoring, a library of teaching and professional development-related resources, and a newsletter. The Director reports that over a recent 14 month period, 749 faculty members have participated in Academy activities. The Academy has “elevated teaching to a different level” and shows that teaching must be considered in tenure and promotion decisions, according to a senior level administrator. Another university female leader noted that the Teaching Academy is contributing to “a climate of change in which there is growing acceptance of different ways of doing faculty work.”

The ADVANCE Program is carrying out its work alongside these other institutional efforts. My impression is that very useful synergies are occurring between these initiatives. For example, Lisa Frehill is involved in the Commission and other initiatives, and leaders and faculty members working on various committees are also involved with ADVANCE.

Respondents were strong in asserting that the ADVANCE Program is making a positive impact at New Mexico State. A few respondents observed that two years is a short period of time in which to expect change. That caveat notwithstanding, the consensus is overwhelming that ADVANCE is a powerful program and that Lisa Frehill is an extremely effective leader. A number of respondents noted that ADVANCE is “raising consciousness” about issues pertaining to the experiences of women faculty, particularly in STEM fields. Comments about Dr. Frehill are powerful: “Dr. Frehill has done an incredible job.” She is able “to navigate diverse worlds.”

“Dr. Frehill is extraordinary at dealing with issues partly because she is unassuming.” She is “fantastic,” “a wonderful leader.” “She has changed the institution and has taken the institutional mandate seriously.” Dr. Frehill was commended for taking the time to meet with Deans, Department Heads, and faculty members, and for working very effectively with the senior administration. Respondents praised her for building alliances and collaborating, and for her energy and ability to articulate the important issues and concerns. One respondent voiced a sentiment shared by others: “As soon as Lisa gets involved, things happen.”

Respondents reported that collegiality has improved as new people, particularly women, have joined the university. While respondents commented that the institution was traditionally an “old boys’ school,” the accuracy of that description is changing, particularly with the hiring of more women faculty and administrators. One women faculty member commented that “with more women, the campus feels friendlier. I feel like I belong.” Another woman faculty member said that greater numbers of female colleagues provide more convenience when seeking a colleague with whom to room at a conference. This circumstance may seem unimportant, but the respondent implied that such a change has made her more comfortable. I conducted several focus groups with groups of women; a strong sense of collegiality was particularly apparent among the women in these groups.

Several of the female respondents noted that they feel supported and respected by colleagues. Some women in positions of leadership responsibility explained that they feel their opinions are valued by Deans and other leaders, and that they feel supported in their work.

Amidst all this praise, there are several concerns. One is that the senior level institutional leaders (President and Provost) are changing. Frequently, respondents said that the long-term success of the efforts of ADVANCE, the Commission, and other initiatives to support women and minority faculty will be closely related to the commitment of whoever is appointed in the senior institutional leadership positions. The changes in institutional leadership underway at the time of my visit in March was foremost in the minds of many respondents (my visit coincided with the campus interviews for President).

A second concern is whether the activities and impact of ADVANCE can be sustained after the grant period and if Dr. Frehill were not continuing to take leadership responsibility. A number of respondents good-humoredly suggested that the university should “give Dr. Frehill a big raise.” More seriously, several emphasized that in the coming year, she should find ways to move responsibility for ADVANCE initiatives to other leaders and offices in the institution. One STEM Department Head asserted that “if she left right now, ADVANCE would diminish greatly.” Of course, Dr. Frehill herself is keenly aware of the need to embed ADVANCE initiatives in other offices in order to ensure long-term sustainability of ADVANCE initiatives.

A third concern pertains to “pockets of resistance.” While progress has been made in important ways concerning women and faculty of color, some respondents commented that certain units, colleges, or departments are known as particularly “resistant to change.” In some departments, an institutional leader suggested, one finds “clones... [who make it hard for others] to break in.” As NMSU continues its efforts to support female faculty and faculty of color, in STEM and non-STEM fields, special attention to where resistance occurs and why it is occurring will be

necessary. The support of senior level administrators is likely to be particularly important in addressing such “pockets of resistance.” Another concern may be resistance specifically in relation to opportunities ADVANCE offers to women faculty. One STEM Department Head said he has seen some “backlash” to the start-up and research support packages from male STEM faculty who believe that such opportunities should not be constrained to female colleagues.

In the next section, I discuss various aspects of the ADVANCE Program, comment on their impact, and report suggestions for the future.

Components of ADVANCE: Impact, Observations, Suggestions

The various components of the ADVANCE Program are presented below, with specific suggestions offered for sustaining these endeavors in the future beyond grant support. I also discuss endeavors related to ADVANCE but which are not specific components of the ADVANCE Program. Some of the suggestions offered by respondents are “easy,” while others would require decisions from institutional leaders or university committees.

Attention to Hiring Diverse Faculty: ADVANCE has raised awareness of the importance of recruiting a diverse pool of applicants for faculty positions. One Department Head said that ADVANCE is challenging the perception that women and minority scholars are not available in the sciences. A STEM field Dean believes that ADVANCE has helped faculty see the value of framing searches to emphasize a broad range of skills and abilities that applicants might offer, rather than restricting searches to a set of narrowly defined skills. A senior institutional leader (a woman) believes there has been considerable progress in recent years in developing more diverse applicant pools and hiring women. The Recruiting Search Committee Handbook, produced out of the Provost’s Office about two years ago, has been an important resource. The Minority Recruitment and Retention Committee apparently has been newly reconstituted and is urging “more accountability” in search processes.

Suggestions offered by respondents for the future:

- Urge the Minority Recruitment and Retention Committee to make gender part of its mission.
- Add the goal of hiring women in certain departments to the university’s strategic planning goals.
- Allocate some funds to recruit and hire senior women faculty. This suggestion was made by several STEM and non-STEM Chairs who observed that junior faculty often stay for five or six years and then move to advance their careers.
- Some female faculty urged that job descriptions include such qualities as “team work skills,” “experience with committee work,” and “expertise in advising students.”

Start-Up Funds: The opportunity to obtain start-up funds from ADVANCE was applauded by STEM Department Heads and women faculty as a key component for breaking the barrier to increasing the number of women in science and engineering. For example, in Chemistry, the start-up funds helped the department attract and hire a woman faculty member. The Computer Science Department has benefited twice from the availability of start-up funds.

Suggestions for the future offered by respondents:

- Ask each Dean to contribute a specific amount each year to a pool for start-up funds that can be used in departments where needed.
- Connect with institutional development efforts to raise funds for start-up packages.
- Place the responsibility for allocating start-up funds in the Provost's Office or in the Minority Recruitment Committee.

Orientation for New Faculty: New faculty have appreciated the efforts to provide an initial faculty orientation. However, a number of STEM and non-STEM early career faculty thought the initial orientation included too much information all at once.

Suggestions for the future offered by respondents:

- Organize an initial orientation that is short and focused, and highlights key issues for someone just arriving at the campus. However, don't provide too much specialized information that may not pertain to everyone. Instead, organize small groups focused on special needs (e.g., family issues and policies; setting up laboratories). Consider providing on-going opportunities throughout the first semester or first year rather than providing too much at the start of the semester. For example, a session on federal research guidelines is more useful as a follow-up session later in the year, rather than as part of the schedule during the first few hectic days of a new professor's arrival on campus.
- Be sure that new faculty members are welcomed upon arrival. Some early career faculty reported that they were left on their own to find keys, gather necessary equipment, learn their ways around the office copy machine, etc.
- Provide an orientation to the nature of the student body and offer "culturally sensitive" suggestions for how faculty members can support student learning and development. A number of respondents expressed frustration with student motivation and uncertainty about effective strategies to encourage student learning. This past year, a video was prepared by students and included interviews with minority students about how they want to interact with faculty members. This video was shown at orientation and was reportedly quite helpful. New faculty also need to be introduced to the nature of a land-grant institution.

Mentoring: An important component of ADVANCE is its mentoring program. STEM and non-STEM faculty members (some who had been mentored, and some who served as mentors) as well as Department Heads spoke very appreciatively of the mentoring program. (One early career faculty member, however, never actually connected with her mentor.) ADVANCE has tried to organize the mentoring opportunity so that it is not a time burden on participants. ADVANCE matches mentoring pairs, provides lunches, and sends materials. Mentors and mentees cross departmental boundaries, which several respondents said was useful if the early career faculty member wanted to discuss sensitive information. One STEM faculty member said he has lunch once a week with his mentor (from another department) “to check his sanity” given some stresses and problems he has encountered in his department. Other participants said they would prefer to have the mentoring involve a colleague in their own department. Apparently, the ADVANCE Program has led some departments to consider establishing their own mentoring programs.

Suggestions:

- (Suggestion from A. Austin): A different model for mentoring is offered by the Teaching Academy Mentoring Program. The Academy’s model involves faculty members who are committed to attending a one-semester course. The guidelines for what is expected of mentors and mentees is more structured than those of the ADVANCE Program. Around the country, a variety of types of mentoring programs are in place. I suggest that systematic study be undertaken in the next year or so to learn about what kinds of mentoring arrangements faculty members find most useful. Possibly, faculty members in different departments may have varying preferences about mentoring. Some variations to consider include: matched pairs vs. allowing faculty to find their own mentors; structured expectations for meetings vs. leaving specifics of working together up to the participants; mentor pairs vs. group mentoring.

Promotion and Tenure Workshop: My understanding is that a workshop on Tenure and Promotion was offered with support from ADVANCE, the Provost’s Office, and the Hispanic Caucus. Early career faculty appreciated the effort to de-mystify the T & P process through the information provided in this workshop.

Suggestions for the Future offered by respondents:

- Few specific suggestions were offered about the workshop itself. However, a number of faculty members offered general suggestions about the tenure and promotion process. They urged that a broader range of scholarship (such as the perspective offered in Ernest Boyer’s work) be recognized that allows faculty members to organize their work in varying ways.
- A number of early career faculty (especially in non-STEM fields) called for clearer articulation of tenure and promotion criteria and processes. Differences between departmental priorities and the criteria of the Graduate School (which apparently heavily

emphasizes research publications) concerned some faculty members. They would like such discrepancies clarified.

Department Head and Leadership Training: Both the female and male Department Heads interviewed urged that training for Heads continue. Some women faculty and Heads suggested that woman may hesitate to assume Head positions because of uncertainty about the role. For males, some women suggested, leadership development may happen more naturally. Training could diminish that concern. Additionally, some faculty expressed interest in leadership development workshops for faculty members interested in developing good leadership skills, even if they do not plan to assume a specific leadership position.

Suggestions for the future offered by respondents:

- Some areas of expressed interest for Department Head training include: fostering collegiality, handling sexual harassment, understanding the “big picture” of the institution’s mission and future, managing personnel issues, addressing equity and gender issues, facilitating grant issues, assertiveness training.
- A Leadership Development Program could focus on faculty members interested in either strengthening their skills as faculty leaders or developing their skills to assume specific leadership positions. The Consortium for Institutional Cooperation (the Big Ten plus the University of Chicago, called CIC) offers a model of such a leadership program called CIC/ALP (Academic Leadership Program). (I have directed ADVANCE staff to relevant materials from Michigan State University.)

Two-Body Problem: ADVANCE has tried to bring attention to the challenge confronting faculty members who have spouses or partners seeking work in the geographic area. Overall, respondents expressed deep appreciation for Dr. Frehill’s efforts to address specific “two-body problems”. However, respondents also felt that the university needed to go further than simply acknowledging the problem. As one respondent said, the Spousal Hiring Policy has no teeth.” A related initiative is the Domestic Partner Benefits Policy, which was recently passed and will take effect in July.

Suggestions offered by respondents:

- A number of respondents urged the university to provide a pool of money to which departments could apply to help address two-body situations.
- Another suggestion, frequently offered, is to have someone in the Provost’s office working on recruitment issues, including two-body situations. Often respondents said that such a person should not be “just another administrator” but rather someone known for getting things done. Dr. Frehill was suggested for such a position several times.

Additional Comments and Suggestions

In addition to the comments and suggestions pertaining to specific components of the ADVANCE Program, respondents also offered other suggestions for improving the work environment at NMSU. I offer these here for consideration by both ADVANCE leaders and NMSU institutional leaders.

Appointing an Ombudsperson: Some respondents suggested that an ombudsperson should be appointed and situated in the Provost's Office. Such a person would be charged to handle grievances, to make grievance policies more transparent, and to make the environment more hospitable. Opinions on this topic varied. Some respondents felt the current EEO office handles grievances appropriately and no other person is needed in the "bureaucracy." Others felt that the EEO has too much work and thus grievances are not handled as efficiently as wished.

Nurture and Establish Opportunities to Foster Collegiality: The female Department Heads in non-STEM fields expressed an interest in structured opportunities for collegial interaction. One of these Heads had invited a group of women faculty in her field to convene in the past simply to meet and spend time together; some administrators asked her reasons and suggested she was creating a problem. The women Heads feel that they would benefit from informal get-togethers to support each other and create a sense of unity as they address equity issues that arise.

Faculty Club: Some faculty members (early career and established faculty in various fields) would like the university to have a Faculty Club with a pleasant environment at which they could meet colleagues and take visitors.

Regular publicity: Several respondents commended the publicity about the ADVANCE Program. Some suggested that ADVANCE publish a regular e-mail newsletter that offers updates of programs, and data about faculty experiences and the environment as it pertains to women (e.g., data on salary equity, perceptions of the environment).

Attention to Family/ Maternity Leave Policies: Apparently no guidelines are in place concerning maternity leave or "stop the clock" tenure policies. Some faculty members urged institutional attention to these policy issues.

Publicize institutional goals and values: Some respondents suggested that the university should clearly publicize on its website its goals and values as a land-grant Hispanic-serving institution. Specifically, some faculty and administrators who participated in interviews urged the institution to articulate the value of diversity.

Minority Doctoral Student Funds: Some respondents urged the university to find funds to support the state's minority doctoral student program for funding the graduate education of minority students so they could prepare to enter faculty positions. Some respondents also urged that such a program should target women who want to go to graduate school to prepare for faculty roles—especially in fields where women are underrepresented.

Final Suggestions

Dr. Frehill and the ADVANCE staff have done an excellent job of establishing ADVANCE at NMSU, creating opportunities and initiatives to attract and recruit women in STEM fields, highlighting issues of concern to women and minority faculty across the institution, and participating in efforts to address those concerns. ADVANCE is well-established at NMSU. Dr. Frehill is thinking seriously about next steps in regard to the long-term viability and sustainability of ADVANCE initiatives. This report has included a wide range of suggestions offered by faculty members and administrative leaders interested in the work of ADVANCE and in the goal of diversifying the faculty. In closing, I suggest those strategies that I would recommend Dr. Frehill emphasize:

- Working with the Provost's Office to identify a person who will have on-going responsibility for New Faculty Orientation, Tenure and Promotion workshops, Leadership and Department Head Programs, and working with Deans and Heads to allocate financial resources and organize programs for women and minority faculty (such as start-up packages). The person in such a role should have a position in the Provost's Office or in some other way have strong senior level support.
- Working with the university's Development Office to explore ways to connect ADVANCE goals to institutional fund-raising. For example, the Development Office might help raise funds for a pool of start-up money and for programs specifically to support women and minority faculty.
- Continuing to develop the Department Head Training Program and establishing a Leadership Training Program (such as the CIC/ALP Program mentioned previously).
- Working with the Teaching Academy to situate the ADVANCE mentoring program in connection with the Teaching Academy mentoring program. Attention should be given to conducting some research with faculty members to explore the specific mentoring arrangements that they find most appealing and useful. ADVANCE and the Teaching Academy work from somewhat different mentoring models; both have constructive, albeit different, features. However, I believe the strength of a long-term mentoring program would be enhanced if specific study is undertaken to determine which model or which components of either model may be most fruitful at NMSU. Perhaps several different models may meet the needs of different faculty members.
- Continuing to involve as many faculty members and institutional administrative leaders as possible in each ADVANCE activity in order to cultivate wide ownership and commitment. Dr. Frehill already takes this approach. In the coming year, I suggest that she continue to involve other institutional leaders in ADVANCE work to heighten the likelihood of long-term sustainability and embeddedness of key elements of the program.

Appendix 4.
Budgets, 2004-2005 Program Years

2004 Budget

		Spent	NMSU	Uncommitted
PERSONNEL	Program Director: Course Releases	11,566	13,159	1,724
	Program Director: Summer Salary	7,845		3,034
	Program Coordinator	40,000		0
	Graduate Assistant/Student (NMSU)	13,710	117	5,188
	Co-PI Marlow/Co-PIs (NMSU)	4,067	8,570	-4,067
	Research Analyst	34,650		-1,650
	Records Specialist		11,361	0
	Fringes	26,880	9,366	-978
TRAVEL	NSF PI Meeting	11,342		-1,342
	WEPAN	10,319		-4,319
	AAAS	1,820		-656
	SWE Team Travel	450		1,455
	Other PI, Program Coordinator and Research Analyst Conference Travel	4,826		6,374
	Travel for STEM Faculty -- Grace Hopper and NMNWE plus other requests	10,654		-2,904
	Teaching Academy Workshop Leaders*	3,778		-778
	Visiting Professor Program facilitator	2,234		3,766
	Travel awards for conference/research for STEM female tenure-track faculty	4,525	0	15,475
PART. SPT.	Stipends: Faculty Development Program Participants	11,561		-1,561
CONSULTANT	External Evaluators	8,664		1,376
START-UP FUNDS	Start-Up Funds for new STEM female tenure-track faculty**	222,346	305,000	-72,346
RESEARCH FUNDS	Research Awards for STEM Female Tenure-Track Faculty (non-travel/course release)	55,380	0	4,620
	Mini-Grants for Faculty Professional Training	3,412		6,588
COURSE RELEASE	Course Release Awards to STEM female tenure-track faculty	59,852		-19,999
FACULTY DEVELOPMENT	Mentoring Workshops	2,155		845
	Promotion & Tenure Workshop Co-Sponsorship	244		956
	Department Head Training: Evaluating Teaching, Research and Service	394		1,606
	Teaching Academy Workshop Leaders*	3,000		0
ADVANCING LEADERS	Retreat, Luncheons, Books and Supplies	4,718	200	-4,718
RECRUITMENT	Dual career assistance/brochure, exit interviews, conference attendance	8,157		-8,097
VISITING PROF	Visiting Professor Program: Fees and Publicity	10,830		5,170
OUTREACH	Outreach Event -- Women's Studies Luncheon	1,050		-550
COMMUNICATIONS	Communications (inc. Recruitment Ads)	3,220		9,780
	Website			
TOTAL		592,427	347,773	-50,914
Grand Total				

*2003 expense

**Start-Up/Cost-Share funds have been committed for expenditure over a 2-year time span

2005 Budget

Budgeted NMSU

		Budgeted	NMSU
PERSONNEL	Program Director: Course Releases	19,902	13,159
	Program Director: Summer Salary	10,879	
	Program Coordinator	40,000	
	Co-PIs		17,140
	Graduate Assistant/Student (NMSU)	18,898	240
	Research Analyst	17,375	
	Records Specialist		23,000
	Fringes	22,800	15,000
TRAVEL	NSF PI Meeting	10,000	
	WEPAN	3,000	
	AAAS	1,164	
	SWE Team Travel	400	
	Other PI, Program Coordinator and Research Analyst Conference Travel	11,200	
	Travel for STEM Faculty -- Grace Hopper and NMNWSE plus other requests	5,000	
	Teaching Academy Workshop Leaders*	3,500	
	Visiting Professor Program facilitator	6000	
	Travel awards for conference/research for STEM female tenure-track faculty	20,000	
PART. SPT.	Stipends: Faculty Development Program Participants	10,000	
CONSULTANT	External Evaluators	0	
START-UP FUNDS	Start-Up Funds for new STEM female tenure-track faculty**	250,000	300,000
RESEARCH FUNDS	Research Awards for STEM Female Tenure-Track Faculty (non-travel/course release)	21,917	
	Mini-Grants for Faculty Professional Training	10,000	
COURSE RELEASE	Course Release Awards to STEM female tenure-track faculty	16,000	
FACULTY DEVELOPMENT	Mentoring Workshops	2,200	
	Promotion & Tenure Workshop Co-Sponsorship	500	
	Department Head Training: Evaluating Teaching, Research and Service	2000	
	Teaching Academy Workshop Leaders*	3,500	
ADVANCING LEADERS	Retreat, Luncheons, Books and Supplies	4,500	5,000
RECRUITMENT	Workshop	1,000	
VISITING PROF	Visiting Professor Program: Fees and Publicity	10,000	
OUTREACH	Outreach Event -- Women's Studies Luncheon	1000	
COMMUNICATIONS	Communications	6,000	
	Website	4,000	
TOTAL		532,735	373,539
Grand Total		532,735	373,539

*2004 expense

**Start-Up/Cost-Share funds have been committed for expenditure over a 2-year time span