

Women Research Faculty at NDSU

Kathleen Slobin

Rhonda Magel

Marjorie McCullagh

Alan White

NDSU

Acknowledgment

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Background

Nationally, the status of women faculty in science, math, engineering, and technical fields has lagged behind that of their male counterparts.

Although women earn 40 percent of all doctorates in the United States, they continue to be underrepresented in almost all science and engineering fields.

Women make up 22 percent of the science and engineering workforce in general and less than 20 percent of the science and engineering faculty in four-year colleges and universities.

NSF ADVANCE Goal

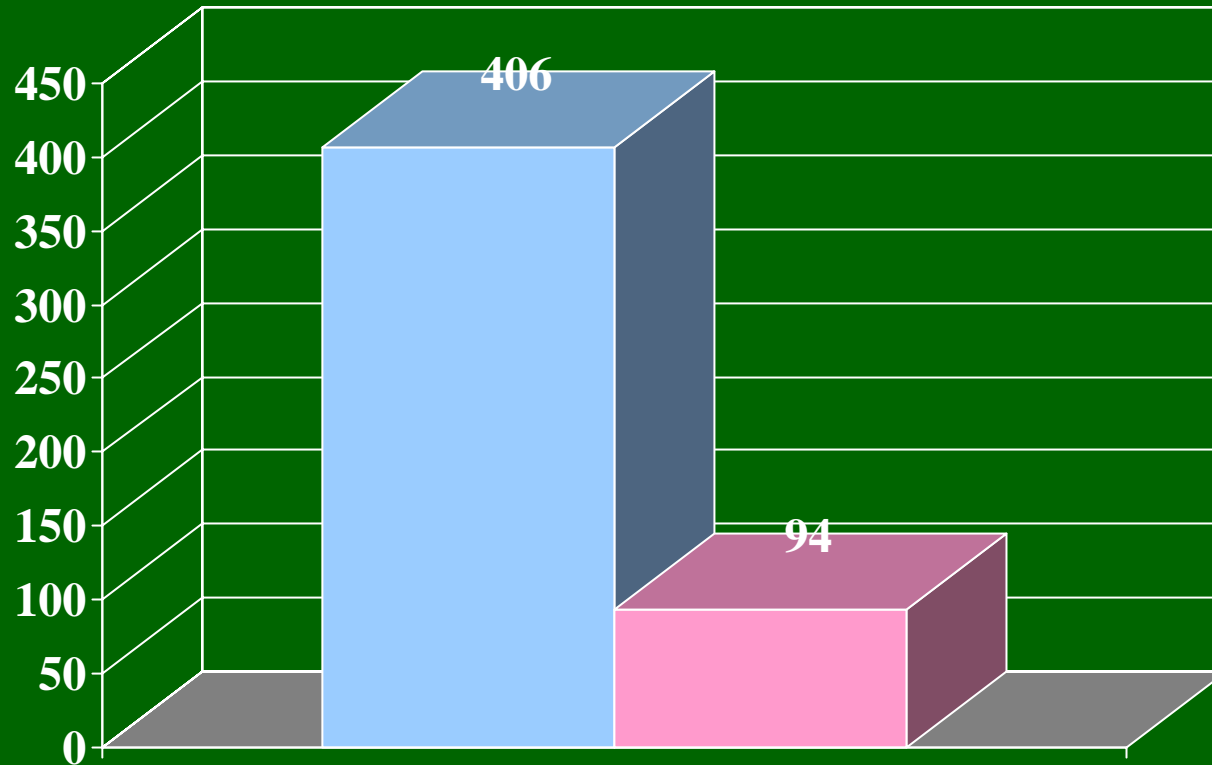
To increase the participation of women in the scientific and engineering workforce through the increased representation and advancement of women in academic science and engineering careers.

Institutional Transformation Awards

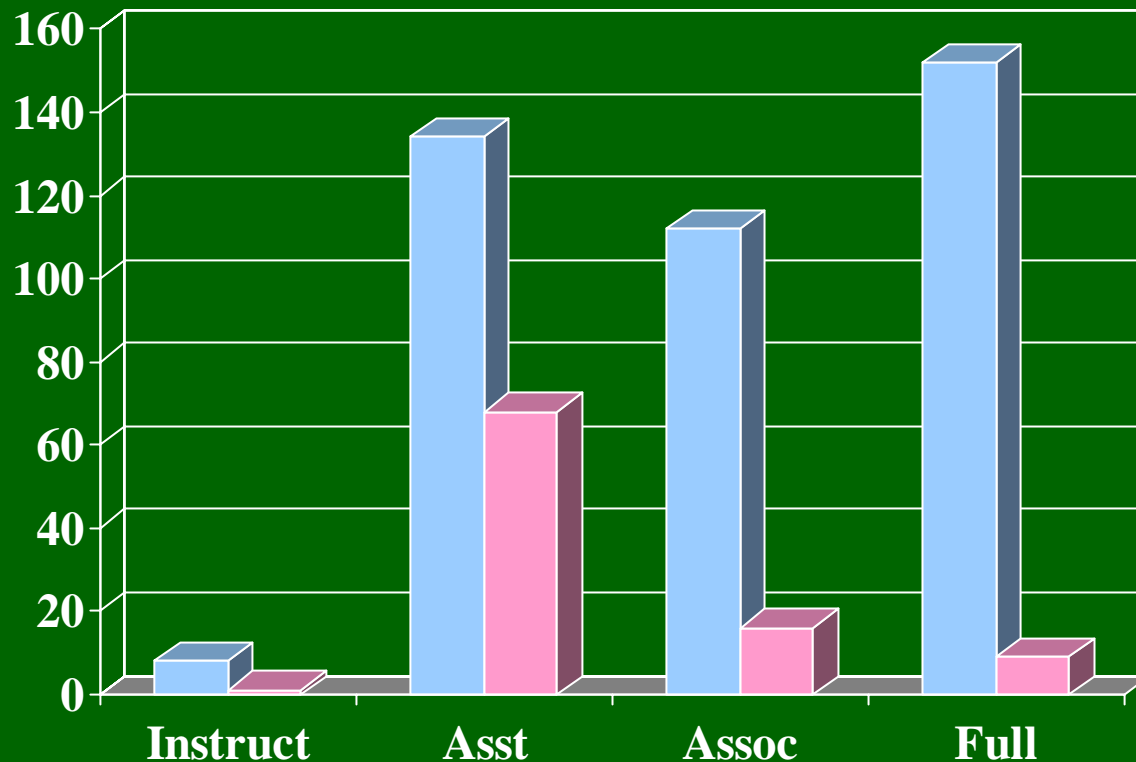
Ensuring that the climate, the policies and the practices at these institutions encourage and support the full participation of women in all aspects of academic life, including leadership and governance

The status of women research faculty at NDSU, in relation to their male peers, is unknown.

NDSU Faculty by Gender, 2002



NDSU Faculty by Gender & Rank, 2002



Purpose

To compare the status of men and women
research faculty at NDSU

Methods

Two Separate Studies

Study of Present Faculty

Survey of matched sample of men and women
research faculty

- Academic department
- Rank

Survey Tool

- 12 page booklet of 42 mailed survey items
 - Demographics
 - Activities: research, teaching, service, non-academic
 - Faculty perceptions of support, stress, interests, satisfaction

Study of Faculty Who Have Left

Survey of all men and women faculty who had left NDSU during a recent 4-year period

Study of Present Faculty

Summary of Results

Sample Demographics

	Women (n=50)	Men (n=49)
Respondents	50	49
Response rate %	96	50
Ethnicity		
– White	44	40
– Asian	0	2
– African American	4	4
– Hispanic	2	1
– Other	0	2

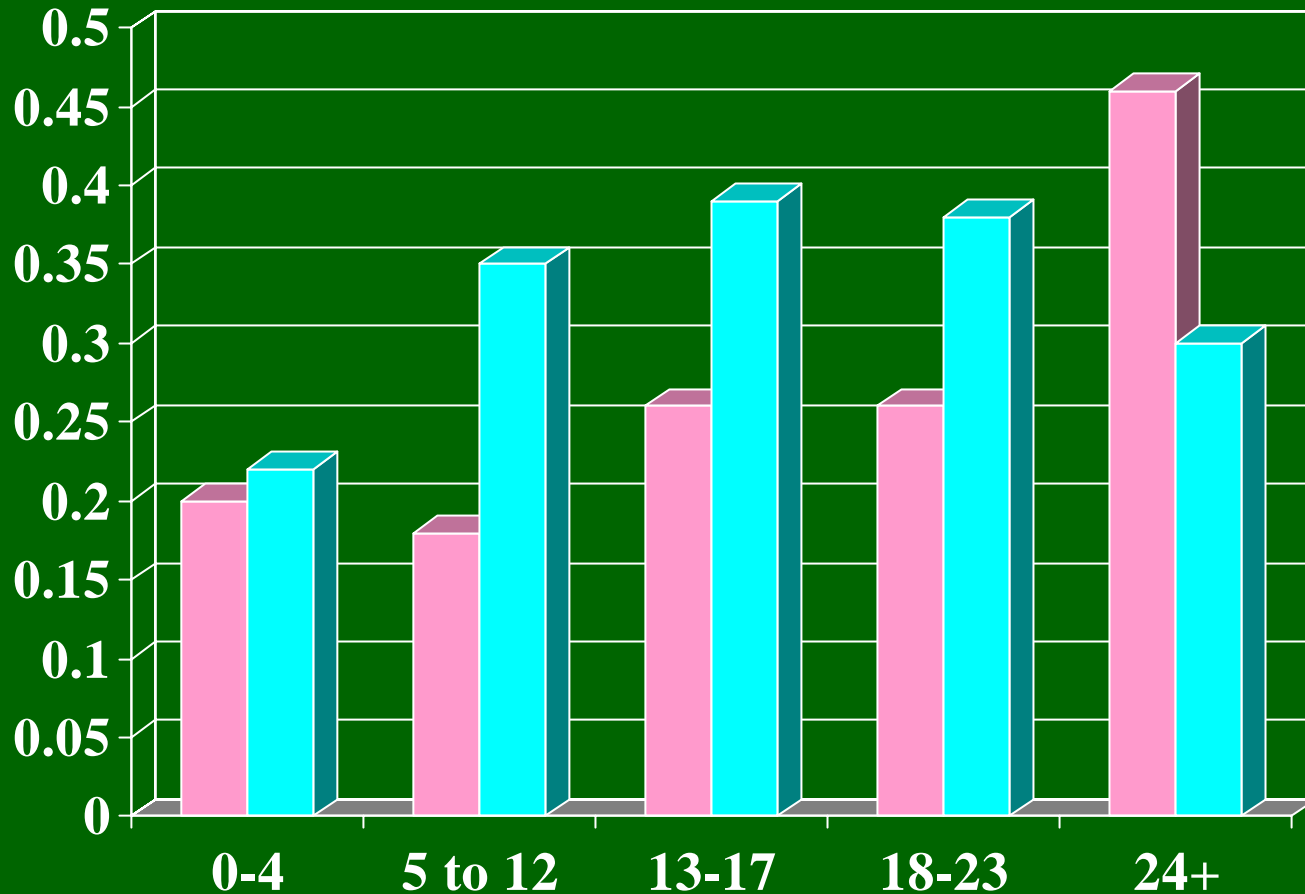
Sample Demographics

	Women (n=50)	Men (n=49)
Marital status		
– Married	36	44
– Partnered	2	0
– Single	10	5
– No response	2	0
Place of birth		
– US	42	40
– Other	8	9

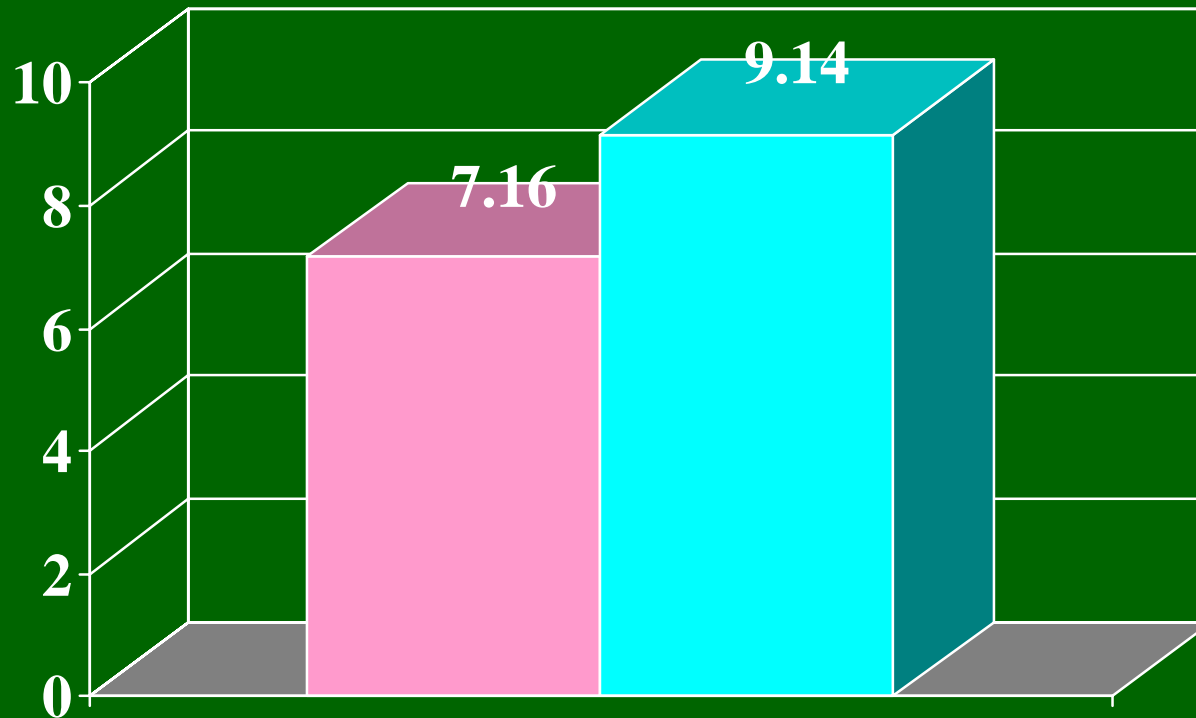
Sample Demographics

	Women	Men
Principle activity		
– Administration	4	2
– Teaching	28	25
– Research	13	17
– Service	1	2
– Other	5	2
Academic Rank		
– Professor	4	8
– Associate	11	19
– Assistant	35	22

Mean Number of Children by Age Group

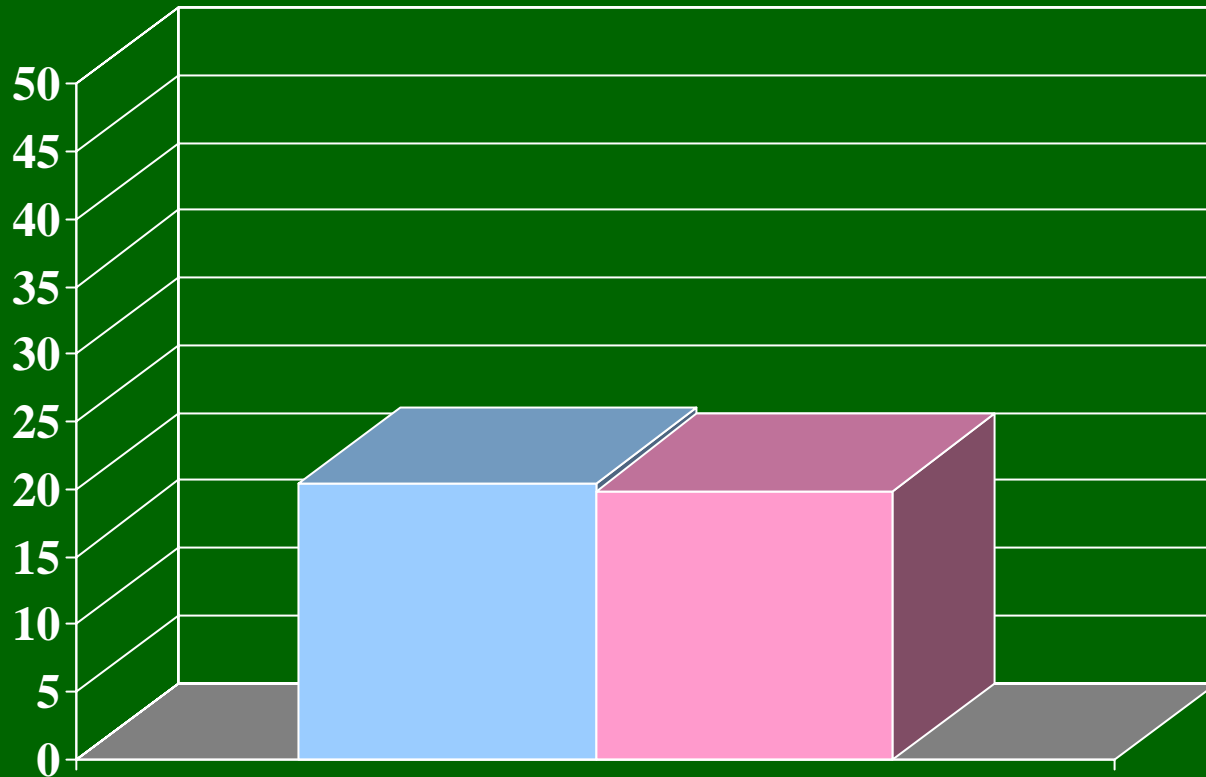


Research Productivity Over Entire Career



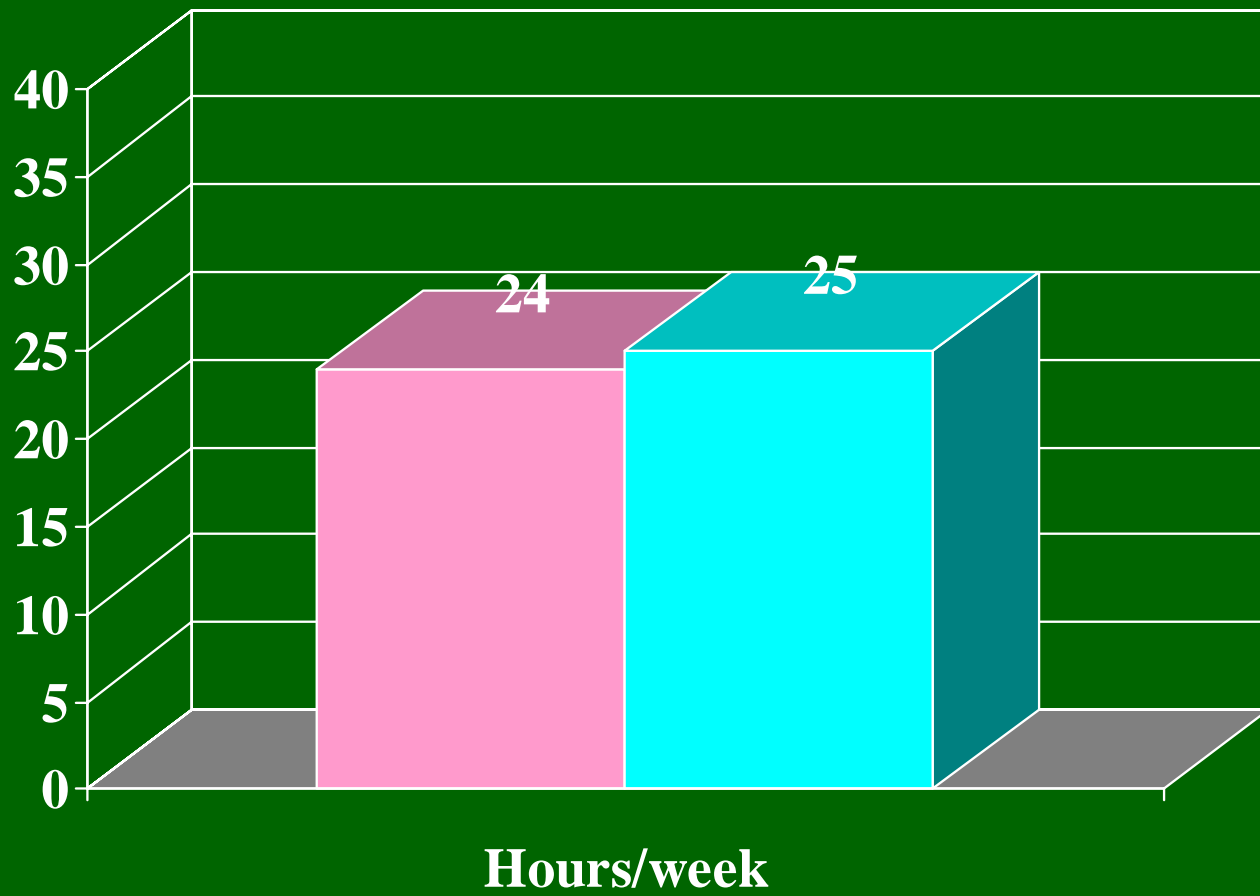
Paired t-test $p=0.0180$

Gender-based Difference in Research Productivity Over a Recent Two-Year Period



(Paired t-test $p=NS$)

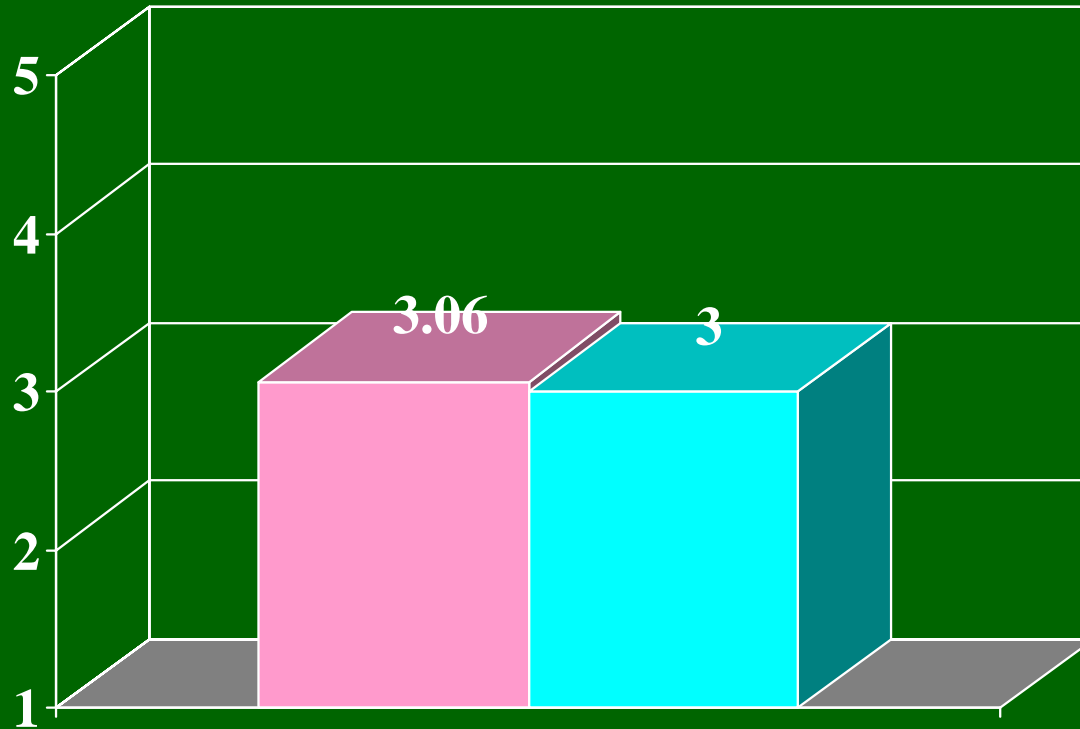
Hours/Week on Research



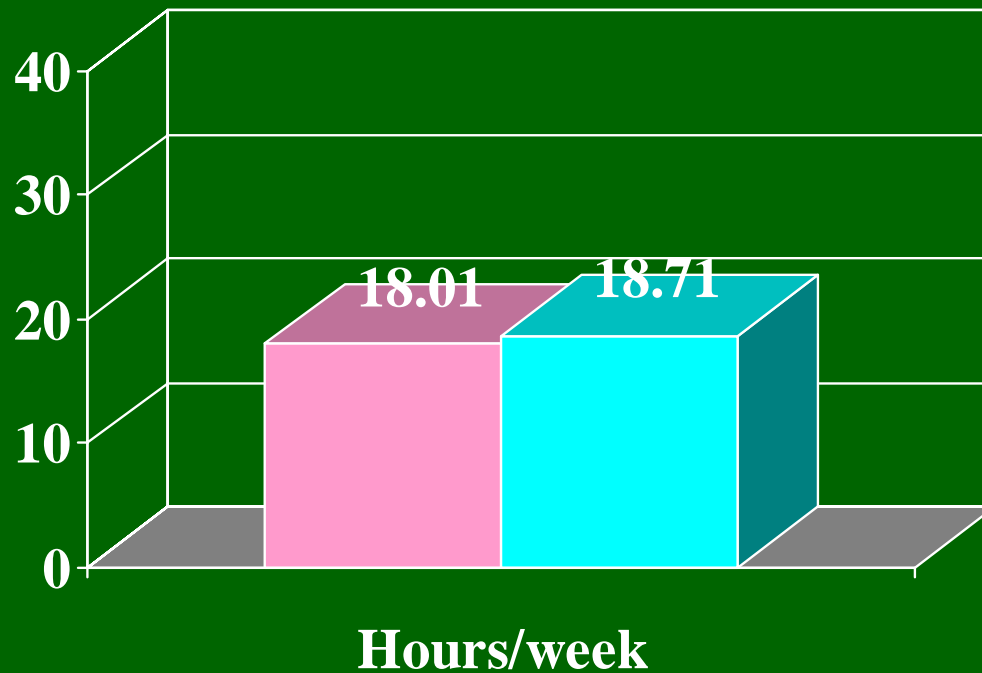
“I would LOVE to be spending more time on research and I have no objections to the university becoming more research oriented. I welcome it. HOWEVER: this is in fact my ‘light’ year; I am teaching 22 credits. Next year I will be teaching 25 credits again. If we do want to become more research oriented, there needs to be a concurrent teaching reduction. As it is, almost all my my research is done [unpaid] during the summer.”



Interest in Research

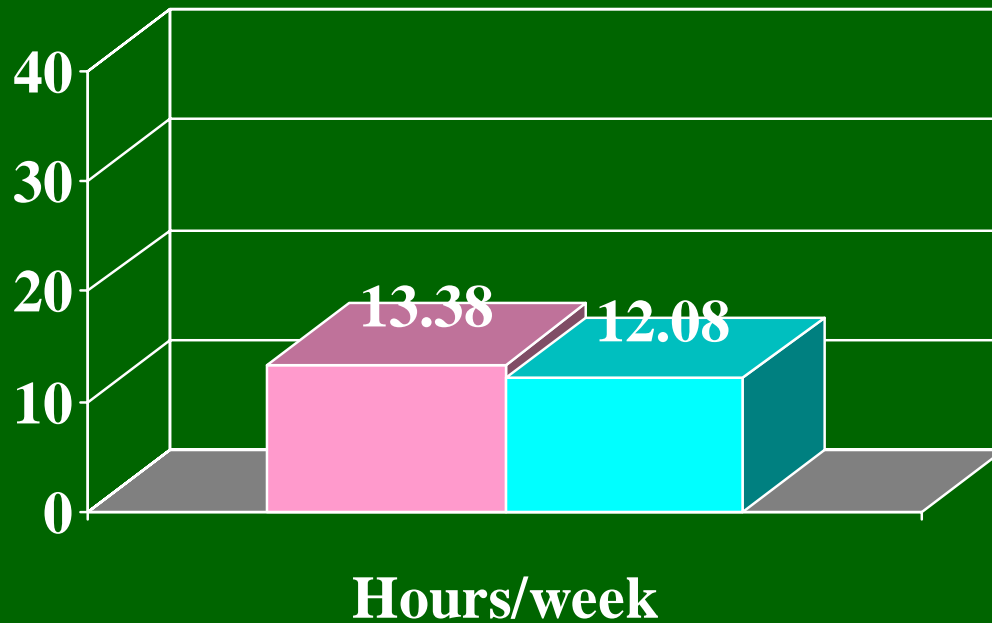


Hours on Teaching & Prep

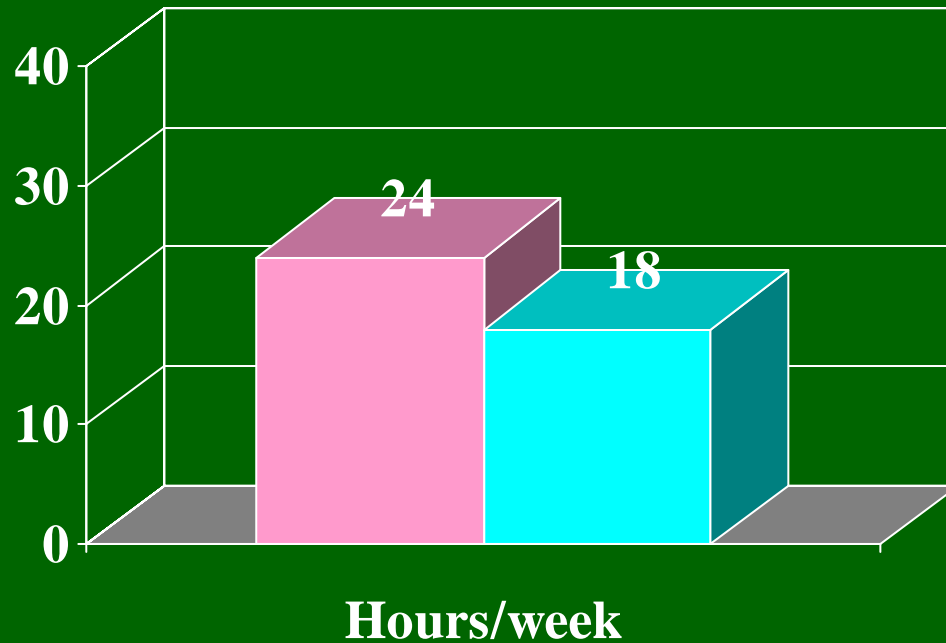


Hours on Service

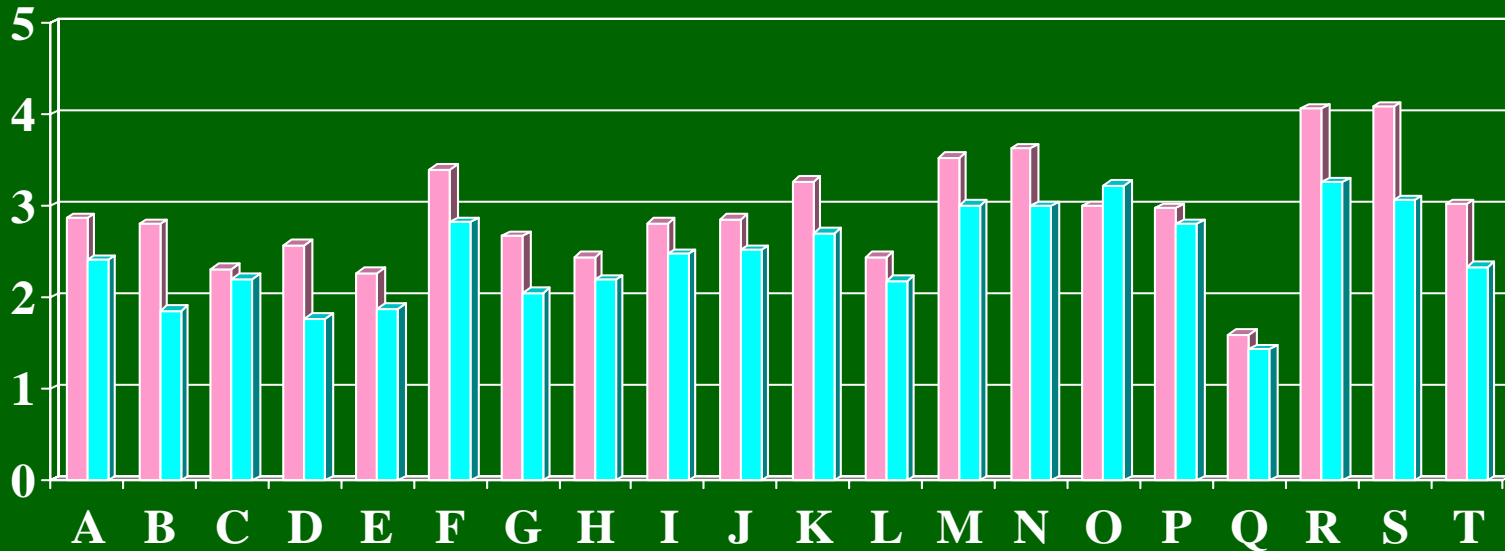
(Advising, Counseling, Committee Work,
Administration, Consultation)



Non-academic Hours (Childcare, Hobbies, Outside Activities)



Sources of Stress by Gender



Areas of Stress Measured

- A= household
- B=childcare
- C=child problems
- D= care of parent
- E=physical health
- F= promotion
- G=discrimination
- H=personal finance
- I=committee work
- J=faculty meetings
- K=colleagues
- L=students
- M=research demands
- N=mindset of faculty
- O=institutional procedures
- P=teaching load
- Q=marriage
- R=time pressures
- S=lack of personal time
- T=info technology

“Over time I realize I have not had the time to develop in my research areas because of very heavy teaching loads. My administrative work has also taken much of my time and energy.”



“The women in my department have been beaten down by a small aggressive group of difficult male faculty. This is entirely a gendered situation. I teach 3 times the number of students per semester as most of my male colleagues.”



“I believe this institution is riddled with “isms” sometimes subtle, sometimes quite overt. This is no one’s fault, but I believe massive cultural change would need to take place in order for it to be addressed and I do not trust the will of the administration to do that. They are nice “guys” but what would push them towards developing a culture of real inclusion? It would be painful and some would lose power in the process – so, why do it?”



Women Report Greater Work-Related Stress

- Women reported higher stress in nearly every area measured
- Women were especially high in
 - Subtle discrimination stress
 - Time pressure/lack of personal time
 - Work-related stress

Summary

- Women reported higher
 - Stress

Summary

- Women were lower on traditional measures of research productivity, even though they reported
 - Similar research effort
 - Higher psychosocial support for research

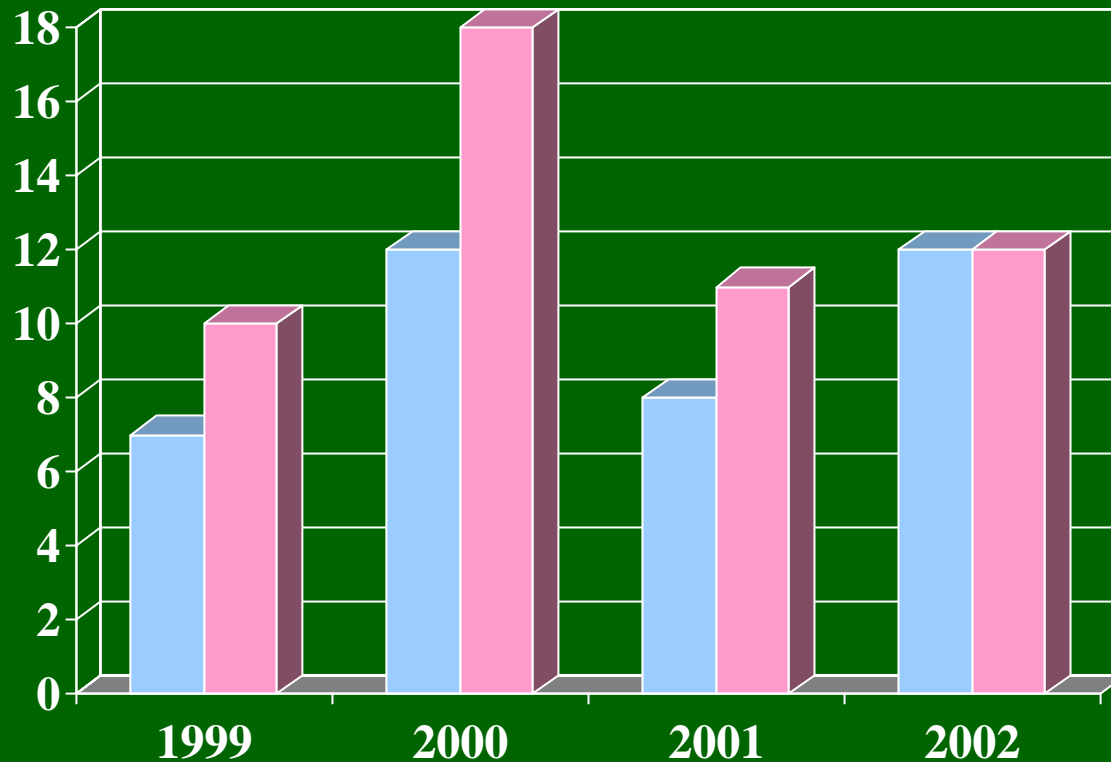
Summary

- Although short-term research productivity was not different by gender, career research productivity was different. This possibly suggests a cumulated advantage effect.

Study of Faculty Who Have Left

Summary of Results

Assistant Professor Attrition (%) by Gender



Faculty Attrition: Gender Differences

Assistant Professors

Average difference = 3.85%

$t=4.63$, $p=0.019$ (significant)

Associate Professors

Average difference = 2.22%

$t=.48$, $p=0.66$ (NS)

Where did all the women go?

- In recent years, NDSU has hired a nearly-proportionate number of women.
- The number of women on the faculty is low and essentially unchanged over the past decade.
- The proportion of women awarded tenure at NDSU is comparable to that of men.

Faculty-who-left: Research Productivity by Gender

- Average research scores past 2 years
- $t = 0.40$ (NS)
- Men were higher

Faculty-who-left: Stress by Gender

	Women	Men
Stress w/ faculty meetings	3.67	2.73
Subtle discrimination stress	1.87	1.32
Mindset of some faculty	4.50	3.64

“I left because NDSU hired a male faculty member the year after I was hired into my department. He taught fewer courses, was paid a higher salary, and came into the contract without his Ph.D. in hand (as ABD). I had my doctorate, an excellent vita and recommendations, yet was paid significantly less and was led to believe that I had no choice in the teaching/advising load. When I inquired, I was treated with hostility. I felt I had no choice but to leave NDSU. My inquiry was shared in confidence with the Department chair. However, other senior members in the department began treating me with hostility shortly thereafter. (continued)



“Leaving NDSU was the best think I could have done for my professional career and personal health. At the same time, my NDSU experience taught me a lot...to be more aware of the systematic ways in which women can and are devalued. I am not so naive now.”



“I left in large part with growing dissatisfaction with work/family issues. Policies regarding maternity leave were completely different for each of my children. After realizing that NDSU would not support me while my newborn needed extensive hospital care after 5 years of very dedicated service, I completely lost all loyalty to NDSU and any desire to be there. (continued)



“Even after I opted for unpaid maternity leave, I was still expected to work 10 to 15 hours a week, with no compensation. With my first child, I worked 10 to 15 hours a week and received full pay.

“There are no policies to support work/family issues. They are completely up to the caprices of the department chair, dean, and VP.

“Years before, I never felt any kind of strain related to work/family issues, but toward the end I was made to feel uncomfortable for the time I was spending with my children even though it had no relation to my productivity.”



I would have stayed at NDSU if the leadership of the department would have changed. As it was, the quality of the work environment within the department was very poor. Faculty members (just about all of them) were devalued to such an extent that it became impossible for the department to function as a supportive workplace. It is a testament to the faculty's dedication to the students and the programs that the department has grown in the past few years. Somehow we were able to focus on doing a good job in the face of extreme personal/professional prejudice and manipulation. (continued)



“I still have nightmares about my time at NDSU (in reference to the department chair and some colleagues). I do miss many aspects of NDSU (students and colleagues).

My move here has not only enhanced my salary, but even with all the budget cuts, there is an open, inquiring, supportive, acceptance of diversity (make that embracement of diversity), attitude that speaks to my spirit and feeds my soul. I am in a better place.”



On Decision to Leave University

“Rate the influence that the level of communication had on your decision to leave NDSU.”

Women = 3.67

Men = 2.77

Faculty-who-left: Summary of Findings

Women reported higher stress re:

- Subtle discrimination

- Faculty meetings

- Mindset of department faculty

Women were also more likely to cite communication as affecting their decision to leave

Common Themes

Both present women and faculty-who-left women reported higher levels of stress in several areas, compared to men faculty

Common Themes

Both present and faculty-who-left men showed higher levels of research productivity compared to women, when traditional measures were used; differences were small in the 2-year comparisons, but were larger in the career-long measure.

For More Information

- NDSU WISMET Web Site
 - <http://ndsuadvance.ndsu.nodak.edu>
- Project PI
 - Kathleen.Slobin@ndsu.nodak.edu