



Transforming Virginia Tech: Lessons Learned from *AdvanceVT*

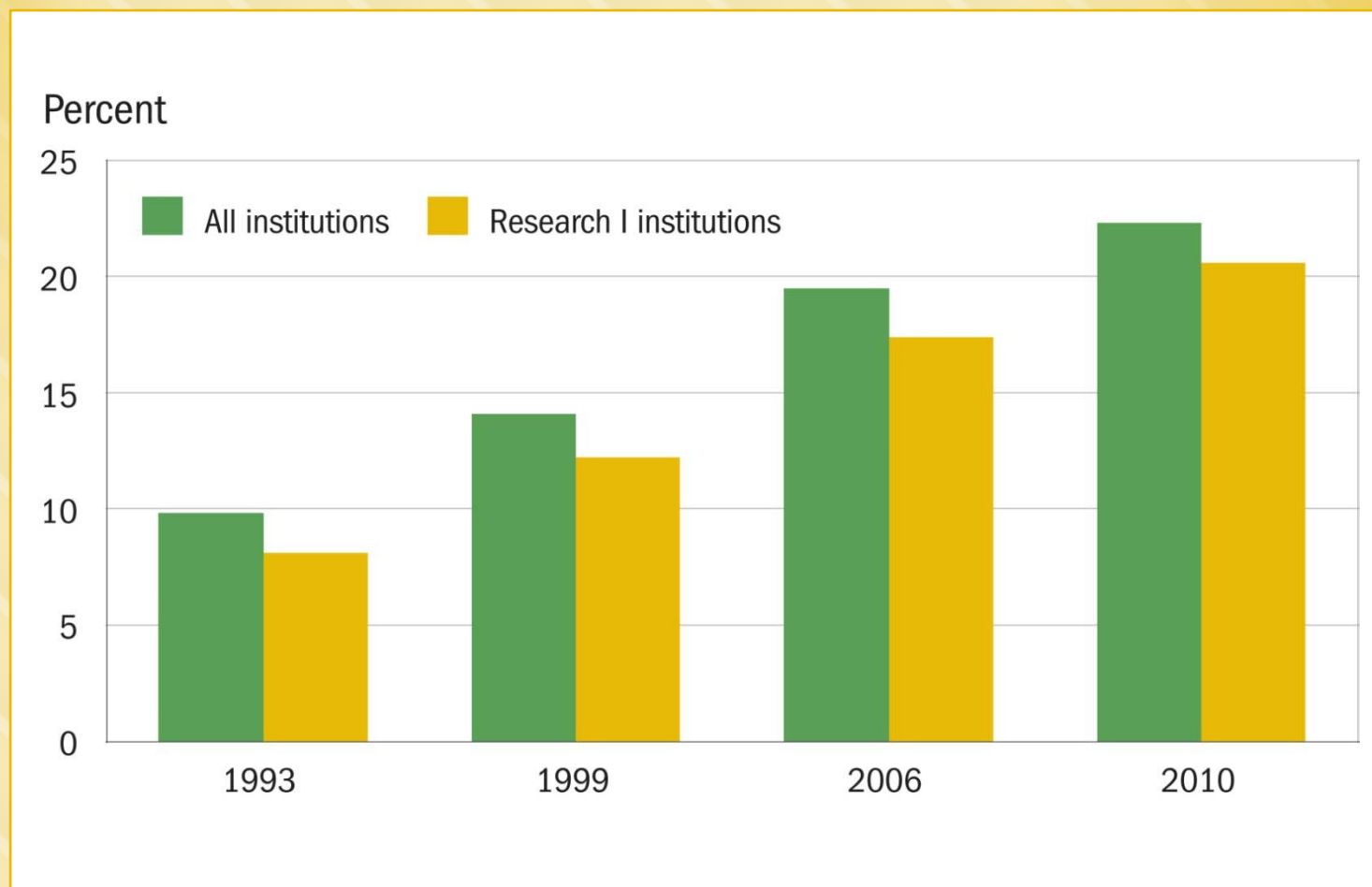
Peggy Layne, P.E.
AdvanceVT Program Director

January 27, 2014

Outline

- Background
- Overview
- What we did
- What we measured
- What we learned
- Reflections and recommendations

Women as a percentage of full-time, full professors with science, engineering, and health doctorates, by institution of employment: 1993–2010



Background: NSF ADVANCE

- ADVANCE program established in 2000
- “The goal of the ADVANCE program is to develop systemic approaches to increase the representation and advancement of women in academic science, technology, engineering and mathematics (STEM) careers, thereby contributing to the development of a more diverse science and engineering workforce.”
- Institutional Transformation grants focus on the *institution*, not the women

Overview: *AdvanceVT*

- 5-year \$3.5M NSF grant received in 2003
- Key leaders but also *many* faculty and collaborators across university involved
- Comprehensive approach:
 - Increasing the number of women in the pipeline
 - Recruitment and retention of women
 - Leadership development
 - Work-life policies
 - Departmental climate
 - Research and assessment

Desired Outcomes

- Change in awareness, attitudes, and behaviors of key administrators and faculty
- Increase in the % of women academic and technical leaders & senior scholars
- Increase in % women faculty in S&E
- Increase in % women choosing faculty careers in S&E

Changing awareness and attitudes

- Faculty surveys to identify & prioritize issues
- *Advancing Diversity Conference (annual)*
- *New department head orientation*
- Negotiation & conflict resolution workshops
- Department Climate Compendium
 - Available at www.advance.vt.edu



Work-life Policies

- Dual Career Assistance
 - Office established fall 2005
- Stop-the-Clock (Pre-Tenure Extensions)
 - Existing policy revised 2006
 - 1 year automatic extension for new parents
 - Language adopted for external letters
- Modified Duties
 - Adopted 2006
 - Provost provides central funding for one semester of reassignment
- Part-time Tenure Track
 - Adopted 2007
- Expansion of Child Care



Leadership Development

- Leadership fellowships (6 awarded)
- Leadership development program (18 participants)
- Research seed grants (22 awarded)
- *Faculty leadership lunches (2-3/semester)*
- *Distinguished lectures (1-2/year)*



Increasing women faculty

- Brochure on Unrecognized Bias
- *College liaisons*
- *Visiting scholars program*
 - 24 visitors funded
 - 4 hired
- Mentoring workshops
 - 156 participants
- *Promotion to Professor workshops*
 - 85 participants



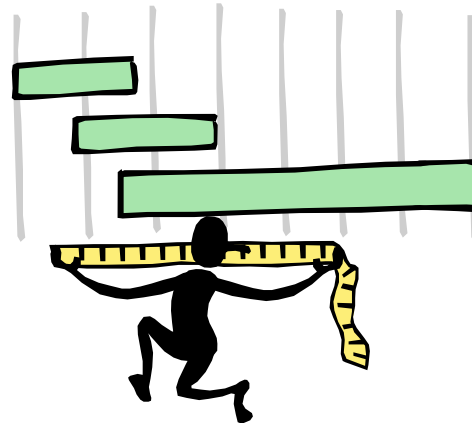
Increasing the number of women choosing faculty careers in S&E

- PhD and Postdoctoral Fellowships
 - (19 awarded)
- Transforming the Professoriate Workshop
 - (2006, 65 attendees)
- *Graduate student seminars*
 - (2-3/semester)

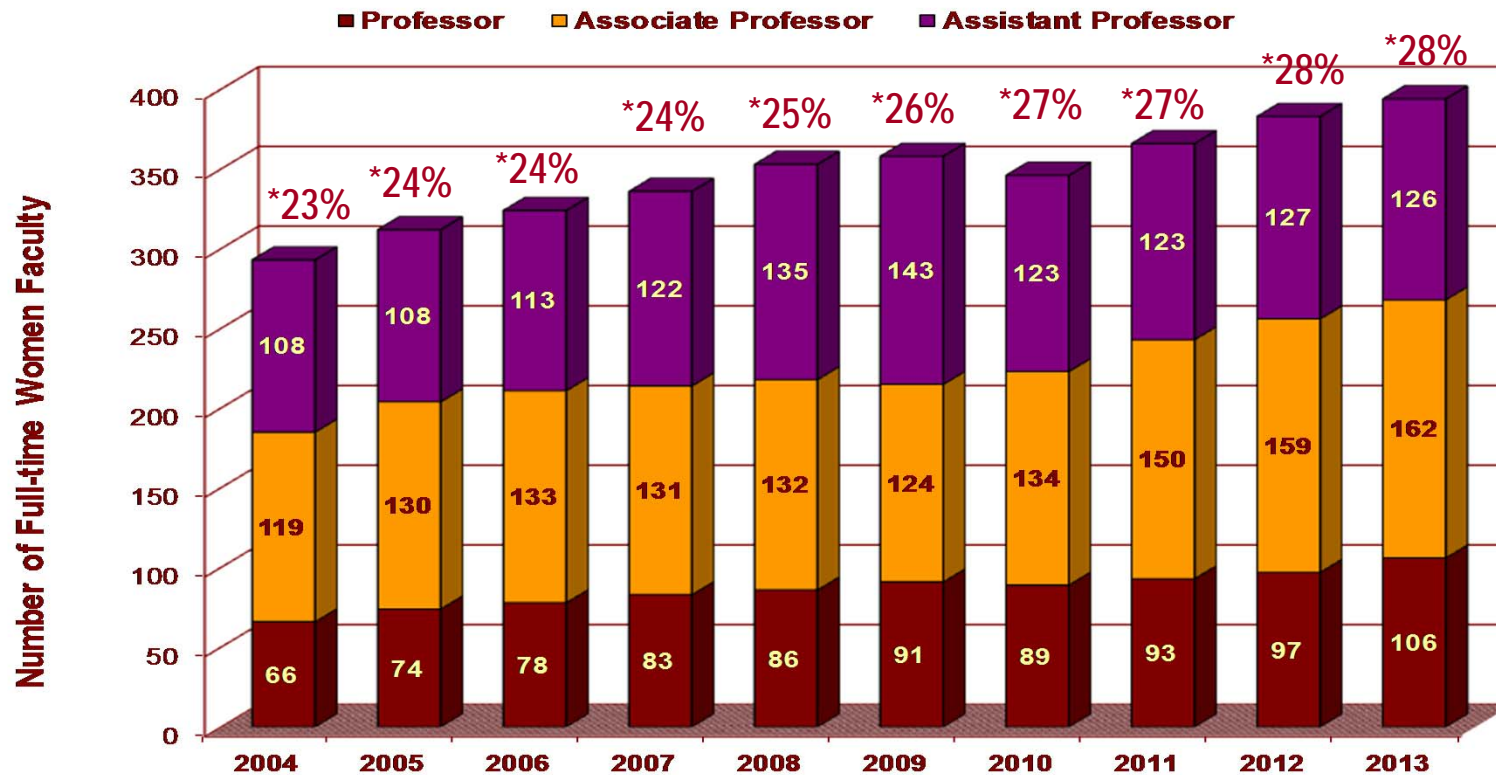


Measuring Impact

- NSF ADVANCE Indicators
- Activity evaluations
- 2005 and 2008 Faculty Climate Surveys
- Work-life policy utilization tracking
- Follow-up studies of fellowship and grant recipients
- Interviews
- Focus groups



Tenured and Tenure-Track Women Faculty, 2004-2013

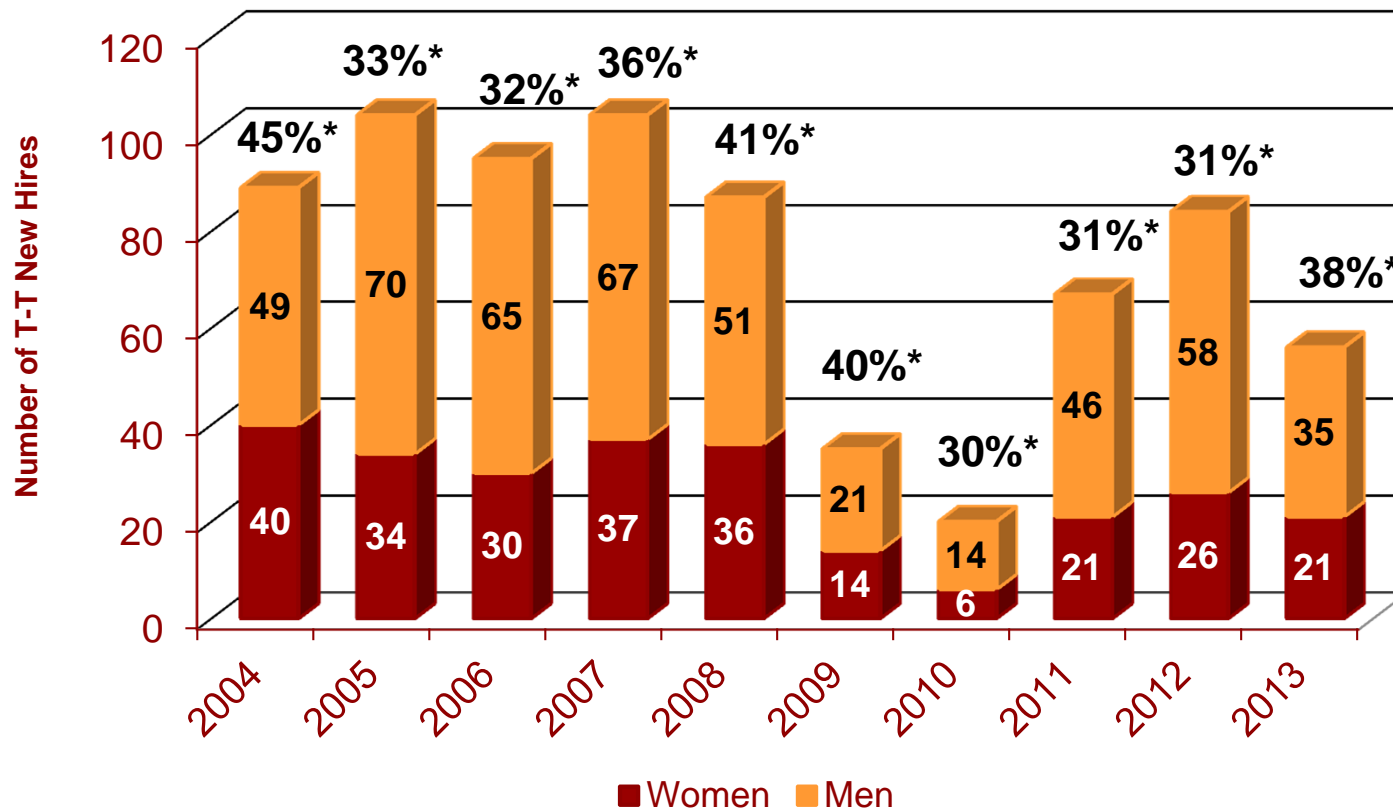


* Total percentage of women in tenure-track positions

Women are currently 19% of professors, 31% of associates, and 41% of assistant professors university wide

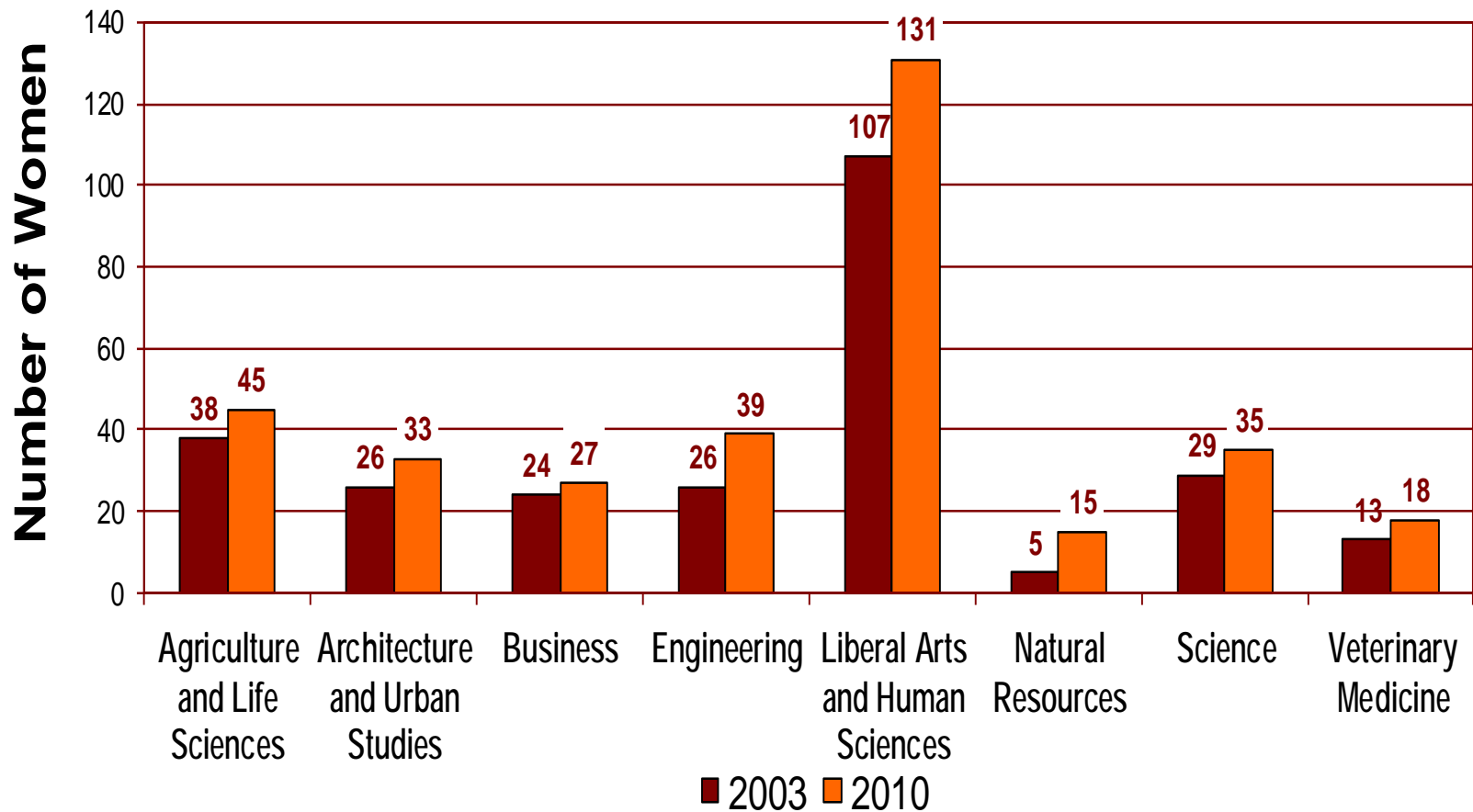


New Full-Time, Tenure-Track Faculty, 2004-2013

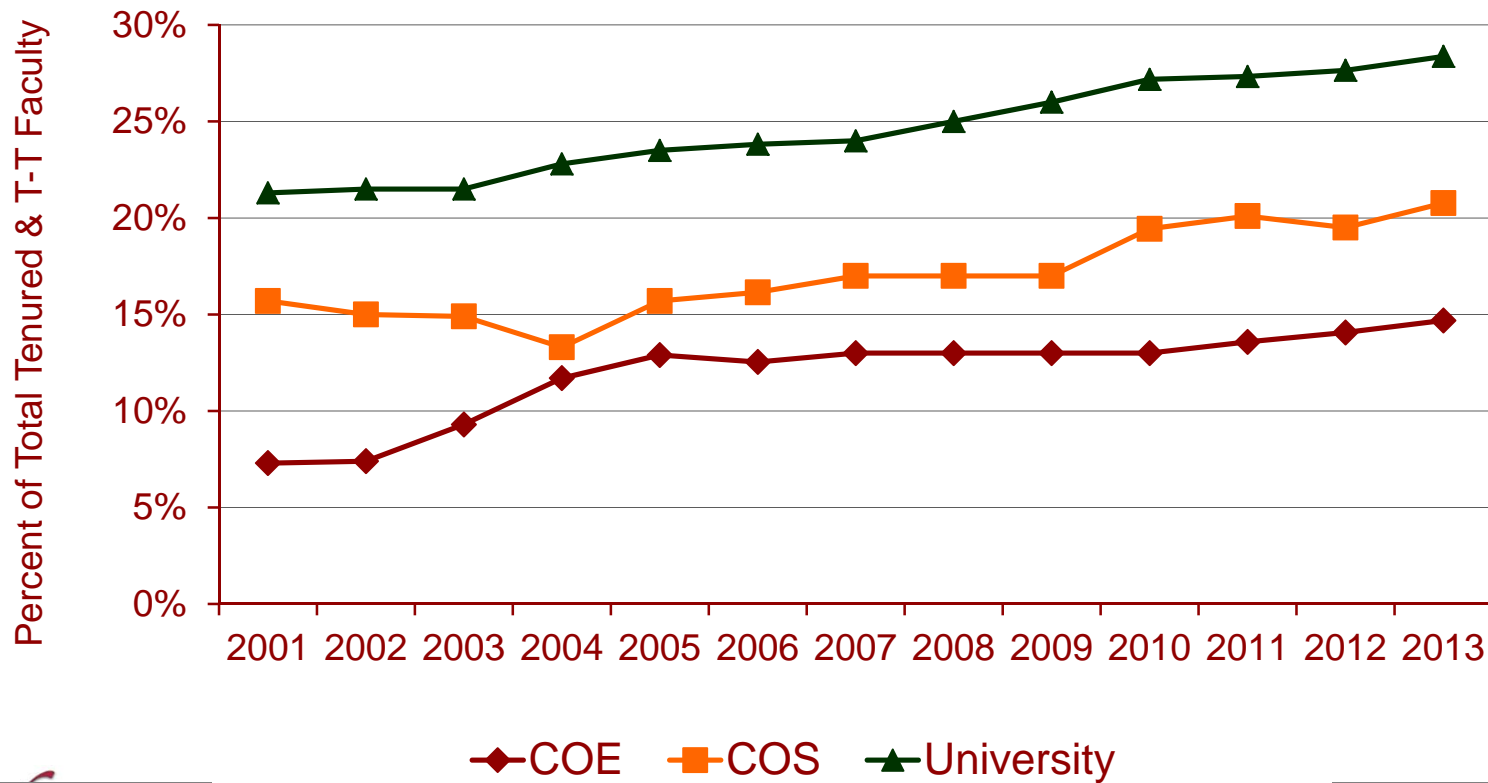


*women as percent of new hires

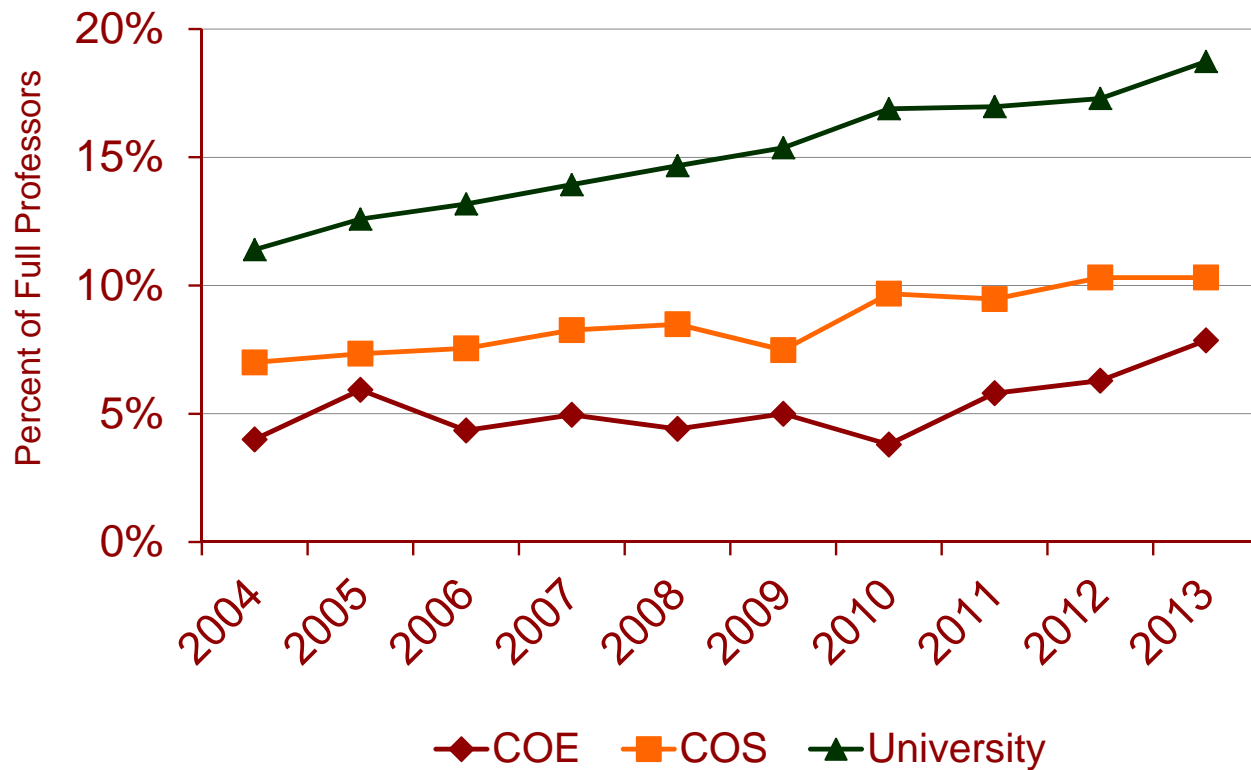
Women Faculty by College



Women as % of Total Full-Time Tenured & Tenure-Track Faculty

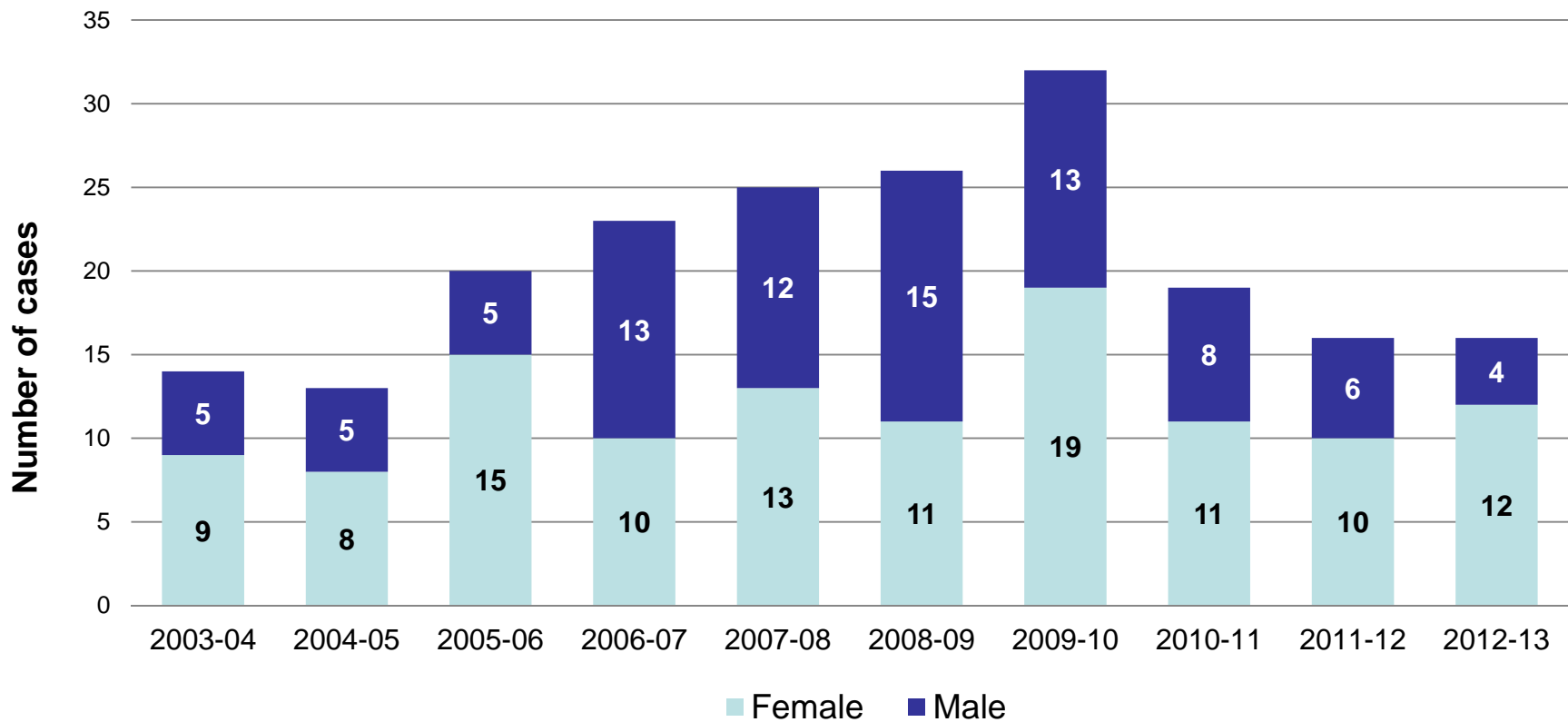


Women Full Professors at Virginia Tech, 2004-2013

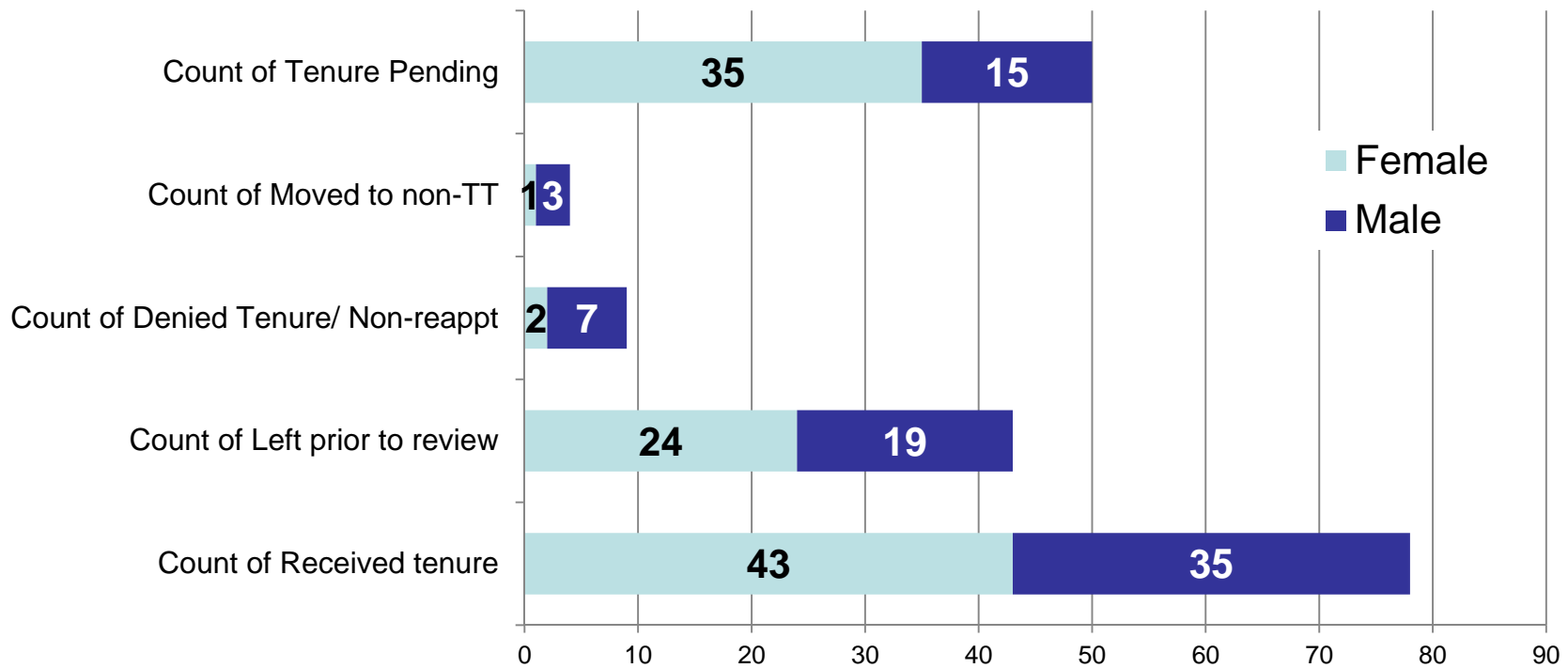


Tenure Clock Extension

Tenure Clock Extensions by Year, All Reasons



Tenure Clock Extension Career Outcomes



Number of Individuals, 2003/04 – 2012/13

Modified Duties

	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Child-birth or adoption	4	11	5	8	9	11	9
Personal health	0	2	1	0	4	2	5
Other	0	5	0	2	0	3	1
Total	4	18	6	10	13	16	15

Dual Career Program

Faculty cases facilitated by the Provost's Office

N = 79

	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
New Dual Career Faculty Hires	7	10	6	8	3	18	27
Number and % Retained as of 7/13	6 (55%)	8 (80%)	3 (50%)	7 (88%)	2 (67%)	16 (89%)	--

Dual Career Program

Cases through the Provost/HR Partnership

	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Recruitment Cases	59	44	30	26	37	67	90	74
Retention Cases	7	21	9	13	4	5	3	17
Total Cases/Year	66	65	39	39	41	72	93	91

“Without it, we would not have come. I think it’s critical because lots of people have spouses that are also in research or in the same area, so they will only come if you hire both. So, if you have a program like that, it’s really important to get people here.”

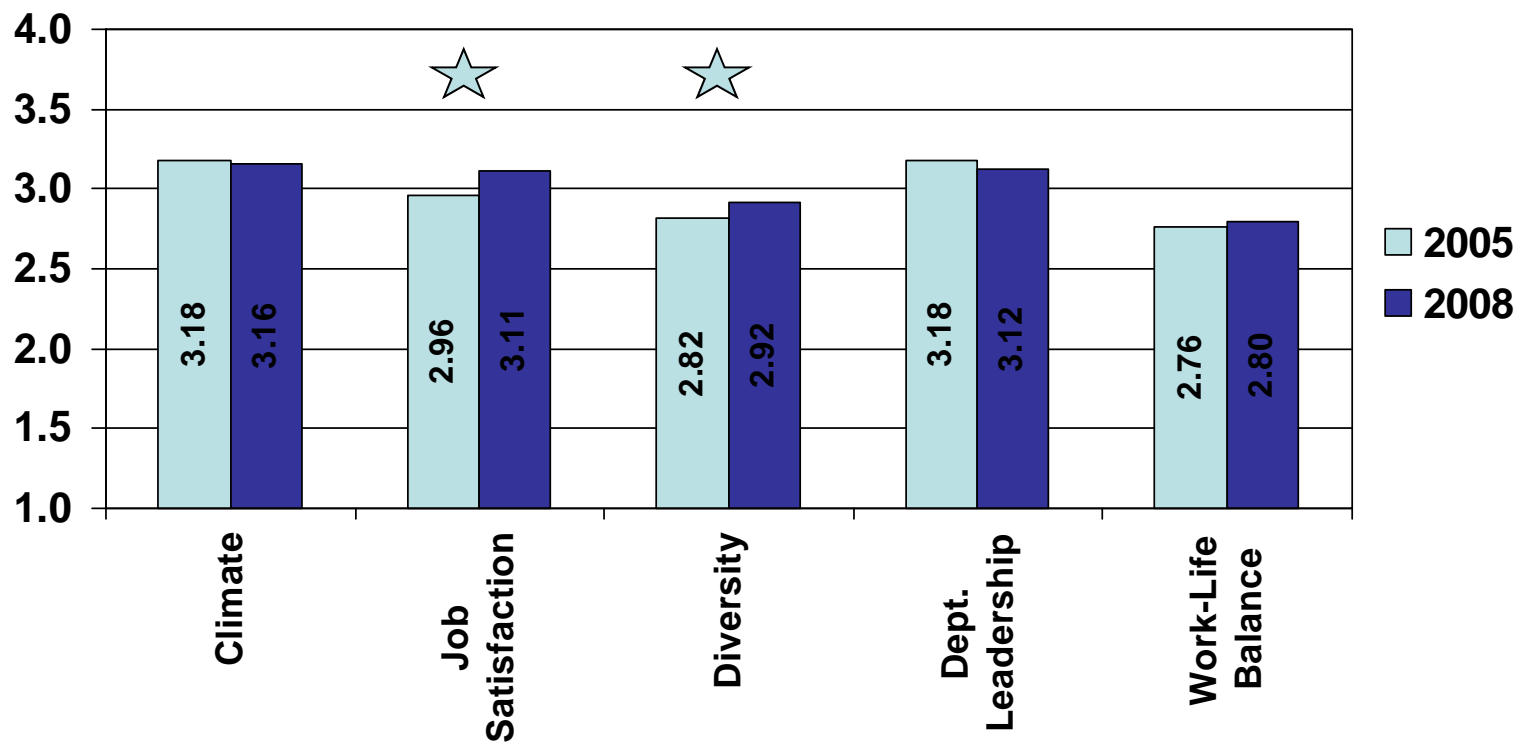
- New Faculty Member

Child Care Partnership

Children placed with Rainbow Riders

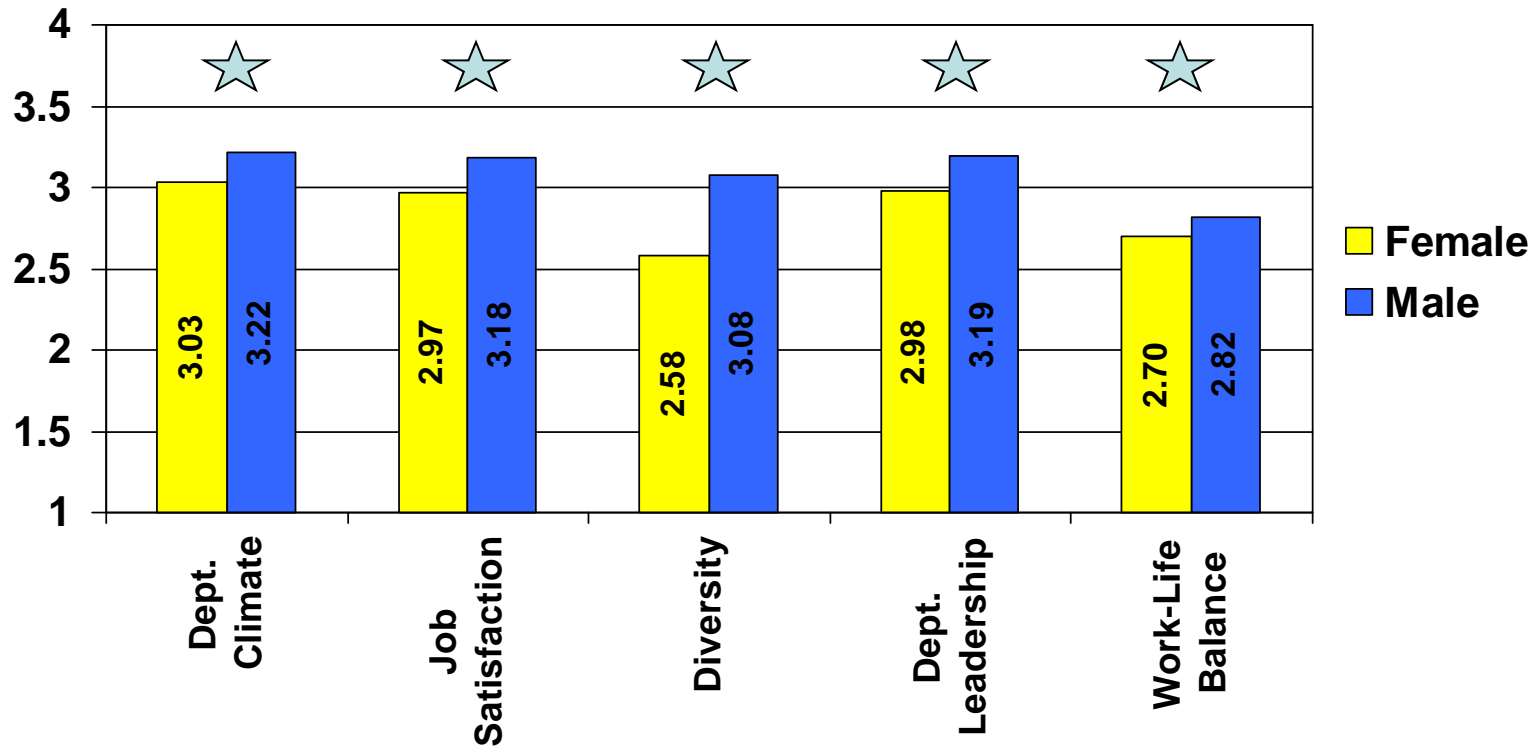
Contract Year	Infant (0-1 ½ yrs)	Toddler (1 ½ - 3 yrs)	Preschool (3 yrs to school age)	School-age (before & after care, holidays, snow days, summer)	Totals
2009-10 (Year 1)	20	25	71	13	129
2010-11	17	11	30	10	67
2011-12	18	10	51	4	73
2012-13					
Totals	55	46	152	27	280

Faculty Surveys: Scale Score Means, 2005 vs. 2008



★ Indicates statistically significant difference between 2005 and 2008 responses

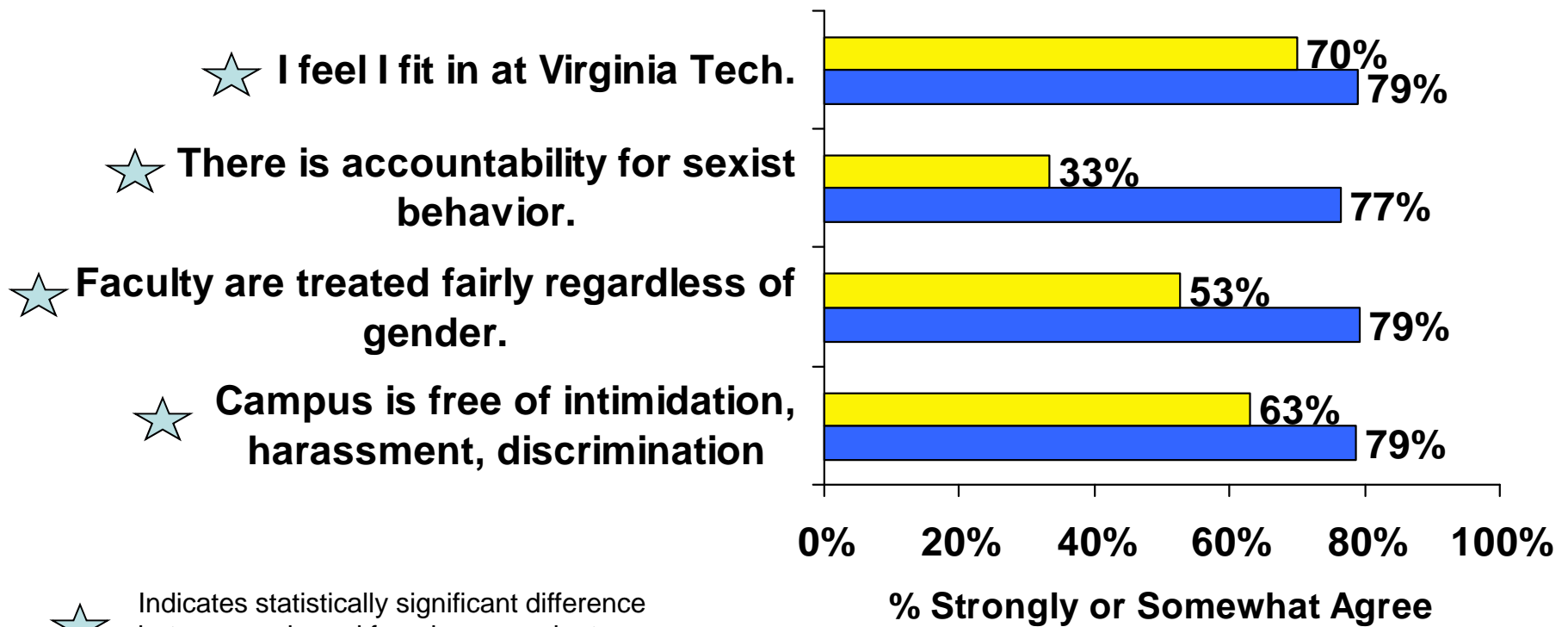
2008 Survey: Differences by Gender



Indicates statistically significant difference between female and male in 2008 responses

Significant differences by gender in perceptions of *university* climate.

2008 Survey Responses



★ Indicates statistically significant difference between male and female respondents.

Department Climate Differs Across Colleges

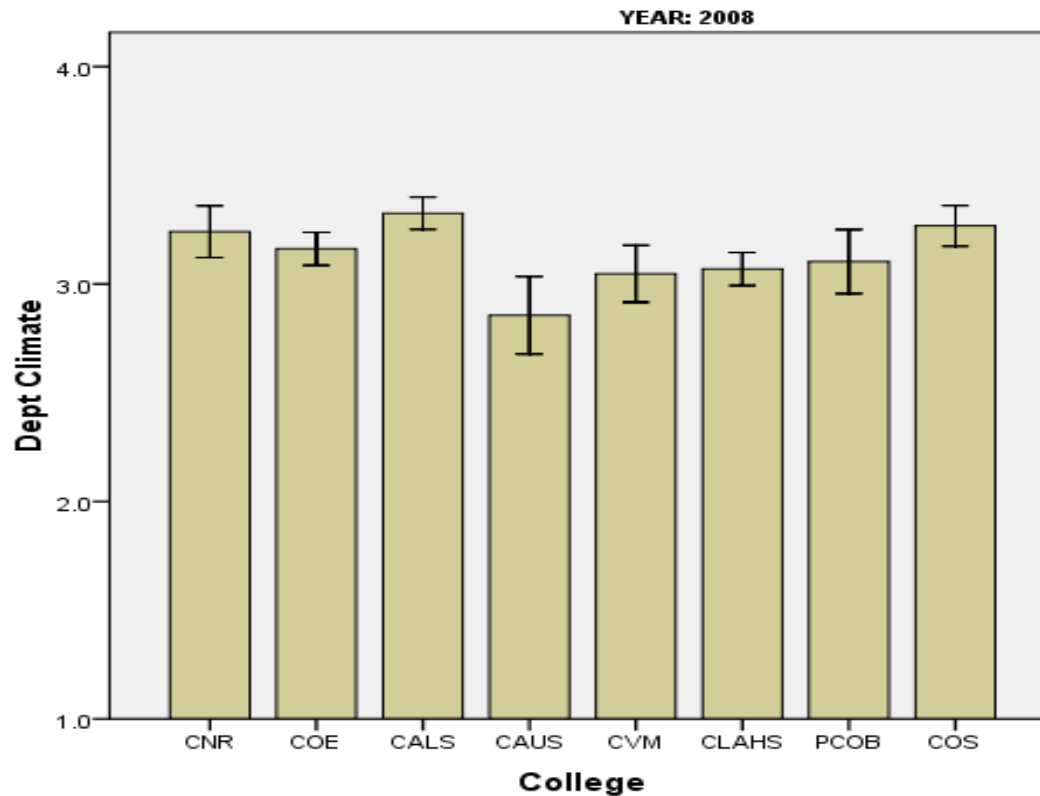


Figure 3a. Comparison of Department Climate Across Colleges, 2008.
1=strongly disagree, 2=somewhat disagree, 3=somewhat agree, 4=strongly agree;
confidence intervals shown

Stories Can Be Very Powerful

➤ Reflections on Faculty Worklife

“I am feeling more and more that you sign on as a faculty member to work 24/7.”

“Right now I feel like everyone thinks they own my soul, I feel abused.”

➤ Lack of flexibility in tenure and promotion

“Expectations are built around men at this university who have stay-at-home wives...”

“I waited until post tenure to start a family and now it is too late. My biological clock stopped before my tenure clock did.”

Stories Can Be Very Powerful

➤ Dual Career hiring:

“Without [the dual career office], we would not have come. I think it’s critical because lots of people have spouses that are also in research or in the same area, so they will only come if you hire both.”

➤ Stopping the Tenure Clock:

“[The stop-the-clock policy] was one of the reasons I chose VT because eventually I would like to start a family and knowing that I had the flexibility to do that made me feel that work-life was actually valued here.”

Focus group feedback:

- “One thing that has been a change I think largely as a result of the Advance grant is I do think the focus on work-life balance and being more family-friendly.”
- “It’s actually OK to have a baby...it’s acceptable...Twenty years ago ... you would have tried to have a baby on the side...”

Focus group feedback:

- “I think that the grant and the program have created a fundamental shift in the university’s culture...It’s been a really positive thing for the university.”
- “My biggest concern is it’s still so department by department, the culture.”

What we learned

- The importance of consistent, proactive institutional leadership.



What we learned

- The importance of allies.



What we learned

- The importance of community among women.



Reflections

- Women experience faculty life differently from men



Reflections

- Flexibility is not just a women's issue; men also want greater flexibility in their careers
- Work-life balance is not just an issue for women or for pre-tenure faculty; men and senior faculty need it too



Reflections

- ✓ Perceptions matter
- ✓ People value different kinds of evidence
- ✓ Faculty norms and culture are very difficult to change
- ✓ Change is happening, but is slow and variable

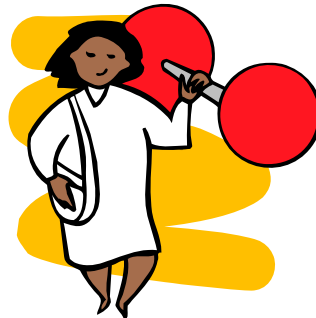


Recommendations

- ✓ Approach must be comprehensive and responsive to *institutional context*
- ✓ Involve the *whole institution*
- ✓ Use *data of all types* to nurture an evidence-based culture
- ✓ Borrow freely and *adapt strategies* of others

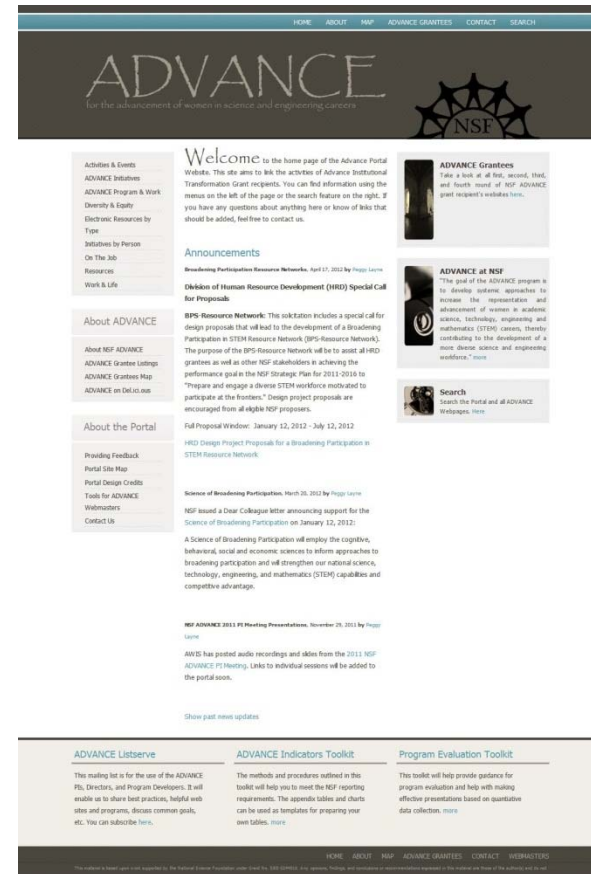
Recommendations

- ✓ Persistent, effective leadership from the top is critical
- ✓ Involve men and make changes that address needs of men also
- ✓ Money helps but many important changes cost relatively little
- ✓ This work is not for the faint of heart!



Advance Portal Website

- Link to information on ADVANCE grantee web sites
- Facilitate sharing among ADVANCE grantees
- Make findings of ADVANCE grantees available to all



www.advance-portal.net



- Activities & Events
- ADVANCE Initiatives
- ADVANCE Program & Work
- Diversity & Equity
- Electronic Resources by Type
- Initiatives by Person
- On The Job
- Resources
- Work & Life

About ADVANCE

- About NSF ADVANCE
- ADVANCE Grantee Listings
- ADVANCE Grantees Map
- ADVANCE on Del.ici.ous

Welcome to the home page of the Advance Portal Website. This site aims to link the activities of Advance Institutional Transformation Grant recipients. You can find information using the menus on the left of the page or the search feature on the right. If you have any questions about anything here or know of links that should be added, feel free to contact us.

Announcements

Broadening Participation Resource Networks, April 17, 2012 by [Peggy Layne](#)

Division of Human Resource Development (HRD) Special Call for Proposals

BPS-Resource Network: This solicitation includes a special call for design proposals that will lead to the development of a Broadening Participation in STEM Resource Network (BPS-Resource Network). The purpose of the BPS-Resource Network will be to assist all HRD grantees as well as other NSF stakeholders in achieving the performance goal in the NSF Strategic Plan for 2011-2016 to "Prepare and engage a diverse STEM workforce motivated to participate at the frontiers." Design project proposals are encouraged from all eligible NSF proposers.



ADVANCE Grantees

Take a look at all first, second, third, and fourth round of NSF ADVANCE grant recipient's websites [here](#).



ADVANCE at NSF

"The goal of the ADVANCE program is to develop systemic approaches to increase the representation and advancement of women in academic science, technology, engineering and mathematics (STEM) careers, thereby contributing to the development of a more diverse science and engineering workforce." [more](#)



Search

Search the Portal and all ADVANCE Webpages. [Here](#)

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www.portal.advance.vt.edu

 **VirginiaTech**
Invent the Future

Acknowledgements

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 - Findings, conclusions and recommendations are those of the author and not the National Science Foundation or Virginia Tech