
2013 NDSU FORWARD Worklife Survey
Results of Tenured and Tenure-track Faculty
Comparisons Based on Gender in STEM Disciplines

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 worklife balance. 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. Sixty-one (24.1%) individuals did not respond to the question about college/STEM status and are not included in further analyses. Therefore, the sample for this report is 115 tenure-track STEM faculty at NDSU, with 45 identifying as women and 70 identifying as men. When differences in responses based on gender 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 agreed significantly less than STEM men that they are full and equal participants in problem-solving and decision-making in their primary department/unit.
- STEM women agreed significantly more than STEM men that they received reduced responsibilities so they could build their research program and that they were informed about assistance available to pre-tenure/promotion faculty.
- STEM women agreed significantly more than STEM men that they receive enough internal funding to conduct research.
- STEM women and STEM men had similar opinions regarding their satisfaction with their job in general, the work environment at NDSU, and the way their careers have progressed at NDSU.
- STEM women agreed significantly more than STEM men that their department has supportive practices for faculty who have a new baby or child in the family.

Characteristics of Tenure/Tenure-Track STEM Faculty in the Worklife Sample (See Appendix A)

- 39.1% of STEM faculty identified as women and 60.9% identified as men.
- 75.6% of STEM women and 84.3% of STEM men self-identified as “White, not of Hispanic origin;” 80.9% overall.
- 24.4% of STEM women faculty and 27.1% of STEM men faculty said they were recruited to apply for a position at NDSU (26.1% overall).
- 57.8% of STEM women and 32.9% of STEM men faculty reported being assistant professors (42.6% overall), 28.9% of STEM women and 30.0% of STEM men faculty reported being associate professors (29.6% overall), and 13.3% of STEM women and 37.1% of STEM men faculty reported being full professors (27.8% overall).
- 33.3% of STEM women and 52.9% of STEM men faculty said they currently have tenure (45.2% overall).
- 6.7% of STEM women and 7.1% of STEM men faculty reported that they currently hold a full time administrative position (7.0% overall), while 4.4% of women and 14.3% of men faculty reported that they currently hold a part time administrative position (10.4% overall).
- 71.1% of STEM women and 60.0% of STEM men faculty said they currently have children 18 years of age and under (64.3% overall).

- 2.2% of women and 11.4% of men faculty said they have cared for children in the past who are now over 18 years of age (7.8% overall).
- 15.6% of STEM women and 24.3% of STEM men faculty said they have provided care for an aging parent or relative (20.9% overall).

Departmental Climate for Women Faculty

- 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):
 - STEM women agreed significantly less than STEM men that they are full and equal participants in problem-solving and decision-making in their primary department/unit (mean= for women 2.80, for men 3.22, overall 3.05**).

Hiring Process

- Faculty members were asked about factors that contributed to their consideration toward accepting or declining a position at NDSU.
 - The three most common factors that contributed to STEM women faculty members' 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 four most common factors that caused STEM women faculty members to hesitate about accepting a position at NDSU were:
 - Geographic location (40.0%)
 - Opportunities available for spouse/partner (26.7%)
 - Climate for women (22.2%)
 - Support for research (22.2%)
 - The four most common factors that contributed to STEM men faculty members' decision to accept a position at NDSU were:
 - Research opportunities (35.7%)
 - Colleagues in department/unit/lab (30.0%)
 - Climate of department/unit/lab (22.9%)
 - Geographic location (22.9%)
 - The four most common factors that caused STEM men faculty members to hesitate about accepting a position at NDSU were:
 - Geographic location (38.6%)
 - Salary and benefits (30.0%)
 - Prestige of university (22.9%)
 - Prestige of department/unit/lab (22.9%)

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 agreed significantly more than STEM men that they received reduced responsibilities so they could build their research program (mean= for women 2.85, for men 2.04, overall 2.38**).
 - STEM women agreed significantly more than STEM men that they were informed about assistance available to pre-tenure/promotion faculty (mean= for women 3.27, for men 2.56, overall 2.86**).

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 (**).

- 28.9% of STEM women faculty and 8.6% of STEM men faculty reported that they had extended their tenure clock (16.5% overall).

Leadership

- 37.8% of STEM women faculty and 41.4% of STEM men faculty indicated that they are interested in taking on a formal leadership position at NDSU (40.0% overall).
 - Among these interested respondents, 24.4% of STEM women faculty and 12.9% of STEM men faculty indicated that there are barriers preventing them from taking on such a position (17.4% overall).

NDSU Programs and Resources

- 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 agreed significantly more than STEM men that the Advance FORWARD Program (mean= for women 3.35, for men 2.92, overall 3.10**), the FORWARD Course Release Program (mean= for women 3.58, for men 3.13, overall 3.33**), the FORWARD Mentor Travel Grants Program (mean= for women 3.47, for men 2.89, overall 3.18**), and the Junior Faculty Mentoring Program (mean= for women 2.97, for men 2.43, overall 2.67**) are valuable.
- 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):
 - STEM women agreed significantly more than STEM men that the Women in Research (WIR) Program (mean= for women 3.24, for men 2.90, overall 3.09**), the Advance FORWARD Program (mean= for women 3.54, for men 3.12, overall 3.29**), the FORWARD Course Release Program (mean= for women 3.52, for men 3.07, overall 3.27**), the FORWARD Leap Grant Program (mean= for women 3.47, for men 3.10, overall 3.27**), the FORWARD Mentor Travel Grants Program (mean= for women 3.49, for men 2.90, overall 3.17**), and the FORWARD Leadership Development Grants Program (mean= for women 3.32, for men 2.95, overall 3.13**) positively impacted their experience of the climate at NDSU.
- Regarding statements about the resources available to them on a 4-point scale (1=disagree strongly, 4=agree strongly):
 - STEM women agreed significantly more than STEM men that they receive enough internal funding to conduct research (mean= for women 2.02, for men 1.60, overall 1.77**).

Committee Service

- Regarding statements about serving on or chairing committees:
 - PTE
 - 20.0% of STEM women faculty and 55.7% of STEM men faculty ever served (41.7% overall).
 - 2.2% of STEM women faculty and 28.6% of STEM men faculty ever chaired (18.3% overall).
 - Faculty Search Committee
 - 73.3% of STEM women faculty and 87.1% of STEM men faculty ever served (81.7% overall).
 - 11.1% of STEM women faculty and 50.0% of STEM men faculty ever chaired (34.8% overall).
 - Curriculum (graduate or undergraduate)

- 51.1% of STEM women faculty and 72.9% of STEM men faculty ever served (64.3% overall).
 - 6.7% of STEM women faculty and 28.6% of STEM men faculty ever chaired (20.0% overall).
 - Graduate Admissions
 - 35.6% of STEM women faculty and 50.0% of STEM men faculty ever served (44.3% overall).
 - 6.7% of STEM women faculty and 21.4% of STEM men faculty ever chaired (15.7% overall).
 - Department Level Committees
 - On average, STEM women faculty serve on 2.32 committees and STEM men faculty serve on 2.38 committees (overall mean = 2.36).
 - On average, STEM women faculty chair 0.36 committees and STEM men faculty chair 0.59 committees (overall mean = 0.50).
 - College Level Committees
 - On average, STEM women faculty serve on 0.67 committees and STEM men faculty serve on 0.89 committees (overall mean = 0.80).
 - On average, STEM women faculty chair 0.03 committees and STEM men faculty chair 0.11 committees (overall mean = 0.08).
 - University Level Committees
 - On average, STEM women faculty serve on 1.33 committees and STEM men faculty serve on 1.26 committees (overall mean = 1.29).
 - On average, STEM women faculty chair 3.24 committees and STEM men faculty chair 0.13 committees (overall mean = 1.38).
- Regarding hours spent attending committee meetings and doing work associated with committee assignments over the past 30 days, STEM women faculty reported working slightly less hours when compared to STEM men faculty (mean= for women 13.12, for men 13.65, overall 13.45).

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):
 - STEM women and STEM men had similar opinions regarding whether they are satisfied with their job in general at NDSU (mean= for women 3.93, for men 3.99, overall 3.97).
 - STEM women and STEM men had similar opinions regarding whether they are satisfied with the work environment at NDSU (mean= for women 3.67, for men 3.71, overall 3.69).
 - STEM women agreed slightly more than STEM men that they are satisfied with the way their careers have progressed at NDSU (mean= for women 4.04, for men 3.88, overall 3.95).

Consider Leaving NDSU

- Faculty members were asked if they had ever considered leaving NDSU based on their work environment.
 - 69 (60.0%) of the STEM faculty members reported that they had considered leaving NDSU and 45 (39.1%) said that they had not. Of the 69, 27 (60.0%) were women faculty and 42 (60.0%) were men faculty.
- STEM faculty members were asked about steps they had taken to leave NDSU:
 - Thinking about leaving (37.8% of women faculty, 42.9% of men faculty, 40.9% overall).
 - Searching for open positions (42.2% of women faculty, 48.6% of men faculty, 46.1% overall).
 - Made inquiries about available positions (26.7% of women faculty, 27.0% of men faculty, 30.0% 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 (**).

- Applying for a position (26.7% of women faculty, 28.6% of men faculty, 27.8% overall).
- Interviewed for a position (17.8% of women faculty, 17.1% of men faculty, 17.4% overall).
- Received an offer for a new position (17.8% of women faculty, 11.4% of men faculty, 13.9% overall).
- 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 leave NDSU were:
 - Climate of department/unit/lab (24.4%)
 - Lack of support for research (24.4%)
 - Climate for women (11.1%)
 - The three most common factors that contributed to STEM women faculty members' decision to stay 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 STEM men faculty members' decision to leave NDSU were:
 - Salary and benefits (21.4%)
 - Lack of support for research (17.1%)
 - Geographic location (17.1%)
 - The three most common factors that contributed to STEM men faculty members' decision to stay at NDSU were:
 - Colleagues in department/unit/lab (21.4%)
 - Quality of the community (20.0%)
 - Climate of department/unit/lab (17.1%)

Balancing Personal and Professional Life

- Regarding statements about their primary department/unit's support of work/life balance on a 4-point scale (1=disagree strongly, 4=agree strongly):
 - STEM women agreed significantly more than STEM men that their department has supportive practices for faculty who have a new baby or child in the family (mean= for women 3.32, for men 2.80, overall 3.00**).

Appendix A: Demographic Table

| Characteristics | STEM Women | | STEM Men | | Overall | |
|-------------------------------------|------------|----------|----------|----------|----------|----------|
| | <u>n</u> | <u>%</u> | <u>n</u> | <u>%</u> | <u>n</u> | <u>%</u> |
| Race | | | | | | |
| Asian | 7 | 15.6 | 8 | 11.4 | 15 | 13.0 |
| Black/African American | 1 | 2.2 | 2 | 2.9 | 3 | 2.6 |
| Hispanic or Latino(a) | 1 | 2.2 | 1 | 1.4 | 2 | 1.7 |
| White | 34 | 75.6 | 59 | 84.3 | 93 | 80.0 |
| Rank | | | | | | |
| Assistant | 26 | 57.8 | 23 | 32.9 | 49 | 42.6 |
| Associate | 13 | 28.9 | 21 | 30.0 | 34 | 29.6 |
| Full | 6 | 13.3 | 26 | 37.1 | 32 | 27.8 |
| Parenting status | | | | | | |
| Children under age 18 | 32 | 71.1 | 42 | 60.0 | 74 | 64.3 |
| Children over age 18 | 1 | 2.2 | 8 | 11.4 | 9 | 7.8 |
| No children | 11 | 24.4 | 11 | 15.7 | 22 | 19.1 |
| Provided eldercare | | | | | | |
| Yes | 7 | 15.6 | 17 | 24.3 | 24 | 20.9 |
| No | 38 | 84.4 | 51 | 72.9 | 89 | 77.4 |
| Recruited to NDSU | | | | | | |
| Yes | 11 | 24.4 | 19 | 27.1 | 30 | 26.1 |
| No | 33 | 73.3 | 51 | 72.9 | 84 | 73.0 |
| Administrative position | | | | | | |
| Full-time | 3 | 6.7 | 5 | 7.1 | 8 | 7.0 |
| Part-time | 2 | 4.4 | 10 | 14.3 | 12 | 10.4 |
| None | 38 | 84.4 | 54 | 77.1 | 92 | 80.0 |
| Interested in a leadership position | | | | | | |
| Yes | 17 | 37.8 | 29 | 41.4 | 46 | 40.0 |
| No | 27 | 60.0 | 40 | 57.1 | 67 | 58.3 |

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 Women | STEM Men | Overall |
|---|-----------------------|-----------------------|--------------------------------------|
| My department has taken steps to enhance the climate for women. | M = 2.78 SD = 1.17 | M = 2.91 SD = 0.92 | M = 2.86 SD = 1.02 Range = 1 to 4 |
| My department actively supports women faculty members. | M = 3.05 SD = 1.03 | M = 3.19 SD = 0.86 | M = 3.14 SD = 0.92 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 Women | STEM Men | Overall |
|--|-----------------------|-----------------------|--------------------------------------|
| I am treated with respect by dean. | M = 3.47 SD = 0.94 | M = 3.50 SD = 0.82 | M = 3.49 SD = 0.87 Range = 1 to 4 |
| I feel that my colleagues value my research. | M = 2.93 SD = 0.93 | M = 3.06 SD = 0.92 | M = 3.01 SD = 0.92 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 Women | STEM Men | Overall |
|---|-------------------------|-------------------------|--------------------------------------|
| I feel like a full and equal participant in problem-solving and decision-making. | M = 2.80** SD = 0.98 | M = 3.22** SD = 0.89 | M = 3.05 SD = 0.94 Range = 1 to 4 |
| Committee assignments are rotated fairly to allow for the participation of all faculty. | M = 2.71 SD = 1.01 | M = 3.01 SD = 0.91 | M = 2.89 SD = 0.96 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 Women | STEM Men | Overall |
|---|-------------------------|-------------------------|--------------------------------------|
| I am/was satisfied with the tenure/promotion process overall. | M = 3.00 SD = 0.78 | M = 3.15 SD = 0.78 | M = 3.09 SD = 0.78 Range = 1 to 4 |
| I receive/d reduced responsibilities so that I could build my research program. | M = 2.85** SD = 1.05 | M = 2.04** SD = 1.13 | M = 2.38 SD = 1.16 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 = 2.56** SD = 0.88 | M = 2.86 SD = 0.93 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 (**).

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 Women | STEM Men | Overall |
|----------------------------------|-------------------------|-------------------------|--------------------------------------|
| Advance FORWARD | M = 3.35** SD = 0.78 | M = 2.92** SD = 0.87 | M = 3.10 SD = 0.86 Range = 1 to 4 |
| FORWARD Course Release | M = 3.58** SD = 0.73 | M = 3.13** SD = 0.83 | M = 3.33 SD = 0.82 Range = 1 to 4 |
| FORWARD Mentor Travel Grants | M = 3.47** SD = 0.77 | M = 2.89** SD = 0.84 | M = 3.18 SD = 0.86 Range = 1 to 4 |
| Junior Faculty Mentoring Program | M = 2.97** SD = 1.12 | M = 2.43** SD = 0.84 | M = 2.67 SD = 1.01 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 Women | STEM Men | Overall |
|---------------------------------------|-------------------------|-------------------------|--------------------------------------|
| Women in Research (WIR) Program | M = 3.24** SD = 0.50 | M = 2.90** SD = 0.83 | M = 3.09 SD = 0.69 Range = 1 to 4 |
| Advance FORWARD | M = 3.54** SD = 0.60 | M = 3.12** SD = 0.82 | M = 3.29 SD = 0.76 Range = 1 to 4 |
| FORWARD Course Release | M = 3.52** SD = 0.62 | M = 3.07** SD = 0.82 | M = 3.27 SD = 0.76 Range = 1 to 4 |
| FORWARD Mentor Travel Grants | M = 3.49** SD = 0.56 | M = 2.90** SD = 0.80 | M = 3.17 SD = 0.76 Range = 1 to 4 |
| FORWARD Leadership Development Grants | M = 3.32** SD = 0.59 | M = 2.95** SD = 0.80 | M = 3.13 SD = 0.73 Range = 1 to 4 |

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

| Question | STEM Women | STEM Men | Overall |
|---|-------------------------|-------------------------|--------------------------------------|
| I receive enough internal funding to conduct my research. | M = 2.02** SD = 0.91 | M = 1.60** SD = 0.85 | M = 1.77 SD = 0.90 Range = 1 to 4 |
| I have colleagues or peers who give me career advice or guidance when they need it. | M = 3.09 SD = 0.91 | M = 2.77 SD = 1.00 | M = 2.90 SD = 0.98 Range = 1 to 4 |
| I have sufficient teaching support (including T.A.s). | M = 2.14 SD = 1.10 | M = 1.94 SD = 1.02 | M = 2.02 SD = 1.05 Range = 1 to 4 |

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 Women | STEM Men | Overall |
|---|-----------------------|-----------------------|--------------------------------------|
| How satisfied are you, in general, with your job at NDSU? | M = 3.93 SD = 1.01 | M = 3.99 SD = 1.04 | M = 3.97 SD = 1.03 Range = 1 to 5 |
| How satisfied are you with your work environment at NDSU? | M = 3.67 SD = 1.11 | M = 3.71 SD = 1.13 | M = 3.69 SD = 1.12 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 = 3.88 SD = 1.07 | M = 3.95 SD = 1.06 Range = 1 to 5 |

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 (**).

Balancing Personal and Professional Life

Regarding statements about balancing personal and professional lives, tenured and tenure-track faculty on a 4-point scale (1=disagree strongly, 4=agree strongly):

| Question | STEM Women | STEM Men | Overall |
|---|-----------------------|-----------------------|--------------------------------------|
| I am usually satisfied with the way in which I balance my professional and personal life. | M = 2.64 SD = 1.06 | M = 2.88 SD = 0.93 | M = 2.78 SD = 0.99 Range = 1 to 4 |
| I often have to forgo family or personal activities because of professional responsibilities. | M = 2.74 SD = 0.93 | M = 2.64 SD = 0.92 | M = 2.68 SD = 0.92 Range = 1 to 4 |
| Personal responsibilities and commitments have slowed down my career progression. | M = 2.50 SD = 1.04 | M = 2.21 SD = 1.00 | M = 2.32 SD = 1.02 Range = 1 to 4 |

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 Women | STEM Men | Overall |
|---|-------------------------|-------------------------|--------------------------------------|
| How beneficial is the recommended practice of not holding meetings before 8:30 or after 4:30? | M = 3.25 SD = 1.02 | M = 2.98 SD = 1.05 | M = 3.09 SD = 1.04 Range = 1 to 4 |
| 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 = 2.98 SD = 0.92 | M = 3.08 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 = 2.24 SD = 0.90 | M = 2.14 SD = 0.88 Range = 1 to 4 |
| My department has supportive practices for faculty who have a new baby/child in the family. | M = 3.32** SD = 0.77 | M = 2.80** SD = 0.95 | M = 3.00 SD = 0.92 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 (**).