2013 NDSU FORWARD Worklife Survey
Results of Tenured and Tenure-track Faculty
Comparisons of Women Faculty Based on STEM Status

Introduction

The faculty worklife survey is part of the Advance FORWARD project at NDSU. This survey collected data on a variety of topics important to faculty at NDSU, including the hiring process, the tenure process, professional activities, satisfaction with NDSU, programs and resources, and balancing personal and professional life. Survey data were collected October to December 2013 via an on-line survey with NDSU IRB approval. A total of 253 tenured and tenure-track faculty completed the survey, which represents a response rate of 47.6%. Of the 253 tenured and tenure-track faculty who responded to the survey, 107 (42.3%) identified as men and 99 (39.1%) identified as women. Of the 99 women, eight (8.1%) did not respond to the question about college/STEM status and are not included in further analyses. Therefore, the sample for this report is 91 tenure-track women faculty at NDSU, with 45 (49.5%) reporting being in a STEM college and 46 (50.5%) reporting being in a non-STEM college. When differences in responses based on STEM status were found to be statistically significant at the p = .05 level, they are marked with an asterisk (*) and at the p < .05 level, they are marked with a double asterisk (**).

Executive Summary

➢ STEM women faculty agreed significantly more than non-STEM women faculty that there are too few women in their department.

➢ STEM women faculty agreed significantly more than non-STEM women faculty that they received reduced responsibilities so they could build their research program and that they were told about assistance available to pre-tenure/promotion faculty.

➢ STEM women faculty reported spending a significantly greater amount of time on research than non-STEM women faculty.

➢ STEM women faculty reported spending significantly fewer hours attending committee meetings and doing work associated with committee assignments when compared to non-STEM women faculty.

Characteristics of Tenure/Tenure-Track Faculty in the Worklife Sample

• 75.6% of STEM women and 91.3% of non-STEM women faculty self-identified as "White, not of Hispanic origin" (83.5% overall).

• 71.1% of STEM women and 41.3% of non-STEM women faculty said they currently have children 18 years of age and under (56.0% overall).

• 2.2% of STEM women and 8.7% of non-STEM women faculty said they have cared for children in the past who are now over 18 years of age (5.5% overall).

• 15.6% of STEM women and 23.9% of non-STEM women faculty said they have provided care for an aging parent or relative (19.8% overall).

• 57.8% of STEM women and 52.2% of non-STEM women faculty reported being assistant professors (54.9% overall), while 28.9% of STEM women and 39.1% of non-STEM women faculty reported being associate professors (34.1% overall), and 13.3% of STEM women and 8.7% of non-STEM women faculty reported being full professors (11.0% overall).

• 33.3% of STEM women and 43.5% of non-STEM women faculty said they currently have tenure (38.5% overall, N=85).

• 6.7% of STEM women and 4.3% of non-STEM women faculty reported that they currently hold a full time administrative position (5.5% overall), while 4.4% of STEM women and 21.7% of non-STEM women faculty reported that they currently hold a part time administrative position (13.2% overall).

Climate for STEM and non-STEM Women Faculty
- Regarding statements about recruitment of, climate for, and leadership opportunities for women faculty in their primary department/unit, on a 4-point scale (1=disagree strongly, 4=agree strongly):
  - STEM women faculty agreed significantly more than non-STEM women faculty that there are too few women in their department (mean= for STEM 2.33, for non-STEM 1.78, overall 2.05**).

Hiring Process
- 24.4% of STEM faculty women and 21.7% of non-STEM women faculty reported that they were recruited to apply for a position at NDSU (23.1% overall).
- Faculty members were asked about factors that contributed to their considerations toward accepting or declining a position at NDSU.
  - The three most common factors that contributed to STEM women faculties' decision to accept a position at NDSU were:
    - Opportunities available for spouse/partner (33.3%)
    - Research opportunities (31.1%)
    - Climate of department/unit/lab (26.7%)
  - The three most common factors that caused STEM women faculty to hesitate about accepting a position at NDSU were:
    - Geographic location (40.0%)
    - Opportunities available for spouse/partner (26.7%)
    - Prestige of university (24.4%)
  - The three most common factors that contributed to non-STEM women faculties' decision to accept a position at NDSU were:
    - Teaching opportunities (34.8%)
    - Colleagues in department/unit/lab (34.8%)
    - Workload allocation (30.4%)
  - The three most common factors that caused non-STEM women faculty to hesitate about accepting a position at NDSU were:
    - Geographic location (50.0%)
    - Climate for women (32.6%)
    - Salary and benefits (23.9%)

Tenure Process
- Faculty were asked about their experience of the tenure process at NDSU and rated aspects of that process on a 4-point scale (1=disagree strongly, 4=agree strongly):
  - STEM women faculty agreed significantly more than non-STEM women faculty that they received reduced responsibilities so they could build their research program (mean= for STEM 2.85, for non-STEM 2.00, overall 2.41**).
  - STEM women faculty agreed significantly more than non-STEM women faculty that they were told about assistance available to pre-tenure/promotion faculty (mean= for STEM 3.27, for non-STEM 2.72, overall 2.99**).

Differences in responses based on gender statistically significant at p = .05 level, they are marked with an asterisk (*) and at the p < .05 level, they are marked with a double asterisk (**).

<u>Leadership</u>
- 37.8% of STEM women faculty and 34.8% of non-STEM women faculty indicated that they are interested in taking on a formal leadership position at NDSU (36.3% overall).
    - Among these interested respondents, 24.4% of STEM women faculty and 21.7% of non-STEM women faculty indicated that there are barriers preventing them from taking on such a position (23.1% overall).

<u>NDSU Programs and Resources</u>
- Faculty rated the value of programs on the NDSU campus on a 4-point scale (1=not at all valuable, 4=very valuable):
    - STEM women faculty agreed significantly more than non-STEM women faculty that the FORWARD Course Release Program (mean= for STEM 3.58, for non-STEM 3.20, overall 3.39*) and the FORWARD Leap Grant Program (mean= for STEM 3.53, for non-STEM 3.06, overall 3.29**) are valuable.
    - STEM women faculty agreed significantly more than non-STEM women faculty that the Women in Research (WIR) Program (mean= for STEM 3.24, for non-STEM 2.95, overall 3.09**) and the FORWARD Course Release Program (mean= for STEM 3.52, for non-STEM 3.18, overall 3.34**) have impacted their experience of the climate at NDSU.

<u>Professional Activities</u>
- Faculty members were asked about the proportion of work time they currently spend and would like to spend on specific work activities.
    - Research
        - STEM women faculty reported spending a significantly greater amount of time on research than non-STEM women faculty (mean= for STEM 32.04, for non-STEM 24.67, overall 28.32**).
        - STEM women faculty reported that they would <u>prefer</u> to spend a significantly greater amount of time on research than non-STEM women faculty (mean= for STEM 48.93, for non-STEM 36.41, overall 42.46**).
    - Teaching
        - STEM women faculty reported that they would <u>prefer</u> to spend significantly less time on teaching than non-STEM women faculty (mean= for STEM 25.10, for non-STEM 33.44, overall 29.37**).

<u>Committee Service</u>
- Regarding statements about serving on or chairing committees:
    - PTE
        - 20.0% of STEM women faculty and 37.0% of non-STEM women faculty ever served (28.6% overall).
        - 2.2% of STEM women faculty and 8.7% of non-STEM women faculty ever chaired (5.5% overall).
    - Faculty Search Committee
        - 24.4% of STEM women faculty and 84.8% of non-STEM women faculty ever served (79.1% overall).
        - 11.1% of STEM faculty and 41.3% of non-STEM faculty ever chaired (26.4% overall).
    - Curriculum (graduate or undergraduate)
        - 51.1% of STEM women faculty and 78.3% of non-STEM women faculty ever served (64.8% overall).

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- 6.7% of STEM women faculty and 37.0% of non-STEM women faculty ever chaired (22.0 % overall).
  - o Graduate Admissions
    - 35.6% of STEM women faculty and 58.7% of non-STEM women faculty ever served (47.3% overall).
    - 6.7% of STEM women faculty and 15.2% of non-STEM women faculty ever chaired (11.0% overall).
  - o Department Level Committees
    - On average, STEM women faculty serve on 2.32 committees and non-STEM women faculty serve on 2.91 committees (overall mean = 2.62).
    - On average, STEM women faculty chair 0.36 committees and non-STEM women faculty chair 0.55 committees (overall mean = 0.45).
  - o College Level Committees
    - On average, STEM women faculty serve on 0.67 committees and non-STEM women faculty serve on 1.07 committees (overall mean = 0.87).
    - On average, STEM women faculty chair 0.03 committees and non-STEM women faculty chair 0.32 committees (overall mean = 0.18**).
  - o University Level Committees
    - On average, STEM women faculty serve on 1.33 committees and non-STEM women faculty serve on 1.20 committees (overall mean = 1.26).
    - On average, STEM women faculty chair 3.24 committees and non-STEM women faculty chair 0.14 committees (overall mean = 1.75).
- Regarding hours spent attending committee meetings and doing work associated with committee assignments over the past 30 days, STEM women faculty reported working 13.12 hours when compared to non-STEM women faculty who worked 21.40 on average, which is a statistically significant difference (overall 17.36**).

Consider Leaving NDSU
- Faculty members were asked if they had ever considered leaving NDSU based on their work environment.
  - o 27 (60.0%) STEM women faculty and 33 (71.7%) non-STEM women faculty reported that they had considered leaving NDSU (65.9% overall), while 17 (37.8%) STEM women faculty and 12 (26.1%) non-STEM women faculty said that they had not (31.9% overall).
- Faculty members were asked about steps they had taken to leave NDSU:
  - o Thinking about leaving (37.8% of STEM women faculty, 54.3% of non-STEM women faculty, 46.2% overall).
  - o Searching for open positions (42.2% of STEM women faculty, 45.7% of non-STEM women faculty, 44.0% overall).
  - o Made inquiries about available positions (26.7% of STEM women faculty, 34.8% of non-STEM women faculty, 30.8% overall).
  - o Applying for a position (26.7% of STEM women faculty, 41.3% of non-STEM women faculty, 34.1% overall).
  - o Interviewed for a position (17.8% of STEM women faculty, 15.2% of non-STEM women faculty, 16.5% overall).
  - o Received an offer for a new position (17.8% of STEM women faculty, 13.0% of non-STEM women faculty, 15.4% overall).

Differences in responses based on gender statistically significant at p = .05 level, they are marked with an asterisk (*) and at the p < .05 level, they are marked with a double asterisk (**).

- Faculty members were asked about factors that contributed to consideration for leaving or staying at NDSU.
    - The three most common factors that contributed to STEM women faculty members' decision to <u>leave</u> NDSU were:
        - Lack of support for research (24.4%)
        - Climate of department/unit/lab (24.4%)
        - Salary and benefits (11.1%)
    - The three most common factors that contributed to STEM women faculty members' decision to <u>stay</u> at NDSU were:
        - Quality of the community (22.2%)
        - Colleagues in department/unit/lab (15.6%)
        - Work/life satisfaction (11.1%)
    - The three most common factors that contributed to non-STEM women faculty members' decision to <u>leave</u> NDSU were:
        - Climate of department/unit/lab (32.6%)
        - Lack of support for research (26.1%)
        - Climate for women (21.7%)
    - The three most common factors that contributed to non-STEM women faculty members' decision to <u>stay</u> at NDSU were:
        - Salary and benefits (23.9%)
        - Colleagues in department/unit/lab (19.6%)
        - Quality of the community (17.4%)

Differences in responses based on gender statistically significant at p = .05 level, they are marked with an asterisk (*) and at the p < .05 level, they are marked with a double asterisk (**).

Appendix A: Demographic Table

Characteristics	STEM Women		Non-STEM Women		Overall	
	n	%	n	%	n	%
Race						
Asian	7	15.6	1	2.2	8	8.8
Black/African American	1	2.2	-	-	1	1.1
Hispanic or Latino(a)	1	2.2	-	-	1	1.1
White	34	75.6	42	91.3	76	83.5
Parenting status						
Children under age 18	32	71.1	19	41.3	51	56.0
Children over age 18	1	2.2	4	8.7	5	5.5
No children	11	24.4	19	41.3	30	33.0
Provided eldercare						
Yes	7	15.6	11	23.9	18	19.8
No	38	84.4	35	76.1	73	80.2
Have tenure						
Yes	15	33.3	20	43.5	35	38.5
No	26	57.8	24	52.2	50	54.9
Rank						
Assistant	26	57.8	24	52.2	50	54.9
Associate	13	28.9	18	39.1	31	34.1
Full	6	13.3	4	8.7	10	11.0
Administrative Position						
Full-time	3	6.7	2	4.3	5	5.5
Part-time	2	4.4	10	21.7	12	13.2
None	38	84.4	34	73.9	72	79.1

Differences in responses based on gender statistically significant at $p = .05$ level, they are marked with an asterisk (*) and at the $p < .05$ level, they are marked with a double asterisk (**).

Appendix B: Item Analysis

Climate for Women Faculty
Regarding statements about recruitment of, climate for, and leadership opportunities for women faculty in their primary department/unit, on a 4-point scale (1=disagree strongly, 4=agree strongly):

Question	STEM	Non-STEM	Overall
There are too few women faculty in my department.	M = 2.33 SD = 1.21	M = 1.78 SD = 1.05	M = 2.05 SD = 1.16 Range = 1 to 4**
My department has identified ways to recruit women faculty.	M = 2.95 SD = 1.00	M = 2.53 SD = 0.92	M = 2.74 SD = 0.98 Range = 1 to 4
My department has actively recruited women faculty.	M = 3.03 SD = 1.03	M = 2.68 SD = 0.99	M = 2.85 SD = 1.02 Range = 1 to 4
The climate for women in my department is good.	M = 3.16 SD = 0.99	M = 2.93 SD = 1.03	M = 3.04 SD = 1.01 Range = 1 to 4
My department has identified ways to enhance the climate for women.	M = 2.70 SD = 1.20	M = 2.49 SD = 0.93	M = 2.59 SD = 1.06 Range = 1 to 4
My department has taken steps to enhance the climate for women.	M = 2.78 SD = 1.17	M = 2.35 SD = 0.89	M = 2.55 SD = 1.05 Range = 1 to 4
My department has too few women faculty in leadership positions.	M = 2.55 SD = 1.09	M = 2.22 SD = 1.19	M = 2.37 SD = 1.15 Range = 1 to 4
My department has identified ways to move women into leadership positions.	M = 2.67 SD = 1.16	M = 2.49 SD = 0.95	M = 2.57 SD = 1.05 Range = 1 to 4
My department has made an effort to promote women into leadership positions.	M = 2.82 SD = 1.06	M = 2.73 SD = 1.09	M = 2.77 SD = 1.07 Range = 1 to 4
My department has developed policies and procedures to support women faculty members.	M = 2.73 SD = 1.07	M = 2.69 SD = 1.09	M = 2.71 SD = 1.08 Range = 1 to 4
My department actively supports women faculty members.	M = 3.05 SD = 1.03	M = 2.89 SD = 1.08	M = 2.96 SD = 1.05 Range = 1 to 4

Regarding statements about interactions with colleagues and others in their primary department/unit on a 4-point scale (1=disagree strongly, 4=agree strongly):

Question	STEM	Non-STEM	Overall
I am treated with respect by colleagues.	M = 3.29 SD = 0.92	M = 3.24 SD = 0.82	M = 3.26 SD = 0.87 Range = 1 to 4
I am treated with respect by students.	M = 3.47 SD = 0.69	M = 3.46 SD = 0.69	M = 3.46 SD = 0.69 Range = 1 to 4
I am treated with respect by staff.	M = 3.78 SD = 0.60	M = 3.61 SD = 0.77	M = 3.69 SD = 0.69 Range = 1 to 4
I am treated with respect by my department chair/head.	M = 3.48 SD = 0.86	M = 3.43 SD = 0.89	M = 3.45 SD = 0.87 Range = 1 to 4
I am treated with respect by Dean.	M = 3.47 SD = 0.94	M = 3.67 SD = 0.64	M = 3.57 SD = 0.81 Range = 1 to 4
I feel excluded from the informal networks in my department.	M = 2.36 SD = 1.04	M = 2.26 SD = 1.06	M = 2.31 SD = 1.05 Range = 1 to 4
I encounter unwritten rules concerning how one is expected to interact with colleagues.	M = 2.39 SD = 0.99	M = 2.63 SD = 0.95	M = 2.51 SD = 0.97 Range = 1 to 4
Colleagues in my department solicit my opinion about work-related matters (e.g., teaching, research, and service).	M = 3.07 SD = 0.85	M = 3.02 SD = 0.80	M = 3.04 SD = 0.82 Range = 1 to 4

Differences in responses based on gender statistically significant at $p = .05$ level, they are marked with an asterisk (*) and at the $p < .05$ level, they are marked with a double asterisk (**).

	STEM	Non-STEM	Overall
In my department, I feel that my research is considered mainstream.	M = 2.67 SD = 1.09	M = 2.61 SD = 0.98	M = 2.64 SD = 1.03 Range = 1 to 4
I feel that my colleagues value my research.	M = 2.93 SD = 0.93	M = 2.76 SD = 0.85	M = 2.84 SD = .089 Range = 1 to 4

Regarding statements about their participation in the decision-making process in their primary department/unit on a 4-point scale (1=disagree strongly, 4=agree strongly):

Question	STEM	Non-STEM	Overall
I feel like a full and equal participant in problem-solving and decision-making.	M = 2.80 SD = 0.98	M = 2.87 SD = 0.98	M = 2.83 SD = 0.97 Range = 1 to 4
I have a voice in how resources are allocated.	M = 2.68 SD = 0.98	M = 2.57 SD = 1.05	M = 2.62 SD = 1.01 Range = 1 to 4
Department meetings allow for all faculty members to share their views.	M = 3.29 SD = 0.94	M = 2.93 SD = 1.00	M = 3.11 SD = 0.98 Range = 1 to 4
Committee assignments are rotated fairly to allow for the participation of all faculty.	M = 2.71 SD = 1.01	M = 2.65 SD = 0.92	M = 2.68 SD = 0.97 Range = 1 to 4
My department chair/head involves me in decision-making.	M = 3.00 SD = 0.96	M = 2.89 SD = 0.95	M = 2.94 SD = 0.95 Range = 1 to 4

Tenure Process
Faculty were asked about their experience of the tenure process at NDSU and rated aspects of that process on a 4-point scale (1=disagree strongly, 4=agree strongly):

Question	STEM	Non-STEM	Overall
I receive/d reduced responsibilities so that I could build my research program.	M = 2.85 SD = 1.05	M = 2.00 SD = 1.15	M = 2.41 SD = 1.18 Range = 1 to 4**
I was told about assistance available to pre-tenure/promotion faculty (e.g., workshops, mentoring).	M = 3.27 SD = 0.84	M = 2.72 SD = 1.01	M = 2.99 SD = 0.96 Range = 1 to 4**

NDSU Programs and Resources
Tenured or tenure-track faculty rated the value of programs on the NDSU campus on a 4-point scale (1=not at all valuable, 4=very valuable):

Program	STEM	Non-STEM	Overall
FORWARD Course Release Program	M = 3.58 SD = 0.73	M = 3.20 SD = 0.90	M = 3.39 SD = 0.84 Range = 1 to 4*
FORWARD Leap Grant Program	M = 3.53 SD = 0.83	M = 3.06 SD = 1.01	M = 3.29 SD = 0.95 Range = 1 to 4**

Tenured or tenure-track faculty reported how much the following programs have impacted their experience of the climate at NDSU on a 4-point scale (1=very negatively, 4=very positively):

Question	STEM	Non-STEM	Overall
Women in Research (WIR) Program	M = 3.24 SD = 0.50	M = 2.95 SD = 0.61	M = 3.09 SD = 0.57 Range = 1 to 4**
FORWARD Course Release Program	M = 3.52 SD = 0.62	M = 3.18 SD = 0.73	M = 3.34 SD = 0.70 Range = 1 to 4**

Differences in responses based on gender statistically significant at p = .05 level, they are marked with an asterisk (*) and at the p < .05 level, they are marked with a double asterisk (**).

Regarding statements about the resources available to them on a 4-point scale (1=disagree strongly, 4=agree strongly):

Question	STEM	Non-STEM	Overall
I receive enough internal funding to conduct my research.	M = 2.02 SD = 0.91	M = 2.17 SD = 0.85	M = 2.09 SD = 0.88 Range = 1 to 4
I have sufficient teaching support (including T.A.s).	M = 2.14 SD = 1.10	M = 2.43 SD = 0.93	M = 2.29 SD = 1.02 Range = 1 to 4
I receive regular maintenance/upgrades of my equipment.	M = 2.24 SD = 1.01	M = 2.56 SD = 1.03	M = 2.41 SD = 1.03 Range = 1 to 4

Professional Activities

Faculty members were asked about the proportion of work time they currently spend and would like to spend on specific work activities.

Question	STEM	Non-STEM	Overall
How much time do you currently spend doing research?	M = 32.04 SD = 18.96	M = 24.67 SD = 15.40	M = 28.32 SD = 17.55 Range = 0 to 80**
How much time would you prefer to spend doing research?	M = 48.93 SD = 21.06	M = 36.41 SD = 14.90	M = 42.46 SD = 19.09 Range = 0 to 90**
How much time do you currently spend teaching?	M = 33.17 SD = 20.16	M = 39.35 SD = 16.85	M = 36.30 SD = 18.72 Range = 0 to 85
How much time would you prefer to spend teaching?	M = 25.10 SD = 16.05	M = 33.44 SD = 12.15	M = 29.37 SD = 14.72 Range = 0 to 64**

Satisfaction with NDSU

Regarding statements about job satisfaction among tenured or tenure-track faculty on a 5-point scale (1=very dissatisfied, 5=very satisfied):

Question	STEM	Non-STEM	Overall
How satisfied are you with working in academia?	M = 4.20 SD = 0.92	M = 4.28 SD = 0.75	M = 4.24 SD = 0.84 Range = 1 to 5
How satisfied are you, in general, with your job at NDSU?	M = 3.93 SD = 1.01	M = 3.93 SD = 1.02	M = 3.93 SD = 1.01 Range = 1 to 5
How satisfied are you, in general, with the way your career has progressed at NDSU?	M = 4.04 SD = 1.04	M = 4.02 SD = 1.00	M = 4.03 SD = 1.02 Range = 1 to 5
How satisfied are you with your work environment at NDSU?	M = 3.67 SD = 1.11	M = 3.67 SD = 1.14	M = 3.67 SD = 1.12 Range = 1 to 5

Balancing Personal and Professional Life

Regarding statements about their primary department/unit's support of worklife balance on a 4-point scale (1=disagree strongly, 4=agree strongly):

Question	STEM	Non-STEM	Overall
Most faculty in my department are supportive of colleagues who want to balance their family and career lives.	M = 3.23 SD = 0.87	M = 3.31 SD = 0.90	M = 3.27 SD = 0.88 Range = 1 to 4
The department is supportive of family leave.	M = 3.33 SD = 0.85	M = 3.24 SD = 0.94	M = 3.29 SD = 0.89 Range = 1 to 4

Differences in responses based on gender statistically significant at p = .05 level, they are marked with an asterisk (*) and at the p < .05 level, they are marked with a double asterisk (**).

My department has supportive practices for faculty who have a new baby/child in the family.	M = 3.32 SD = 0.77	M = 3.16 SD = 1.00	M = 3.24 SD = 0.90 Range = 1 to 4
It is difficult for faculty in my department to adjust their work schedules to care for children or other family members.	M = 2.00 SD = 0.85	M = 1.93 SD = 0.93	M = 1.96 SD = 0.88 Range = 1 to 4

Differences in responses based on gender statistically significant at $p = .05$ level, they are marked with an asterisk (*) and at the $p < .05$ level, they are marked with a double asterisk (**).