

Prepared by Mindy Anderson-Knott, Trish
Wonch Hill, and Megumi Watanabe

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ADVANCE

Nebraska Internal Evaluation Summative Report



Survey, Statistics and Psychometrics Core Facility
University of Nebraska-Lincoln
107 Benton Hall
Lincoln, NE 68588-0640
(402) 472-7218

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Program Description

The National Science Foundation funded ADVANCE-Nebraska from September 2008 to August 2013 with a \$3.8 million grant. The grant aimed at 1) increasing the number of tenure-track and tenured Science, Technology, Engineering and Math (STEM) women faculty at the University of Nebraska-Lincoln (UNL), 2) increasing the retention of women STEM faculty at UNL and support their promotion into positions of leadership, and 3) conducting innovative research on network structures that best support the success of women STEM faculty.

When the grant was awarded, the PI was Dr. Barbara Couture, who was the Senior Vice Chancellor of Academic Affairs at the time. In 2009, Dr. Couture left UNL and Dr. Prem Paul, Vice Chancellor for Research and Economic Development, became the PI. Dr. Paul served as the PI while Dr. Ellen Weissinger served as interim Senior Vice Chancellor of Academic Affairs, but the role of PI was returned to the Office of the Senior Vice Chancellor of Academic Affairs (OSVCAA) in 2011 with the permanent hiring of Dr. Weissinger, who served as the PI for the remainder of the grant period. Dr. Mary Anne Holmes, Professor of Practice in Earth and Atmospheric Sciences, served as Project Director for the entire funding period.

Programming efforts identified 26 STEM departments to target, but rolled out efforts over time. ADVANCE-Nebraska targeted departments in the College of Arts and Sciences (A&S) and the College of Engineering (COE) during the first two years, and then added the Institute of Agriculture and Natural Resources (IANR) in year three. Programs and committee membership already included faculty from IANR, but their inclusion in 2011 provided resources for the dual career program to IANR as well as more targeted efforts in recruitment and best practices. While the original number of targeted departments was 26, the departments of Mechanical Engineering and Engineering Mechanics merged, and Industrial Management phased out during the funding period. Thus, at the end of ADVANCE-Nebraska, there were a total of 24 STEM departments, seven in A&S, eight in the COE and nine in the IANR.

Purpose of Evaluation

ADVANCE-Nebraska utilized both an internal and external evaluation approach to fully assess the impact of its efforts. Nancy Busch and Mindy Anderson-Knott led the internal evaluation, with Trish Wonch Hill added as a postdoctoral researcher in year 4. The evaluation team worked in coordination with ADVANCE-Nebraska leadership through monthly meetings occurring during the duration of the grant, which provided frequent interaction to provide formative feedback guiding future programming. This collaborative model was also exercised with the external evaluator, Dr. Ann E. Austin, Professor of Higher, Adult, and Lifelong Education at Michigan State University. Dr. Austin visited UNL several times during the funding period to meet with the evaluation team, ADVANCE-Nebraska leadership, and other various leaders across campus to provide formative insight. In addition, she visited in March 2013 for a summative program evaluation, where she met with ADVANCE-Nebraska leaders, UNL administrators, the ADVANCE faculty committee, dual career supported faculty, and STEM women faculty.

ADVANCE-Nebraska leadership and the evaluation team (internal and external) worked in tandem to create a theory of change and a logic model to summarize the mechanisms for change intended to lead to the intended outcomes (Appendix A). The internal evaluation team designed numerous studies to provide

formative feedback to guide programming, as well as to measure the impact on the stated aims and the intended outcomes defined in the logic model:

1. Increase the percent of STEM women in UNL tenure, tenure-track applicant pools to match or exceed that of the national PhD pool
2. Increase the percent of STEM women hired in tenure, tenure-track positions at UNL to match or exceed that of the national level
3. Ensure no gender difference in proportion of exiting faculty
4. Increase the number of UNL STEM women promoted in rank
5. Increase the number of UNL STEM women in leadership positions
6. Increase scientific knowledge of network connections in STEM departments

Evaluation Methods

Over the course of the five years, the ADVANCE-Nebraska evaluation team collected both quantitative and qualitative data by conducting interviews, focus groups, and surveys, as well as analyzed institutional data. Evaluation data was typically collected from a census of all STEM faculty; therefore, in most cases, significance testing was not utilized. The following describes the specific methods employed.

Search Chair Focus Groups

To discover similarities and differences in how faculty searches were conducted and to ascertain if there was room for changes that could enhance hiring more women, the evaluation team worked with the Bureau of Sociological Research (BOSR) to conduct focus groups with UNL search committee chairs from the 2008-09 academic year. Of 51 faculty members who served as search chairs through February 2009, 12 participated in three focus groups conducted by BOSR personnel in April 2009. Across the three focus groups was representation from STEM and non-STEM men and women who had served as search chairs.

Search Surveys

To measure change in faculty search practices, search committee chairs and department chairs were surveyed both cross-sectionally and longitudinally over the five years of the grant. The survey asked about types of recruitment activities used in searches, as well as perceptions of the applicant pools. Chairs were first surveyed as part of pre- and post-event analysis for the 'Recruit and Retain Series' during the fall of 2009 (13 STEM faculty participated, primarily department chairs). In the spring of 2010, current searches were identified and corresponding search chairs and department chairs were administered a mail survey, of which 5 department chairs (45% response rate) and 16 search committee chairs (70% response rate) completed the survey. During the final year of ADVANCE-Nebraska, the evaluation team conducted two more surveys of department chairs and search committee chairs with active searches (one in the fall and one in the spring). In October 2012, 17 department chairs (71% response rate) and 6 search chairs (50% response rate) completed the fall survey. These same respondents, as well as any new search chairs added after October 2012, were sent another survey in April 2013. The spring survey yielded surveys from 18 search chairs (60% response rate) and 14 department chairs (54% response rate). The purpose of the longitudinal design was to assess changes in attitudes, beliefs or behaviors in recruitment strategies between previous searches and the search conducted in 2012-2013. Approximately 50% of those who participated in 2012 also completed the survey in 2013.

Institutional Records and CIC Peer Comparison

Institutional records were obtained from the UNL Office of Institutional Research and Planning (IRP) to measure change in the representation of women in STEM departments. In addition to providing the gender

composition of faculty in STEM departments, the IRP office provided demographic and salary information to assist the evaluation in a salary study and providing sampling frames for other data collection efforts. In addition to obtaining institutional data from IRP, UNL's Office of Human Resources provided the number of self-reported male and female applicants for all tenure-track STEM faculty positions. Applicant pool data were obtained beginning in 2005 (when this data was first tracked in the existing PeopleAdmin system), and were continued until 2013. The OSVCAA and IANR also provided information on tenure and promotion decisions.

Additionally, the IRP office provided data from peers that belong to the Committee on Institutional Cooperation (CIC). CIC peer comparison data, representing institutions in the Big Ten, was gathered beginning in year 4 in response to requests from STEM department chairs for peer comparison data. Because some departments do not match across institutions, while others overlap with multiple departments, peer departments were classified through an iterative process via UNL administrators and through feedback from department chairs to ensure accurate comparisons. The proportion of tenured and tenure-track women faculty in each peer department were calculated, and then averaged with peer departments across all five institutions, or for as many CIC institutions with peer departments available.¹

Involvement Matrix

Over the course of the five years of ADVANCE-Nebraska, data was collected on faculty involvement in all ADVANCE-Nebraska events, leadership roles (PI's and Co-PI's, Internal Advisory Board and Faculty Committee) and utilization of ADVANCE resources (Showcase Visitors, Recruitment Ambassadors, Dual Career). Data were collected at the individual level and then aggregated to the department level. Departmental level involvement was then calculated by averaging individual participation by department and by calculating the proportion of a departments' faculty participating.

Dual Career

The ADVANCE-Nebraska project coordinator tracked the process and implementation of the dual career program, including detailed records of contacts made with potential dual career hires. This information was used by the evaluation team to measure how frequently the program was used and how many hires were made as a result. In addition, general attitudes toward and use of the dual career program were collected in the Search Surveys and Climate Surveys.

Network and Climate Survey

To assess changes in perceptions of climate over time, STEM faculty were administered a survey at three time points. The Climate Survey was fielded in tandem with the Network Survey in the spring semesters of 2008, 2011, and 2013. A variety of questions were asked to create indices for family supportiveness in the

¹ The five institutions in this analysis are: University of Minnesota, Michigan State University, University of Illinois–UC, University of Indiana – Bloomington, and University of Iowa. Institutions were excluded from analysis if they did not have consistent institutional data available for both time, or if they were a private institution. Finally, some institutions did not have comparable peer departments in all five institutions; nine of the 24 STEM departments had peer departments in all five institutions, five had peer departments in four institutions (Chemical & Biomolecular Engineering, Civil Engineering, Computer & Electronics Engineering, Mechanical and Materials Engineering & Biological Systems Engineering), four had peer departments in three institutions (Agronomy & Horticulture, Animal Science, Food Science & Technology & Veterinary and Biomedical Sciences) and three had peer departments in only two institutions (Computer & Electronics Engineering, Entomology & Plant Pathology). In addition, three UNL departments have no identified comparable departments in these peer institutions (Architectural Engineering, Construction Systems & Construction Management), thus comparisons are not provided.

department, work satisfaction, and clarity of tenure and promotion process, as well as other individual measures to assess perceptions of climate. In 2008 the BOSR administered a pilot survey (the Survey on Promoting Success among Faculty) to all faculty in STEM departments at UNL, with resulted in completed surveys from 272 faculty (60% response rate). The Faculty Network and Workload Study (FNWS), conducted by the BOSR in March 2011, added a comparison group of non-STEM faculty. Faculty with a tenure-line in 26 STEM and 16 Social and Behavioral Sciences departments were asked to participate in the survey, which attained a 75% individual level response rate (559 faculty participated). The survey utilized a mixed mode survey design, where faculty could complete the survey on the web or on paper via mail. In the spring of 2013, the second wave of the FNWS was administered using methods similar to that of the 2011 administration, which resulted in a 63% response rate (479 faculty participated).

Associate and Full Professor Interviews

Dr. Dana Britton, Professor of Sociology at Kansas State University, included UNL in her NSF-ADVANCE-PAID grant (“PROMOTE – Improving the promotion to full processes at Western public universities”, Award #: HRD-0820273) to interview faculty nationwide on the process of promotion to full professor. Interviews were conducted in Spring 2010 by Dr. Britton with 14 UNL associate and full professors (8 women and 6 men) about their tenure and promotion experiences and their satisfaction with their academic career at UNL.

Exit Surveys

Rice University conducted a nationwide exit survey that included tenure and tenure-track faculty who voluntarily left UNL between 2003 and 2008. In the spring of 2009, 40 former UNL faculty completed the survey (32% response rate). Of the 40 respondents, 17 were women, 22 were men, and one respondent did not indicate his/her gender. In addition to participating in the Rice project, the ADVANCE-Nebraska evaluation team conducted a mail exit survey of all tenure and tenure-track faculty that left UNL between July 2008 and April 2009, and their corresponding department chairs. In total, 55% of former faculty members (11 out of 20) and 90% of department chairs (18 out of 20) completed a survey. Of the former faculty that responded, most were men (8), and only two were from STEM departments (both were male).

New Hire Interviews

Twenty-seven new UNL hires were interviewed by telephone in the spring and fall of 2010 about the job search and hiring process. Spring interviews were conducted only with STEM dual career hires (N=3), while fall interviews were conducted with all STEM new hires (N=24). Of the 27 respondents, 6 were dual career hires. The response rate for both male (N=18) and female (N=9) respondents was 90%.

Senior Women Focus Groups

In the fall of 2012, the ADVANCE-Nebraska evaluation team conducted three focus groups with UNL STEM associate and full professor women, in response to findings from the 2011 climate survey that showed different patterns in department and institution satisfaction by rank and gender. Each focus group included 6-8 women, with a total of 21 women participating. A broad range of questions were asked, including questions about the tenure and promotion process, job satisfaction, retention, and the impact of spousal employment. Faculty were also asked to discuss policies they thought would be useful in recruiting and retaining tenure-track STEM women faculty at UNL.

Programmatic Activity/Outputs

Recruitment

A number of activities were employed at UNL aimed at improving recruitment efforts to increase the number of STEM faculty at UNL during the five years of ADVANCE-Nebraska funding. These activities included a variety of preplanned efforts that were consistent throughout the grant, as well as some programs that were eliminated due to lack of interest, and some new efforts that were created in response to needs identified during the course of the grant. The following outlines each recruitment-focused activity and its outputs.

Showcase Visitors

Showcase Visits were intended for departments to bring in potential job applicants for faculty positions in STEM departments. Five Showcase Visits were funded by ADVANCE-Nebraska over the first four years of the grant, requested by the following departments: Chemistry (hosted 3 visitors), Biological Systems Engineering, and School of Biological Sciences. While the visitors were on campus, they typically gave a presentation and met with faculty, post-docs, graduate students, and others. As this program was under-prescribed by departments, it was discontinued in year five and funds were redeployed to the dual career program.

Department Diversity Grants

The goal of this program was to provide funds to departments to try innovative ideas to increase the number of women in applicant pools. Department diversity grants were advertised through the ADVANCE-Nebraska website, promotional materials, and in the Department and Search Committee visits. No applications were submitted for these grants over the life of the grant. Funds were redistributed to pay for the focus group study of search committee chairs and the dual career program.

Recruitment Ambassadors

Recruitment Ambassadors were envisioned to help improve recruitment of women to applicant pools by supporting faculty to attend conferences in order to talk to promising women graduate students and post-docs to encourage them to consider UNL as a place to work. While no applications were submitted during the first two years of the grant, seven recruitment ambassadors were funded in years 3-4 of the grant from the following departments: Earth & Atmospheric Sciences (1), Civil Engineering (5), and Biological Systems Engineering (1). As this program was under-prescribed by departments, it was discontinued in year five and funds were devoted to the dual career program.

Search Committee Visits

Search Committee visits were first conducted in the fall of 2010 to disseminate the Recruit Committee's Best Practices for Recruitment document, data on the applicant pool in that discipline, sample letters to potential applicants inviting them to apply to UNL, and to listen to concerns and offer help. Project Director Mary Anne Holmes, Associate Vice Chancellor for Faculty Scholarship Evelyn Jacobson, and/or Associate Vice Chancellor for IANR and Interim Dean of the Agricultural Research Division Susan Fritz met with 9 search committees, which covered all 15 STEM searches for 2010-11 plus one non-STEM search (requested by the chair). Most meetings included the department chair and/or the search committee chair, with one meeting including the interim dean regarding their dual career and search situation. In addition, two search committee chair visits were conducted during fall 2011 with Mathematics and IANR.

Recruitment-Focused Events

Eight events focused on recruitment were held over the five years of the ADVANCE-Nebraska grant period. The events were: 1) Implicit Bias (11/19/2009), 2) Best Practices for recruiting a Diverse Faculty (9/29/10), 3) Pitfalls and Promise of Candidate Evaluation (10/15/10), 4) On-campus Interviews (10/20/10), 5) Interrupting Bias in the Faculty Search Process (9/16/11), 6) Recruitment Strategies/Best Practices (10/11/12), 7) Search Committee Best Practices (3/14/13), and 8) COE Best Practices (3/15/13). Detailed information about each event, as well as formative participant feedback, is provided in Appendix B.

An average of 23 people attended each event, and of those, approximately 10 were tenured and tenure-track faculty in STEM departments, while the rest were non-tenure track faculty and/or non-STEM, including postdocs, graduate and undergraduate students and lecturers. Overall, 20% of all STEM women faculty and 8% of STEM men faculty attended at least one of these eight recruitment events across the five years. While the representation of STEM women at these events was fairly low, they were not the target audience for these events, which were typically targeted toward department leaders involved in recruitment of new faculty. **Overall, most (19 of 24) of the targeted STEM departments had representation at these events**, with only 5 departments (Architectural Engineering, Chemical and Biomeolecular Engineering, Construction Systems, Construction Management and Plant Pathology) not attending any recruitment-focused events. Of the 24 STEM departments, ten had over 10% of their department attend at least one event. The three departments with the highest proportion of attendants were Chemistry (26%), Biochemistry (25%) and Mathematics (21%).

Participant feedback suggests that material covered at the events was useful. The means in Table 1 show there was little variation between events, with all events showing strong agreement (1=strongly disagree to 5=strongly agree).

Table 1. Mean Agreement among Recruitment-Focused Event Participants

	The material covered in this workshop was useful for me.
Best Practices for Recruiting a Diverse Faculty, DiRusso 9/29/10 (n=9)	4.6
Pitfalls and Promise of Candidate Evaluation, Joyce Yen 10/15/2010 (n=13)	4.5
On-campus Interviews 10/20/10 (n=12)	4.5
Interrupting Bias in the Faculty Search Process 9/16/11 (n=15)	4.7
Recruitment Strategies/Best Practices 10/11/12 (n=21)	4.2
Search Committee Best Practices 3/14/13 (n=12)	4.4

Note: Implicit Bias and COE Best Practices events not included due to small n's

New Wording on Faculty Job Advertisements

In September 2008, new wording was added to all faculty job advertisements to announce that UNL is now an ADVANCE institution: "The University of Nebraska has an active National Science Foundation ADVANCE gender equity program, and is committed to a pluralistic campus community through affirmative action, equal opportunity, work-life balance, and dual careers." This addition to job advertisements helped raise awareness on and off campus of the existence and intent of the project.

HERC Explorations

HERC is a Higher Education Recruitment Consortium that allows academic dual career couples to find positions in the same geographic area. ADVANCE-Nebraska provided support for the exploratory stages of establishing a HERC in year one. Communication with other academic institutions in the region began to discuss methods to address the mutual challenges of dual career opportunities, but sufficient interest was not sustained to continue HERC efforts.

Meetings with Short List Candidates

In year three, Dr. Holmes met with several short-list candidates to discuss the ADVANCE program and UNL family leave/tenure interruption policies in an effort to increase feelings of comfort in understanding and asking for tenure interruptions. The Chemistry department requested Holmes to meet with two women candidates; an offer went to both women, but unfortunately, they took offers elsewhere. Holmes also met with two of six short-list candidates for two tenure-track Science Education positions. Of these two, one received and accepted an offer in the Chemistry department. In addition, Holmes met with seven candidates for two positions in Earth & Atmospheric Sciences.

Retention

To address ADVANCE-Nebraska's aim of improving the retention of STEM women at UNL and supporting their promotion into positions of leadership, numerous retention-focused professional development events were hosted to increase the likelihood of success for STEM women. In addition to sponsoring events, the ADVANCE-Nebraska office created and disseminated various materials in an effort to retain STEM women at UNL. The following outlines each recruitment-focused activity and its outputs.

Retention-Focused Events

Twenty-nine events focused on retention were held over the five years of the grant. Detailed information about each event is provided in Appendix B. Feedback from the events was overwhelmingly positive; over 93% of participants either agreed or strongly agreed that the content would help their careers, while over 95% said it was useful and valuable.

An average of 31 people attended each retention-focused event and of those, approximately 14 were tenured and tenure-track faculty in STEM departments, while the rest were non-tenure track faculty and/or non-STEM. The smallest number of attendees at a retention-focused event was 15 (Conversation Series 3/31/11) and the largest was 61 (Vidaver 12/08). Overall, approximately 24% of all STEM tenured and tenure-track faculty at UNL attended at least one of these 29 retention-focused events. STEM faculty, especially women, were most often the targeted audience for these events. **Attendance from STEM women was strong with 62% of all UNL STEM women faculty attending at least one event.**

Additionally, 18% of STEM men faculty were represented at a retention-focused event across the five years. Attendance showed that often there were multiple members within a department attending events, and that it was not just one champion attending. Of the 24 STEM departments, half (12) had over 25% of their tenured and tenure track faculty attend at least one of the retention-focused events. Participation in A&S was strongest, with Chemistry (46%) and Statistics (47%) leading in the proportion of participating faculty, but the departments with the highest rates outside of that college were Biochemistry (35%) in IANR and Civil Engineering (33%) in COE.

Table 2 shows the mean perception of the usefulness of the material covered at each event (1=strongly disagree to 5=strongly agree). Overall, all events showed general agreement that the material was useful, with the three COACh events being reported as most useful (\bar{x} =4.9 in 2009 and 2010, \bar{x} =4.8 in 2011).

Table 2. Mean Agreement among Retention-Focused Event Participants

	The material covered in this workshop was useful for me.
COACh 3/2/09 (n=15)	4.9
Walking the Career-Family Tightrope, Espy 3/12/09 (n=31)	4.5
No daughter of mine is going to Caltech, Schellman 4/29/09 (n=26)	4.2
Meeting With a Purpose, Bonnie Coffey, 8/28/09 (n=23)	4.7
The Seven Career Life: A Geological Perspective, Grew 9/16/09 (n=38)	4.2
Connecting at Conventions, Bonnie Coffey 1/22/10 (n=17)	4.4
The Importance of Determining What's Important, Judy Walker 2/11/10 (n=19)	4.4
Perceptions of Climate, Falci and McQuillan 2/22/10 (n=21)	3.9
Climate Part II, McQuillan 4/19/10 (n=5)	4.2
How Useless Information is Always Useful, Someday, Allison McKay 4/22/10 (n=18)	4.3
COACh 2010 (n=27)	4.9
Starting Up and Managing a Research Lab 9/22/10 (n=21)	4.4
Nominating Colleagues for National Awards 11/17/10 (n=12)	4.4
Sustaining a Consistent Stream of Research Publications 12/8/10 (n=23)	4.5
Teaching to Attract and Retain STEM Majors 1/13/11 (n=21)	4.5
Teaching Challenges and Solutions 1/26/11 (n=14)	4.8
Opportunities to Become a Campus Leader 2/10/11 (n=12)	4.4
COACh 2011 (n=20)	4.8
Now I Have Tenure, What Next? 3/31/11 (n=10)	4.3
Conversations 2.0 9/8/11 (n=20)	4.3
Don't Ask, Don't Get 1/20/12 (n=29)	4.7
Sorcinelli 3/7/12 (n=15)	4.5
How to Set up and Manage a Lab/Roadmap to Success 9/19/12 (n=14)	4.4
Dr. Wu 10/19/12 (n=22)	4.3
Highlights from the 2011 FNWS 11/2/12 (n=29)	4.3
Research-Based Practices for Evaluating and Retaining New STEM Faculty, Helen Moore 1/23/13 (n=28)	4.5
Rockquemore- Writing Your Next Chapter: Midcareer 5/7/13 (n=25)	4.4
Rockquemore- Getting What You Need: Junior Faculty 5/7/13	4.8

Note: Vidaver event not included due to measurement differences.

Writing Retreats

Five ADVANCE-Nebraska Writing Retreats were held from 2009-2013. The structure of the retreat varied slightly over time, but was consistently held during the summer over the course of a week at a university library. Participants were provided lunches and refreshments, and were encouraged to attend full days the entire week. All retreats included some formal training/coaching on writing skills, as well as substantial portions of time for unstructured writing time. Attendance increased over time, with only 9 people attending the first retreat in August 2009, and 24 attending the last retreat in May 2013 (the highest attendance was 37 at the May 2012 writing retreat). Table 3 shows the means by year for reports of usefulness of the material covered (1=strongly disagree to 5=strongly agree). Participants mostly agreed that the material was useful, with strongest agreement in year one (\bar{x} =4.7) and the least agreement in year two (\bar{x} =3.8). In addition, data was available in the first two years showing perceptions of value for time spent networking, which showed that participants agreed more than disagreed that it was valuable (\bar{x} =4.3 in year one, and \bar{x} =3.5 in year two).

Table 3. Mean Agreement among Writing Retreat Participants

	The material covered in this workshop was useful for me.	Time spent networking with colleagues during this workshop was valuable.
Y1 Writing Retreat 2009 (N=7)	4.7	4.3
Y2 Writing Retreat 2010 (N=12)	3.8	3.5
Y3 Writing Retreat 2011 (N=3)	3.7	
Y4 Writing Retreat 2012 (N=21)	4.2	
Y5 Writing Retreat 2013 (N=12)	4.6	

Big Ten Writing Retreat

In June 2012, UNL hosted an additional writing retreat for STEM faculty funded by the Elsevier Foundation New Scholars Program. Twenty-one faculty members from five Big Ten (CIC) institutions (including UNL) and five additional institutions attended (8 of the attendees were UNL faculty). Faculty who attended were from all ranks and included a broad range of STEM fields. One of the innovative aspects of this retreat was collaboration with Lincoln Children's Museum, which allowed STEM faculty to bring their children for a science themed day camp during the retreat (childcare for younger children was also provided). In total, twelve children participated, with a broad age range spanning from two months to nine years old.

Enews

A bi-monthly newsletter, ADVANCE-Nebraska E-news, was started in September 2008 for all STEM faculty and staff. The newsletter posted new announcements, programs, and relevant articles for all faculty in STEM. At least a dozen different people on campus, and about half a dozen off campus, provided articles that were featured. E-News was originally released one-two times per month, but increased to a weekly distribution, and was also published on the ADVANCE-Nebraska website. Several on-campus and off-campus people and organizations were part of the listserv and served as liaisons with various constituencies on and off campus. Events that would be of mutual interest, particularly professional development opportunities, were communicated via E-News. By the end of the funding period, the ADVANCE-Nebraska Listserv receiving the weekly E-News included 530 members composed of UNL, University of Nebraska-Omaha, University of Nebraska Medical Center and University of Nebraska-Kearney STEM faculty and administrators.

ADVANCE-Nebraska Website

The University Libraries provided technical and staff support to host the ADVANCE-Nebraska website. The website went live on October 1, 2008 at advance.unl.edu. The website served several important functions including serving as a communication tool, a record of project activities and accomplishments, and link to related resources. The website averaged about 58 visits per week, with an average of four minutes per visit. Forty percent of visits were direct traffic visitors, 38% were from referring sites, and 22% were from search engines. Monthly website meetings were held to review content and functionality.

Dissemination of UNL Work-Life Balance Policies

Over the grant period, the ADVANCE-Nebraska office educated faculty from STEM and non-STEM departments about UNL's work-life balance policies and how to implement them. During the first year of the grant, ADVANCE-Nebraska worked with the Office of the Senior Vice Chancellor for Academic Affairs (OSVCAA) to more clearly communicate existing work-life balance policies. The clarified policies were posted on the UNL Office of Academic Affairs Work-Life Balance Policies and Resources web page (formerly "Family-Friendly Policies and Resources") at http://www.unl.edu/svcaa/faculty/policies/work_life_balance.shtml. A link to the policies was also posted on the ADVANCE-Nebraska website. In 2009 a tri-color brochure of the policies from this website (http://www.unl.edu/svcaa/faculty/policies/work_life_integration.shtml) was created and copies were printed. Brochures were distributed at most ADVANCE-Nebraska events, at the New Faculty Orientation provided by Academic Affairs at the beginning of the year, at Department and Search Committee visits, to the Chancellor's Commission on the Status of Women, and to short-list candidates.

New STEM Women Faculty Gatherings

In year two, an informal get-together was held for new women STEM hires immediately following their Academic Affairs-hosted orientation session. They were provided with the Work-Life Integration brochure and ADVANCE-Nebraska contact and program information. In year four, a breakfast was held for all six new STEM women faculty who joined UNL that fall. Co-PIs Julia McQuillan and Mary Anne Holmes, along with the external evaluator, Ann Austin, who was visiting at the time, met with the faculty to welcome them to campus and town and to tell them about ADVANCE-Nebraska. They were provided with information on Lincoln, Work-Life Balance policies at UNL, and the ADVANCE program. Several recent hires from the previous two years also attended to share their experiences as new faculty on the UNL campus.

Informal Networking Opportunities

Two informal networking gatherings were held in 2010-2011. The first was a reception for all UNL STEM women faculty, held in November 2010 in Morrill Hall on the UNL city campus. Dr. Prem Paul, PI at the time, opened the reception with welcoming remarks. Thirty-five people attended, representing faculty from each of the target colleges. It was an opportunity for STEM women faculty to meet the ADVANCE co-PIs, and also to interact with one another in an informal social setting for professional networking and collaboration. The second event was held April 2011 for women full professors in STEM disciplines. The luncheon, attended by 15 women (only 4 were invited that did not attend), was suggested and hosted by members of the ADVANCE Faculty Committee, and was meant as a first step in fostering an on-going collegial community among senior STEM women at UNL.

Recruitment and Retention

In addition to efforts focused solely on recruitment or retention, ADVANCE-Nebraska pursued several other efforts designed to address both recruitment and retention. The following outlines these efforts.

Dual Career

Dr. Holmes, Dr. Jacobson, and Assistant to the Chancellor for Equity, Access and Diversity (EAD), Linda Crump, developed procedures for potential dual career tenure-track hires. These procedures were vetted with the deans of A&S and COE. The procedure included sending a letter explaining the dual career program and a copy of UNL's work-family integration policies brochure to short-listed applicants for every faculty position. The letter explains that if the candidate receives an offer and has a partner, either of whom (candidate or partner) can help to increase the number of women faculty in UNL STEM departments, the candidate should contact the ADVANCE-Nebraska office. In academic year 2012-2013, the procedures were modified based on feedback from search committee and department chairs to include a contact to all search committee chairs within twenty-four hours of receiving the approved short list from EAD. In addition, a copy of the materials sent to candidates is also forwarded to search committee chairs.

Funds from the Cooperative Agreement were used to pay one-fourth of the partner's salary for the first three years (bridge funding). The Academic Affairs office funded an additional one-fourth of the partner's salary for the first three years. It should be noted that when the three-year bridge funding for the partner has expired, permanent funding (or the usual term contracts leading to tenure) is in place. That is, the department and college have worked out a consistent funding stream for whatever term usually applies to the position at the time that the first contract is made. ADVANCE-Nebraska assisted where possible to place STEM women in tenure-track positions. If the initial hire was a woman applying for a tenure-track STEM position, then there was flexibility with finding an academic or professional position on campus for her partner. The establishment of a central office to communicate among the constituents for dual career hires greatly facilitated hires at UNL.

Faculty committee

The RECRUIT-Nebraska and PROMOTE-Nebraska Committees were formed in the fall of 2008 to 1) collect and disseminate data on the sizes of applicant pools for faculty positions, the responsibility of the Recruit-Nebraska Committee, and 2) collect and disseminate data on the impact of implicit bias on evaluations at all levels in academia, from evaluating faculty applicants to evaluating promotion and tenure files, the responsibility of the Promote-Nebraska Committee. Twelve tenured faculty were invited to serve on these committees (6 faculty on each committee), selected from nominations by STEM department chairs, the Faculty Senate, the Deans of the colleges that house the target STEM departments, and the co-PI team. Professor Concetta DiRusso of the Nutrition and Biochemistry Departments and Professor Brian Robertson of Mechanical Engineering were selected to serve as the chairs of the Recruit-Nebraska and Promote-Nebraska committees. In the spring of 2011, the RECRUIT and PROMOTE committees merged and formed one committee called the ADVANCE Faculty Committee. The committee contained two subcommittees that focused in different, but complementary ways on the critical areas of recruiting, retaining, and promoting an excellent, diverse faculty at UNL. They met regularly (via e-mail, Blackboard, and in face-to-face meetings) during the grant period. Over the course of the project, 18 STEM departments were represented with faculty on the committees.

The Advance Faculty Committee had representation on the ADVANCE Internal Advisory Board (IAB) and participated in several ADVANCE-Nebraska events. In 2009, a two page "Best Practices for Recruitment to UNL" document was created and distributed to all search committee chairs in the fall of 2010. The Office of

Equity, Access and Diversity institutionalized the distribution process of the document by sharing with all new search chairs. During the spring of 2012, the committee created a more in-depth "Best Practices for Faculty Recruitment, Development and Retention, a Guide for Colleges and Departments at UNL" document, as well as shorter two-page documents focused on 1) The Faculty Search Process, 2) Accommodating Work-Life Balance, 3) Annual Evaluation of Faculty, 4) Leadership, Team Development, Collegiality and Community, 5) Recognize and Minimize the Effects of Implicit Bias, and 6) Faculty Retention, Promotion and Tenure.

The documents were disseminated to key stakeholders on campus, including the ADVANCE-Nebraska IAB and through meetings with each of the three vice chancellors, Ellen Weissinger (Senior Vice Chancellor of Academic Affairs and PI of ADVANCE-Nebraska), Ronnie Green (IANR), and Prem Paul (Research and Economic Development). Following approval from the OSVCAA, the documents were forwarded to the president of the UNL Faculty Senate and posted on the ADVANCE-Nebraska website. In addition, the documents were forwarded to the UNL Chancellor's Commission on the Status of Women and to the system-wide Gender Equity Committee (Dr. Holmes is a member of this committee). This committee advises the University of Nebraska (UN) system president, Dr. James Milliken, on gender equity issues; thus the documents are available to the other three campuses in the UN system as well.

Chancellor's Award

UNL Chancellor Harvey Perlman provided an annual \$1,000 award to the department that creatively advanced the objectives of the ADVANCE initiative. The award was first given in 2011, once there was sufficient data to evaluate records. A committee was formed to select a STEM department to receive the Chancellor's Award that included deans, directors, and former chairs. Recipients of the award included: Electrical Engineering (2011), School of Biological Sciences (2012), and Mathematics (2013). **In 2013, Senior Vice Chancellor of Academic Affairs Ellen Weissinger (PI) and Chancellor Harvey Perlman announced that the award will continue and should be considered institutionalized.**

Recruit and Retention Chair Workshop Series

In fall 2009, the OSVCAA launched a campus-wide "Best Practices to Recruit and Retain a Diverse Faculty" Initiative. ADVANCE-Nebraska held a special three-part "Recruitment and Retention" workshop series for department chairs, heads and directors, and other administrators to assist with this initiative. Excluding ADVANCE-Nebraska project staff, a total of 92 people attended at least one of the workshops (56 attended the first, 67 attended the second, and 44 attended the third). Of those, 51% attended two or more. Attendees were primarily of higher ranks (most were department chairs/heads, administrators or full professors). Over half of the targeted STEM departments were represented as participants at the workshops.

A substantial amount of material was covered across the three workshops. Evaluation data were presented, including results from the search committee chair focus groups and the UNL climate and network surveys. The climate data were presented to demonstrate what aspects of UNL and Lincoln are most appreciated by faculty; information that could be used to "sell" UNL and Lincoln to faculty recruits. The Recruit Committee presented data on women in STEM, and the Promote Committee presented data on implicit bias and its impact. Evaluation rubrics were distributed for search committees to improve their ability to evaluate applicants consistently. Evelyn Jacobson explained Work-Life Integration (Balance) policies at UNL, which was followed with a discussion about how these contribute to a supportive atmosphere on campus and should be discussed with all short-list candidates. In addition, external presenters also participated in the series. A member of the Lincoln Chamber of Commerce presented on where job growth in Lincoln is occurring and what amenities the town offers. The Cornell Interactive

Theatre Ensemble presented a video to demonstrate the impact of implicit bias. Finally, the last workshop was focused on a presentation by Cathy Trower of the Collaboration COACHE, “Regenerating the Faculty Workforce”, a discussion on the differing expectations of the workforce depending upon when faculty entered it.

Table 4 shows the mean scores for various items addressing the usefulness of the recruit and retain workshops (1=strongly disagree to 5=strongly agree). The items asking about the usefulness of UNL data (comparing to national data and reviewing search focus group data) were consistently perceived as valuable for the September 17th (\bar{x} =4.20, 4.50 respectively) and October 6th (\bar{x} =4.56, 4.40 respectively) workshops. The Nov 3rd workshop received less agreement (\bar{x} =3.71, 3.30 respectively) on this item, which may be a reflection of the structure of that event which was solely an external speaker discussing national trends. Interestingly, the September 17th workshop presented the network data, but showed the lowest levels of agreement with perceptions that departments should do more to foster faculty connections (\bar{x} =3.90 on 10/17, 4.19 on 10/6, and \bar{x} =4.06 on 11/3). While most participants agreed more than disagreed that their department needs procedures for reducing implicit bias, there was not strong consistent support across all workshops (\bar{x} =4.30 on 9/17, 3.75 on 10/6, and \bar{x} =3.36 on 11/3). Respondents clearly felt that a workshop structure with information from several sources presented was preferable over receiving the information through reading, with means from all workshops showing disagreement with reading preferences (\bar{x} =2.50, 2.24, 2.65) and strong agreement with the usefulness of learning from several sources at one workshop (\bar{x} =4.30, 4.63, 4.00).

Table 4. Mean Agreement among Retention-Focused Event Participants

	Sept. 17th Workshop (N=10)	Oct. 6th Workshop (N=17)	Nov. 3rd Workshop (N=18)
Comparing UNL data to national PhD data is useful	4.20	4.56	3.71
The search focus group data provided valuable information for searching	4.50	4.40	3.30
Our department should do more to foster social and research connections among faculty	3.90	4.19	4.06
My department needs procedures to reducing implicit bias when faculty review applicant files	4.30	3.75	3.36
I would prefer to read about research on faculty recruitment and retention rather than attend workshops	2.50	2.24	2.65
It is useful to learn information from several sources in one workshop	4.30	4.63	4.00

Chair/Head Data Discussions

Three Data Discussion events for department chairs/heads were held over the last three years of the grant. Eighteen people attended the first data discussion (2011), twenty-one attended the second (2012) and thirty-five attended the last discussion (2013). Twenty of the targeted departments had a representative at the discussions. The presentations were lead by Trish Wonch Hill, ADVANCE-Nebraska’s Postdoctoral Research Associate, Julia McQuillan (Co-I) and Evaluation Lead Researcher, Mindy Anderson-Knott.

Chairs and Heads in the target departments were provided with departmental data sheets (modeled after Utah State’s ADVANCE program) prepared for their department by the ADVANCE-Nebraska evaluation team. These sheets provided recent data on the gender composition of their faculty and in faculty applicant pools, both prior to and during the ADVANCE grant period (2005-2008 and 2009-current year) to show trends over time. The data sheets also included comparison data from CIC peers and national rates of PhDs.

In addition to receiving data regarding their individual department, they were also provided data sheets for STEM departments at the college and university level (Appendix C shows the 2013 college and university level data sheets). Chairs and Heads compared their department data to that of similar departments at UNL, within the CIC, and to national data on doctoral degrees granted by field to generate college-based discussions on each department’s greatest strengths in recruiting and retaining excellent, diverse faculty. Participants also shared their best practices to create a positive departmental climate. At the third annual department data breakfast, Chancellor Perlman also presented the Chancellor’s annual STEM award for a department that has creatively furthered the objectives of the ADVANCE initiative.

Table 5 shows the means for perceptions of usefulness of the material covered (1=strongly disagree to 5=strongly agree), which shows that participants agreed that the material presented at all breakfasts was useful.

Table 5. Mean Agreement among Department Chair Data Breakfast Participants

	The material covered in this workshop was useful for me.
Year 3: Department Chair Data Breakfast 1/21/11 (N=9)	4.4
Year 4: Department Chair Data Breakfast 1/20/12 (N=11)	4.6
Year 5: Department Chair Data Breakfast 2/1/13 (N=9)	4.2

Respondents were also asked to describe what they found most valuable from attending the event. The most common answers from the first data breakfast (in year 3) were learning about the trends in various disciplines, and understanding the complexities of collecting and interpreting data to determine trends across departments and colleges. Most often mentioned in year 4 was the data comparison between departments and with CIC peers. And in year 5, attendees most valued the departmental and university statistics, information about job satisfaction, and issues with dual spouse hiring. Participants were also asked in years 4 and 5 how they planned to share what they learned with colleagues. The most common answers were that they would share the information at a faculty meeting and discuss it with search committee chairs, department chairs and faculty. Participants at all Chair/Head Data Discussion events were asked what topics they would like to have addressed in future ADVANCE-Nebraska events. The most common answers were: strategies to increase women in the applicant pool, the gap between PhD students and faculty job applicants, retention of women faculty, mentoring needs of female vs. male faculty, and implicit bias.

Department visits

Department visits were added in year three in response to the addition of 9 target departments in IANR. In fall 2010 and spring 2011, Mary Anne Holmes, Evelyn Jacobson, and/or Susan Fritz visited with departments at departmental faculty meetings to disseminate information about ADVANCE-Nebraska. Department visits were not limited to only the additional departments in IANR, but included a variety of

departments deemed in need of information. The departments that were visited included: School of Biological Sciences, Electrical Engineering, Veterinary Medicine & Biomedical Sciences, School of Natural Resources, the Durham School (which comprises the departments of Architectural Engineering, Construction Management, and Construction Engineering), and Computer and Electronics Engineering.

Deans and Chairs/Heads Luncheon

UNL's external evaluator, Ann Austin, gave a luncheon talk to fifteen STEM deans and chairs/heads entitled "Fostering Supportive and Productive Academic Workplaces for a Diverse Faculty: Strategies for Change and Success". This lunch seminar was an opportunity for STEM chairs/heads and faculty members to consider strategic approaches to organizational change and the nurturing of organizational environments supportive of a diverse faculty. Drawing on research on academic work and workplaces, as well as an NSF-ADVANCE-funded study of 19 universities that have had National Science Foundation ADVANCE Institutional Transformation awards, the seminar highlighted an overall framework for creating environments that encourage faculty productivity, satisfaction, and morale. Dr. Austin focused particularly on the role of departmental leaders in creating contexts that are conducive to the success of all faculty members.

Network Research

Network analysis was used to advance basic understanding of the organizational structures influencing promotion and retention of women in STEM departments. BOSR administered surveys in 2008, 2011, and 2013 to all faculty in the targeted STEM departments at UNL. The survey measured five network ties among faculty: research collaborations, membership on departmental service committees, membership on graduate student committees, informal mentoring, and personal connections. The survey also asked questions about faculty productivity, such as publications and grants, and teaching and service responsibilities of faculty. Dr. Christina Falci lead the network research, in collaboration with Megumi Watanabe (graduate student), Dr.'s McQuillan and Holmes (co-PI's), and Dr. Trish Wonch Hill (postdoctoral researcher).

Administrative Activities

Internal Advisory Board

An Internal Advisory Board (IAB) was created at the origination of ADVANCE-Nebraska. In total, 14 people served on the IAB during the funding period from 7 of the 24 targeted departments. The board met several times each year to review progress and provide insight for ADVANCE-Nebraska leadership.

External Advisory Board Visit

ADVANCE-Nebraska also formed an External Advisory Board (EAB) to provide insight from national leaders outside of UNL. In addition to providing guidance through multiple interactions via phone and Skype, the EAB visited UNL April 5-6, 2010. These dates coincided with UNL's annual Research Fair, an annual 4-day (April 5-8) campus-wide celebration of research, creativity, and scholarship. The external Advisory Board submitted a written report based on their 2-day visit that was used to focus future programming.

Mid Year Retreat

A retreat was held in January 2010 for all people working on ADVANCE-Nebraska to assess the program at the mid-point. Participants included members of the Recruit and Promote Committees, the Internal Advisory Board, the Evaluation Team, the Office of Research and Economic Development leaders, and the

co-PIs. The retreat was designed so that all participants could gain an over-arching view of the program's goal and the activities we engage in to achieve those goals. All constituents provided brief presentations or handouts on what they do and what they are responsible for. They each received summary information on the data that the evaluation team collected to inform a discussion on what is working and what is not working. The retreat concluded with a discussion of what a "transformed" UNL would look like and what was needed to institutionalize what is working.

Formative Evaluation Findings

A number of evaluation activities were conducted to provide formative feedback to guide the program. At all events (recruitment- and retention-focused), participants were asked to describe what topics they would like to have addressed in future events. Common answers provided by participants at 5 or more different events include: career development (development for beginning career faculty, expanding into non-academia work world, how to make career changes), negotiation skills (during job interviews, after hired, negotiating with powerful supervisor), mentoring (how to mentor graduate students and junior faculty, how to seek mentors, female mentorship in male-dominated departments, how to mentor scientists not going into academia), facilitating collaborations (how to improve quality of collaborations, cross-disciplinary collaborations, promoting cross-gender collaboration), writing skills, work-life balance, time management, networking (how to network), and the job search process (how to find and apply for academic jobs, interviewing). Some of these recommendations were provided in early years of the grant and were later offered by ADVANCE-Nebraska in response to these requests. These suggested topics are included in this report to provide guidance for the selection of topics for future professional development events at UNL.

Search Chair Focus Groups

In an effort to guide ADVANCE-Nebraska efforts, focus groups were conducted with search chairs to provide more detail on the search process for STEM faculty searches. Focus groups with search chairs revealed the substantial variation in how faculty search are conducted. The actual procedures used for each step of the search committee process vary from one department to another. Moreover, many departments perceive faculty searches as an ongoing process. They spend considerable time thinking out and writing up strategic plans that include plans for the next several hires. While some departments scout for potential colleagues at professional conferences, others were uncertain of the ability to discuss new positions before being approved.

Three phases were identified as part of the search process. The first phase of a search is active recruitment of people to the applicant pool. Simply sending out an ad is not sufficient for attracting a broad and deep pool. Many faculty commented that "the personal touch is the most effective [for recruiting]". The second phase is discriminatory: selecting from the pool those candidates that fit the image of the new hire. Departments vary on this phase, but some departments use a rubric to judge each applicant on the identified criteria. The third phase of the search, the interview, is a return to active recruitment, selling the candidate on the department and on UNL. "While they are here, we try to sell them as hard as we can." In addition to on-campus interviews, some departments also utilize pre-interview screening by telephone or at professional meetings. The process of selecting the final candidate also varies by department. In some departments, the search committee meets to discuss the candidate after each interview and meets again after all of the interviews are done. In other departments, there is only one meeting after all of the interviews are complete. Furthermore, in some departments the entire faculty meets, while in others only the search committee meets.

Senior STEM Women Focus Groups

Overall, the perspectives described by associate and full professor STEM women in focus groups helped the ADVANCE-Nebraska evaluation and leadership team to understand better the results of the 2011 climate survey. The ADVANCE-Nebraska Project Director, Dr. Holmes, used the findings from the focus group report to generate a list of recommendations, which were shared with OSVCAA and IANR administration (Appendix D).

Participants reflected both positive and negative experiences, with some reporting a seamless promotion and tenure process, while others recalled elements of the process that were overwhelming and challenging. Most notable were challenges associated with consistency, clarity, transparency, rigid expectations, and inclusion of personal information in the process. Furthermore, among associate professors, these challenges raised questions on the benefits of seeking promotion to full professor. Changes in job satisfaction after promotion were complex. Reasons for increased job satisfaction were a sense of job security, a stronger voice in the department, enjoyment of work, and the perception that work was valued in their department. Service was often recalled as a source of stress that reduced job satisfaction because it is perceived as undervalued and an unfair burden on women. Job satisfaction was also decreased due to a shrinking support system and a growing sense of isolation as women rise in rank. The effects of social interactions were discussed as participants felt that this affected women differently than men.

Several participants were part of a dual career couple, where the general consensus was satisfaction when a tenure-track position was accommodated, and frustration when it was not. A successful dual career placement led many to feel a sense of loyalty to UNL, they felt it unlikely they would find an opportunity to find a similar arrangement elsewhere. In contrast, a less successful partner hire made some more likely to consider leaving. Many participants had experienced a time when they considered leaving UNL, but stayed for a variety of reasons including family, quality of life in Lincoln, and aspects associated with UNL such as loyalty/commitment to colleagues and students.

Finally, focus group participants recommended various policies and practices that could improve faculty life. With regard to the review process, many expressed a need for transparency, valuation of service, equity, clarity and standardization (specifically the use of metrics) within and across departments at UNL. Some suggested leadership role rotation to reduce burden and provide opportunity. Additionally, general faculty equity was discussed; both in terms of the evaluation process, as well as workload and scheduling.

Exit Surveys

The following summarizes findings from a 2009 report issued by researchers at Rice University (Mikki Hebl, Katharine Bachman, & Larry Martinez), as well as findings from a subsequent exit survey administered by the UNL evaluation team.

Rice University (UNL sample)

Of the 40 UNL faculty who responded to the nationwide exit survey conducted by Rice University, 86% were tenured when they departed. Most faculty who left UNL (93%) had an outside job offer in hand when they left the university and more than half (53%) who had an offer in hand had not solicited this offer. The majority (71%) of those with a job offer in hand reported that this unsolicited offer was not the event that first made them think of leaving UNL. When asked what type of organization they moved to, most former faculty members of UNL left for a similar institution (47%), while 25% said they left UNL for a more research-oriented faculty position and 17% left for a more teaching-oriented faculty position. On average,

the new salaries reported were higher than their UNL salaries; however, for most employees (59%), this was not the main factor in their decision. UNL did not make a retention offer to the majority of these departing employees; specifically, only 39% of employees indicated that UNL attempted to retain them.

Six themes arose from qualitative responses explaining why participants left UNL. The most common reason was dissatisfaction with management issues, usually at the university level (there was no gender difference). Recruitment was also a common reason, with men being more likely to report this. Other common reasons included family reasons, such as childcare or eldercare (women were more likely to report this reason) and spousal employment situation. Quantitative measures asking about reasons showed that three respondents indicated their reason for departure was mostly related to race, while six respondents indicated that their departure was at least somewhat related to gender. No notable differences were found between men and women with respect to event-related gender issues, gender discrimination, personal issues, or climate measures. However, male former faculty reported more job embeddedness, higher satisfaction with the campus community, and slightly more satisfaction with the appreciation they received than women. In contrast, women reported higher satisfaction with colleagues outside of their department.

Overall, it appears that the most common reasons for both male and female former faculty members to leave are 1) perceiving mismanagement in the leadership at UNL and 2) being recruited by another institution. On average, former faculty members tend to feel at least somewhat satisfied with UNL, somewhat embedded in the culture of UNL, and mostly comfortable with the UNL climate (average scores were above 'somewhat' on our scale). The results suggest that women's experiences at UNL are not much different than men's; particularly with respect to perceived discrimination, perceived harassment, and organizational climate. Although the results we obtained center mostly on a perceived lack of communication and input for faculty members in the decisions of the university, we must emphasize that the results should be interpreted with caution since the sample size for this research was relatively small.

UNL Exit Survey

In the subsequent exit survey administered by the evaluation team, all 11 respondents reported leaving UNL voluntarily and described their post-UNL employment situation as a new academic position. Eight reported actively looking for another position while at UNL, with the remaining 3 reporting that they followed up on unsolicited contacts. Participants reported that geographic location and the opportunity to focus more on a specialty area were most important to exiting UNL. The only gender difference among reasons for leaving was that men were more likely to leave for opportunities to collaborate, while women were more likely to leave for professional development opportunities. In addition to factors that attract faculty away, the survey asked about factors that could push faculty towards leaving. The responses indicated that faculty found departmental leadership and department problems (such as tension, lack of friendliness or collegiality) to be the most influential UNL factors in their decision to leave. When asked about personal factor that influenced their decision to leave, the most influential factor was that a spouse or partner was not able to find a suitable job in the area. There were no gender differences in these push factors.

In addition to surveying former faculty, their former department chairs also provided insight. Most chairs indicated that they wanted to keep the person at UNL. Chairs were specifically asked to describe what had been done to encourage the faculty member to stay at UNL. Most often they reported that nothing was done, but some chairs reported that a counter offer was either suggested or offered (only two former faculty reported actually receiving a counter offer). Additional efforts included: colleagues urged person to stay,

dean sent emails, they were given flexibility to conduct research, teaching and service in their areas of interest, apportionment was negotiated, an arrangement to allow them to teach for another college for a semester was investigated, early promotion was given, a change in appointment was made, the salary of an outside offer was matched, a retention package was offered, and “everything possible” was done. When former faculty members were asked what could have been done that would have helped them stay at UNL, the most often cited response was to help their partner obtain a job. Other efforts that former faculty felt would have helped them stay included: receiving a counter offer, getting new department leadership, and hiring at least 2 minority faculty at one time (so that minority faculty don’t feel so isolated).

Involvement

Individual involvement in ADVANCE-Nebraska varied greatly among men and women STEM tenured and tenure-track faculty over the course of the five years of the grant. Table 6 shows the average number of all ADVANCE-Nebraska events attended for men and women, chairs/heads, and members of ADVANCE-Nebraska leadership groups, as well as the numbers broken down by whether they attended events focused on recruitment, retention, data breakfasts, writing retreats, or the recruit/retain series. The N’s for men and women represent all faculty in the 24 targeted STEM departments who were tenured and tenure-track at any time between 2008 and 2013. Similarly, the N’s for the other columns also represents faculty who served in those roles as some point during the funding period.² The number of total events in each category is listed by the event name. The means in the table represent the average number of attendances for each group, while the max represented the most attendances by any one person in the group.

Table 6. Average Number of ADVANCE-Nebraska Events Attended by Gender and Leadership

	STEM Men (N=536)		STEM Women (N=100)		Chairs/Heads (N=48)		Internal Advisory Board (N=14)		Faculty Committee (N=18)	
	Mean	Max	Mean	Max	Mean	Max	Mean	Max	Mean	Max
All Events (47 events)*	0.59	12	2.64	16	2.92	12	5.57	10	5.78	13
Recruitment Events (7 events)*	0.09	4	0.25	4	0.46	4	0.86	4	1.28	4
Retention Events (29 events)	0.3	9	1.98	15	1.1	7	3.14	7	3.11	9
Writing Retreats (5 events)	0.02	2	0.22	3	0.05	1	0.14	1	0.11	1
Data Breakfast - Chairs and Heads (3 events)	0.08	3	0.06	2	0.71	3	0.71	2	0.28	3
Recruit/Retain Series (3 events)	0.08	3	0.12	3	0.54	3	0.57	3	0.89	3

*COE Best Practices Event attendance unavailable at time of analysis

² A department members chair/head status may have changed over the course of the five years of ADVANCE, thus for the 24 departments, 48 chairs/heads were actually identified as serving in that role at some point. It is possible that for any given event, the faculty member may have not been a chair at the time of the event; however, their leadership role in the department, and involvement in ADVANCE-Nebraska is important whether their involvement occurred prior, during, or after serving as chair/head.

Looking at all 47 events, of the 536 STEM men faculty at UNL, the average attendance per male faculty was .59 events (less than 1), while one male STEM faculty attended as many as 12 ADVANCE events. **Women had dramatically higher attendance, with the average STEM female faculty member attending 2.64 events over the 5 years.** This pattern held up for all of the different types of ADVANCE-Nebraska events, excluding events targeting chairs, which is likely a reflection of the overwhelming majority of STEM chairs and heads being men (92% of chairs/heads were men during the grant period).

With the exception of writing retreats (which is an expected exception), **STEM chairs and heads were very involved in ADVANCE-Nebraska events.** On average, each department chair/head attended nearly three ADVANCE-Nebraska events (average was 2.92 across all events). Among the events targeting chairs/heads, attendance was especially strong. The average STEM chair attended .71 of the 3 data breakfasts and .54 of the 3 recruit/retain series events. Members of the IAB and of the Faculty Committee were also highly involved in ADVANCE-Nebraska events; the 14 IAB members averaged 5.57 events and the 18 Faculty Committee Members averaged 5.78 events.

College Level Involvement

Individual involvement data were aggregated by department and reported at the college level (department level involvement is reported in the following section). Colleges at UNL are an important unit of analysis due to the lapsed roll out of ADVANCE-Nebraska programs (IANR), and because there are different levels of buy-in, awareness, and involvement at administrative levels, in leadership rolls, and among faculty by college. The first two rows of Table 7 show demographic characteristics of the three colleges with STEM departments at UNL (the N's show the number of departments per college as departments are the unit of analysis). When looking at the sizes of departments, Table 7 shows that IANR had the largest departments (averaging 31.44 tenured/tenure-track faculty per department), while the COE had the smallest, averaging 17.71). The proportion of STEM tenured and tenure-track women faculty also varied by college; A&S, on average, had the highest proportion of STEM women faculty (.20) while the COE had the smallest (.09).

Department involvement was calculated by summing all attendances for each department member in the 24 STEM departments, and then calculating the average number of attendances divided by the total number of faculty in a department, which controls for department size. This was calculated for all tenured and tenure-track faculty across each department, as well for STEM women faculty, STEM men faculty and STEM chairs/heads in each department.

Departments in A&S showed the most involvement across all ADVANCE-Nebraska events, with each department in that college averaging 1.33 attendances per faculty member across all seven departments, with one department averaging 2 attendances per faculty member. The COE departments were the least involved, averaging .45 attendances per faculty across all departments, with the most involved department averaging .86 attendance per faculty. The same trend generally held for the different groups within departments (men, women, and chairs/heads), and across different types of events. The main exceptions were chair involvement in recruitment events, which were most often attended by chairs/heads in IANR (.07), and writing retreat attendance, which was most often attended by faculty in A&S and COE (.07).

Table 7. Average Number of ADVANCE-Nebraska Events Attended by College, Gender and Leadership

	A&S (N=7)		COE (N=8)		IANR (N=9)	
	Mean	Max	Mean	Max	Mean	Max
Department Demographics						
Total Department Members	28.38	44.00	17.71	42.00	31.44	63.00
Proportion of Women Faculty	0.20	0.36	0.09	0.23	0.14	0.25
All Events (47 events)*						
All	1.33	2.00	0.45	0.86	0.75	1.80
Female	0.60	1.61	0.16	0.31	0.32	1.00
Male	0.74	1.27	0.29	0.67	0.43	0.80
Chair	0.32	0.54	0.07	0.33	0.27	0.67
Recruitment Events (7 events)*						
All	0.17	0.38	0.01	0.05	0.14	0.40
Female	0.05	0.15	0.00	0.00	0.06	0.35
Male	0.13	0.38	0.01	0.05	0.08	0.22
Chair	0.04	0.12	0.01	0.04	0.07	0.22
Retention Events (29 events)						
All	0.86	1.43	0.25	0.50	0.43	0.90
Female	0.45	1.27	0.14	0.31	0.22	0.55
Male	0.41	0.76	0.11	0.36	0.21	0.47
Chair	0.11	0.29	0.03	0.08	0.10	0.28
Other Events						
Writing Retreat (5 Events)	0.07	0.14	0.07	0.11	0.02	0.06
Chair Data Breakfasts (3 Events)	0.10	0.13	0.03	0.17	0.09	0.17
Recruit Retain Series (3 Events)	0.08	0.13	0.03	0.12	0.08	0.35

*COE Best Practices Event attendance unavailable at time of analysis

The numbers in Table 8 for leadership participation do not represent average number of attendances as do the event variables. Instead, they represent the average number of people for each department that had a specific leadership role in ADVANCE-Nebraska. Across the five years, the IAB had a total of 14 members across departments in all three colleges, with most members coming from A&S (.63), followed by COE (.29) and IANR (.22). The Faculty Committee had a total of 18 different members throughout the five years of ADVANCE-Nebraska. On average, the departments in A&S had .57 members on the Faculty Committee, while both the COE and IANR had more departments with zero members, and thus, a lower average (.29 and .44). There was only 1 member that overlapped between the IAB and the Faculty Committee over the five years of ADVANCE-Nebraska. **Looking at average total leadership, A&S had the most involvement (2.13 members per department), followed by IANR (.63), and then COE (.57).**

Placement of tenured and tenure-track faculty hired into the 24 STEM departments as part of a dual career couple by the end of the 2011-2012 academic year shows that all colleges were involved in this program. IANR departments received the most women hired as part of a dual career package (.67), followed by A&S (.50) and COE (.43). However, all colleges did not universally utilize other ADVANCE-Nebraska funding opportunities. Departments in A&S were most likely to use ADVANCE-Nebraska funding for showcase visitors (.50) and recruitment ambassadors (.38), while departments in IANR were less likely, and COE departments did not use these funding opportunities at all.

Table 8. Average Number of ADVANCE-Nebraska Events Attended by College, Gender and Leadership

	A&S (N=7)		COE (N=8)		IANR (N=9)	
	Mean	Max	Mean	Max	Mean	Max
Leadership Participation						
Internal Advisory Board	0.63	2.00	0.29	1.00	0.22	1.00
Faculty Committee	1.38	2.00	0.29	1.00	0.33	2.00
Total Leadership	2.13	5.00	0.57	1.00	0.67	2.00
Dual Career Participation						
Dual Career Women Hires	0.50	1.00	0.43	2.00	0.67	2.00
Dual Career Male Hires	0.50	1.00	0.29	1.00	0.44	2.00
Other Funding						
Showcase Visitors	0.50	1.00	0.00	0.00	0.11	1.00
Recruitment Ambassadors	0.38	2.00	0.00	0.00	0.11	1.00

Department Level Involvement

The evaluation team created an involvement matrix (Table 9) to assess involvement at the individual department level, which shows the average number of faculty in each department (gray column) and the number of attendances of these faculty in the various events and roles offered by ADVANCE-Nebraska (light green). The column summarizing total event involvement (mid-tone green) shows the total number of attendances by each department (the % is the total attendances divided by total possible attendances if all faculty attended all events), whereas the column totaling the number of faculty who participated (darker green) shows the number of faculty in each department who attended at least one event (the % is the total faculty participating divided by total average faculty in the department). The blue columns show leadership participation and the pink columns show dual career involvement by department.

Total event involvement (mid-tone green) assesses the dosage any given department receives, which could potentially be one champion attending multiple events. Given this measurement, the departments of Earth and Atmospheric Sciences (9%), Biological Sciences (5%), and Mathematics (5%) received the highest dosage. Civil Engineering (4%) received the highest dosage in the COE, and Biochemistry (4%) received the highest in IANR. Alternatively, the proportion of faculty participating (dark green) evaluates reach of the department to some form of ADVANCE-Nebraska programming. Overall, wide departmental involvement was observed, with one-third of the targeted departments (8) having half or more of their faculty attend at least one event. Chemistry had the highest proportion, with 68% of their faculty participating, followed closely by Statistics (64%), Earth and Atmospheric Sciences (63%), and Biochemistry (62%). As mentioned earlier, the COE was least involved; however, each department in that college had at least 2 faculty members participate (Mechanical and Materials Engineering had the smallest proportion of faculty participating, with 17%). Wide exposure to ADVANCE-Nebraska leadership roles was also observed, with only 7 departments not represented (3 in the COE and 4 in IANR). Finally, dual career programming reached a wide range of departments with 14 of the 24 targeted departments being involved in the 28 dual career related hires. **In sum, ADVANCE-Nebraska programming showed wide reach across the targeted STEM departments.**

Table 9. Involvement in ADVANCE-Nebraska by Department

	Tenured/Tenure-track Faculty Avg 2008-2013	Recruitment-Focused Event (8 events)	Retention-Focused Event (28 events)	Writing Retreat (5 events)	Chair Data Discussions (3 events)	Recruitment/Retention Series (3 events)	TOTAL EVENT INVOLVEMENT	% EVENT INVOLVEMENT	TOTALNUMBER OF FACULTY WHO PARTICIPATED	% FACULTY PARTICIPATING	PI	Co-PI	Member of IAB	ADVANCE Faculty Committee	TOTAL LEADERSHIP INVOLVEMENT	Dual Career-related Women Hires	Dual Career-related Men Hires	TOTAL DUAL CAREER INVOLVEMENT
Biological Sciences	34	7	58	3	2	2	72	5%	15	44%	0	0	1	1	2	2	1	3
Chemistry	22	10	17	1	3	4	35	3%	15	68%	0	0	0	1	1	1	1	2
Computer Science & Engineering	23	2	13	2	3	0	20	2%	11	48%	0	0	0	1	1	0	1	1
Earth & Atmospheric Sciences	19	11	51	7	5	8	82	9%	12	63%	0	1	2	2	5	0	0	0
Mathematics	34	10	51	5	4	5	75	5%	20	59%	0	0	2	2	4	1	1	2
Physics & Astronomy	23	0	11	0	1	4	16	2%	9	39%	0	0	0	1	1	0	0	0
Statistics	11	3	11	1	1	0	16	3%	7	64%	0	0	0	1	1	0	1	1
College of Arts & Sciences Total	166	43	212	19	19	23	316	4%	89	54%	0	1	5	9	15	4	5	9
Architectural Engineering	10	0	3	1	0	0	4	1%	2	20%	0	0	1	0	1	0	0	0
Chemical & Biomolecular Engineering	12	0	5	1	0	0	6	1%	5	42%	0	0	0	1	1	0	0	0
Civil Engineering	20	0	23	1	3	6	33	4%	8	40%	0	0	0	2	2	1	0	1
Computer & Electronics Engineering	10	1	1	0	0	0	2	0%	2	20%	0	0	0	0	0	0	0	0
Construction Management	7	1	0	1	0	0	2	1%	2	29%	0	0	0	0	0	0	1	1
Construction Engineering (Systems)	11	0	3	1	0	0	4	1%	3	27%	0	0	0	0	0	0	0	0
Electrical Engineering	19	1	10	0	3	2	16	2%	7	37%	0	0	1	0	1	1	0	1
Mechanical & Materials Engineering	35	2	5	4	2	3	16	1%	6	17%	0	0	0	1	1	2	1	3
College of Engineering Total	124	3	50	9	8	11	81	1%	35	28%	0	0	2	4	6	4	2	6
Agronomy & Horticulture	43	4	17	4	2	2	29	1%	15	35%	0	0	1	0	1	0	0	0
Animal Science	25	4	9	1	3	1	18	2%	6	24%	0	0	0	2	2	0	0	0
Biochemistry	13	4	15	0	3	4	26	4%	8	62%	0	0	0	1	1	2	0	2
Biological Systems Engineering	19	3	13	0	2	0	18	2%	5	26%	0	0	0	0	0	1	1	2
Entomology	12	6	8	0	3	0	17	3%	6	50%	0	0	0	0	0	0	0	0
Food Science & Technology	14	1	6	1	2	3	13	2%	5	36%	0	0	0	1	1	2	0	2
Plant Pathology	13	3	14	0	1	2	20	3%	7	54%	0	0	1	0	1	0	1	1
School of Natural Resources	37	1	20	0	3	2	26	2%	11	30%	0	0	0	0	0	1	2	3
Veterinary Medicine & Biomedical Sciences	18	2	8	1	0	0	11	1%	7	39%	0	0	0	0	0	0	0	0
IANR Total	194	28	110	7	19	14	178	2%	70	36%	0	0	2	4	6	6	4	10
Non-STEM Departments	NA	39	110	27	3	62	241	NA	111	NA	0	1	4	1	6	0	2	2
Administrators	NA	11	76	1	15	43	146	NA	46	NA	3	3	8	0	14	0	1	1

Summative Evaluation/Outcomes

Impact on Recruitment

ADVANCE-Nebraska hosted eight recruitment-focused events, the Recruit and Retain Workshop Series, and meetings with individual departments to educate faculty, chairs and other administrators on the issues related to hiring STEM women. In addition, funding for recruitment ambassadors and showcase visitors were also aimed at improving recruitment efforts at UNL. Reviewing data on search practices, applicant pools, hires, and specific programmatic outcomes assesses the impact of these efforts.

Search Practices

ADVANCE-Nebraska recruitment-focused efforts emphasized the importance of effective search practices to attract women to apply for UNL STEM faculty openings. Data from the search surveys were used to assess changes over time in search practices. Baseline data from search chairs before ADVANCE-Nebraska began were not available, but baseline data from attendees of the Recruit and Retain Series (primarily department chairs) in fall 2009 illustrates behaviors early in the grant period. The spring 2010 and 2013 search survey data is restricted to search chairs to provide the most consistent information.³ As Table 10 shows, **UNL STEM departments changed many of their search practices during implementation of ADVANCE-Nebraska.** Notable increases were observed in talking to potential candidates at conferences and meetings, writing a broad job advertisement, encouraging UNL post docs to apply, and emailing listservs with the job ad.

Table 10. Search Chair Reported Recruitment Activities

	Fall 2009 (N=13)	Spring 2010 (N=16)	Spring 2013 (N=18)
Talked to potential candidates at professional conferences or meetings.	38%	50%	89%
Wrote a job advertisement that was broadly defined.	15%	31%	53%
Encouraged post docs already at UNL to apply.	8%	13%	42%
Contacted potential candidates directly through letters, phone calls, emails, etc.	54%	81%	79%
Asked colleagues from other institutions to encourage their students to apply.	46%	69%	74%
Emailed listservs with the job ad.	38%	38%	58%
Specifically contacted and recruited applicants from institutions that are not usually targeted.	8%	19%	26%
Showcased UNL by inviting potential candidates to campus as speakers prior to the search.	8%	38%	26%
Showcased UNL by inviting faculty who advise graduate students to campus as speakers.	15%	31%	16%

³ Department chair data was excluded because some departments had multiple searches in one year; removing them also eliminated the overrepresentation of searches for which both the search and department chair responded.

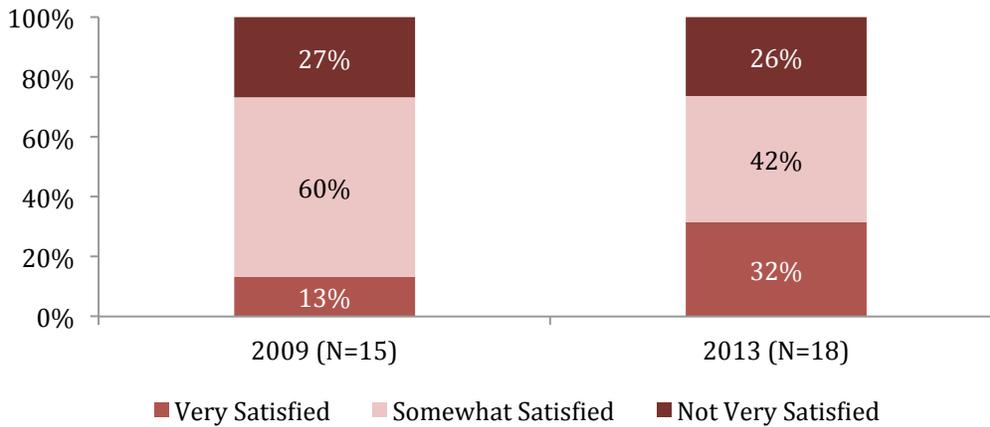
There was a clear increase over time in the proportion of search chairs reporting that they talked to potential candidates at professional conferences. While 38% of recruit/retain series attendees reported that departments were talking to potential candidates at conferences or meetings in 2009 and 50% of search chairs reported so in 2010, the vast majority (89%) of search chairs reported that their departments were talking to potential candidates at conferences or meetings in 2013. While departments did not heavily utilize ADVANCE-Nebraska's recruitment ambassadors funding mechanism (designed to send UNL representatives to conferences or meetings to recruit potential candidates), partially because they were already obtaining funds elsewhere to travel, the emphasis of this recruitment strategy had an impact on search practices at UNL. This suggests that funding for travel wasn't the driving force, but that ADVANCE-Nebraska outreach in educating departments of the value of talking to potential candidates at conferences or meetings changed their search practices.

In addition to actively recruiting at conferences and meetings, departments also increased their use of advertising through listservs, from 38% in 2009 and 2010 to 58% in 2013. Consideration of local talent was also a recruitment method that increased. By 2013, 42% of STEM search chairs reported that their departments were encouraging post docs already at UNL to apply, up from 8% in 2009 (reported by recruit/retain attendees) and 13% in 2010 (reported by search chairs).

Finally, the ADVANCE-Nebraska Office encouraged the use of writing broad job advertisements to attract more women applicants. Over time, there was a clear increase in reports of writing broad job advertisements, from 15% in 2009 (reported by recruit/retain series attendees) and 31% in 2010 (reported by search chairs) to 53% in 2013 (reported by search chairs). To objectively assess the use of this practice and whether it resulted in more diverse applicant pools, job advertisements from 112 UNL assistant professor jobs from 2005-06 and 2010-11 were analyzed. Four reviewers blind coded the advertisements into three categories; narrow, middle, or broad and then compared them to the applicant pool to identify any correlations. Twenty four percent of the job ads were coded as narrow (1), 49% were coded as middle (2), and 26% were coded as broad (3). On average, COE job ads were coded as more broad ($\bar{x}=2.5$) compared to A&S ($\bar{x}=1.85$), and IANR ($\bar{x}=2.02$). There was no pattern over time in the change from a tendency to use narrower or broad job ads during this time frame. Jobs that were coded as 'broad' had, on average larger applicant pools than those coded mid or narrow (52 applicants, versus 33 and 35). The impact of using a broad ad to increase the proportion of women in the applicant pool showed mixed results, depending on college. For A&S (N=35), as job ads were written more broadly, the proportion of women in the applicant pool increased ($r=.303$). The reverse was true for the COE; as job ads became more narrow the proportion of women in the applicant pool increased ($r=-.310$). There was no association between narrow or broad job applicants when the sample included only IANR. While the analysis of this technique conducted by the evaluation team provided mixed result on the impact of using this technique, STEM departments embraced the use of broad advertisements.

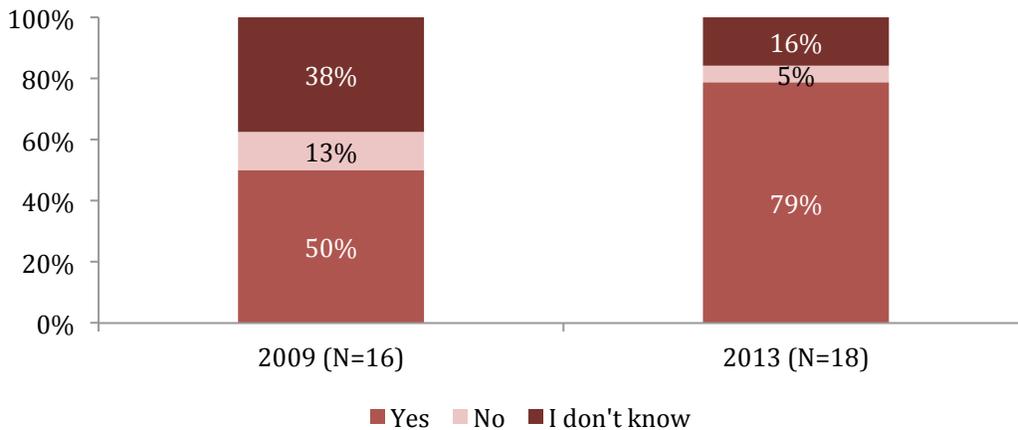
Moreover, the use of additional search techniques over time is correlated with an increase in satisfaction with the proportion of women in the applicant pool. Only 13% of STEM search chairs were very satisfied with the proportion of women in the applicant pool in 2010 (Figure 1). By 2013, nearly one-third (32%) of STEM search chairs were satisfied with the proportion of women in the pool. Interestingly, the proportion of search chairs that were not very satisfied remained relatively unchanged over time (27% in 2010 and 26% in 2013).

Figure 1. Search Chair Level of Satisfaction with the Proportion of Women in the Applicant Pool



This increase in satisfaction with the pool was also reflected with an increase in the perceptions that the applicant pool accurately reflected the proportion of women eligible for the position increased over time. As Figure 2 shows, half (50%) of STEM search chairs felt the pool accurately reflected the proportion of eligible women in 2010, but this increased to 79% in 2013. Furthermore, a substantial proportion of search chairs (38%) reported that they did not know if it reflected the pool in 2010, likely a reflection of their lack of knowledge about the national pool, but by 2013, only 16% reported that they did not know. **This suggests search chairs felt more knowledgeable by the end of the grant period about the proportion of women eligible.**

Figure 2. Proportion of Search Chairs Reporting the Applicant Pool Accurately Reflected the Proportion of Women Eligible for the Position



When asked to estimate the percentage of women in the applicant pool in 2013, the average estimate of participating search chairs was 26%, with a range of 0 to 60%. Of the 18 searches where the search chair completed a survey, 14 applicant pools were available to compare from PeopleAdmin data. Among those, 3 search chairs underestimated the proportion of women in their applicant pool by five percentage points or more, 4 search chairs estimated the proportion of women in the applicant pool within five points of the numbers reported in PeopleAdmin, while 7 overestimated the proportion of women in the applicant pool.

This overestimation, combined with the high proportion of search chairs perceiving the pool to accurately reflect the national pool, suggests that half (7 of the 14) search chairs may be overconfident in their knowledge of the proportion of women eligible for faculty positions. There was no relationship found between the search chair's accuracy and any of the variables in the dataset expected to be related.

When asked about specific ADVANCE-Nebraska efforts that assisted with their past search, the most often noted efforts were: 1) receiving some form of assistance with dual career hires, including facilitating interviews and coordinating communications, 2) using the ADVANCE-Nebraska Best Practices document, 3) contacting the ADVANCE-Nebraska office for assistance, and 4) using materials from the ADVANCE-Nebraska website. And while ADVANCE-Nebraska advocated for committees to discuss how to recruit women, the proportion of search chairs reporting that their search committee specifically discussed how to recruit women into the applicant pool decreased over time, from 44% in 2010 to 32% in 2013.

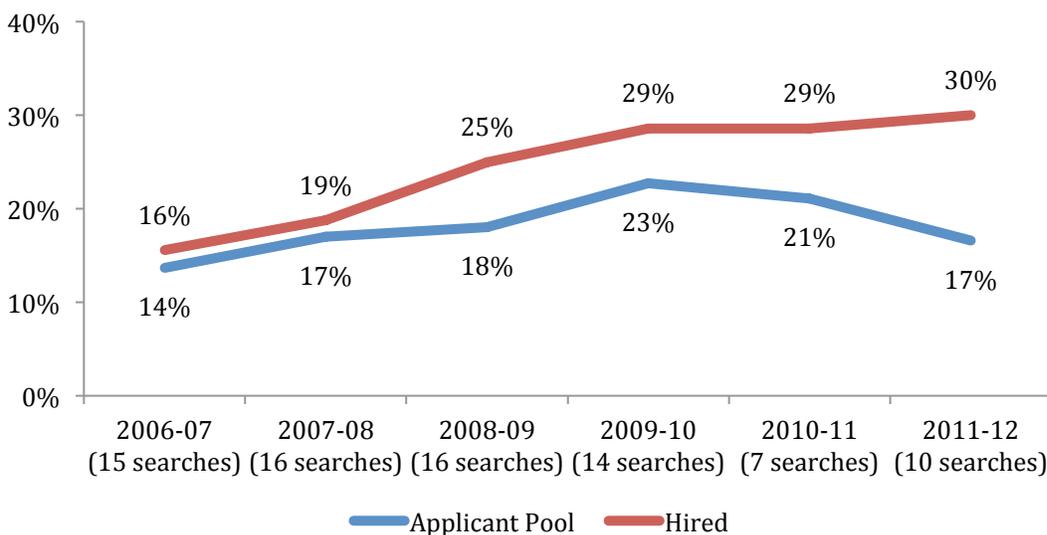
Applicant Pools

There was a concerted effort by ADVANCE-Nebraska to increase the proportion of women in STEM applicant pools. The most common tenure-track faculty searches were at the assistant professor level, while associate and full professor hires were less frequent and the data were difficult to interpret, particularly when assessing and comparing to the national PhD pools. Therefore, Figure 3 restricts the data to only filled assistant professor searches to show the most stable and complete information. Consistent applicant pool data were available beginning in 2006-07, so assessing the trend in the proportion of women in the applicant pool before funding is difficult to assess since this was only shortly before ADVANCE-Nebraska began.

From available data it appears that ADVANCE-Nebraska efforts had a positive impact on applicant pools early in the grant period, although there was a decline in the final years. As the blue line in Figure 3 shows, the proportion of women in STEM assistant professor applicant pools increased from 14% in 2007 to a peak of 23% in 2010, followed by a decline to 17% in 2012. Regardless of the recent decrease of women in the applicant pool, the proportion of women *hired* for STEM tenure-track assistant professor positions consistently increased over time. The increase in the proportion of STEM women hired as assistant professors nearly doubled from 2007 to 2012; women filled only 16% of STEM assistant professor tenure-track faculty searches in 2007, compared to 30% in 2012. **Thus, since ADVANCE-Nebraska began, the proportion of women in the applicant pool increased modestly, but the ultimate metric of new hires showed a consistent increase that nearly doubled from 2007 to 2012.**

These findings should be interpreted with caution, as the number of searches in any given year is very small. Moreover, the representation of women is dependent on which disciplines were conducting searches that year, with some disciplines having a larger pool of women to attract from (e.g. Biological Sciences versus Electrical Engineering). However, despite these limitations, the increase in the proportion of women hired was consistent.

Figure 3. Proportion of Women in the Applicant Pool and Hired among UNL STEM Assistant Professor Searches Over Time



An important metric to assess whether applicant pools are accurately representative is to compare them to national rates of PhDs awarded in each discipline (obtained from the National Science Foundation). When department data sheets were shared at the annual chair breakfast, feedback was sought to identify the most appropriate disciplines to use for comparison to each of the STEM departments. In addition, department chairs requested comparison data be time lagged to include time for postdoctoral positions, which are common in many STEM fields. Therefore, Table 11 shows comparisons of UNL assistant professor applicant pools and subsequent hires with discipline specific comparable national PhD rates lagged five years. Overall, only two UNL departments' applicant pools reached or exceeded the proportion of women awarded doctorates nationally (both were prior to ADVANCE-Nebraska): Electrical Engineering and Agronomy and Horticulture (highlighted in green). When looking at the proportion of women *hired* however, more departments exceeded the national proportion of women PhD's: Computer Science and Engineering, Earth and Atmospheric Sciences, Mathematics, Physics and Astronomy, Civil Engineering, Electrical Engineering, Mechanical and Materials Engineering, Agronomy and Horticulture, Biochemistry, Biological Systems Engineering, Food Science and Technology, and the School of Natural Resources (highlighted in red).

Table 11 also provides a glimpse at change over time at the discipline level; however the data must be interpreted with caution as the N's are extremely small and the area of specialty for any given search varies in the national pool (e.g., some specialization areas within a discipline tend to attract more women than others). Increases over time are noted with blue text in the columns showing data from the ADVANCE-Nebraska funding period. **Among those departments with searches during both time frames, most (9 out of 12 departments) increased the proportion of women in the applicant pool, while slightly fewer (7 out of 12) increased the proportion of women hired.** The largest increases in the proportion of women in *applicant pools* were found in the departments of Biological Sciences (from 20.8% to 31.5%), Animal Science (16.7% to 32%), and Food Science and Technology (14.3% to 29.4%). The largest increases in the proportion of women *hired* were found in the departments of Food Science and Technology (0% to 100%), and Computer Science and Engineering and Biological Systems Engineering (both changed from 0% to 50%).

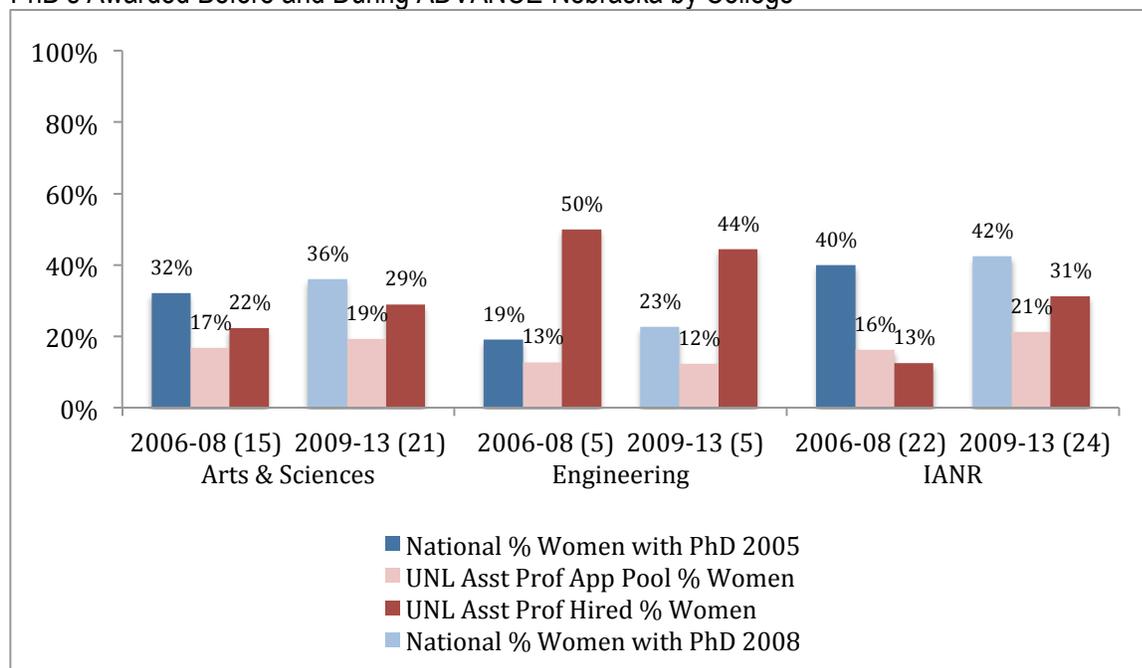
Table 11. Proportion of Women among UNL Assistant Professor Applicant Pools and Hires, and National PhD's Awarded Before and During ADVANCE-Nebraska by Department

	% Women of National PhD's (2005)	2005/06 - 2007/08			% Women of National PhD's (2008)	2008/09 - 2012/13		
		% Women in UNL Asst Prof App Pool	% Women of UNL Asst Prof Hired	Number of searches		% Women in UNL Asst Prof App Pool	% Women of UNL Asst Prof Hired	Number of searches
A&S								
Biological Sciences	48.8%	20.8%	33.3%	4	50.4%	31.5%	20.0%	5
Chemistry	34.0%	N/A	N/A	0	34.2%	14.0%	0.0%	2
Computer Science & Engineering	19.8%	14.2%	0.0%	2	22.4%	18.3%	50.0%	2
Earth and Atmospheric Sciences	30.2%	17.4%	33.3%	3	36.0%	20.4%	20.0%	5
Mathematics	27.1%	22.9%	33.3%	1	30.9%	21.6%	50.0%	4
Physics & Astronomy	20.7%	7.8%	0.0%	2	21.8%	9.3%	33.3%	3
Statistics	44.5%	17.4%	33.3%	3	55.9%	N/A	N/A	0
COE								
Architectural Engineering	23.2%	N/A	N/A	0	20.2%	N/A	N/A	0
Chemical & Biomolecular Engineering	24.0%	N/A	N/A	0	26.5%	8.7%	0.0%	1
Civil Engineering	23.2%	15.0%	50.0%	2	20.2%	N/A	N/A	0
Computer & Electronics Engineering	14.8%	N/A	N/A	0	17.6%	N/A	N/A	0
Construction Management	23.2%	N/A	N/A	0	20.2%	N/A	N/A	0
Construction Systems	23.2%	N/A	N/A	0	20.2%	N/A	N/A	0
Electrical Engineering	13.4%	15.9%	100.0%	2	N/A	16.7%	100.0%	1
Mechanical & Materials Engineering	15.4%	7.2%	0.0%	1	21.3%	11.7%	33.3%	3
IANR								
Agronomy & Horticulture	26.2%	29.2%	33.3%	3	30.8%	17.0%	0.0%	7
Animal Science	42.3%	16.7%	16.7%	6	45.5%	32.0%	0.0%	3
Biochemistry	39.9%	20.0%	50.0%	2	46.9%	17.8%	0.0%	4
Biological Systems Engineering	26.4%	7.2%	0.0%	2	37.5%	13.9%	50.0%	2
Entomology	38.8%	16.3%	0.0%	1	41.2%	21.9%	33.3%	3
Food Science & Technology	50.0%	14.3%	0.0%	1	N/A	29.4%	100.0%	1
Plant Pathology	46.5%	16.0%	0.0%	1	49.2%	14.3%	0.0%	1
School of Natural Resources	34.3%	N/A	N/A	0	39.7%	23.3%	66.7%	3
Vet & Biomedical Sciences	55.2%	10.0%	0.0%	6	48.3%	N/A	N/A	0

Figure 4 displays the proportion of women among UNL applicant pools and hires aggregated to the college level, and compared to national PhD rates. Across all colleges, the proportion of women in applicant pools falls short of the proportion of women awarded doctorates in the disciplines relevant to those searches. And while the proportion of women hired is higher than their representation in the applicant pool, it is still lower than that of PhD's awarded when looking at disciplines aggregated at the college level for both A&S and IANR. The COE is the only UNL STEM college where the proportion of women hired surpasses that of PhD's awarded to women in the disciplines aggregated for the college level comparisons.

Increases in the proportion of women at both the applicant pool and hiring stages are found in A&S, but these increases mirror that of the national PhD pool. IANR also observed increases both at UNL and at the national pool levels, but the hiring increase at UNL was much larger (the national pool increased from 40% to 42%, while the proportion of women hired in UNL's IANR increased from 13% to 31%). The increase in the national pool of Engineering PhDs was not reflected in UNL's COE assistant professor searches, which may be due to the fact that programming dosage was least in that college, and that the proportion of women hired prior to ADVANCE-Nebraska was already considerably higher than the national pool (50% of UNL COE hires between 2006-2008 were women, compared to only 19% of the national pool of PhDs).

Figure 4. Proportion of Women among UNL Assistant Professor Applicant Pools and Hires, and National PhD's Awarded Before and During ADVANCE-Nebraska by College



Job Referral Sources

When applicants complete the online application for a faculty position at UNL, they are asked to note where they learned of the job opening. Table 12 shows the most often-cited referral sources from 2008-09 and 2011-12. The total count column for each time period shows the number of applicants who selected each referral source during that search year. Additionally, the table shows the proportion of all applicants, by gender, which selected each source.

In 2009, the most often-referenced referral sources among all applicants were UNL’s employment office/web site (23% of women and 27% of men) and other non-UNL websites (28% of women and 25% of men). Newspapers or professional periodicals were closely behind in 2009 (25% of women and 21% of men reported this referral source), but dropped further behind by 2012 (14% of women and 13% of men), while non-UNL websites gained popularity. These non-UNL websites were the referral source for over one-third of all applicants in 2012 (43% of women and 32% of men in 2012), while UNL’s employment office/web site remained a common referral source (22% of women and 30% of men in 2012).

ADVANCE-Nebraska emphasized the importance of recruiting actively through word of mouth to attract women to apply. The search chair surveys suggest that this recruitment method was being employed in most searches by 2013 (see Table 10), which is impacting referral sources. Table 12 suggests that this may have been fruitful in making women aware of the opening; only 3% of women applicants learned of the opening through word of mouth in 2009, but this proportion doubled to 6% by 2012 (it also increased from 4% to 5% for men). While the proportion remains modest, the increase may be a direct reflection of increased efforts in this area attributable to ADVANCE-Nebraska efforts.

Table 12. Number and Proportion of STEM Tenured and Tenure-Track Job Candidates Reporting Referral Sources

Referral Source <i>(in order of total count selected in 2011-12)</i>	2008-09			2011-12		
	Total Count	% of Women	% of Men	Total Count	% of Women	% of Men
Other website	437	28%	25%	629	43%	32%
UNL web site or University Employment Office	463	23%	27%	527	22%	30%
Newspaper or professional periodical or their web site	381	25%	21%	239	14%	13%
Academic Keys	93	5%	6%	172	5%	10%
Association/Network/Listserv	246	14%	15%	104	8%	6%
Word of Mouth	61	3%	4%	98	6%	5%
Other	27	2%	1%	68	3%	4%

New Hires

Figures 5a and 5b show the overall proportion of women among all hires in each department over time, broken down by college (5a) and department (5b). Hires shown in these figures includes searches of all ranks, as well as opportunity hires where no search was conducted. No clear trend emerges across all departments, with some departments increasing the proportion of women hires, while others showed decreases. However, there was a modest increase over time across all STEM departments at UNL; 20% of all tenure/tenure-track hires were women in the five years prior to ADVANCE-Nebraska, compared to 23% of hires during the funding period (Figure 5b).

At the college level, there was an overall increase in the representation of women hires in A&S. In the five years prior to ADVANCE-Nebraska, about one-fourth (26%) of hires were women, which increased to about one-third (32%) of hires during ADVANCE-Nebraska. Of the seven A&S departments, one department had no hires between 2009-13, 3 departments experienced decreases, and 3 departments had increases.

Some of these increases were substantial, with both Physics and Astronomy, and Earth and Atmospheric Sciences moving from no women hired during the 5 years before ADVANCE-Nebraska to one-third (33%) of their hires being women during the funding period.

Overall, there was little change in the representation of women hired in the COE, which remains at about one-fifth of all hires (22% before, 21% during) when aggregated at the college level. Several COE departments hired no women over the entire observed period (2004 through 2013), showing no change over time. Electrical Engineering also showed no change over time, but remained one of the top departments overall at UNL in the representation of women hires (50%). Both Architectural Engineering and Civil Engineering experienced decreases over time, but Mechanical and Material Engineering showed an increase from 0% to 13%.

Similarly, IANR experienced mixed change over time with 3 departments experiencing a decrease and 5 experiencing an increase. Additionally, one department (Agronomy and Horticulture) remained at 0%, which is troubling given the large number of hires in that department (15 hires during ADVANCE-Nebraska). However, significant advances were made with several other departments in this college who had no women hires in the five years prior to ADVANCE-Nebraska; Food Science and Technology increased to 50%, Plant Pathology increased to 40%, and Entomology increased to 20%. Overall, in aggregate, IANR increased the representation of women among their hires from 12% to 19%.

Figure 5a. Proportion of Women among All STEM Hires Overall and by College Before & During ADVANCE-Nebraska

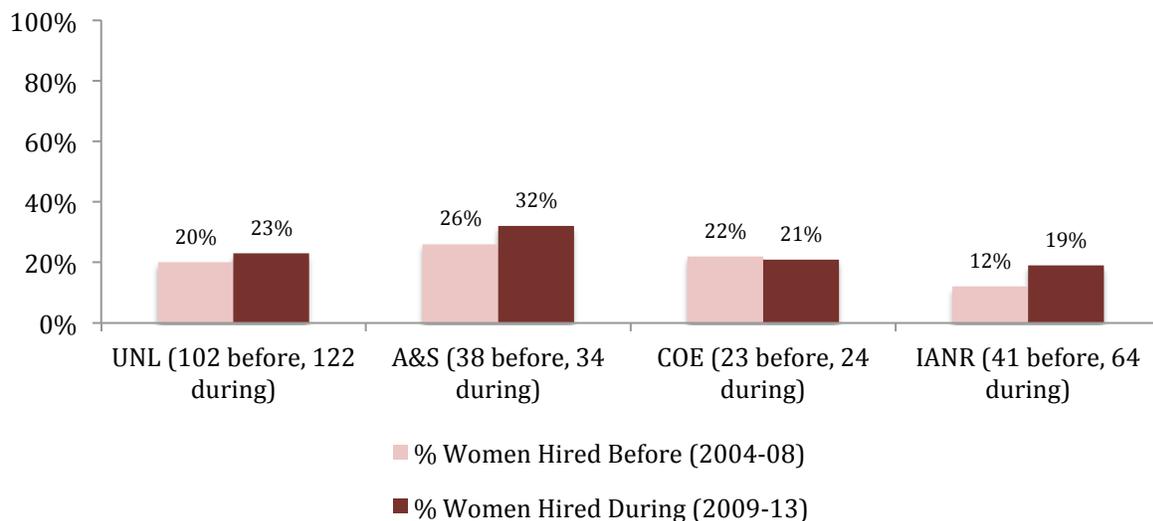
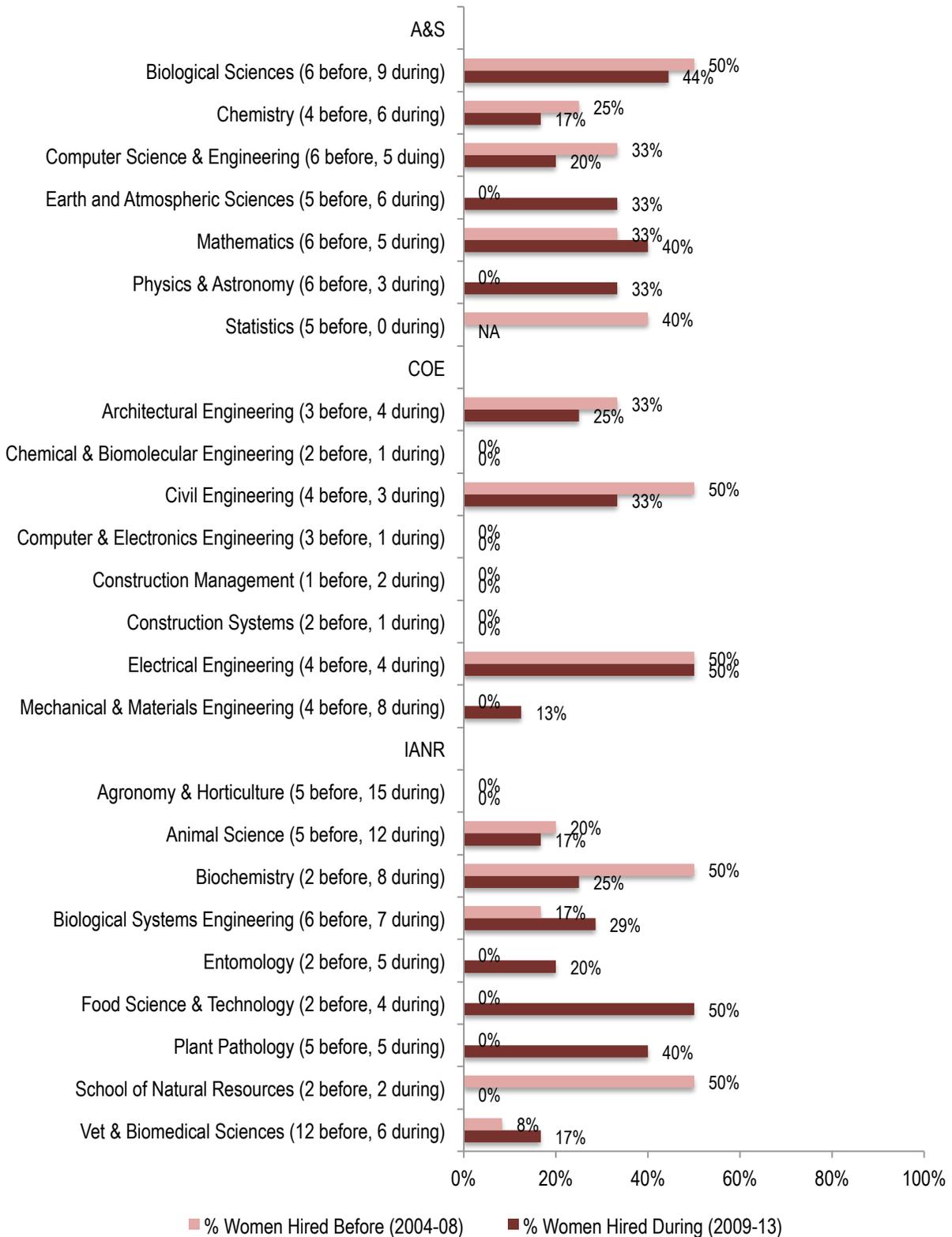


Figure 5b. Proportion of Women among All STEM Hires by Department Before & During ADVANCE-Nebraska



New Hire Interviews

When interviewed by the evaluation team, newly hired faculty reported that they learned about the job opportunity online (41%), from a colleague or friend (15%), from a hard copy journal or magazine (11%), and from an advisor or department chair (11%). A higher percentage of female respondents (33%) learned about the job opportunity from a friend or colleague compared to male respondents (6%). This coincides with the findings from job referral data (see Table 12) that women were more likely to learn about the job from word of mouth, thus reinforcing the importance of this recruitment method to attract women applicants.

Not surprisingly, the vast majority (78%) reported that they were considering other job opportunities when they interviewed at UNL. In terms of how many other offers they received, 61% of those considering other opportunities received one offer, 22% received two offers, and 17% received three or more. When asked whether there were any factors that made them consider declining the offer at UNL, responses were split with 50% saying yes, 42% saying no, and 8% reporting that they did initially decline the offer. Of those that did consider declining the offer, the most common factor that made them consider declining was the start-up package (31%), followed by the geographic location. Interestingly, a few women, but no men, reported that they considered declining the offer due to concern about the ability to recruit quality graduate students. The compensation package was the primary reason faculty reported as the reason for accepting the UNL offer. About one-quarter of participants also indicated that they accepted the offer for the following reasons: the research environment or quality of research, the collegiality and supportiveness of faculty (one participant specifically stressed the supportiveness toward female faculty), and overall perceptions of the department.

Showcase Visitors Outcomes

The use of the funding opportunity through ADVANCE-Nebraska to pay for visiting speakers to showcase UNL was not employed to the extent originally intended. However, it was discovered that this funding mechanism may not have been as essential as originally thought because it was discovered that other funding mechanisms exist to cover external speaker costs, thus funding was not a significant barrier. Regardless of using the ADVANCE-Nebraska funding mechanism, as described earlier in the search surveys, the use of showcasing UNL by inviting potential candidates to campus as speakers increased modestly in STEM departments during ADVANCE-Nebraska (see Table 10). **The effectiveness of this technique was directly observed from the ADVANCE-Nebraska funded Showcase Visitor who was ultimately hired at UNL.** Of the five showcase visitors funded by ADVANCE-Nebraska, one STEM woman was hired as an assistant professor in fall 2011 in Biological Systems Engineering (Department in IANR).

Recruitment-Focused Events Outcomes

Of the five events targeting recruitment in which sufficient evaluation data were available, self-reports were overwhelmingly positive regarding the impact of the event. Nearly all attendees (96%) either agreed or strongly agreed that all events were useful, and 86% reported all events were valuable. Table 13 shows that reports of learning something valuable by attending the event were highest for the Joyce Yen presentation, "Pitfalls and Promise of Candidate Evaluation," with a mean of 4.6 (1=strongly disagree to 5=strongly agree); however all events showed agreement that participants learned something valuable. Outcomes specific to each event are provided in Appendix B.

Table 13. Mean Agreement that Something Valuable was learned among Recruitment-Focused Event Participants

	I learned something valuable about <TOPIC>
Best Practices for Recruiting a Diverse Faculty, DiRusso 9/29/10 (n=9)	4.4
Pitfalls and Promise of Candidate Evaluation, Joyce Yen 10/15/2010 (n=13)	4.6
On-campus Interviews 10/20/10 (n=12)	4.5
Recruitment Strategies/Best Practices 10/11/12 (n=21)	4.1
Search Committee Best Practices 3/14/13 (n=12)	4.3

Note: Implicit Bias and COE Best Practices events not included due to small N's

Moreover, these events were a primary avenue for distribution of ADVANCE-Nebraska recommendations to department chairs and search chairs, especially prior to the development of the formal Best Practices document created by the Faculty Committee. Given the changes in recruitment strategies employed among STEM departments as illustrated by the search survey (see Table 10), it is logical to interpret that attendance at these events played an important role in educating and motivating departments to implement changes in their search practices.

Impact on Retention

Numerous retention-focused events, writing retreats, and faculty gatherings were hosted and relevant information about issues facing women in STEM and policy details were disseminated. These efforts were undertaken by ADVANCE-Nebraska to improve retention and increase the likelihood of success for STEM women by improving the work environment at UNL. To evaluate the effectiveness of this programming, several analyses were conducted to examine change in faculty attrition and change over time in the work environment.

Exits

The proportion of tenure/tenure-track faculty voluntarily leaving UNL STEM departments for reasons other than retirement was compared over time to examine any gender discrepancies. The number of faculty exiting is a small number, so the data were aggregated to the college level. Table 21 shows that STEM men and women in A&S and IANR left UNL at relatively similar proportions. Women in the COE however, left at higher proportions than men. When looking over time, there was little change in A&S, but more noticeable improvements were observed in IANR. Women in IANR were exiting at a slightly higher rate than men before ADVANCE-Nebraska began (6% of men left, compared to 8% of women), but the proportion decreased during the funding period, with 4% of men exiting and only 3% of women exiting. The trend of women exiting at higher rates than men in the COE worsened slightly over time, with 13% of women exiting during ADVANCE-Nebraska, while only 6% of men left (compared to 5% of men and 10% of women leaving prior to funding). However, it is difficult to draw conclusions based on exit data given the extremely small number of exits (only 4 STEM women left during the funding period).

Table 21. Number and Proportion of Non-Retirement Faculty Voluntarily Exiting UNL Before and During ADVANCE-Nebraska by College and Gender

	2004-2008						2009-2013					
	# of exits (M)	# of exits (W)	# in college (M) *	# in college (W) *	% exits (M)	% exits (W)	# of exits (M)	# of exits (W)	# in college (M) *	# in college (W) *	% exits (M)	% exits (W)
A&S (N=7)	8	1	137.5	26.5	6%	4%	5	1	140.4	35.4	4%	3%
COE (N=8)	6	1	111.75	10.5	5%	10%	7	2	110	16	6%	13%
IANR (N=9)	10	2	167	25	6%	8%	8	1	194.6	30.4	4%	3%

* average number in each college during 5 year period

Climate

Four climate questions were asked in the climate survey in both 2008 and 2013 (satisfaction with department, satisfaction with institution, fairness of promotion/tenure decisions, and perceptions of family-friendly colleagues), which provides baseline data before ADVANCE-Nebraska began and follow-up data near the completion of the funding period. Departments were de-identified, so departmental data analyses were not feasible, but college level analyses were conducted to examine the impact of ADVANCE-Nebraska on climate.⁴ Figures 6 and 7 show means of departmental and institutional satisfaction for STEM men and women faculty by college, with the striped bars showing 2008 means and the solid bars showing 2013 means (the N's are listed below the mean in each bar).

When looking at the level of satisfaction with department or institution (1=very dissatisfied to 5=very satisfied), nearly all mean scores increased for both men and women in all three colleges between 2008 and 2013. The only exception was for women in the COE, who experienced a slight decrease in their satisfaction with their department (from 3.5 to 3.4). For men, the improvements were especially notable in the COE (the mean score increased from 3.2 to 3.5 for department satisfaction and from 3.1 to 3.4 for institution satisfaction). For women, the largest increases were found in A&S (the mean score increased from 3.8 to 4.0 for department satisfaction and from 3.5 to 4.0 for institution satisfaction) and IANR for gains in department satisfaction (from 3.5 to 3.9).

Overall, men in A&S were more satisfied with their department than women in 2008 (men: \bar{x} =3.9, woman: \bar{x} =3.8) and institution (men: \bar{x} =3.9, women: \bar{x} =3.5), but gains in women's satisfaction eliminated this gender gap by 2013 in both department satisfaction (\bar{x} =4.0 for both genders) and institutional satisfaction (men: \bar{x} =3.9, women: \bar{x} =4.0). Men in the COE lagged behind women in 2008 in their department satisfaction (men: \bar{x} =3.2, women: \bar{x} =3.5) and institutional satisfaction (men: \bar{x} =3.1, women: \bar{x} =3.5). The gender gap in COE also diminished by 2013 for department satisfaction (men: \bar{x} =3.5, women: \bar{x} =3.4) and institutional satisfaction (men: \bar{x} =3.4, women: \bar{x} =3.6), primarily due to satisfaction gains among men. Despite notable gains from 2008 to 2013 in department satisfaction among IANR women (means increasing from 3.5 to 3.9), they remained less satisfied than men, who also experienced an increase (from

⁴ Data was collected from a census of all STEM faculty; therefore, significance testing was not utilized.

3.9 to 4.1). IANR also observed increases in satisfaction with the institution for both genders, with the mean for women increasing from 4.0 to 4.1, and for men increasing from 3.8 to 3.9. Thus, contrary to department satisfaction, women in IANR at both time points were more satisfied with the institution than men.

Figure 6. Mean Satisfaction with Department

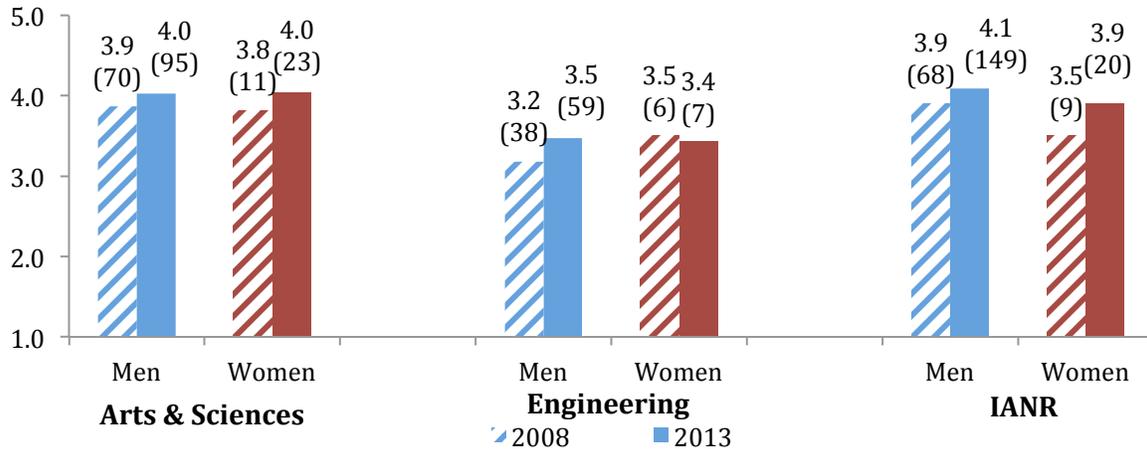
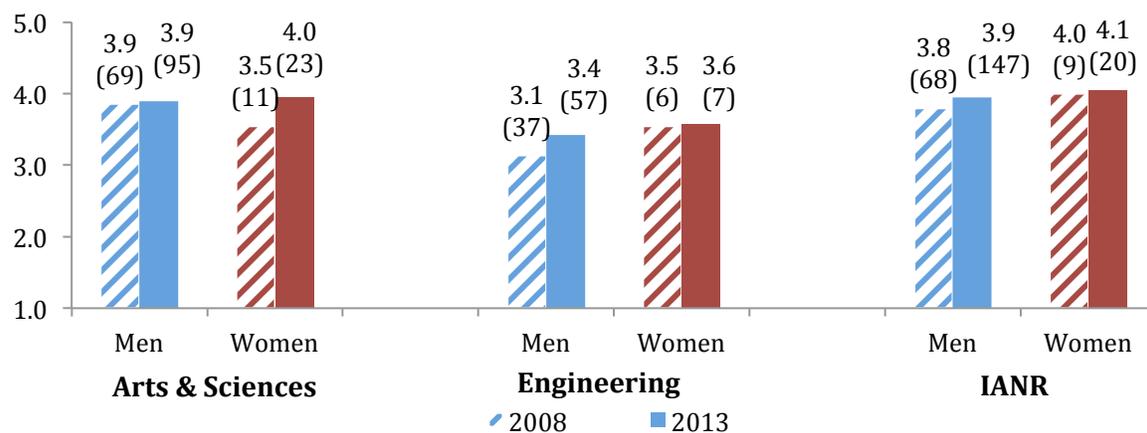


Figure 7. Mean Satisfaction with Institution



For a variable that asked the level of agreement or disagreement with the statement, "On the whole, tenure and promotion decisions are made primarily on performance-based criteria (e.g., research, teaching, or service) rather than on non-performance-based criteria (e.g., politics, relationships, or demographics)" (1=strongly disagree to 5=strongly agree), the lowest mean scores were observed in the COE, particularly among women. Although the mean score improved from 2.6 to 3.1 between 2008 and 2013 for women in this college, they remained the group with the most negative perception in 2013. Interestingly, the trend for both men and women in A&S and COE showed increases in agreement over time, while IANR experienced decreases. Overall, men in A&S and COE perceived the promotion/tenure process as more fair than women, while there was no gender difference in IANR (the same trend was found at both time points).

Figure 8. Mean Agreement of Fair Tenure/Promotion Decisions

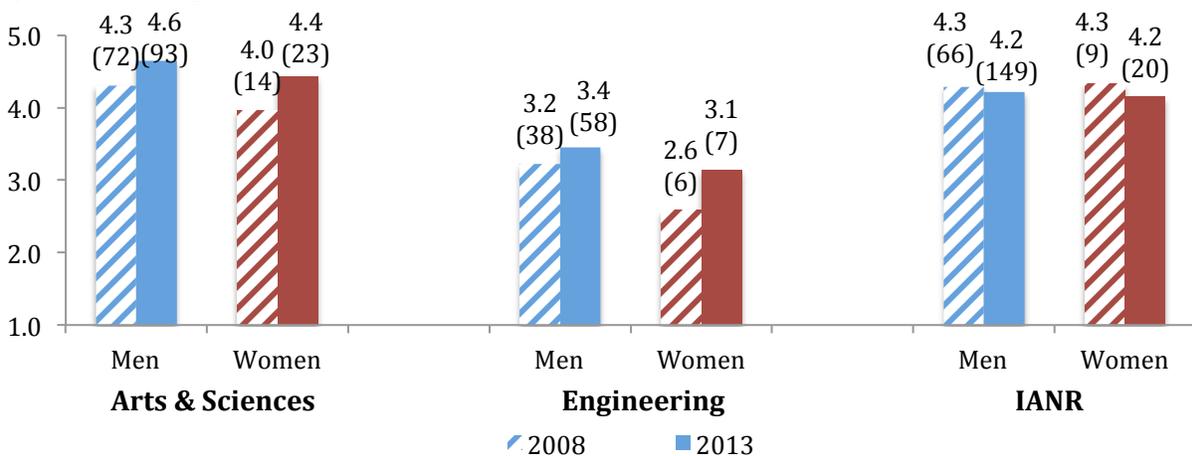


Figure 9 shows the means for the variable, "My colleagues do what they can to make family obligations and an academic career compatible" (1=strongly disagree to 5=strongly agree) for men and women by college. Consistent with the negative perceptions of the promotion/tenure process, faculty in the COE had more negative perceptions of the family-friendliness of colleagues compared to other colleges in 2008, but their perceptions became closer to other colleges by 2013. The mean score improved for men and women in the COE (from 3.3 to 3.6 for men and from 2.8 to 3.5 for women). Women in IANR had the largest increase in the mean score (from 3.1 to 3.9) between 2008 and 2013. There were no changes in perception among men in IANR or among faculty of either gender in A&S.

Figure 9. Mean Agreement of Department Family Friendliness



Table 14 shows descriptive level statistics by college for department level change in the four climate variables between 2008 and 2013. These variables were calculated for each department by subtracting the mean score within the department in 2013 from the mean score within the department in 2008. Then, the mean changes among the departments in each college were calculated. Standard deviations (SD) show the variability among the departments in the same college. The minimum values (Min) and the maximum values (Max) show the largest decrease and increase for a single department in each college; the minimum is the department in the college with the lowest change score, while the maximum is the department in the college with the highest change score

On average, the mean score on a 5-point scale (1= very dissatisfied to 5=very satisfied) for department satisfaction increased by 0.19 in A&S, by 0.05 in the COE, and by 0.14 in IANR (0.13 for all of UNL STEM). The largest increase in the satisfaction score was by 1.25 for a department in A&S, while one department in the COE experienced a 0.8 decrease in the satisfaction score. While there was more variation between colleges in departmental satisfaction changes, satisfaction with the institution (same 5-point scale) increased fairly similarly across colleges (by 0.11 for A&S, by 0.09 in the COE, and by 0.17 in IANR).

Even more variation was found between and within colleges in the amount of change in the perception that tenure and promotion decisions are performance-based. Using the same 5-point scale, substantial increases were found in the A&S (0.33) and COE (0.19), whereas IANR experienced a decrease of 0.04, resulting in an overall increase of 0.14 for UNL STEM as a whole. Departmental family friendliness showed very little change in A&S (a decrease of 0.01), but an increase in the COE (0.12) and IANR (0.10). The overall change in perceptions of family-friendliness for all UNL STEM departments was an increase of 0.07.

Table 14. Change in Climate Mean Scores by College Over Time

Change in the mean score from 2008 to 2013 for...	A&S (N=7)				COE (N=6)				IANR (N=9)				UNL STEM (N=22)			
	Mean	SD	Min	Max	Mean	SD	Min	Max	Mean	SD	Min	Max	Mean	SD	Min	Max
satisfaction with the department	0.19	0.57	-0.29	1.25	0.05	0.68	-0.8	1.07	0.14	0.46	-0.46	0.96	0.13	0.54	-0.80	1.25
satisfaction with the institution	0.11	0.3	-0.29	0.54	0.09	0.7	-1	1.17	0.17	0.34	-0.37	0.63	0.13	0.43	-1.00	1.17
tenure/promotion fairness	0.33	0.42	-0.18	1.02	0.19	0.58	-0.7	0.93	-0.04	0.31	-0.51	0.3	0.14	0.44	-0.70	1.02
department family-friendliness	-0.01	0.56	-0.62	1.12	0.12	0.64	-0.72	0.91	0.1	0.44	-0.73	0.57	0.07	0.51	-0.73	1.12

Note: 2 departments in COE are not included in the analysis because they had only one case for 2008

Climate By Rank and Gender

The FNWS administered in 2011 included a more comprehensive set of measures than the 2008 climate survey to more fully assess constructs of interest. These measures were used to create scales and were repeated in 2013, allowing for analysis over time from the mid-point (2011) to the end point (2013) of ADVANCE-Nebraska. The following describes changes over time by rank and gender.

Positive Department Climate

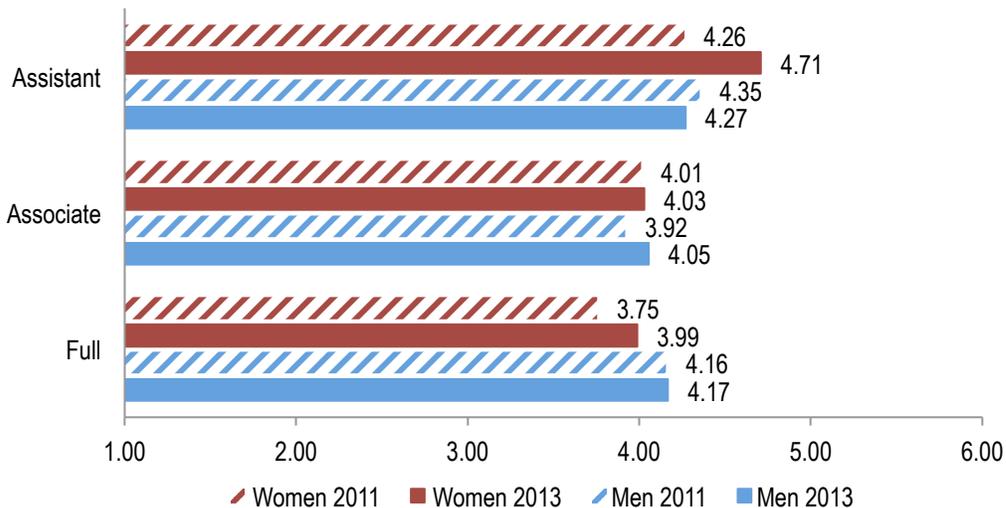
Figure 10 shows the mean scores for positive department climate in 2011 and 2013 by rank and gender. Positive department climate is an index created from five variables using a 6 point scale (1=strongly

disagree to 6=strongly agree): a) "Faculty in my department are supportive of one another," b) "Faculty in my department are sometimes rude to one another" (reverse coded), c) "Faculty in my department enjoy working together," d) "Tension among faculty in my department make it uncomfortable working here" (reverse coded), e) "Faculty in my department spend time getting to know one another" (Chronbach's alpha was .83 for 2011 and .86 for 2013).

The mean score for perceived department climate increased between 2011 and 2013 for men and women of all rank except for assistant professor men, with the most notable increase found among assistant professor women who reported the most positive climate of all groups in 2013 (\bar{x} =4.71). Overall, men and women had fairly similar perceptions of their department climate, with some variation by rank. The biggest gender difference observed in 2011 was among full professors, where women perceived a less positive climate than men (men: \bar{x} =4.16, women: \bar{x} =3.75), but this difference was minimized over time as a result of increased reports of positive climate among full professor women (men: \bar{x} =4.17, women: \bar{x} =3.99). Moreover, women lagged slightly behind men at the assistant professor rank in 2011 (men: \bar{x} =4.35, women: \bar{x} =4.26), but observed substantial gains over time and women reported a much more positive climate than men at this rank in 2013 (men: \bar{x} =4.27, woman: \bar{x} =4.71).

At both time points, a curvilinear trend was found for rank among men in their perceptions of a positive departmental climate, with highest reports among assistant professor men (\bar{x} =4.35 in 2011 and \bar{x} =4.27 in 2013), and the lowest among associate professor men (\bar{x} =3.92 in 2011 and \bar{x} =4.05 in 2013), although the gap between ranks decreased over time. In contrast, women's reports showed a linear trend of less positive climate as rank increased. This trend was observed at both time points, with the gap between assistant and associate women professors widening over time due to larger gains among assistant professors, although gains were observed for women of all ranks.

Figure 10. Positive Department Climate Scale Means by Gender and Rank



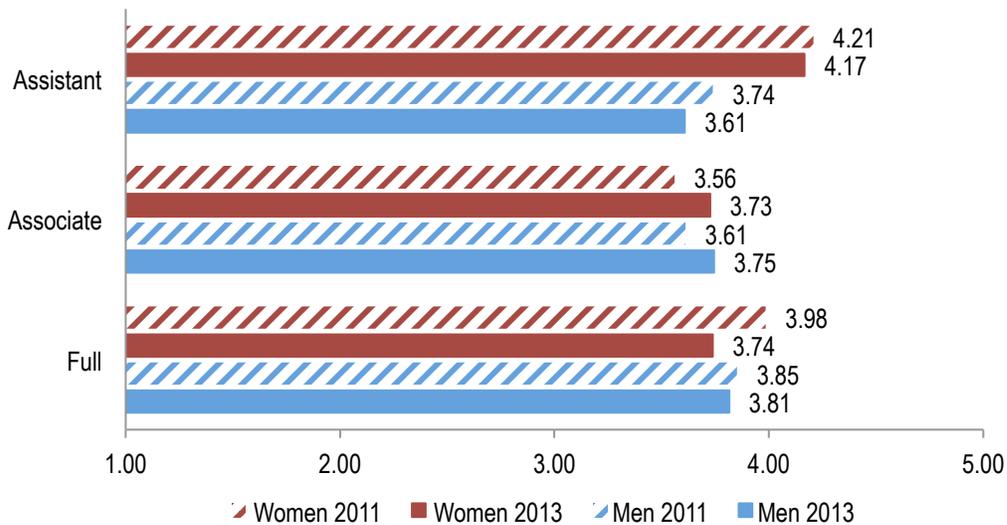
Department Family Supportiveness

Figure 11 shows the mean scores for department family supportiveness perception, which is a 5-point index created from three variables that measure faculty's perception of their department's policies and general acceptance of work/family balance issues (1=strongly agree to 5=strongly disagree): a) "My colleagues are respectful of my efforts to balance work and home responsibilities," b) "In my department,

faculty may comfortably raise personal or family responsibilities when scheduling work activities or meetings." c) "My colleagues do what they can to make family obligations and an academic career compatible" (Chronbach's alpha was .79 for 2011 and .75 for 2013).

Both in 2011 and in 2013, assistant professor women had the most positive perceptions of department family supportiveness compared to other groups (\bar{x} =4.21 in 2011, \bar{x} =4.17 in 2013). Both genders showed an increase in their perception of family supportiveness over time at the associate level over time (men increased from 3.61 to 3.75 and women increased from 3.56 to 3.73), while other ranks showed decreases.

Figure 11. Department Family Supportiveness Scale Means by Gender and Rank

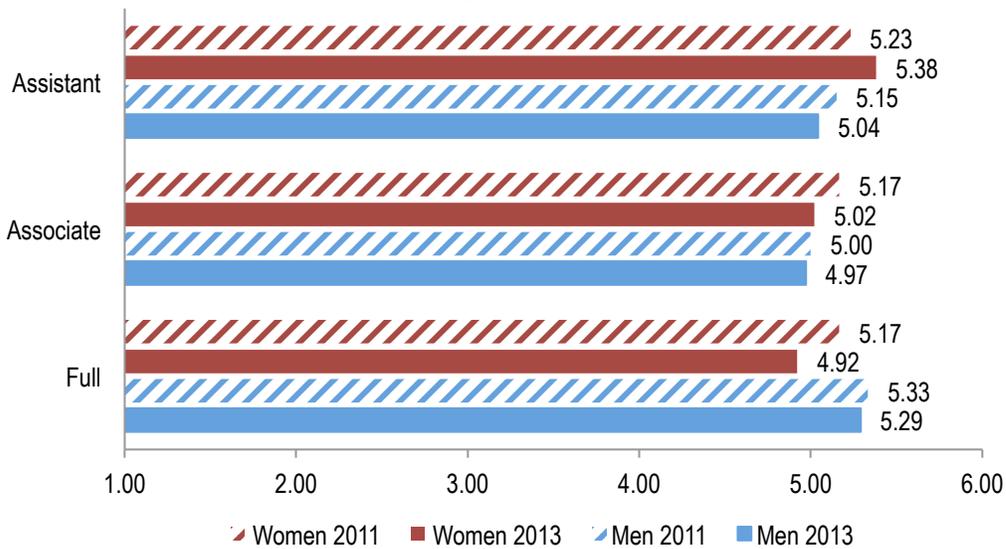


Work Satisfaction

Figure 12 shows the mean scores for the 6-point work satisfaction scale. Faculty were asked how strongly they agreed or disagreed (1=strongly disagree, 6=strongly agree) to the following three statements: a) "Overall, I enjoy the work I do as a faculty member," b) "the work I do as a faculty member is meaningful to me," c) "If I had to do it over again, I would still become a professor." The scale was created by averaging responses to these three variables (Chronbach's alpha was .82 for 2011 and .80 for 2013).

Women consistently reported higher work satisfaction than men at the assistant and associate ranks, but less satisfaction at the full rank. While women's satisfaction levels varied little by rank in 2011, a linear trend was found in 2013, showing decreases in work satisfaction as rank increased. In 2013, assistant professor women reported the highest satisfaction of all faculty (\bar{x} =5.38), while full professor women reported the lowest of all faculty (\bar{x} =4.92). Men's work satisfaction changed little over time, with full professor men showing the highest levels of work satisfaction among men (\bar{x} =5.33 in 2011 and \bar{x} =5.29 in 2013), and associate professors reporting the lowest levels among men (\bar{x} =5.00 in 2011 and \bar{x} =4.97 in 2013).

Figure 12. Work Satisfaction Scale Means by Gender and Rank

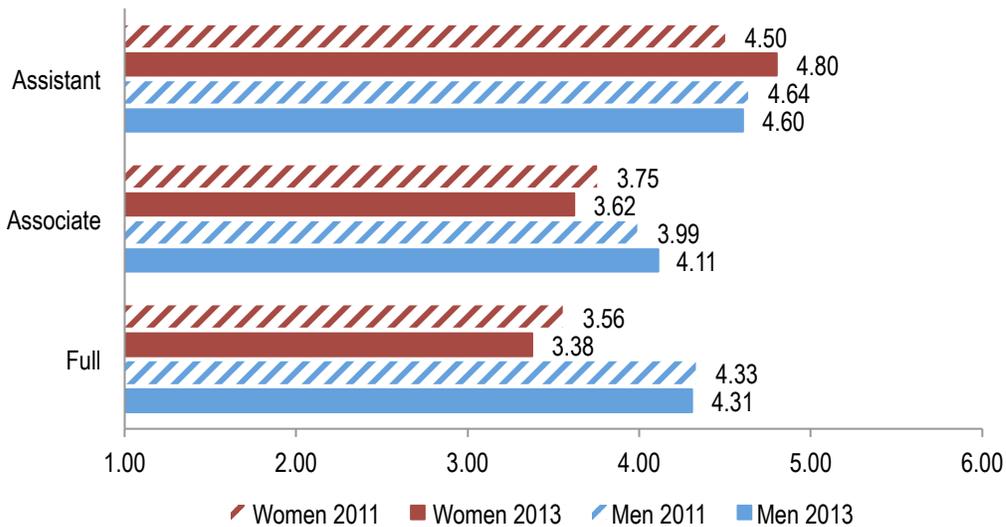


Valued Research

Figure 13 shows the mean scores for the perceived value of research, comprised of a 6-point index including three items (1=strongly disagree, 6=strongly agree): a) "Faculty in my department value my research," b) "I have received positive feedback about my research from department colleagues," c) "Faculty in my department recognize the contributions I make to my field." The mean of the three items were averaged to create the scale (Chronbach's alpha was .92 for 2011 and .91 for 2013).

Gains in feelings of research value were observed over time among assistant professors of both genders and among associate professor men, but perceptions among those at other ranks decreased from 2011 to 2013. Consistent across time, for both genders, assistant professors perceived more value toward their research than other ranks; however, the difference between ranks was most notable for women. For women, a linear downward trend was observed as they progress in rank, with women assistant professors (\bar{x} =4.50 in 2011 and \bar{x} =4.80 in 2013) reporting much more value than associate professors (\bar{x} =3.75 in 2011 and \bar{x} =3.62 in 2013) and full professors (\bar{x} =3.56 in 2011 and \bar{x} =3.38 in 2013). In contrast, a curvilinear trend was observed among men, with highest value perceived at the assistant level (\bar{x} =4.64 in 2011 and \bar{x} =4.60 in 2013), dropping to the lowest value at the associate level (\bar{x} =3.99 in 2011 and \bar{x} =4.11 in 2013), but then rebounding at the full level (\bar{x} =4.33 in 2011 and \bar{x} =4.31 in 2013).

Figure 13. Value of Research Scale Means by Gender and Rank



Clarity of Tenure/Promotion Climate

Figure 14 shows the mean scores for clarity of the tenure process. The index was created by averaging responses on the clarity (1=very unclear, 6=very clear) of three variables: a) "The body of academic work considered (i.e., what things are evaluated)," b) "Academic work performance expectations (i.e., the quantity and quality of work)," c) "The steps involved in the process (i.e., from preparing a file to the final decision)" (Chronbach's alpha was .91 for 2011 and .91 for 2013).

Overall, full professor men and assistant professor women report the most clarity. For men, full professors have the most positive perception of tenure and promotion process clarity in both 2011 ($\bar{x}=4.93$) and 2013 ($\bar{x}=4.99$), while associate professors reported the least clarity in 2011 ($\bar{x}=4.28$) and assistant professors the least in 2013 ($\bar{x}=4.20$). In contrast, for women, assistant professors report the most clarity in both 2011 ($\bar{x}=4.72$) and in 2013 (4.83), while associate professors report the least at both time points ($\bar{x}=4.52$ in 2011 and 4.31 in 2013). Mean scores for both genders changed slightly over time. While women showed an increase at the assistant professor rank and decreases at the senior ranks, men showed the opposite, with a decrease at the assistant professor rank and slight increases at the senior ranks.

Figure 14. Clarity of Tenure/Promotion Scale Means by Gender and Rank

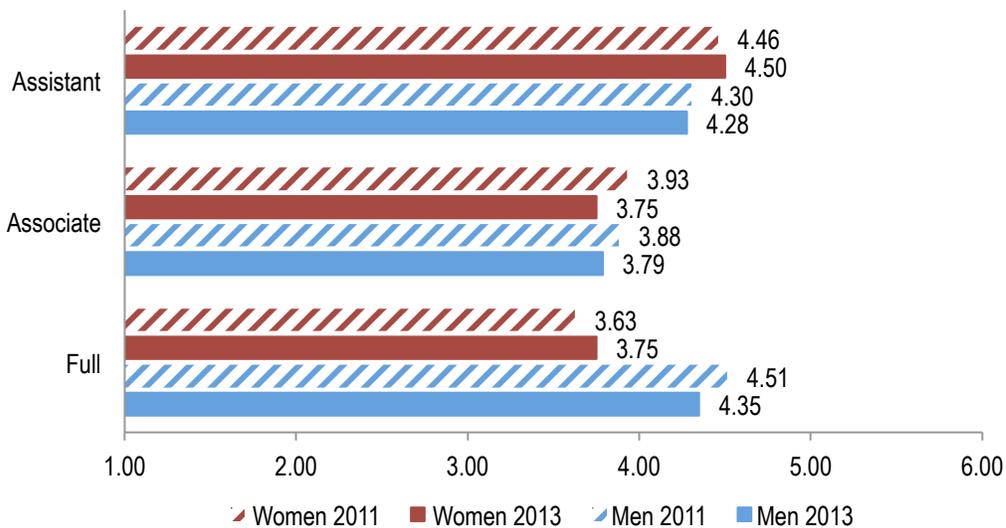


Workload Fairness

Figure 15 shows the mean scores for perception of workload fairness, a 6 point index comprised of four variables that asked faculty how fair the following aspect of their tenure home department were (1=very unfair, 6=very fair): a) "Rotation of service committee assignments," b) "Evaluation of faculty scholarly performance," c) "Distribution of faculty salaries," d) "Distribution of departmental resources" (Chronbach's alpha was .83 for 2011 and .87 for 2013).

At both time points, assistant professor women (\bar{x} =4.46 in 2011, \bar{x} =4.50 in 2013) and full professor men (\bar{x} =4.51 in 2011, \bar{x} =4.35 in 2013) tended to perceive the workload as most fair, while full professor women tended to perceive it as least fair (\bar{x} =3.63 in 2011, \bar{x} =3.75 in 2013). However, full professor men showed a decrease over time, while full professor women showed an increase in perceiving the workload as fair. In general, associate professors of both genders perceived the workload as less fair, and this perception became stronger over time.

Figure 15. Workload Fairness Scale Means by Gender and Rank



Retention Plans

Figure 16 shows faculty's ratings regarding their desire to stay at UNL, calculated by averaging the scores of four items on a 6-point scale (1=strongly disagree, 6=strongly agree): a) "I would be happy to spend the rest of my career in this department," b) "It would take a lot to get me leave this department," c) "I have seriously considered leaving this department," d) "If I could leave this department right now, I would." (Chronbach's alpha was .89 for 2011 and .92 for 2013).

A linear trend was found among women, with assistant professors being the most likely to plan to stay at UNL and the likelihood of staying decreasing as women rose in rank. This trend became stronger in 2013 compared to in 2011, as the desire to stay increased substantially for women assistant professors (\bar{x} =4.28 in 2011, \bar{x} =4.85 in 2013), while it decreased for full professors (\bar{x} =3.65 in 2011, \bar{x} =3.56 in 2013). Among men, on the other hand, associate professor were consistently found to be least likely to want to stay (\bar{x} =3.73 in 2011, \bar{x} =3.96 in 2013).

Men and women are fairly similar in their likelihood to stay at UNL at the associate level, but women full professors (\bar{x} =3.65 in 2011, \bar{x} =3.56 in 2013) were much less likely to plan to stay at UNL than their male counterparts at both time points (\bar{x} =4.31 in 2011, \bar{x} =4.28 in 2013). At the assistant professor level, women lagged behind men in their likelihood to stay in 2011 (men: \bar{x} =4.55, women: \bar{x} =4.28), but jumped ahead in 2013 (men: \bar{x} =4.28, women: \bar{x} =4.85). **This movement among women assistant professors suggests improvements in the retention of women assistant professors, but there was very little change in women at other ranks.**

Figure 16. Desire to Stay at UNL Means by Gender and Rank

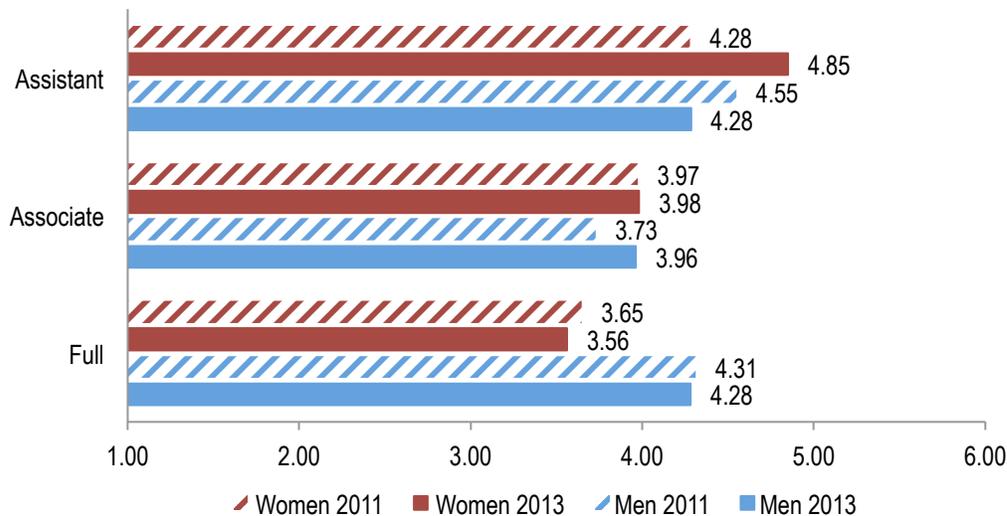
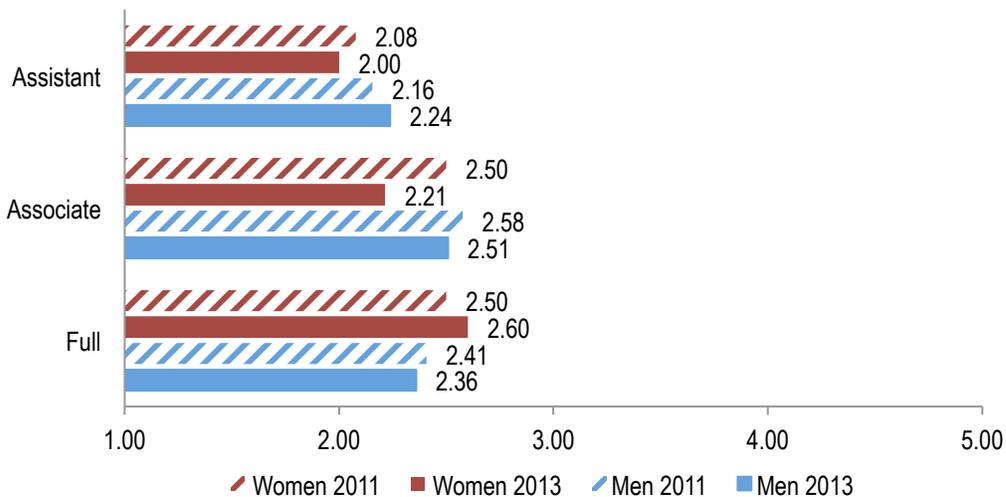


Figure 17 shows the mean scores for a single item which measured the likelihood of leaving UNL in the next three years. Using a 5-point scale (1=very unlikely to 5=very likely), faculty answered the statement, "In the next three years, how likely or unlikely are you to leave UNL?" Women full professors reported the highest likelihood of leaving (\bar{x} =2.50 in 2011, \bar{x} =2.60 in 2013), followed by associate professor men (\bar{x} =2.58 in 2011, \bar{x} =2.51 in 2013). The likelihood of leaving decreased over time for women at the assistant and associate ranks, especially for associate professors (\bar{x} =2.50 in 2011, \bar{x} =2.21 in 2013); however, it increased for full professors. In contrast, the likelihood for leaving decreased for men at the higher ranks, but increased for assistant professors.

Figure 17. Mean Likelihood of Leaving UNL by Gender and Rank



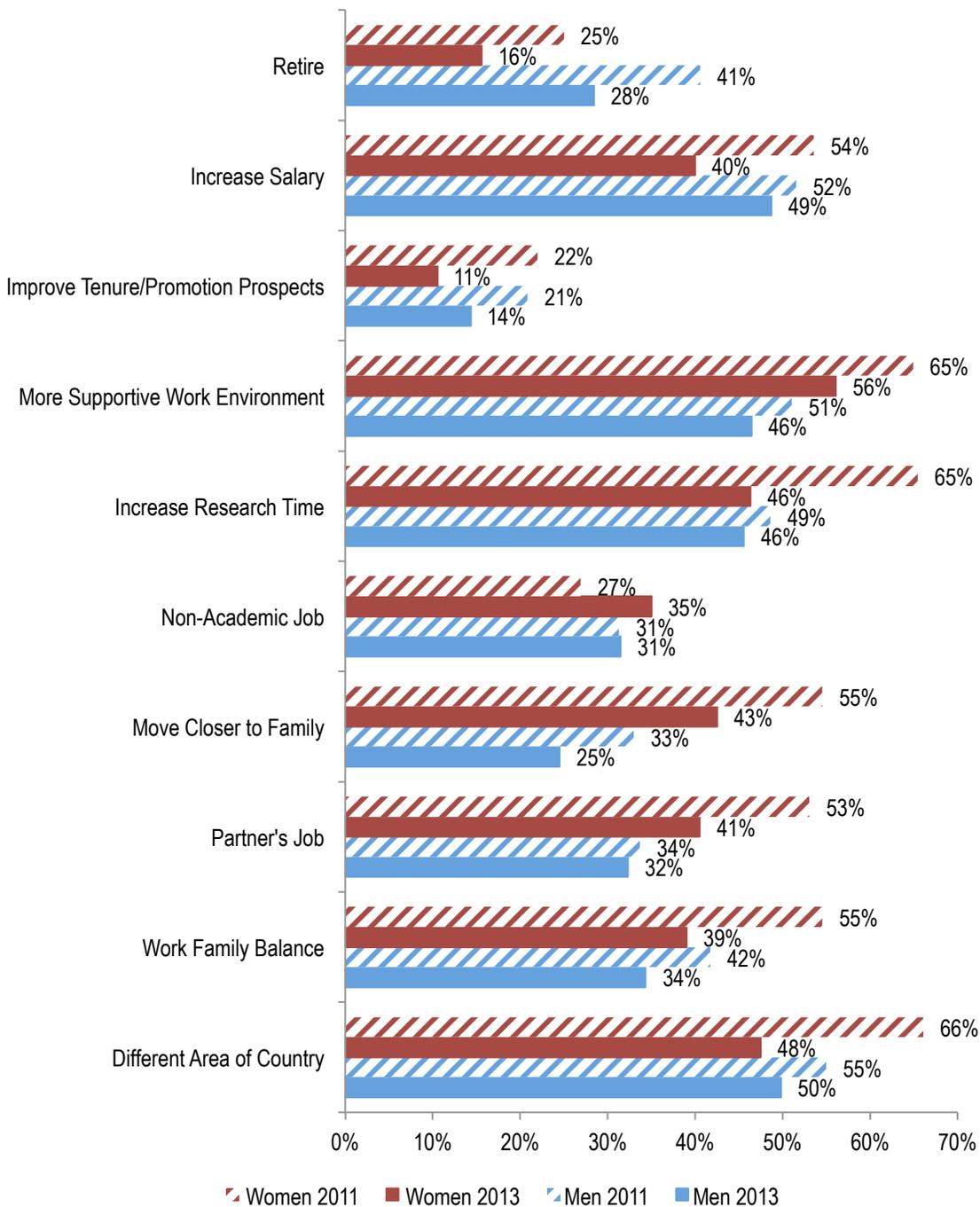
To examine this further, the climate survey inquired into the reasons for leaving. Figure 18 shows the response to the question, "To what extent, if at all, have you considered the following reasons to leave UNL..." by gender. Results are the proportion of respondents who said they considered a reason for leaving either 'to some extent' or 'to a great extent'.

In 2011, 65% of women reported to have considered leaving UNL to increase time to do research, compared to 49% of men. However, this gender discrepancy was eliminated by 2013 due to a substantial decrease found among women (46% of both genders reported research time as a consideration in leaving in 2013). A similar trend was found in other areas of consideration as well. While women were more likely than men to consider leaving for work family balance reasons, the gender disparity decreased over time due to substantial reductions of considering this among women in 2013 (women decreased from 55% to 39%, while men decreased from 42% to 34%). Women were more likely than men to have considered leaving UNL to find a more supportive work environment at both time points, but the gender gap also narrowed over time (women decreased from 65% to 51%, men decreased from 56% to 46%). Similarly, women in 2011 were much more likely than men to have considered leaving UNL to live closer to family (55% of women, 33% of men) or to improve the employment situation of their spouse or partner (53% of women, 34% of men), but these gender differences narrowed in 2013 as women decreased their reports of leaving to live closer to family (43%) and to improve spouse's employment (41%).

Relatively little change was found in the consideration to leave to improve tenure/promotion prospects, which consistently found women (22% in 2011, 21% in 2013) to be more likely to indicate than men (11% in

2011, 14% in 2013). There was little change over time and a negligible gender difference found in the consideration of leaving to seek a non-academic job, with 31% of men reporting this at both time points, compared to 27% of women in 2011 and 35% in 2013. In 2011, women (54%) were slightly more likely than men (52%) to consider leaving to increase their salary, but this gender difference flipped in 2013, where men (49%) reported being more likely to leave for this reason than women (40%).

Figure 18. Reasons to Leave UNL by Gender and Rank

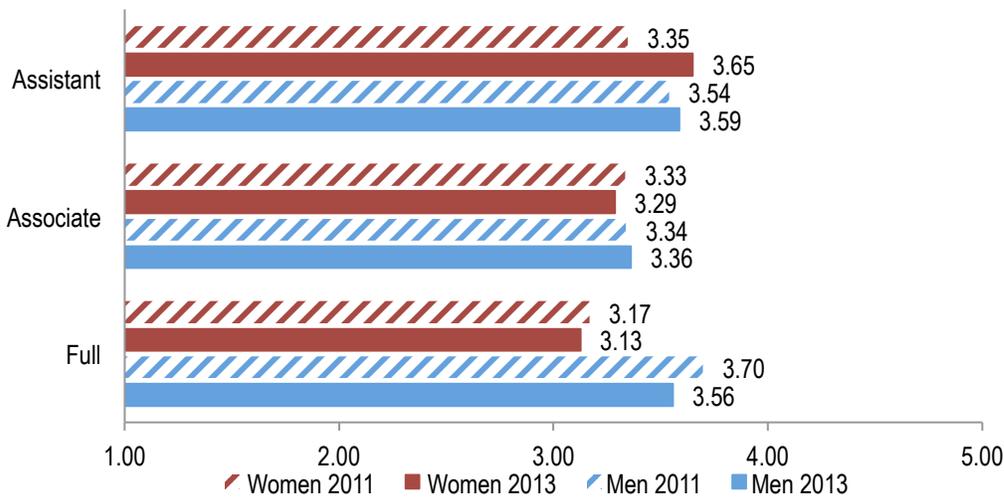


Encouragement for Leadership

Figure 19 shows the mean scores for a single item measuring satisfaction with encouragement to pursue leadership positions. Faculty reported their level of satisfaction with "The encouragement you have received from colleagues for pursuing leadership positions" using a 5-point scale (1=very dissatisfied to 5=very satisfied).

Full professor women had the lowest satisfaction with encouragement to pursue leadership positions among all groups at both time points, with little change over time (\bar{x} =3.17 in 2011, \bar{x} =3.13 in 2013). While little changed over time for most groups, assistant professor women experienced an increase in their satisfaction means (from 3.35 in 2011 to 3.65 in 2013), resulting in that group being the most satisfied of all groups in 2013.

Figure 19. Satisfaction with Encouragement to Pursue Leadership Means by Gender and Rank



Impact of Involvement on Climate

Changes in climate mean scores on the four climate variables measured in 2008 and 2013 were compared to measures of involvement to assess the impact of involvement in ADVANCE-Nebraska on climate. For the analysis, department means were aggregated at the college level (N=7 for A&S, N=6 for COE, and N=9 for IANR).⁵ Table 15 shows the analysis that investigated patterns in the changes in climate perceptions depending on the department chair's involvement with ADVANCE-Nebraska (measured by attendance of the chair at any ADVANCE-Nebraska events), while Figures 20 through 27 show climate perception change dependent upon faculty involvement (measured by attendance of departmental faculty at any ADVANCE-Nebraska events). Because all of the chairs in A&S and IANR attended at least one event, the mean changes in climate based on chair attendance were only compared only among the departments in the COE (3 departments had a chair attend, while 3 departments did not have a chair attend any events).

⁵ Two departments in the COE were dropped from the analysis because only one person responded to the survey from these departments in 2008.

Table 15 suggests that COE climate perceptions tended to improve for departments whose chair was involved with ADVANCE-Nebraska, while the changes tended to be negative for departments whose chair was not involved. While the N's are small, the observed trend is consistent, with the perceptions of performance-based tenure and promotion decisions being the only exception. COE departments with a chair attending at least one ADVANCE-Nebraska event observed a .51 mean increase in their departmental satisfaction, while those without an involved chair experienced a .41 mean decrease. Similarly, COE departments with an involved chair observed an increase in institutional satisfaction (.53) and perceptions of family-friendly colleagues (.59), while those without an involved chair experienced a decrease (.34 for institutional satisfaction, .35 for family-friendly colleagues).

Table 15. Change in COE Climate Mean Scores by Department Chair Involvement

	No Chair Participation (N=3)	Chair Participation (N=3)
Change in the Mean Score of Satisfaction with the Department	-.41	.51
Change in the Mean Score of Satisfaction with the Institution	-.34	.53
Change in the Mean Score of Performance-Based Tenure/Promotion Decisions	.21	.16
Change in the Mean Score of Family-Friendly Colleagues	-.35	.59

The evaluation also examined the association between faculty involvement in ADVANCE-Nebraska events and change in climate perceptions. Figures 20 and 21 show the relationship between level of involvement as the x-axis and mean change in climate as the y-axis. Figure 20 measures involvement as the mean number of attendances in a department (dosage), while Figure 21 measures involvement as the proportion of faculty in each department attending (reach).

When looking at change in satisfaction with their department (1=very dissatisfied to 5=very satisfied), 12 departments had a positive change and 10 departments had a negative change in the mean score between 2008 and 2013. Figures 20 and 21 show that compared to the COE, the departments in A&S and IANR generally had heavier involvement in ADVANCE-Nebraska events. This pattern is observed by looking at where the linear lines begin and end (along the x-axis) for each college, which shows that the COE had fewer attendances and fewer faculty participating. Although involvement was less in COE, heavier department-level involvement with ADVANCE-Nebraska in that college was associated with more positive change in department satisfaction department (red line). This pattern was consistent across both the number of attendances (accounting for single faculty attending multiple events) and the proportion of faculty in the department participating in at least one event. An important thing to note is that faculty in the COE had lower mean scores for satisfaction with the department compared to A&S and IANR in 2008 (see Figure 6), which allows more room for increases. The pattern for A&S (blue line) shows a negative association, while IANR is more difficult to interpret, with one department in IANR skewing the fit line (green line) from a positive association to a negative one.

Figure 20. Change in the Mean Score of Department Satisfaction by Mean Number of Attendances (Dosage)

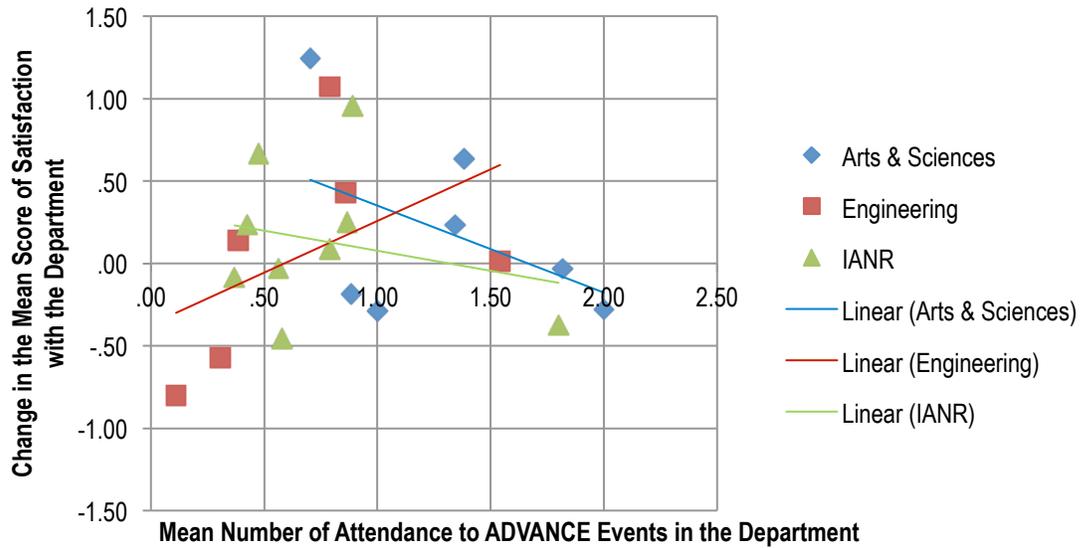
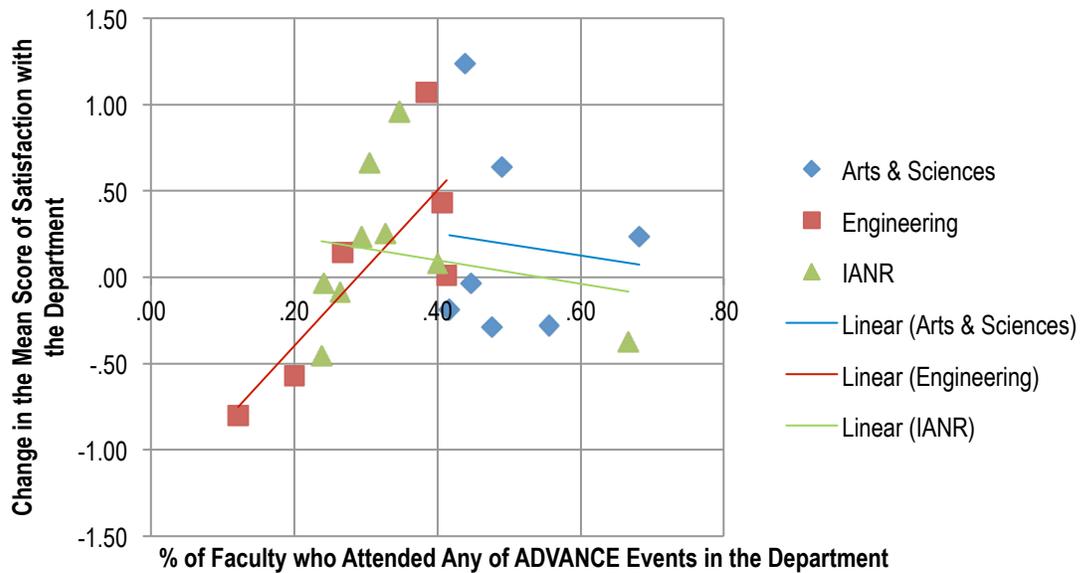


Figure 21. Change in the Mean Score of Department Satisfaction by Proportion of Faculty Participating (Reach)



When looking at changes in satisfaction with the institution (1=very dissatisfied to 5=very satisfied), 14 departments had a positive change and 8 departments had a negative change in the mean score between 2008 and 2013. Figures 22 and 23, show that heavier department-level involvement was associated with more positive change in satisfaction with the institution for departments in the COE and IANR (red and green lines). Interestingly, A&S (blue line) shows a negative association between higher mean attendances (dosage) and increases in satisfaction, while showing a positive association between higher proportion of

faculty in the department attending (reach) and increases in satisfaction. It is plausible that in A&S, the few people attending several events may be an indicator of dissatisfaction as a selection bias.

Figure 22. Change in the Mean Score of Institution Satisfaction by Mean Number of Attendances (Dosage)

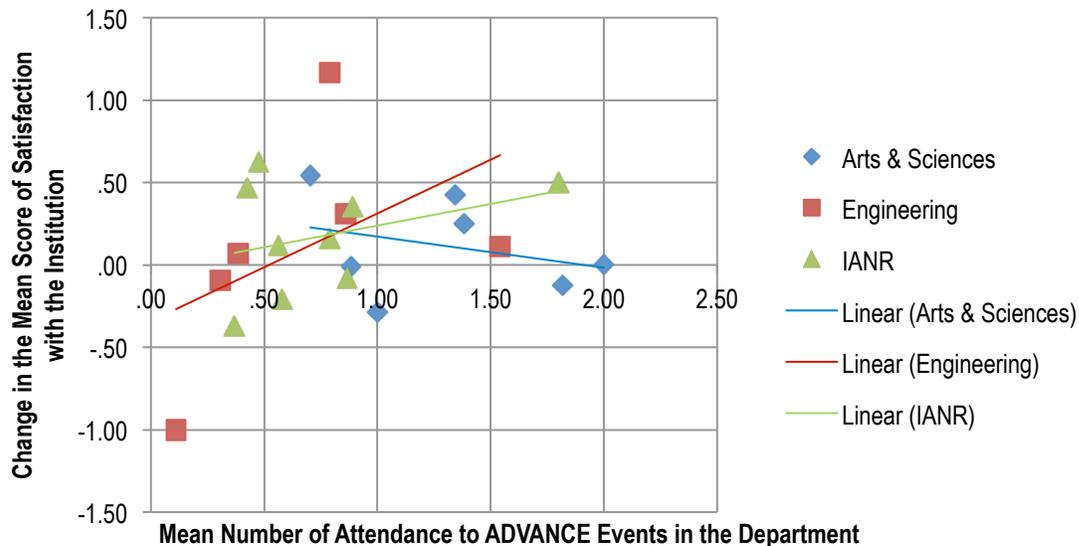
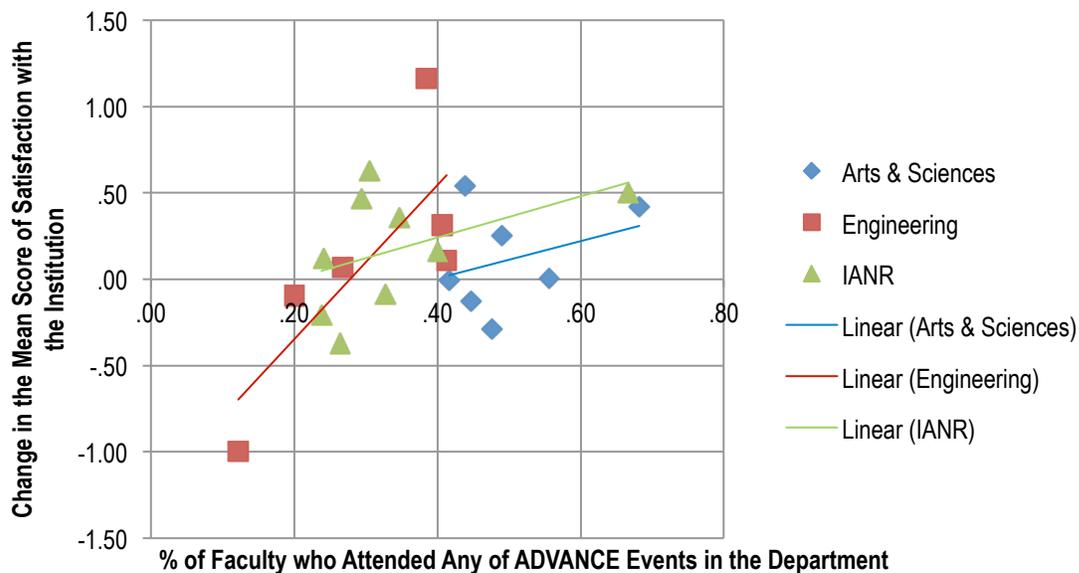


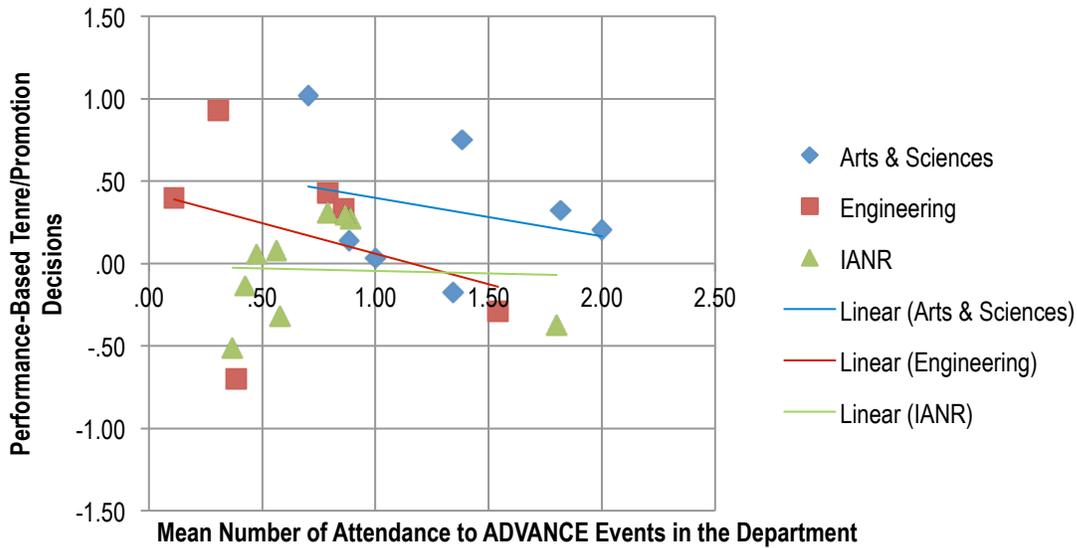
Figure 23. Change in the Mean Score of Institution Satisfaction by Proportion of Faculty Participating (Reach)



The association between department-level involvement and improvement in satisfaction is more consistent for institution satisfaction (nearly all showed a positive trend) compared to department satisfaction. It is possible that department-level involvement with ADVANCE-Nebraska made a favorable impression on faculty that their work environments were getting better at the institutional level. On the other hand, the department's heavy involvement with ADVANCE-Nebraska might have made the faculty more critical about the momentum for a better climate within their department.

When examining changes in faculty perceptions that tenure and promotion decisions are performance-based (1=very dissatisfied to 5=very satisfied), 15 departments had a positive change and 7 departments had a negative change in the mean score during the funding period. Figures 24 and 25 modestly suggest that heavier department-level involvement with ADVANCE-Nebraska was associated with a more negative change in the perceptions of performance-based tenure and promotion process. Many ADVANCE-Nebraska events addressed implicit bias, which may have increased awareness of bias in the tenure and promotion process. It is possible that heavier involvement with ADVANCE-Nebraska at the department level increased faculty's expectation for fairer performance-based tenure and promotion decisions.

Figure 24. Change in the Mean Score of Tenure/Promotion Fairness by Mean Number of Attendances (Dosage)



Mixed results were also found when looking at change in faculty perceptions of family-friendliness among colleagues (1=very dissatisfied to 5=very satisfied). Overall, 13 departments had a positive change and 9 departments had a negative change in the mean score from 2008 to 2013. Figures 26 and 27 resemble the figures for satisfaction with the department, where heavier department-level involvement with ADVANCE-Nebraska was associated with more positive change in the perceived family-friendliness among colleagues for departments in the COE. Again, similar to departmental satisfaction, the association seems to be in the opposite direction for departments in A&S and IANR, where heavier involvement was associated with more negative changes. This pattern was consistent across both the average attendance per person and the proportion of faculty from the department who attended any of the events.

Figure 26. Change in the Mean Score of Department Family Friendliness by Mean Number of Attendances (Dosage)

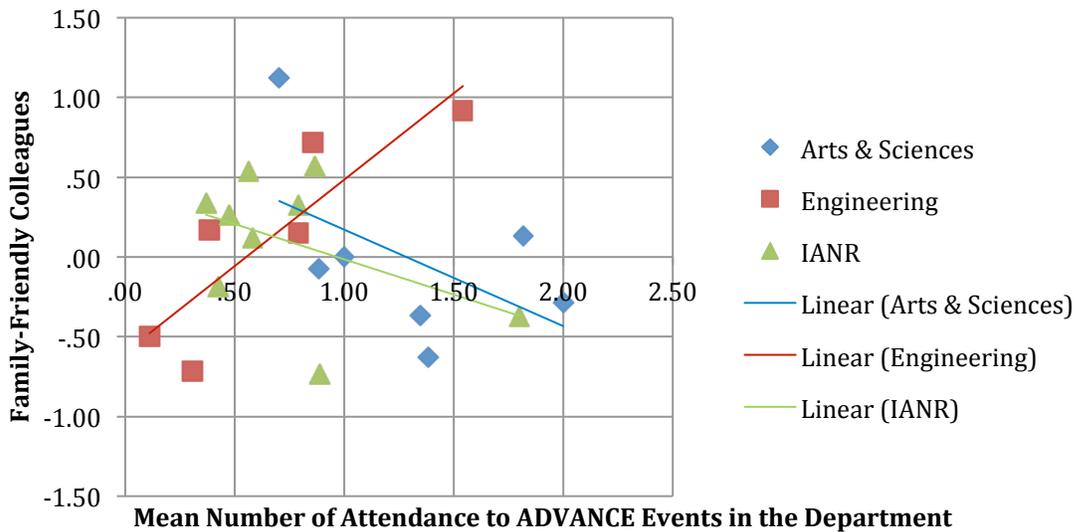
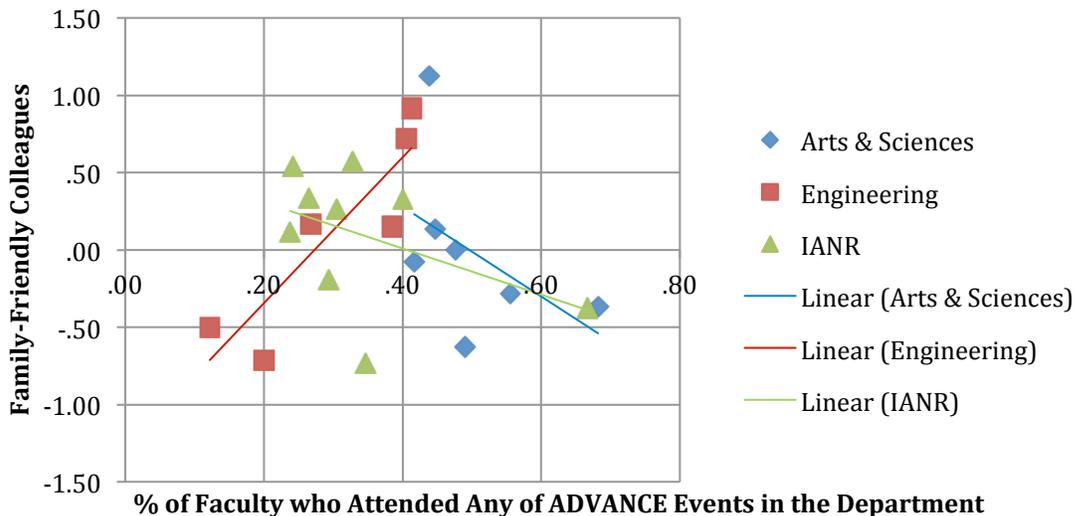


Figure 27. Change in the Mean Score of Department Family Friendliness by Proportion of Faculty Participating (Reach)



Work Hours

Perceptions of work time allocation showed a gender disparity in 2011, but this disparity decreased over time. In 2011, compared to men (\bar{x} =3.66), women were considerably less likely to agree (\bar{x} =3.23) with the statement, "I have been able to dedicate enough time to my research" (1=strongly disagree to 5=strongly agree). In 2013, women still had a lower mean (\bar{x} =3.41) than men (\bar{x} =3.72), but the gender difference was reduced due to an increase in women's perceptions of their time dedicated toward research. Women's reports of research-time dedication increased by .18, while reports for men only increased slightly (by .06).

When looking at self-reported work hours spent on research, the mean increased between 2011 and 2013 for both men (from 18.34 to 19.52) and women (from 17.85 to 18.79). Although the perception of research-time dedication increased more for women, the increase in self-reported research hours for men was slightly more than women. In 2011, women reporting spending more time on teaching (\bar{x} =14.95) than men (\bar{x} =13.29), but this disparity was eliminated by 2013 due to a reduction in teaching time for both genders (men: \bar{x} =12.79, women: \bar{x} =12.78). Although women still spent slightly more time on committee service (\bar{x} =3.69) than men (\bar{x} =3.60) in 2013, the gender gap (.09) became narrower compared to the gap in 2011 (.17).

Table 16. Mean Perceptions and Reported Hours Spend on Research, Teaching, and Committee Service by Gender Over Time

	2011 (N=376)				2013 (N=353)			
	Men		Women		Men		Women	
	mean	SD	mean	SD	mean	SD	mean	SD
<i>Perceived work time</i>								
Research-time dedication	3.66	1.58	3.23	1.44	3.72	1.52	3.41	1.32
Teaching-time dedication	4.33	1.32	4.40	1.14	4.34	1.25	4.35	1.20
<i>Work hours per week</i>								
Teaching	13.29	8.99	14.95	7.94	12.79	9.00	12.78	8.39
Research	18.34	12.45	17.85	9.70	19.52	13.07	18.79	12.82
Committee service	3.66	3.17	3.83	3.05	3.60	2.85	3.69	2.90

Salary

Analysis of covariance was used to investigate the relationship between gender and salary in both 2008-09 and 2010-11. The model included a number of gender-neutral variables expected to affect differing salary levels, including a faculty member's college, division or departmental grouping; faculty rank, number of years in rank, tenure status, graduate faculty status, education level, number of years since award of a terminal degree, year hired, chairperson status, active or on leave of absence with full or partial pay, professorship stipend level, and type of professorship (Regent's, Distinguished, College, et. al.). After accounting for these gender-neutral variables, the relationship between gender and salary was non-significant.

Policies

Table 17 shows that among the four work-life integration policies and programs examined using the self-reported data from the climate survey, spouse/partner hiring was the most frequently used program (12%). Women were more likely than men to report either currently using or having used all of the work-life integration policies or programs. While 18% of women were either using or had used a tenure-clock interruption, only 1% of men did the same. Over one third of women (38%) reported either currently using or having used family-related paid or unpaid leaves while the percentage was only 5% for men. The gender difference in the usage of spousal/partner hiring was smaller compared to the other two policies, which may be a result of both partners being hired in STEM departments, but a gender difference remained, with 10% of men and 24% of women reporting use of spousal/partner hiring. Finally, the smallest gender difference was in the use of university childcare, used by 10% of men and 14% of women.

Table 17. Proportion of Faculty Reporting Current or Past Use of Policies/Programs

	All (N=342)	Men (N=292)	Women (N=50)
Tenure-Clock Interruption	4%	1%	18%
Family-Related Leave	10%	5%	38%
University Childcare Center	10%	10%	14%
Spouse/Partner Hiring	12%	10%	24%

The 2010 interviews with new faculty hires suggest that awareness of work-life balance policies begins when first hired, with all 24 respondents reporting at least some awareness. Many learned of these policies from the new employee orientation, but there was a gender discrepancy in awareness source. While only 14% of women learned from the new employee orientation (compared to 53% of men), nearly half (43%) of all women new hires reported learning about the policies from ADVANCE-Nebraska (compared to only 6% of men). Sixty-four percent of respondents said work-life balance policies affected their decision to accept the UNL job to some degree.

Retention-Focused Events Outcomes

Learning valuable and useful information that will help faculty with their careers was an outcome of the professional development events focused on retention. Among the 28 retention-focused events in which evaluation data were available, the vast majority (95%) of participants either agreed or strongly agreed that the content would help their careers, and that they learned something valuable about the topic of the event. The specific outcomes for each event are provided in Appendix B.

Table 18 shows the means for each event (1=strongly disagree to 5=strongly agree), which shows that the events resulting in participants learning the most were the COACHe events held in years 2009, 2010 and 2011. The means from the COACHe events for learning something that will help with their career were 4.9, 4.9, 5.0, respectively. Strong agreement with learning something that will help was also found for events hosted by other external speakers: Kerry Ann Rockquemore (Getting What You Need: Junior Faculty, \bar{x} =4.8), Bonnie Coffey (Meeting With a Purpose, \bar{x} =4.8) and Geri Richmond (Don't Ask, Don't Get, \bar{x} =4.7). In addition to events with external speakers, participants reported strong agreement in learning something from the Teaching Challenges and Solutions event, which was part of the Conversation Series (\bar{x} =4.9). The 2011 COACHe and Rockquemore's "Getting What You Need: Junior Faculty" sessions were reported as most valuable (\bar{x} =4.9 and 4.8, respectively).

Table 18. Mean Agreement among Retention-Focused Event Participants

	I learned something from this workshop that will help me with my career.	I learned something valuable about <TOPIC>
COACH 3/2/09 (n=15)	4.9	
Walking the Career-Family Tightrope, Espy 3/12/09 (n=31)	4.5	
No daughter of mine is going to Caltech, Schellman 4/29/09 (n=26)	4.2	
Meeting With a Purpose, Bonnie Coffey, 8/28/09 (n=23)	4.8	
The Seven Career Life: A Geological Perspective, Grew 9/16/09 (n=38)	4.2	
Connecting at Conventions, Bonnie Coffey 1/22/10 (n=17)	4.5	
The Importance of Determining What's Important, Judy Walker 2/11/10 (n=19)	4.3	
Perceptions of Climate, Falci and McQuillan 2/22/10 (n=21)	3.4	
Climate Part II, McQuillan 4/19/10 (n=5)	4.2	
How Useless Information is Always Useful, Someday, Allison McKay 4/22/10 (n=18)	4.6	
COACH 2010 (n=27)	4.9	
Starting Up and Managing a Research Lab 9/22/10 (n=21)	4.2	4.3
Nominating Colleagues for National Awards 11/17/10 (n=12)		4.5
Sustaining a Consistent Stream of Research Publications 12/8/10 (n=23)	4.5	4.7
Teaching to Attract and Retain STEM Majors 1/13/11 (n=21)	4.5	4.3
Teaching Challenges and Solutions 1/26/11 (n=14)	4.9	4.7
Opportunities to Become a Campus Leader 2/10/11 (n=12)	4.3	4.4
COACH 2011 (n=20)	5.0	4.9
Now I Have Tenure, What Next? 3/31/11 (n=10)	4.5	4.3
Conversations 2.0 9/8/11 (n=20)	4.4	
Don't Ask, Don't Get 1/20/12 (n=29)	4.7	4.7
Sorcinielli 3/7/12 (n=15)	4.5	4.6
How to Set up and Manage a Lab/Roadmap to Success 9/19/12 (n=14)	4.4	4.5
Dr. Wu 10/19/12 (n=22)	4.2	4.1
Highlights from the 2011 FNWS 11/2/12 (n=29)	4.1	4.4
Research-Based Practices for Evaluating and Retaining New STEM Faculty, Helen Moore 1/23/13 (n=28)	4.6	4.6
Rockquemore- Writing Your Next Chapter: Midcareer 5/7/13 (n=25)	4.5	4.4
Rockquemore- Getting What You Need: Junior Faculty 5/7/13	4.8	4.8

Note: Vidaver event not included due to measurement differences.

Writing Retreats Outcomes

Table 19 reports to what extent writing retreat participants agreed or disagreed with a variety of statements regarding the impact of the each year’s retreat (1=strongly disagree to 5=strongly agree). Overall, the retreats showed a positive impact. The final retreat specifically received extremely high agreement that they learned something that will help with their career (\bar{x} =4.7) and that they learned something valuable about writing (\bar{x} =4.8). Questions regarding the impact of networking were asked in the first two years, of which the first year received higher ratings (\bar{x} =4.1 in year one and \bar{x} =3.1 in year two).

Table 19. Mean Agreement among Writing Retreat Participants

	I learned something from this workshop that will help me with my career.	I learned something valuable about writing.	I met colleagues with whom I will now develop a closer professional relationship.
Y1: 2009 (N=7)			4.1
Y2: 2010 (N=12)			3.1
Y3: 2011 (N=3)	3.3	4.7	
Y4: 2012 (N=21)	4.4	4.4	
Y5: 2013 (N=12)	4.7	4.8	

Additionally, anecdotal evidence showed that several writing retreat participants developed their own writing support groups in their departments after attending the retreat. For example, a mini-workshop offered hosted by Earth and Atmospheric Sciences, “Write and Publish Your Thesis,” was modeled after the retreat. Another department started a writing support group, receiving feedback that it has revitalized senior faculty research and that it has helped them develop good, recurring writing habits. Finally, a grant was submitted and funded as a result of ADVANCE-Nebraska, to host a Big Ten writing retreat. The following section outlines the impacts of that retreat.

Big Ten STEM Writing Retreat

ADVANCE-Nebraska’s evaluation post-doctoral researcher, Dr. Trish Wonch Hill, secured funding from the Elsevier Foundation’s *New Scholars Program* to host an innovative writing retreat for STEM faculty in the Big Ten. In June 2012, the retreat was held, in collaboration with the Lincoln Children’s Museum, which hosted a week-long, science-themed day camp for participants’ children. Twenty-one faculty members from five Big Ten (CIC) institutions (including UNL) and five additional institutions attended.

As part of the grant, a strong evaluation was utilized, including a control group made up of participants’ peers. Preliminary findings show that, on average, participants had less confidence in their writing, and reported worse writing habits at baseline than the peer control group. At the 12 month follow-up, participants in the writing retreat had more positive attitudes toward writing and productivity, and they matched or surpassed the peer control group on 13 of 18 measures of writing attitudes, habits, and confidence. Many participants reported they have better writing habits after attending the retreats and webinars. One promising preliminary finding is that individuals who attended the retreat are statistically significantly more like to report that they have “a writing schedule that is inviolate” ($p < .05$).

Of the 17 people who completed the pre and 6 month post-test, seven papers have been submitted and two of those have been published. In addition, two books have been submitted, and a book chapter. Finally, four participants worked on grants, two were not awarded, but two have been funded. Similarly to what was observed as an unanticipated result of the UNL writing retreats, many participants of the Big Ten

writing retreat went back to their home institutions and created their own writing groups (at least two writing groups and two mini-retreats have been formed by participants).

Chair Data Discussions Outcomes

Table 20 shows the perceived impact from the chair data discussions (1=strongly disagree to 5=strongly agree), which shows that participants learned something valuable by attending, especially in year four (\bar{x} =4.55).

Table 20. Mean Agreement that Something Valuable was learned among Department Chair Data Breakfast Participants

	I learned something valuable about department, campus and national women faculty recruitment and retention trends.
Year 3: Department Chair Data Breakfast 1/21/11 (N=9)	4.33
Year 4: Department Chair Data Breakfast 1/20/12 (N=11)	4.55
Year 5: Department Chair Data Breakfast 2/1/13 (N=9)	3.89

Impact on Recruitment and Retention

In addition to activities focused solely on recruitment or retention, ADVANCE-Nebraska implemented efforts aimed at addressing both, including dual career hiring, department visits, events targeting department chairs and heads, ADVANCE Faculty Committee work, and network research. Institutional data were reviewed over time to evaluate the impact of these programmatic efforts on changes in the proportion of women in STEM at UNL, including comparisons to peer institutions to control for changes happening at the national level. Additionally, overall awareness and perceived impacts of ADVANCE-Nebraska were analyzed.

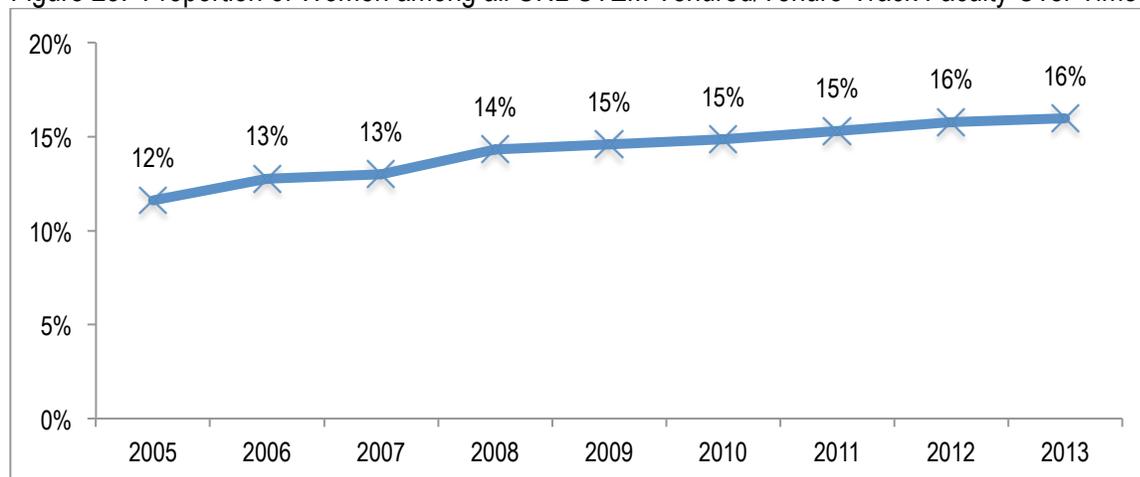
Proportion of Women Department Leadership

When ADVANCE-Nebraska began in 2008, only one of the targeted STEM departments had a female department chair/head/director and a man replaced this person in 2009. Therefore, since there was no representation of women as department chairs/heads/directors in STEM departments at UNL, an emphasis was placed on promoting women to this leadership position. In addition to the successful promotion of two women to department chair/head/director in the departments of Mathematics and School of Natural Resources, one woman was hired as Director of the School of Biological Sciences. Therefore, by the end of the funding period, 3 of the 22 STEM department chairs/heads/directors⁶ were women. While women remain underrepresented as department chairs/heads/directors (14%), this reflects a notable increase.

Proportion of Women Faculty

The proportion of women in UNL STEM departments has slowly, but steadily, increased over time (Figure 28). The proportion of women in STEM departments in 2004 was 12%, and this proportion increased to 16% by 2013. It is difficult to measure the impact of ADVANCE-Nebraska on this metric given the linear trend present prior to the funding of ADVANCE-Nebraska. A substantial amount of time is needed to significantly change the proportion of women faculty in departments, which requires new hires of women and exits of men. Therefore, while Figure 28 suggests an increase in the proportion of women since ADVANCE-Nebraska began, more time is needed to assess the ultimate impact.

Figure 28. Proportion of Women among all UNL STEM Tenured/Tenure-Track Faculty Over Time



⁶ Architectural Engineering, Construction Systems and Construction Management are all directed/chaired by the same person, so those departments are only counted once.

While little change is observed at the institutional level, individual departments showed more substantial changes over time (Table 22). For example, there was a decreasing trend for Food Science and Technology in the years prior to ADVANCE-Nebraska (the proportion of women decreased 10% between 2005 and 2009), but reversed the trend during the funding period by increasing the proportion of women from 13% to 20% (a 7% increase). At the college level, all 3 colleges showed an increase in the proportion of women from 2009 to 2013 (2% increase in A&S and COE, 1% increase in IANR), but the increase was less than that of the prior five years in A&S and COE (A&S increased 5% and COE increased 3% from 2005 to 2009).

Table 22. Change in Proportion of Women among all UNL STEM Tenured/Tenure-Track Faculty Over Time by Department

UNL Department	% Women of Tenured/Tenure-Track Faculty			Change from 2005 to 2009	Change from 2009 to 2013
	2005	2009	2013		
Biological Sciences	28%	35%	38%	7%	3%
Chemistry	5%	10%	13%	5%	3%
Computer Science & Engineering	9%	14%	17%	5%	4%
Earth and Atmospheric Sciences	11%	16%	22%	5%	6%
Mathematics	13%	17%	18%	4%	1%
Physics & Astronomy	9%	4%	8%	-5%	4%
Statistics	18%	31%	25%	13%	-6%
A&S Total	14%	19%	21%	5%	2%
Architectural Engineering	13%	22%	27%	10%	5%
Chemical and Biomolecular Engineering	17%	18%	17%	2%	-2%
Civil Engineering	6%	14%	19%	8%	5%
Computer & Electronics Engineering	11%	10%	9%	-1%	-1%
Construction Management	0%	0%	0%	0%	0%
Construction Systems	0%	8%	9%	8%	1%
Electrical Engineering	0%	9%	10%	9%	1%
Mechanical & Materials Engineering	11%	9%	10%	-2%	1%
COE Total	8%	11%	13%	3%	2%
Agronomy & Horticulture	11%	13%	11%	2%	-2%
Animal Science	19%	17%	17%	-2%	0%
Biochemistry	23%	25%	26%	2%	1%
Biological Systems Engineering	0%	5%	10%	5%	5%
Entomology	8%	8%	13%	0%	5%
Food Science & Technology	23%	13%	20%	-10%	7%
Plant Pathology	8%	17%	8%	9%	-9%
School of Natural Resources	11%	16%	18%	5%	2%
Veterinary Medicine & Biomedical Sciences	11%	8%	7%	-2%	-1%
IANR Total	12%	13%	14%	1%	1%
TOTAL UNL STEM	12%	15%	16%	3%	1%

Flux Charts

Flux charts are useful tools to examine the moving parts that drive change in the proportion of women in STEM. This movement is shown in Figure 29 for women and Figure 30 for men, which shows the number of faculty by rank in 2004-05, 2008-09, and 2012-13, as well as the number of faculty who were promoted (diagonal arrows), hired (dark gray arrows entering the column), and exited⁷ (light gray arrows exiting the column). These figures illustrate the movement necessary to ultimately impact the overall proportion of women in UNL STEM departments, which shows the difficulty in changing proportions given the large proportion of men at the full professor rank.

Figure 29. Flux Chart Movement of STEM Women Faculty at UNL by Rank

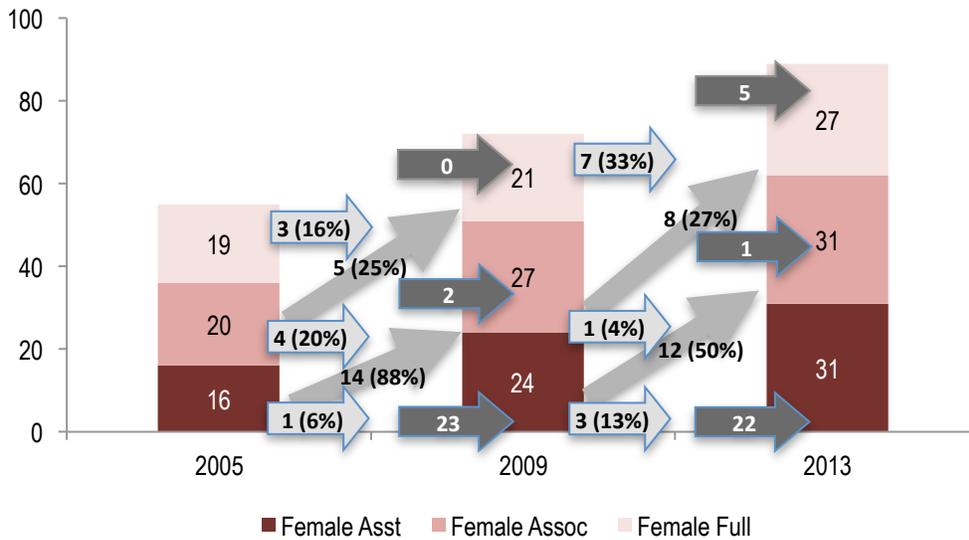
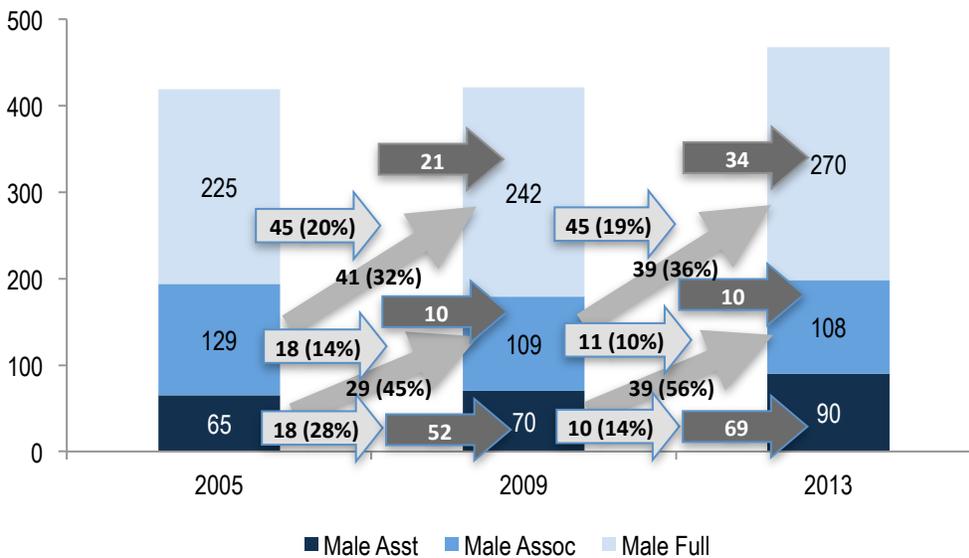


Figure 30. Flux Chart Movement of STEM Men Faculty at UNL by Rank



⁷ Exits include faculty leaving UNL for any reason, including retirement.

Flux charts provide some insight into the effects of new hires in the overall representation of women in STEM departments. While women hires still lag behind men at the assistant professor level, it is clear that women were hired at higher rates at that rank than other ranks. Prior to ADVANCE-Nebraska, 21 men were hired at the full professor rank while no women were hired at that rank. ADVANCE-Nebraska was actively involved in promoting the hiring of senior women, which resulted in five women hired at the full professor rank during the grant period. While the number of women hired at the senior level still lags substantially behind that of men (34 men were hired during the grant period), some progress was made.

The movement happening prior to ADVANCE-Nebraska (from 2004 to 2008) shows that retention was not a problem affecting women more than men at the assistant or full professor ranks, but more women than men left at the associate rank (20% of female associate professors left between 2004 and 2008, compared to 14% of males). During the ADVANCE-Nebraska grant period, women at the assistant and associate ranks were less likely than men to exit, but female full professors left at a higher rate than men (33% of female full professors left between 2008 and 2012, compared to 19% of males).

Promotion is more difficult to measure since it is dependent upon the number of years applied toward tenure in 2004, but the flux charts do not suggest that women are being promoted at a lower rate than men. Additional analyses comparing tenure and promotion reviews found no evidence that women are being denied at higher rates than men in STEM departments at UNL.

Cohort Analysis

A cohort analysis was completed in year three using data from 2001 through 2009 to learn about retention and promotion rates by gender. Faculty were grouped into cohorts as they entered a new rank and were followed over subsequent years to determine if they stayed at the same rank, were promoted, or left UNL. In general, among the assistant professor cohorts, attrition was a larger issue for men, while assistant and associate professor men tended to be tenured and promoted sooner than women.

Regression models were utilized to predict the probability of assistant professors leaving at the assistant level (i.e. before promotion) and associate professors leaving at the associate level (i.e. before promotion). The N's were too small for looking at those in the assistant cohort who left at the associate level and likewise for the associates who left at the full level. Regressions were also used to predict promotion to associate and full. The variables included in the regression models included gender, college, date PhD was obtained, date of hire at UNL, and date of tenure (for associate professors only). The only variable that was a significant predictor was date of hire. Gender was not a significant predictor in any of the models.

Peer Comparisons

Comparing the proportion of women tenured and tenure-track faculty by rank at UNL with peer institutions is important because it allows us to assess whether our STEM departments have recruited and retained women faculty at a higher or lower level than similar departments that are often competing for the same faculty. Table 23 shows the proportion of women by rank during the 2008 and 2012 academic years for UNL and for five peer institutions that are also part of the CIC⁸. While overall, UNL STEM departments generally lag behind their peers, there is variation by rank and several UNL departments exceed the proportion of women at the assistant and associate professor ranks.

⁸ 2013 data was not available for CIC peers; thus, 2012 data were used for peer comparisons

Table 23. Proportion of Women among all UNL STEM Tenured/Tenure-Track Faculty and CIC Peer Institutions Over Time by Department

	Academic Year 2007-2008								Academic Year 2011-2012							
	UNL				CIC Peers				UNL				CIC Peers			
	Asst	Assoc	Full	Total	Asst	Assoc	Full	Total	Asst	Assoc	Full	Total	Asst	Assoc	Full	Total
A&S																
Biological Sciences	50%	40%	15%	32%	33%	43%	21%	35%	56%	50%	19%	41%	48%	43%	24%	38%
Chemistry	20%	0%	8%	9%	28%	36%	19%	27%	17%	17%	8%	12%	30%	25%	34%	32%
Computer Science	40%	13%	0%	13%	38%	34%	24%	32%	20%	38%	0%	17%	23%	24%	38%	32%
Earth & Atmosph. Science	0%	25%	18%	16%	35%	41%	29%	35%	29%	0%	23%	22%	29%	45%	29%	35%
Mathematics	50%	14%	13%	17%	37%	40%	25%	34%	50%	14%	10%	17%	28%	25%	34%	31%
Physics & Astronomy	0%	33%	0%	9%	32%	32%	26%	30%	20%	17%	0%	8%	26%	38%	29%	30%
Statistics	67%	33%	14%	31%	37%	20%	12%	25%	0%	50%	20%	25%	49%	21%	31%	31%
COE																
Chem.& Biomolecular Eng.	na	33%	0%	9%	25%	18%	6%	21%	0%	0%	22%	17%	21%	20%	25%	24%
Civil Engineering	40%	13%	0%	10%	32%	16%	27%	26%	33%	27%	0%	19%	40%	0%	29%	26%
Comp. & Electronics Eng.	0%	20%	0%	10%	31%	33%	29%	31%	0%	17%	0%	9%	29%	33%	20%	27%
Electrical Engineering	40%	0%	0%	11%	15%	24%	15%	19%	50%	0%	0%	5%	23%	27%	10%	22%
Mechanical & Materials Eng.	0%	11%	8%	6%	15%	15%	15%	18%	17%	14%	6%	11%	24%	15%	11%	16%
IANR																
Agronomy & Horticulture	0%	33%	8%	13%	22%	10%	42%	26%	0%	33%	11%	11%	36%	35%	32%	34%
Animal Science	0%	29%	8%	15%	0%	53%	42%	35%	25%	14%	16%	20%	32%	44%	36%	37%
Biochemistry	25%	50%	0%	30%	35%	23%	34%	38%	20%	43%	14%	28%	31%	9%	30%	26%
Bio. Systems Engineering	25%	0%	0%	5%	7%	23%	0%	14%	33%	0%	0%	7%	43%	8%	0%	23%
Entomology	0%	50%	0%	8%	0%	75%	25%	45%	20%	0%	10%	12%	11%	44%	56%	43%
Food Science & Technology	0%	33%	10%	14%	69%	22%	30%	47%	50%	50%	0%	14%	63%	50%	44%	48%
Plant Pathology	50%	0%	14%	17%	0%	17%	25%	14%	0%	33%	0%	8%	0%	25%	37%	27%
Natural Resources	40%	13%	13%	16%	41%	49%	31%	40%	50%	0%	14%	18%	45%	48%	33%	42%
Vet & Biomedical Sciences	40%	13%	13%	10%	54%	32%	24%	35%	24%	21%	9%	4%	50%	39%	44%	44%

Note: Peer Comparisons were not available for Architectural Engineering, Construction Management, and Construction Systems

Figures 31, 32, and 33 offer a graphical display of the proportion of women faculty in UNL departments (grouped by college) compared to their CIC peers. Few UNL departments have a higher proportion of women than that of their peers. In 2008, two UNL departments exceeded their peers in the proportion of women: 30% of UNL's Statistics faculty were women, compared to 25% of their CIC peers, and 17% of UNL's Plant Pathology faculty were women, compared to 14% of their peer faculty pool. However, both of these UNL departments experienced decreases over time while their peers experienced increases, leaving them below their peers by 2012 (UNL Statistics dropped to 25%, while their peers increased to 31%, and Plant Pathology decreased to 8%, while their peers increased to 27%). In contrast, while UNL's departments of Biological Sciences and Biochemistry were previously below that of their peers when ADVANCE-Nebraska began, both departments had a higher proportion of women at UNL than their peers by year four. UNL's Biological Sciences increased their proportion of women from 32% to 41%, whereas their peers only increased from 35% to 38%. And while UNL's Biochemistry decreased slightly from 30% to 28%, their peers experienced a steeper decrease from 38% to 26%, leaving UNL with a higher representation of women in 2012 in this discipline. All other departments remain well below that of their CIC peers, even after making modest increases, suggesting more work is needed.

Figure 31. Proportion of Women in A&S Departments at UNL and Peer Institutions Over Time

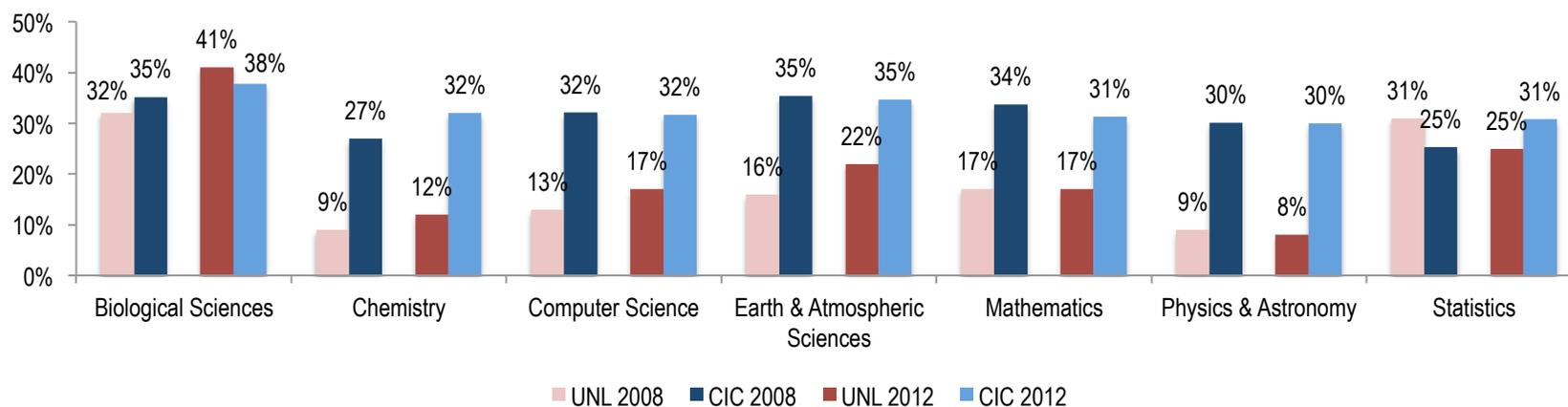


Figure 32. Proportion of Women in COE Departments at UNL and Peer Institutions Over Time

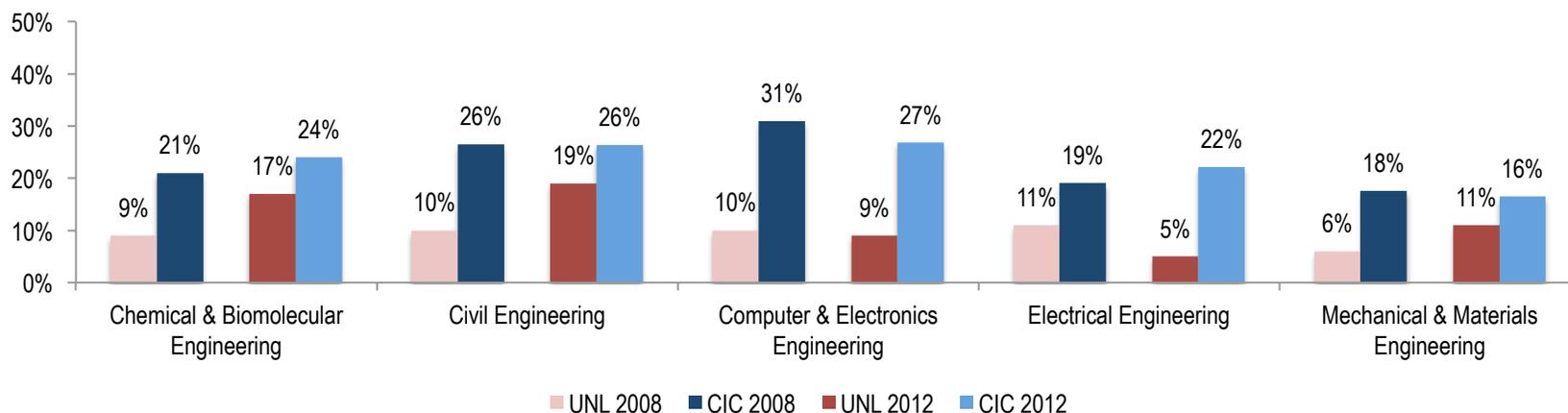
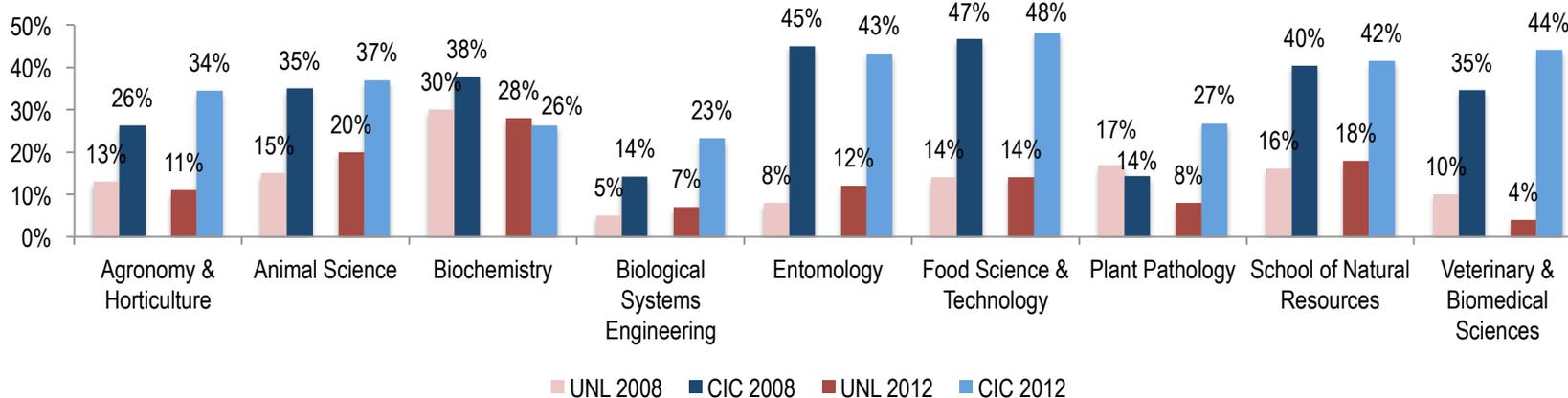


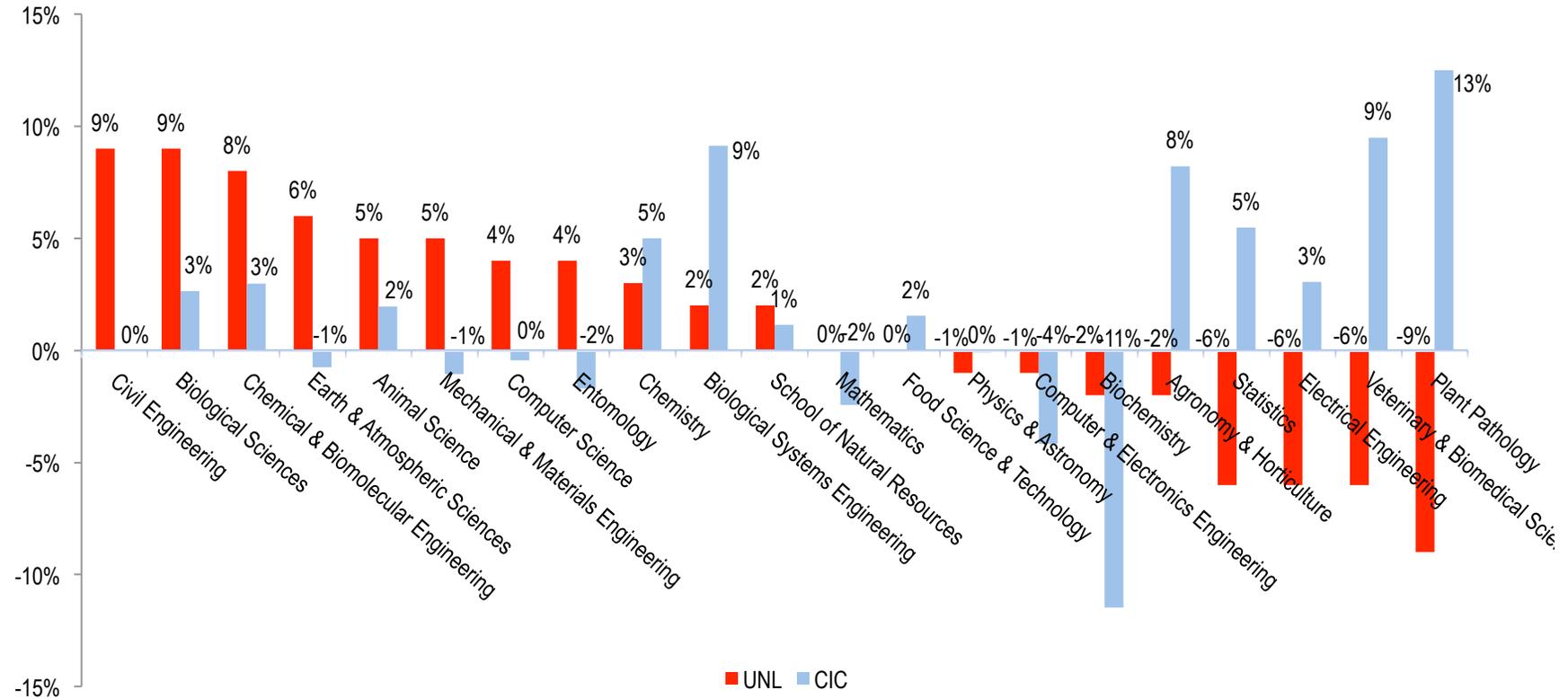
Figure 33. Proportion of Women in IANR Departments at UNL and Peer Institutions Over Time



Another way to look at progress over time in comparison to peers is to compare the amount of change that took place over the 4-year window. Figure 34 shows that the proportion of women faculty changed in most UNL departments. Eleven UNL STEM departments showed gains in the proportion of women faculty, while 8 departments showed a decline and 2 departments remained the same. In comparison, 12 peer institutions showed gains in the proportion of women in comparable departments, while 6 showed declines and 3 remained the same. No consistent trends were found when comparing UNL departments to CIC peers at an institutional or college level. The largest gains in comparison to peers at the

departmental level were found in the following 7 departments (covering all 3 colleges): Civil Engineering, Earth and Atmospheric Sciences, Biological Sciences, Mechanical and Materials Engineering, Entomology, Chemical and Biomolecular Engineering, and Computer Science (all showing at least a 4% net increase over their peers). In contrast, five UNL departments (again covering all 3 colleges) had decreases in their proportion of women, while their peers experienced increases; Plant Pathology, Veterinary and Biomedical Sciences, Electrical Engineering, Statistics, and Agronomy and Horticulture all showed at least a 9% net decrease.

Figure 34. Change in the Proportion of Women from 2008 to 2012 at UNL and Peer Institutions



Relative Change

In order to assess change in the proportion of STEM women at UNL, relative to that of peers and the national PhD pool, mean change scores were calculated at the department level and then aggregated to the college level. Table 24 shows descriptive level statistics by college for key department level dependent variables measured over time (N's show the number of departments). Standard deviations (SD) show the variability among the departments in the same college. The minimum values (Min) and the maximum values (Max) show the largest decrease and increase for a single department in each college; the minimum is the department in the college with the lowest change score, while the maximum is the department in the college with the highest change score. Discipline specific national doctorate trend data was available for 12 UNL STEM departments who also had at least one filled tenure track assistant professor search both prior to (2004-05 through 2007-08) and during ADVANCE-Nebraska (2008-09 through 2011-12). The proportion of women receiving PhD's is used as a comparison because it represents the number of eligible women who may be applying for assistant professor positions. Because new PhD's often are expected to first take postdoctoral positions in many disciplines, national PhD rates from 2005 (to compare to 2008 searches) and 2008 (to compare to 2012 searches) were used to represent this lag in time to the assistant professor job market. In essence, without any intervention, changes in the proportion of women in UNL assistant professor applicant pools should mirror changes in national PhD rates.

CIC peer level data was available for 21 UNL STEM departments in years 2007-08 and 2011-12, which was used to calculate the second row in Table 24. For this analysis, a change score was created for UNL STEM departments and CIC peer departments. Next, the change scores for UNL and CIC departments were subtracted to create a scale that represents the difference in change between UNL and CIC peers. The rationale is that UNL departments may be increasing the proportion of women in their departments, not due to ADVANCE, but due to differences already occurring at the national level in the targeted disciplines. Peer data allows us to compare our trends (whether we are increasing or decreasing the proportion of women) to our peers. If a UNL STEM department increased the proportion of women faculty between 2008 and 2012, while at the same time, CIC peer comparison departments as a whole lost women, this indicates UNL is doing something different than our peers to reverse the trend. Thus, this measure shows how we are competing with our peer institutions in recruiting and retaining women faculty.

Overall, A&S had a positive *net* increase of 1% in the proportion of women in assistant professor applicant pools over time compared to the change in national PhD rates. This indicates that departments in A&S are making progress at recruiting applicants that are representative of those who are eligible for the position at a rate slightly higher than the proportion of women is increasing in the national pool. The COE and IANR overall fared worse. While the national PhD rates in their disciplines on average rose over time, the proportion of women in UNL assistant professor applicant pools did not keep pace, resulting in a deficit for both colleges (-1% & -3%). However, in all three colleges, there was a lot of variability between STEM departments. For example, in IANR, one department experienced a very large net increase in the proportion of women in their applicant pool when compared to the change in national PhD rates (+12%), while another experienced a large decrease (-17%).

While all 3 colleges experienced an average, albeit modest, increase in the overall proportion of STEM women faculty, 2 of the 3 targeted colleges showed a *net* increase relative to that of our CIC peers. Table 24 shows, on average, that **UNL increased the proportion of UNL STEM women over that of our CIC peers in A&S and COE**. A&S STEM departments increased by 2% (Minimum -11%, Maximum +9%) more than their peer departments at other institutions, the COE increased over their department peers by 1%

(Minimum -9%, Maximum +6%), and IANR decreased 4% (Minimum -22%, Maximum +9%) over time in comparison to their peers in the change in proportion of women between 2008 and 2012.

Table 24. Change in the Proportion of Women at UNL, CIC Peer Department, and National PhD's by College Over Time

	A&S				COE				IANR			
	Mean	SD	Min	Max	Mean	SD	Min	Max	Mean	SD	Min	Max
Difference in the Change in the Proportion of Women in UNL Assistant Professor Applicant Pools and Nationally Awarded Doctorates (N=12)	0.01	0.05	-0.05	0.09	N/A	N/A	N/A	N/A	-0.03	0.10	-0.17	0.12
Difference in the Change in the Proportion of Women for UNL and CIC STEM Departments (N=21)	0.02	0.06	-0.11	0.09	0.01	0.07	-0.09	0.06	-0.04	0.10	-0.22	0.09

Dual Career Outcomes

The Dual Career Program established by ADVANCE-Nebraska successfully placed 14 partners by the end of the funding period, enabling the hire or retention of 14 STEM women faculty in less than five years. The high number of dual career placements affirms the need that faculty and department chairs/heads perceived prior to ADVANCE-Nebraska. Indeed, results from the climate survey revealed that 79% of UNL STEM faculty have a partner who works outside the home, with many of them holding or seeking an academic position.

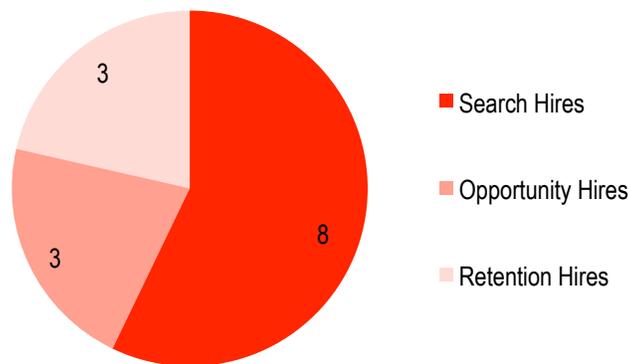
Figure 35 shows the outcomes of the 61 STEM searches from 2008-2013 from which the ADVANCE-Nebraska office received the names of short list candidates. All 315 short list candidates identified in these searches were sent letters explaining the Dual Career Program. Within the 28 searches where a dual career opportunity was identified through contact with the candidates, 16 of the candidates who received an offer had a dual career spouse. ADVANCE-Nebraska assisted with interviewing 9 of these candidates. Eight couples ultimately accepted the offers.

Figure 35. Number of Cases Involved at each Stage of the UNL Dual Career Program



In addition to the eight couples identified and then hired through traditional searches, six hires were made in connection to existing UNL STEM faculty (Figure 36). Opportunity hires were identified when current male faculty contacted the ADVANCE-Nebraska office with potential STEM women dual career partners; this resulted in three additional STEM women hires at UNL. Additionally, to retain three STEM women faculty on campus, ADVANCE-Nebraska facilitated three hires for their academic partners.

Figure 36. Number of Dual Career Hires by Type of Hire



UNL’s target in the original proposal was eight hires, a goal that was exceeded by year three of the program. In total, including dual career hires from new searches and those aimed at retaining faculty already here, there were 14 dual career hires since the inception of ADVANCE-Nebraska. Table 25 summarizes the dual career partners hired by the ADVANCE-Nebraska program. Of the 14 women connected to a dual career situation, 12 remained at UNL by the end of the grant. Three men and two women (indicated by an asterisk) left UNL: Dr. He and her husband left UNL for positions at the University of Wisconsin-Madison; Dr. Sun was recruited back to her industry job; and Dr.’s Hunt and Bailey left their UNL positions for elsewhere. **In total, of the 24 targeted STEM departments at UNL, 14 were impacted by a dual career hire.**

Table 25. Summary of Dual Career Hires made with ADVANCE-Nebraska funds.

Received Offer	Department	Partner, Department (ADVANCE-funded)
2008-09		
Zhigang Shen (♂)	Construction Management (hired pre-ADVANCE)	Linxia Gu (♀), Mechanical Engineering
Xue Liu (♂)*	Computer Science & Engineering	Wenbo He (♀)*, Electrical Engineering
Carina Curto (♀)	Mathematics	Vladimir Itskov (♂), Mathematics

Table 25. Summary of Dual Career Hires made with ADVANCE-Nebraska funds.

Received Offer	Department	Partner, Department (ADVANCE-funded)
2009-10		
Li Tan (♂)	Engineering Mechanics (hired pre-ADVANCE)	Jianing Sun (♀*), Mechanical Engineering
Cheryl Bailey (♀)	Biochemistry (hired pre-ADVANCE)	Gary Bailey (♂)*, School of Natural Resources / Classics and Religion / Graduate Studies
Nicole Buan (♀)	Biochemistry	Kevin Murphy (♂), Information Systems
2010-11		
Valery Forbes (♀)	Chair of the School of Biological Sciences	Peter Calow (♂), Office of Research
Marilyn Stains (♀)	Chemistry / Science Ed Program of Excellence	Cliff Stains (♂), Chemistry
Amy Burgin (♀)	School of Natural Resources (limnologist)	Terrence D. Loecke (♂), Geography
2011-2012		
Heather Hallen-Adams(♀)	Food Science	Gerry Adams (♂), Plant Pathology
Shadi Othman(♂)	Biological Systems Engineering	Huihui Xu (♀), Biosystems Engineering
Shannon Bartelt-Hunt(♀)	Civil Engineering (hired pre-ADVANCE)	George Hunt* (♂) School of Natural Resources
2012-2013		
Bertrand Clarke(♂) As department chair	Statistics	Jennifer Clarke (♀), Food Science and Technology/ IANR
Karen Montooth(♀)	Biological Sciences	Colin Meiklejohn (♂), Biological sciences

♀: female partner

♂: male partner

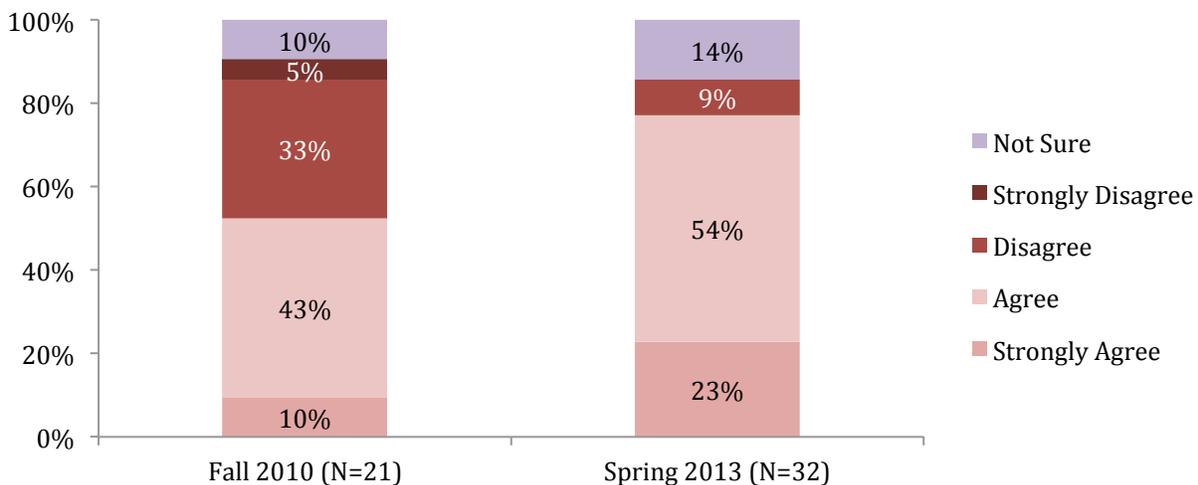
*: subsequently left position

Attitudes Toward Dual Career Hiring

The search surveys asked both search committee chairs and department chairs how their departments perceived dual careers; as an opportunity, or as a burden. Often, there was overlap in that respondents perceived their colleagues to think of dual career opportunities as both a burden and an opportunity. Although the categories are not mutually exclusive, it is clear that over time, search chair and department chair perceptions of their peers' views on dual career faculty changed appreciably between the fall of 2010 and the spring of 2013.

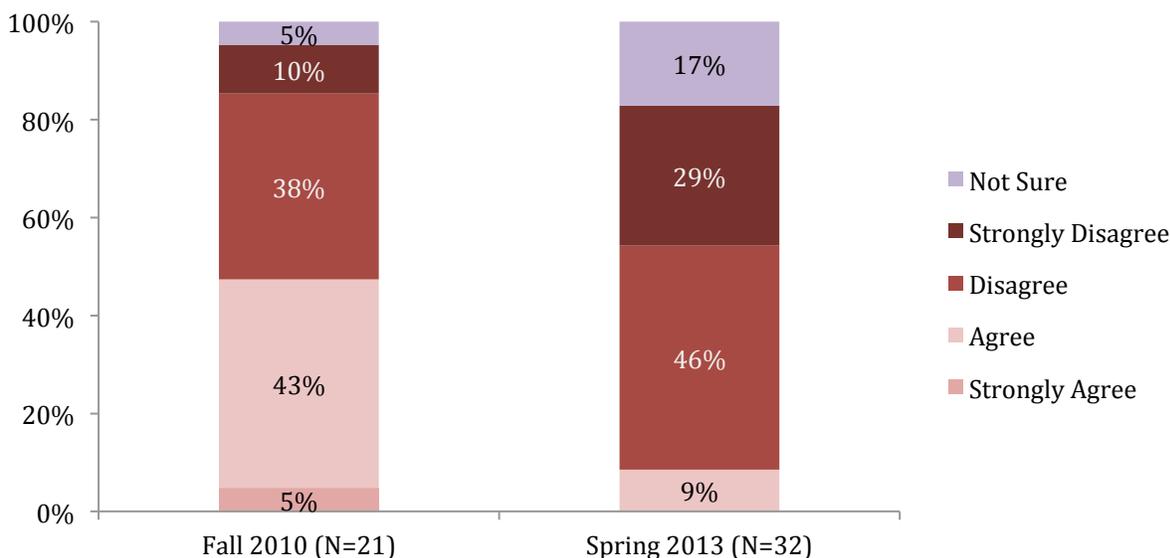
Figure 37 shows that over half (53%) of the 21 department chairs and search chairs that responded to the survey in 2010 either agreed or strongly agreed with the statement, "In general, the most prevalent opinion among my department colleagues is that spouse/partner hires are an *opportunity*." By 2013, the proportion who strongly agreed that their department colleagues viewed spouse/partner hires as an opportunity more than doubled, from 10% to 23%; and total agreement increased to 77% (24% increase). Those who disagreed shrank from 33% to 9%, while no one strongly disagreed in 2013 (5% did so in 2010).

Figure 37. Department Chair and Search Chair Level of Agreement that Department Colleagues Perceive Spouse/Partner Hires as an Opportunity



Department chair and search chair views on their colleagues' opinions of spouse partner hires as a burden also changed dramatically from 2010 to 2013. In 2010, almost half (48%) agreed or strongly agreed with the statement, "In general, the most prevalent opinion among my department colleagues is that spouse/partner hires are a *burden*" (Figure 38). In 2013, that number dropped 39 percentage points to only 9% of respondents agreeing (none strongly agreed in 2013).

Figure 38. Department Chair and Search Chair Level of Agreement that Department Colleagues Perceive Spouse/Partner Hires as a Burden



This shows that there is a dramatic shift in department perceptions of dual career hires, from mostly negative to mostly positive. It is important to note this is cross-sectional data asking chairs to report on their colleagues' opinions, so these are not individual views that have changed over time. However, considering the wide impact of the ADVANCE-Nebraska dual career program (directly impacting 14 STEM departments), it is reasonable to conclude that it would influence department perceptions after experiencing the dual career hiring process.

Network Research

Network analysis was used to advance basic understanding of the organizational structures influencing promotion and retention of women in STEM departments. Using the data from the FNWS, the network research addressed three general objectives. First, the association between network structures and various faculty outcomes at the individual level (e.g., climate perceptions and organizational commitment) was explored. Second, the association between the department-level network structures and the average faculty outcomes within each department was analyzed. Finally, the changes in faculty connections in light of the unfolding ADVANCE-Nebraska program elements were considered. The final wave of data collection was recently completed and analysis has just begun, but the following discusses the major findings from this research thus far (primarily found from the second wave of data).

Based on the FNWS 2011, researchers found that both at the individual and department levels, social networks are significant predictors of faculty outcomes. At the individual level, for example, faculty need a "local" research and friendship community within their department as faculty with larger networks report more positive climate perceptions and a greater desire to remain at UNL. Network size is equally important for research and friendship connections as both significantly predict all dimensions of climate.

Furthermore, results from the individual level network analysis have important implications for gender inequality in the organizational structures. Women have significantly lower levels of network integration (i.e., have fewer direct ties to other faculty) within both research and friendship networks and also report worse climate perceptions compared to men. For example, women report fewer collaborators within their

tenure home department and are less satisfied with their opportunities for research collaboration than men. Such gender differences might negatively impact promotion and retention of women as faculty who have more collaborators tend to have higher levels of research productivity.

At the department level, the researchers found that clustering of faculty both within research or friendship networks is associated with departments that have an overall positive climate and greater organizational commitment by faculty. Research and friendship connections within a department, however, cannot be segregated by gender or race (i.e., women tending to connect with other women and men tending to connect with other men), because departments with greater gender and race segregation have faculty with less satisfaction and lower organizational commitment.

Using the responses to the non-network questions on the FNWS 2011, the researchers also looked at factors in faculty retention. Specifically, they explored predictors of faculty turnover intentions due to a desire for a better work-family balance. The key finding from this research showed that compared to family-related demands (e.g., dependent care responsibilities) and resources (e.g., support with housework), work-related demands (e.g., work-to-family negative role spillover) and resources (e.g., supportive work-family culture) play a more important role in diminishing a faculty member's intention to leave the university to obtain a better work-life balance. These findings are consistent with the research that emphasizes work environments as the most important domain for addressing work-family integration issues, not the home. This study is forthcoming in the *Journal of Family Issues*.

Recruit and Retention Workshop Series Outcomes

Table 26 shows the mean scores for various items addressing the outcomes of the Recruit and Retain Workshop Series (1=strongly disagree to 5=strongly agree). The September 17th and October 6th workshops, which provided a variety of speakers and an emphasis on UNL data, showed more impact on outcomes than the November 3rd workshop, which was focused heavily on an external speaker discussing national data. For the first two workshops, there was strong agreement that participants learned information that will help them improve their searches (\bar{x} =4.50 and \bar{x} =4.59 respectively), that they gained confidence in their ability to increase diversity in their applicant pools (\bar{x} =4.40 and \bar{x} =4.20 respectively), and they learned new ideas to retain faculty (\bar{x} =4.30 and \bar{x} =4.50 respectively). **These findings suggest that UNL faculty and administrators learn information that can improve their recruitment and retention methods by attending workshops showcasing local level information.**

Table 26. Mean Agreement among Recruit and Retain Series Participants

	Sept. 17th Workshop (N=10)	Oct. 6th Workshop (N=17)	Nov. 3rd Workshop (N=18)
I learned information that will improve how my department searches for faculty	4.50	4.59	3.56
I am more confident about how to increase our applicant pool diversity	4.40	4.20	3.38
I learned new ideas to help retain faculty at UNL	4.30	4.50	4.00

Awareness and Perceived Impact

The ADVANCE-Nebraska office assumed many outreach efforts to raise awareness of the program, which resulted in high awareness of the program among STEM faculty. Interviews with new hires in 2010 showed that at the time they accepted the offer, 31% of respondents knew about ADVANCE Nebraska. Half of all female respondents knew about the program, compared to 22% of male respondents. Of the 8 people that did know about ADVANCE-Nebraska, half reported that this knowledge influenced their decision to some degree. One new hire said that their knowledge of ADVANCE-Nebraska was a major factor personally.

“That really was a big factor, as I mentioned, not only providing a job for my spouse but also in showing me that the administration of the university is committed to making the university a more diverse place, a more inclusive place.”

On the 2013 climate survey, 71% (N=241) of STEM faculty reported that they were aware of ADVANCE-Nebraska. When examined by gender, almost all women (94%, N= 47) reported being aware of ADVANCE-Nebraska, while men were less likely to be aware (67%, N=194). Faculty who reported on the climate survey that they were aware of ADVANCE-Nebraska were asked to answer questions regarding the impact of the program. The first question asked about the level of agreement or disagreement with the statement, "ADVANCE-Nebraska has increased my understanding of issues relevant to women in STEM" (1=strongly disagree to 5=strongly agree). The mean score for all respondents was 3.39 (Table 27), suggesting more agreement than disagreement, but not strong agreement. Women (\bar{x} =3.80) were more likely than men (\bar{x} =3.28) to agree that ADVANCE-Nebraska helped increase their understanding of issues relevant to women in STEM. Academic rank, on the other hand, did not affect their perceived effectiveness of ADVANCE-Nebraska, with little variation between ranks (\bar{x} =3.44 for assistant, \bar{x} =3.33 for associate, \bar{x} =3.39 for full).

With the same response options (1=strongly disagree to 5=strongly agree), the second question asked about the level of agreement or disagreement with the statement, "ADVANCE-Nebraska has improved the academic climate at UNL". The mean score as a whole was 3.22, similar to that of the other outcome perception. Women were slightly more likely to agree (\bar{x} =3.37) than men (3.18), but differences between ranks were minimal (\bar{x} =3.23 for assistant, \bar{x} =3.14 for associate, \bar{x} =3.25 for full). **Thus, perceptions of the impact of ADVANCE-Nebraska on increasing understanding of issues related to women in STEM and improving the climate at UNL showed modest impact, with strongest perceived improvements among women.**

Table 27. Mean Agreement with Perceived Impact of ADVANCE-Nebraska by Gender and Rank

	All		Gender				Rank					
			Men		Women		Assistant		Associate		Full	
	mean	SD	mean	SD	mean	SD	mean	SD	mean	SD	mean	SD
Increase in understanding of issues related to women in STEM (N=221)	3.39	1.21	3.28	1.21	3.80	1.11	3.44	1.20	3.33	1.14	3.39	1.25
Improvement in the academic climate at UNL (N=193)	3.22	1.13	3.18	1.14	3.37	1.07	3.23	1.17	3.14	1.05	3.25	1.14

Broader Outcomes

Several publications, presentation, posters, and reports were utilized to disseminate information about the ADVANCE-Nebraska program outside of UNL. One of the innovative aspects of the program was to conduct network analyses; thus, many publications and presentations focused on that analysis. The following lists ADVANCE-Nebraska publications and presentations:

Book(s) or other one-time publications(s):

Young, M., "Grant Helps Close Faculty Gender Gap", Omaha World Herald Newspaper, (2009).
Newspaper Article Published.

O'Connell, S., & Holmes, M.A., "GAIN Writing Retreat and Professional Development", bibl. Geological Society of America Abstracts with Programs, Vol. 41, No. 7, p. 538., (2010). Published.

Holmes, M.A., & O'Connell, S., "Dual Career Faculty Appointments: A Successful Model at the University of Nebraska-Lincoln", bibl. Geological Society of America Abstracts with Programs, Vol. 41, No. 7, p. 90. Published.

Watanabe, M., "Gender and Race Differences in Job Satisfaction and Commitment among STEM Faculty: The Influence of Network Integration and Work-Family Balance", bibl. Department of Sociology, University of Nebraska-Lincoln, (2010). Thesis Published.

Wang, Y., "Explaining Race and Gender Differences in Perceived Clarity in the Tenure Review Process", bibl. Department of Sociology, University of Nebraska-Lincoln, (2010). Thesis Published

Ratigan, P., "UNL ADVANCE Program Promotes Faculty Diversity", Daily Nebraskan Newspaper, (2010).
Newspaper Article Published.

Journal Publications

Maxey-Harris, C., "Multicultural E-resources: An Exploratory Study of Resources Held by ARL Libraries", *Behavioral & Social Sciences Librarian*, vol. 29, p. 65 (2010). Published.

Holmes, M.A., "Working Together", *Nature*, vol. 489, p. 327-328 (2012).

Watanabe, M., & Falci, C., "Faculty's Turnover Intentions Specific to Work-Family Balance: A Demands and Resources Approach." Forthcoming in *Journal of Family Issues*.

Hill, P., McQuillan, J., and Holmes, M.A. "The New STEM Faculty Profile: Balancing Family and Dual Careers." Forthcoming in *Advances in Gender Research*, Vol. 19

Submitted Manuscripts

Falci, C., McQuillan, J., Watanabe, M., & Holmes, M.A., "Disconnected in the Ivory Tower: An Exploratory Study of Gender and Race Differences in STEM Faculty Network Marginalization." to *Social Problems*.

Watanabe, M., & Falci, C., "Department Climate and Faculty Job Satisfaction in STEM Disciplines: Explaining Differences by Race and Gender" to *Research in Higher Education*.

Manuscripts in Progress

Watanabe, M., Olson, K., & Falci, C., "Social Isolation and Survey Nonresponse: An Empirical Evaluation Using Social Network Data."

Berheide, C.W., Watanabe, M., Falci, C., Bates, D.C., Borland, E., & Anderson-Hanley, C., "Faculty Work-Life Balance across Institutional Settings."

Conference Presentations

Watanabe, M., "Integration within Departmental Informal Network across Faculty Parental Status." Presentation at the Japan Society of Family Sociology Annual Meeting, Shizuoka, Japan. September 2013.

Watanabe, M., & Falci, C., "Faculty's Turnover Intentions Specific to Work-Family Balance: A Demands and Resources Approach." Roundtable at the American Sociological Association Annual Meeting, NY. August 2013.

Watanabe, M., Olson, K., and Falci, C., "Social Isolation and Survey Nonresponse: An Empirical Evaluation Using Social Network Data." Presentation at the American Association for Public Opinion Research Annual Meeting, Boston, MA. May 2013.

Watanabe, M., "Gender Difference in Work-Life Balance Among Faculty: Work- and Family-Related Factors and the Role of Disciplines." Roundtable at the Sociologists for Women in Society Winter Meeting, Santa Ana Pueblo, NM. February 2013.

McQuillan, J., Wonch Hill, P., Falci, C., Watanabe, M., & Holmes, M.A., "Can we Afford NOT to Pay Attention to Gender Equity in U.S. Universities? Exploring Faculty Job Satisfaction by Gender and Rank." Presentation at the 7th European Conference on Gender Equity in Higher Education, Bergen, Norway. August 2012.

Anderson-Knott, M., Wonch Hill, P., & Busch, N., "Using Evaluation Data to Inform Programmatic and Institutional Change." Invited Presentation at the National Science Foundation Division of Human Resource Development and Directorate for Education and Human Resources Joint Annual Meeting, Washington, DC. June 2012.

Watanabe, M., McQuillan, J., & Falci, C., "The Network Structure of Academic Departments and Climate Perceptions." Presentation at the International Network for Social Network Analysis Annual Meeting (Sunbelt XXXII), Redondo Beach, CA. March 2012.

Falci, C., & Watanabe, M., "Faculty Member's Network Position and Climate Perceptions." Presentation at the International Network for Social Network Analysis Annual Meeting (Sunbelt XXXII), Redondo Beach, CA. March 2012.

McQuillan, J., Wonch Hill, P., Falci, C., Watanabe, M., & Holmes, M.A., "Academic Rank & Faculty Perceptions: Is Higher Better for White Men Only?" Presentation at the Eastern Sociological Society Annual Meeting, NY. February 2012.

- Olson, K., Falci, C., & Watanabe, M., "Social Isolation and Survey Nonresponse: An Empirical Evaluation Using Social Network Data." Presentation at the Midwest Association for Public Opinion Research Annual Meeting, Chicago, IL. November 2011.
- Watanabe, M., & Falci, C., "Department Climate and Faculty Job Satisfaction in STEM Disciplines: Differences by Race and Gender." Presentation at the American Sociological Association Annual Meeting, Las Vegas, NA. August 2011.
- Falci, C., & Watanabe, M., "Network Diversity, Climate and Productivity by Gender and Race." Invited talk at the NSF ADVANCE Conference, Washington, D.C. November 2010.
- Falci, C., Watanabe, M., McQuillan, J., & Holmes, M.A., "STEM Faculty Network Marginalization within Departments by Gender and Race." Poster session at the NSF ADVANCE Conference, Washington, D.C. October 2009.
- Falci, C., Watanabe, M., McQuillan, J., & Holmes, M.A., "Gender and Isolation in the Ivory Tower: Insights from Social Network Analysis of Science, Technology, Engineering and Math Departments." Roundtable at the American Sociological Association Annual Meeting, Atlanta, GA. August 2010.
- Falci, C., "The Effects of a Faculty Member's Location within Department Research, Friendship and Committee Networks on Climate Perceptions." Invited panel presentation, Pacific Sociological Association Annual Meeting, Oakland, CA. April 2010.
- Watanabe, M., "Gender and Race Differences in Job Satisfaction and Commitment among STEM Faculty: The Influence of Network Integration and Work-Family Balance." Midwest Sociological Society Annual Meeting, Chicago, IL. April 2010.
- Falci, C., & Watanabe, M., "Network Diversity, Climate and Productivity by Gender and Race." ADVANCE meeting abstracts. 2010.
- Holmes, M.A., "ADVANCE-Nebraska in the First Two Years: Spawning and Survival in Typical Life Cycle of an ADVANCE Grant." Sharon Bird, coordinator. 2010.
- Holmes, M.A., "Data: Access to and Quality of in Lessons Learned from ADVANCE Institutions." Laura Kramer, coordinator. 2010.
- Holmes, M.A. Presented at Patullo Conference for Women in Oceanography, and at Berry College in Rome, GA.
- Holmes, M.A., "Dual Career Faculty Appointments: a successful model from ADVANCE-Nebraska." American Geophysical Union Fall Meetings, San Francisco, CA. December 2011.
- Holmes, M.A., McQuillan, J., Hochstein, J., Busch, N., Anderson-Knott, M., Falci, C., & Jacobsen, E., "Dual Career Faculty Appointments: A Successful Model from ADVANCE-Nebraska." ADVANCE PI Meeting, Alexandria, VA. November 2011.

Panel Discussion

Manderscheid, D., "Dual Careers or Dueling Careers? Jobs and the Two-body Problem." The Association for Women in Mathematics Joint Mathematics Meeting. January 14, 2009. Session: AWM Panel Discussion.

Hill, P. "Dual Purpose Data Collection – ADVANCE-Nebraska." Annual NSF ADVANCE PI meeting, Alexandria, VA. Session: Dual Purpose Data Collection. 2013.

Poster Presentations:

McQuillan, J., Holmes, M.A., Hochstein, J., Anderson-Knott, M., Busch, N., & Falci, C., "Advancing Excellence Through Evaluation." Poster at the National Science Foundation Division of Human Resource Development and Directorate for Education and Human Resources Joint Annual Meeting, Washington, DC.

Manderscheid, D., & Holmes, M.A., "An Advance Success Story: Dual-Career Hires at the University of Nebraska-Lincoln." Poster at the Council of Colleges of Arts and Sciences 45th Annual Meeting, New Orleans, LA. 2010.

Holmes, M.A., O'Connell, S., McQuillan, J., Hochstein, J., & Anderson-Knott, M., "Retreating to ADVANCE Scholarly Writing Among STEM Faculty." ADVANCE-PI meeting abstracts. 2010.

Falci, C., Watanabe, M., McQuillan, J., & Holmes, M.A., "STEM Faculty Networks and Climate Perceptions: Marginalization by Gender and Race." Poster at the NSF-ADVANCE PI Conference, Alexandria, VA 2010 NSF Jam Conference, Washington, D.C.

Other Broader Impacts

Mary Anne Holmes, Program Director, was hired by NSF to become the ADVANCE program officer beginning January 6, 2014. This opportunity will allow the experiences of ADVANCE-Nebraska to be disseminated nationally, and lessons learned will shape future ADVANCE grant recipients.

Dr. Falci's network research has sparked interest among many at UNL. She continues to receive requests to present her research to faculty and administrators. Dr. Falci is also working with researchers at Northeastern University to analyze cross-institutional research collaboration networks. Besides the network research, several universities (e.g., Arkansas State University, Skidmore College, the College of New Jersey, Union College) have adapted or are planning to adapt questions (e.g., work-family conflict and family-friendly work environment) from the Faculty Network and Workload Study (FNWS) for their own surveys. Moreover, Dr. Falci's research has led to a collaborative study analyzing faculty's work-life balance across institutional settings.

Limitations:

A number of limitations were identified in this evaluation. The most significant limitations to assessing the summative outcomes of ADVANCE-Nebraska were a) time and b) small N's. Institutional change requires a substantive amount of time, and measuring change is difficult within a five-year window. To ultimately impact a change in the proportion of STEM women faculty, a longer time frame is necessary and we believe the full impact of ADVANCE-Nebraska will be seen in the next five to ten years. This is particularly

true when looking at outcomes of programming that occurred in the final years of the grant, as many programming efforts are not likely to result in immediate change. Many strategies prepare faculty and administrators on practices intended to be used for future endeavors that may not happen for several years (e.g., a department's next faculty search or a faculty member's future tenure review).

Second, the overwhelming large number of STEM men faculty, in relation to the small number of women, are indicative of how difficult it is to change the proportion of women, given the small amount of annual turnover among faculty. The small number of new hires offers little opportunity to increase the overall proportion of faculty in departments, when few men are leaving. Moreover, the small numbers associated with many aspects of the evaluation (numbers of searches, hires, promotions, exits, women), especially when looking at the departmental level, significantly hinder the ability to draw conclusions. To address this concern, data were often aggregated, but generalizations are challenging given the variation within and between disciplines.

Challenges were also faced in obtaining accurate, representative data. Institutional records showed inconsistencies and incomplete data, and historical data and comparable peer data were not always available. Furthermore, attaining current data was a challenge in some cases. While a census was used for most evaluation-administered surveys, not all faculty members participated, resulting in a biased sample (although response rates for the climate/network surveys were well above average).

Discussion and Conclusion

The goals of ADVANCE-Nebraska were to recruit and retain women in STEM at UNL, as well as conduct innovative research on network structures that best support the success of STEM women faculty. The following summarizes the programmatic efforts and the impact on intended outcomes. Tables 28, 29, and 30 summarize the level of involvement and outcomes by department and college.

With regard to recruiting an excellent, diverse faculty, ADVANCE-Nebraska funded five Showcase Visitors and seven Recruitment Ambassadors, met with eleven search committees and several short-list candidates, and hosted eight recruitment-focused events. To address retention and promotion to leadership, ADVANCE-Nebraska disseminated information through a website and Enews listserv, hosted four informal networking events, five annual writing retreats, and 29 retention-focused faculty development events. Multiple efforts were also employed to address both recruitment and retention, including events targeted toward chairs and heads (three Recruit and Retain Workshops, three Chair/Head Data Discussions, a luncheon with the external evaluator, and individual departmental visits). The ADVANCE Faculty Committee shared research on issues facing women in STEM through presentations and dissemination of their Best Practices document. An annual Chancellor's Award, rewarding a department for advancing the objectives of the ADVANCE initiative, was given to three departments and institutionalized for future years. The dual career program placed 14 dual career hires. And finally, network research was conducted to inform the understanding of organizational structures influencing women in STEM.

ADVANCE-Nebraska programming showed wide reach across all of the targeted STEM departments and the majority of UNL STEM faculty were aware of the program. Awareness and event attendance from STEM women and STEM chairs and heads was especially strong. Of the targeted colleges, A&S was most involved, followed by IANR, and then COE. Faculty perceptions of the impact of ADVANCE-Nebraska on

increasing understanding of issues related to women in STEM and improving the climate at UNL show modest impact, with STEM women perceiving the strongest improvements.

Recruitment changes were observed in search practices, as well as the proportion of women in applicant pools and hires. UNL STEM departments increased the use of several ADVANCE-Nebraska recommended search practices discussed at recruitment-focused events, such as talking to candidates at conferences and writing broad job advertisements. The increased use of personal contact as a recruitment method resulted in an increased number of women reporting learning of the opening through word of mouth. Another recruitment method funded by ADVANCE-Nebraska, hosting Showcase Visitors, resulted directly in one STEM woman hired. Overall, the proportion of women in UNL STEM assistant professor applicant pools increased modestly, but more importantly, the proportion of women hired nearly doubled, increasing from 16% in 2007 to 30% in 2012. When comparing UNL applicants to national rates of PhD's awarded, the representation of women in UNL assistant professor applicant pools falls short of rates in the national pool. However, during ADVANCE-Nebraska, 8 of the targeted UNL departments exceeded the national PhD rates among *hires* from these searches (5 departments did so prior to funding). This suggests that the focus need not be on increasing the *quantity* of women in the applicant pool, but that *quality* is the appropriate measurement. It is difficult to measure quality, but women were consistently hired at a higher proportion than their representation in the applicant pool, suggesting the increased numbers also reflected an increase in highly qualified women applicants. And while not doubling as illustrated in hires from assistant professor searches, the proportion of women among hires of all ranks, including opportunity hires where no search was conducted, increased from 20% to 23%. By college, the proportion of UNL STEM women hired increased by 7% for IANR and 6% for A&S, while the COE experienced a slight decrease of 1%.

Several of the women hired during ADVANCE-Nebraska were hired as a direct outcome of the dual career program, which resulted in 14 dual career hires (exceeding the original goal of 8 hires). Participation was widespread, with 14 of the 24 targeted departments involved in the hiring or retention of a dual career couple. Moreover, attitudes toward dual career hires changed from mostly negative to mostly positive, with most departments perceiving dual career hires as an opportunity rather than a burden by 2013.

Changing the proportion of STEM women at UNL requires a considerable amount of time given the large number of STEM men and low turnover rates; however, a modest increase was observed during ADVANCE-Nebraska. Although it was a modest overall increase (1%), all three targeted colleges experienced increases in the proportion of STEM women faculty. Since it is possible these increases reflect national trends rather than ADVANCE-Nebraska efforts, they were compared to changes in the proportion of women in CIC peer departments, which showed net increases at UNL in 2 of the 3 targeted colleges (A&S and COE). It is plausible that not enough time has elapsed in IANR to show changes in the proportion of women faculty given the delayed start of ADVANCE-Nebraska in IANR departments.

Gender disparities were not evident when examining tenure and promotion rates or salaries, either before or during the funding period. However, a significant disparity existed prior to ADVANCE-Nebraska in the representation of women as STEM department chairs and heads. Gains were observed in the proportion of STEM women serving as department chairs and heads due to a combination of promotion and hiring, increasing from none in the first year of ADVANCE-Nebraska to three by the end of the grant. Another gender difference was observed in the utilization of work-life integration policies and programs, which were used more often by women than men, with many newly hired women reporting discovery of these policies through ADVANCE-Nebraska.

In general, STEM men and women left UNL at similar rates, with some variation by rank and college. While women were more likely than men to leave as associate professors prior to ADVANCE-Nebraska, they were more likely to leave as full professors during the funding period. Generally, voluntary attrition did not change over the five-year funding period. Attrition affected both genders in A&S and IANR similarly, while women in the COE left at higher proportions than men. Reports of wanting to leave UNL in the next three years decreased from 2011 to 2013 for women at the assistant and associate ranks, but increased at the full rank. In contrast, men decreased at the associate and full ranks, but increased at the assistant rank. This resulted in STEM women assistant professors being the least likely to want to leave of all groups, while women full professors were the most likely to want to leave in 2013. Decreases among women in wanting to leave UNL to pursue a more supportive work environment, to increase research time, to improve tenure/promotion prospects, and to improve work-family balance reflect improvements in the UNL work environment.

Other reported changes in climate perceptions also show improvements over time, as levels of department and institution satisfaction increased for nearly all groups since the inception of ADVANCE-Nebraska. Overall, STEM departments at UNL experienced improvements in their satisfaction with their department, satisfaction with the institution, perceptions of tenure and promotion decision fairness, and perceptions of family friendliness of department colleagues. For all targeted colleges, gender gaps that existed in 2008 diminished over time, primarily due to increases in women's satisfaction in A&S and IANR. By 2013, levels of satisfaction varied little between men and women, with men reporting slightly higher levels of department satisfaction, while women reported slightly higher levels of institutional satisfaction. While faculty in the COE consistently perceived the least fairness in tenure and promotion decisions, perceptions of fairness increased for faculty in A&S and COE, with substantial gains observed among women. Perceptions of department family friendliness also showed improvements over time for women, eliminating the gender gap.

Perceptions of department climate continued to improve from the ADVANCE-Nebraska midpoint (2011) to the end of the funding period (2013) for nearly all groups. Gender disparities were reduced over time, most notably due to assistant professor women who experienced substantial gains and reported the most positive department climate of all groups in 2013. Assistant professor women also held the most positive perceptions of department family supportiveness compared to other groups, with little change over time. Women consistently reported higher work satisfaction than men at the assistant and associate ranks, but less satisfaction at the full rank, with the disparity increasing over time as women assistant professors' work satisfaction increased and women full professors' satisfaction decreased. Faculty perceptions of whether their research is valued showed different trends for men and women. As women progressed in rank, their perceptions of research value decreased, and the discrepancy expanded over time as assistant professor women's perceptions increased and full professor women's perceptions decreased. In contrast, the trend for men was curvilinear, with associate professor men perceiving their research as least valued. The result showed that of all groups, women assistant professors felt their research was most valued and full professor women felt their research was least valued. A similar trend was observed in reports of workload fairness, encouragement for leadership positions, and in the desire to stay at UNL. Gender disparities in work time allocation decreased from 2011 to 2013, with women (and men to a lesser degree) reporting an increase in perceived research-time dedication, as well as an increase in self-reported work hours spent on research and decreases in hours spent on teaching and committee service.

Overall, increases in perceived climate among women assistant professors suggests ADVANCE-Nebraska showed improvements in the retention of junior women, but effort is still needed to improve the climate for senior women. Moreover, an analysis of ADVANCE-Nebraska involvement found department chair participation and faculty participation correlated with improvements in perceived climate in the COE (trends in A&S and IANR were more complex).

Network analysis was used to advance basic understanding of the organizational structures influencing promotion and retention of women in STEM departments, which found that both at the individual and department levels, social networks are significant predictors of faculty outcomes. The innovative network research was shared with a broader audience outside of UNL through collaborative work with other institutions, and numerous publications and presentations. Additionally, other aspects from ADVANCE-Nebraska were published and presented to a variety of audiences across the nation and internationally.

In conclusion, ADVANCE-Nebraska did not fully meet all intended outcomes, but significant progress was made over the five-year funding period. While the proportion of women in assistant professor applicant pools remains well below that of the national PhD pool for most UNL STEM departments, a modest increase among applicant pools was observed during the funding period. More importantly, the proportion of women hired from these searches nearly doubled between 2007 and 2012. And while the proportion of women hired at all ranks increased (by 3%), the proportion of women among all tenured and tenure-track faculty remains below that of CIC peers for most UNL STEM departments. In general, there was little gender disparity in faculty attrition and promotion rates, but significant disparity in the representation of women as department chairs and heads. The number of STEM women serving as department chairs or heads increased over time, with three departments chairing STEM departments by the end of the grant. Improvements in perceived climate were evident over the funding period, especially for women junior faculty, but less so for women senior faculty. Finally, scientific knowledge was increased in the understanding of how network connections predict faculty success.

Table 28. Summary of Involvement and Outcomes by Department in the College of Arts and Sciences.

Departments	Average Tenured/Tenure-Track Faculty 2008-2013	% Faculty Participating	Total Leadership Involvement	Total Dual Career Involvement	% Women in Asst Prof Applicant Pools (2006-2008)	% Women in Asst Prof Applicant Pools (2009-2013)	Average Change in UNL Applicant Pools Over Time	Net Average Change Relative to National Doctorates Awarded	% Women of All Faculty Hires (2004-08)	% Women of All Faculty Hires (2009-13)	Change in % Women of All Faculty Hires Over Time	% Women of Tenured/Tenure-Track Faculty in 2009	% Women of Tenured/Tenure-Track Faculty in 2013	Average Change in Proportion of Women from 2009-2013	Net Average Change Relative to CIC Peers from 2008-2012	Change in Department Satisfaction Over Time	Change in Institution Satisfaction Over Time	Change in Perception of Tenure/Promotion Decisions	Change in Departmental Family-Friendliness
Biological Sciences	34	44%	2	3	21% <i>4 searches</i>	32% <i>5 searches</i>	11%	9%	50% <i>6 hires</i>	44% <i>9 hires</i>	-6%	35%	38%	3%	6%				
Chemistry	22	68%	1	2	N/A <i>0 searches</i>	14% <i>2 searches</i>	N/A	N/A	25% <i>4 hires</i>	17% <i>6 hires</i>	-8%	10%	13%	3%	-2%				
Computer Science & Engineering	23	48%	1	1	14% <i>2 searches</i>	18% <i>2 searches</i>	4%	2%	33% <i>6 hires</i>	20% <i>5 hires</i>	-13%	14%	17%	4%	4%				
Earth & Atmospheric Sciences	19	63%	5	0	17% <i>3 searches</i>	20% <i>5 searches</i>	3%	-3%	0% <i>5 hires</i>	33% <i>6 hires</i>	33%	16%	22%	6%	7%				
Mathematics	34	59%	4	2	23% <i>1 search</i>	22% <i>4 searches</i>	-1%	-5%	33% <i>6 hires</i>	40% <i>5 hires</i>	7%	17%	18%	1%	2%				
Physics & Astronomy	23	39%	1	0	8% <i>2 searches</i>	9% <i>3 searches</i>	2%	0%	0% <i>6 hires</i>	33% <i>3 hires</i>	33%	4%	8%	4%	-1%				
Statistics	11	64%	1	1	17% <i>3 searches</i>	N/A <i>0 searches</i>	N/A	N/A	40% <i>5 hires</i>	NA <i>0 hires</i>	NA	31%	25%	-6%	-11%				
A&S TOTAL	166	54%	15	9	17% 15 searches	19% 21 searches	4%	1%	26% 38 hires	32% 34 hires	6%	19%	21%	2%	2%	0.19	0.11	0.33	-0.01
TOTAL UNL STEM	484	40%	27	25	16% 42 searches	19% 50 searches	4%	-1%	20% 102 hires	23% 122 hires	3%	15%	16%	1%	-1%	0.13	0.13	0.14	0.07

Table 29. Summary of Involvement and Outcomes by Department in the College of Engineering.

Departments	Average Tenured/Tenure-Track Faculty 2008-2013	% Faculty Participating	Total Leadership Involvement	Total Dual Career Involvement	% Women in Asst Prof Applicant Pools (2006-2008)	% Women in Asst Prof Applicant Pools (2009-2013)	Change in UNL Applicant Pools Over Time	Net Change Relative to National Doctorates Awarded	% Women of All Faculty Hires (2004-08)	% Women of All Faculty Hires (2009-13)	Change in % Women of All Faculty Hires Over Time	% Women of Tenured/Tenure-Track Faculty in 2009	% Women of Tenured/Tenure-Track Faculty in 2013	Change in Proportion of Women from 2009-2013	Net Change Relative to CIC Peers from 2008-2012	Change in Department Satisfaction Over Time	Change in Institution Satisfaction Over Time	Change in Perception of Tenure/Promotion Decisions	Change in Departmental Family-Friendliness
Architectural Engineering	10	20%	1	0	N/A 0 searches	N/A 0 searches	N/A	N/A	33% 3 hires	25% 4 hires	-8%	22%	27%	5%	N/A				
Chemical & Biomolecular Engineering	12	42%	1	0	N/A 0 searches	9% 1 search	N/A	N/A	0% 2 hires	0% 1 hire	0%	18%	17%	-2%	5%				
Civil Engineering	20	40%	2	1	15% 2 searches	N/A 0 searches	N/A	N/A	50% 4 hires	33% 3 hires	- 17%	14%	19%	5%	9%				
Computer & Electronics Engineering	10	20%	0	0	N/A 0 searches	N/A 0 searches	N/A	N/A	0% 3 hires	0% 1 hire	0%	10%	9%	-1%	3%				
Construction Management	7	29%	0	1	N/A 0 searches	N/A 0 searches	N/A	N/A	0% 1 hire	0% 2 hires	0%	0%	0%	0%	N/A				
Construction Engineering (Systems)	11	27%	0	0	N/A 0 searches	N/A 0 searches	N/A	N/A	0% 2 hires	0% 1 hire	0%	8%	9%	1%	N/A				
Electrical Engineering	19	37%	1	1	16% 2 searches	17% 1 search	1%	N/A	50% 4 hires	50% 4 hires	0%	9%	10%	1%	-9%				
Mechanical & Materials Engineering	35	17%	1	3	7% 1 search	12% 3 searches	4%	-1%	0% 4 hires	13% 8 hires	13%	9%	10%	1%	6%				
COE TOTAL	124	28%	6	6	13% 5 searches	12% 5 searches	N/A	N/A	22% 23 hires	21% 24 hires	-1%	11%	13%	2%	3%	0.05	0.09	0.19	0.12
TOTAL UNL STEM	484	40%	27	25	16% 42 searches	19% 50 searches	4%	-1%	20% 102 hires	23% 122 hires	3%	15%	16%	1%	-1%	0.13	0.13	0.14	0.07

Table 30. Summary of Involvement and Outcomes by Department in the Institute of Agriculture and Natural Resources.

Departments	Average Tenured/Tenure-Track Faculty 2008-2013	% Faculty Participating	Total Leadership Involvement	Total Dual Career Involvement	% Women in Asst Prof Applicant Pools (2006-2008)	% Women in Asst Prof Applicant Pools (2009-2013)	Change in UNL Applicant Pools Over Time	Net Change Relative to National Doctorates Awarded	% Women of All Faculty Hires (2004-08)	% Women of All Faculty Hires (2009-13)	Change in % Women of All Faculty Hires Over Time	% Women of Tenured/Tenure-Track Faculty in 2009	% Women of Tenured/Tenure-Track Faculty in 2013	Change in Proportion of Women from 2009-2013	Net Change Relative to CIC Peers from 2008-2012	Change in Department Satisfaction Over Time	Change in Institution Satisfaction Over Time	Change in Perception of Tenure/Promotion Decisions	Change in Departmental Family-Friendliness
Agronomy & Horticulture	43	35%	1	0	29% 3 searches	17% 7 searches	-12%	-17%	0% 5 hires	0% 15 hires	0%	13%	11%	-2%	-10%				
Animal Science	25	24%	2	0	17% 6 searches	32% 3 searches	15%	12%	20% 5 hires	17% 12 hires	-3%	17%	17%	0%	3%				
Biochemistry	13	62%	1	2	20% 2 searches	18% 4 searches	-2%	-9%	50% 2 hires	25% 8 hires	-25%	25%	26%	1%	9%				
Biological Systems Engineering	19	26%	0	2	7% 2 searches	14% 2 searches	7%	-4%	17% 6 hires	29% 7 hires	12%	5%	10%	5%	-7%				
Entomology	12	50%	0	0	16% 1 search	22% 3 searches	6%	3%	0% 2 hires	20% 5 hires	20%	8%	13%	5%	6%				
Food Science & Technology	14	36%	1	2	14% 1 search	29% 1 search	15%	N/A	0% 2 hires	50% 4 hires	50%	13%	20%	7%	-2%				
Plant Pathology	13	54%	1	1	16% 1 search	14% 1 search	-2%	-4%	0% 5 hires	40% 5 hires	40%	17%	8%	-9%	-22%				
School of Natural Resources	37	30%	0	3	N/A 0 searches	23% 3 searches	N/A	N/A	50% 2 hires	0% 2 hires	-50%	16%	19%	2%	1%				
Veterinary Medicine & Biomedical Sciences	18	39%	0	0	10% 6 searches	N/A 0 searches	N/A	N/A	8% 12 hires	17% 6 hires	8%	8%	7%	-1%	-15%				
IANR TOTAL	194	36%	6	10	16% 22 searches	21% 24 searches	4%	-3%	12% 41 hires	19% 64 hires	7%	13%	14%	1%	-4%	0.14	0.17	-0.04	0.1
TOTAL UNL STEM	484	40%	27	25	16% 42 searches	19% 50 searches	4%	-1%	20% 102 hires	23% 122 hires	3%	15%	16%	1%	-1%	0.13	0.13	0.14	0.07

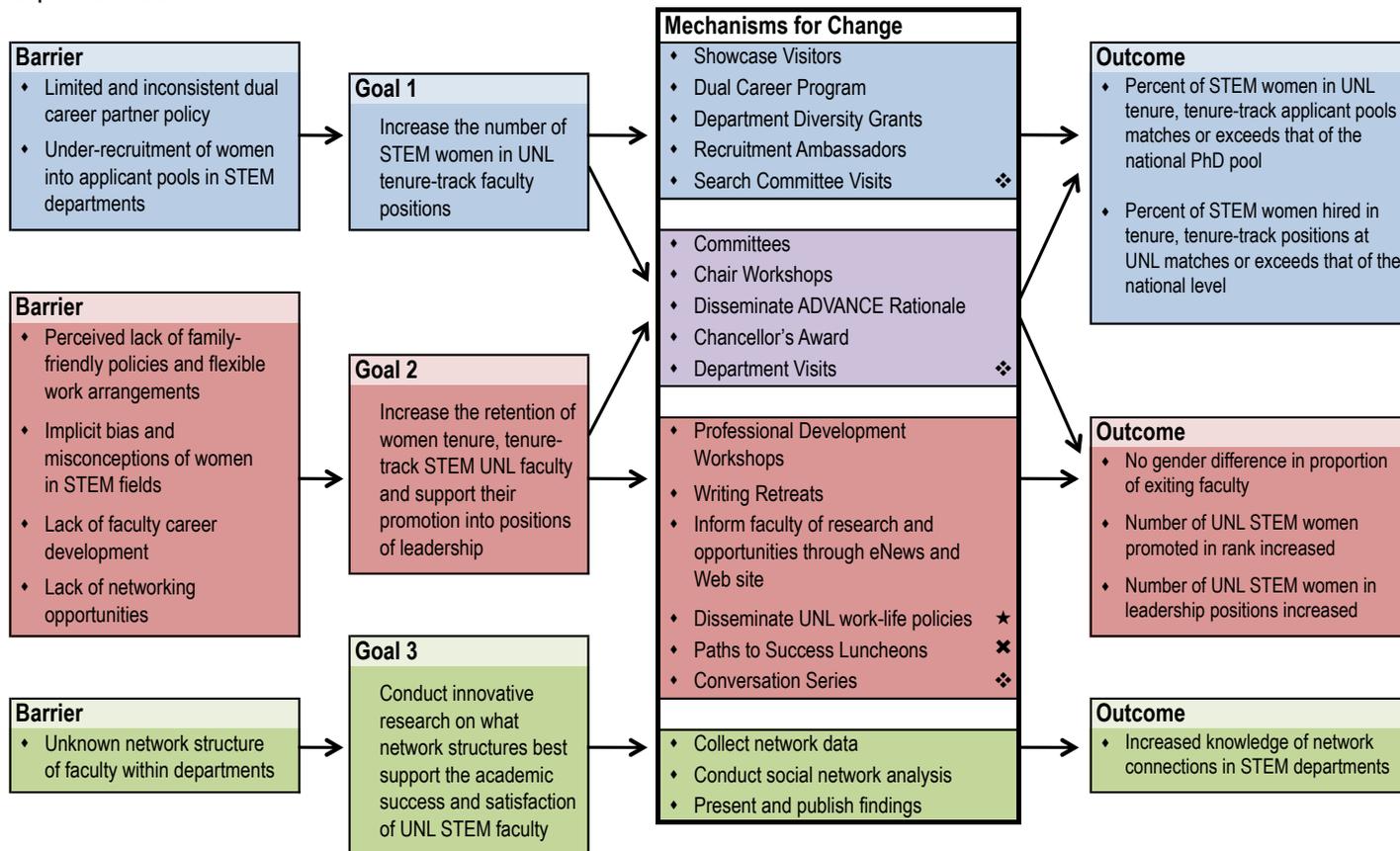
Appendices

Appendix A

Logic Model and Theory of Change

ADVANCE-Nebraska Logic Model

<http://advance.unl.edu/>



KEY	
❖	New Initiative
✕	Replaced
★	Institutionalized



ADVANCE-NEBRASKA THEORY OF CHANGE

Risman (2006) and other “gendered institution” researchers argue that to change an institution, there must be change in three dimensions: individual, interactional, and institutional. Institutional policies alone are unlikely to increase the number of women on the faculty if women do not see themselves as potential leaders, nor if their colleagues do not see them as potentially successful STEM faculty.

ADVANCE-Nebraska uses this framework of institutional transformation in the design of the programs we initiated. Some programs may serve more than one purpose.

<i>DIMENSION</i>	<i>KEY FOCUS OF DIMENSION</i>	<i>ADVANCE-NEBRASKA PROGRAMS</i>
Individual	How a person sees him- or herself as a scientist; How s/he sees him/herself as a leader: a department chair, president of a professional society, a contributor to the society, leading important committees in the department and on campus.	<ul style="list-style-type: none"> • Professional Development workshops • Paths to Success Luncheons • Conversations Series • Writing Retreats
Interactional	How a person is perceived by others: as a scientist, as a leader in the University, as a leader in the profession. Women tend to be overlooked for awards and nominations; both men and women tend to hold implicit biases that cause us to perceive women as less able scientists and leaders.	<ul style="list-style-type: none"> • Activities of the Promote Committee: workshops, information to disseminate on implicit bias (what it is, how to reduce its impact). • ADVANCE Director serves as a resource for issues that men and women on campus perceive as problematical for their progress • Showcase Visitors, Paths to Success Luncheons model successful STEM women • Writing Retreats • Department Chairs/Heads workshops

<p>Institutional</p>	<p>Policies the institution has; what policies are promoted that reduce the barriers for men and women's advancement.</p>	<ul style="list-style-type: none"> • Dual Career program • HERC membership • Disseminate information to faculty on Flexible Work Arrangements, Family-Friendly policies, Childcare Center, Lactation policy and rooms • Support Recruitment Ambassadors to actively recruit faculty to our applicant pools. • Recruit Committee gathers and disseminates information on Best Practices to recruit an applicant pool that reflects the national pool. • Showcase Visits increase the number of women in the applicant pools. • Departmental grants are designed to increase the number of women in the applicant pools. • Department Chairs/Heads workshops
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The Network Analysis study is designed to assess all three dimensions: individual's plans to stay, individual's comfort level in his/her department (interactional), perception of institutional support through childcare, flexible work policies (institutional).

Appendix B

Recruitment- and Retention-Focused Event Descriptions and Feedback

Recruitment-Focused Events

Implicit Bias (11/19/2009)

This workshop was presented by the Promote Committee and focused on the impact of implicit bias on evaluations and was targeted to search committee members. Eight people attended (2 women and 6 men), all of who were from four STEM departments. One of the women was an assistant professor and the other was an associate professor.

Evaluations, which were received from 4 of the participants, were generally positive regarding the worth of the workshop and whether respondents learned anything from it. On questions about the recruitment and hiring of women faculty, responses were more mixed. All respondents disagreed that trying to hire women simply adds extra burdens. Three respondents disagreed or strongly disagreed with the statement “Even if we work to reduce the impact of implicit bias, I still do not see how we will be able to hire a woman this year,” while one respondent agreed. When asked whether it is too difficult to find women with strong enough credentials to hire, responses varied. Answers ranged from “agree” to “strongly disagree,” with no two respondents answering the same way. One respondent agreed and two disagreed with the statement “my department could do more to actively increase women in our department.” A participant commented that the recruitment of women faculty is especially difficult in their field (in that success or failure in a search comes down to one candidate), and so they “need to look at recent histories/outcomes and analyze what “we” could have done differently.”

Best Practices for Recruiting a Diverse Faculty (9/29/10)

Concetta DiRusso gave a presentation to discuss best practices identified by the Recruitment Committee. Thirty-one people (including 12 men and 18 women), of various ranks (administrator, full professor, associate professor, assistant professor, chair, director, lecturer, staff, post doc and graduate student) attended this event. Participants from 16 departments attended.

Respondents were asked to describe what they found most valuable from attending the event. The most common answer was learning about resources and strategies for recruiting a diverse applicant pool (particularly ADVANCE resources). Other responses included, the realization of how differently the recruitment/search process is seen and understood by individuals of different ranks, and the need for “opportunity hire” money for non-tenure track positions.

Pitfalls and Promise of Candidate Evaluation (10/15/2010)

Joyce Yen, Program & Research Manager of The University of Washington's ADVANCE Center for Institutional Change, and members of the UNL Promote Committee facilitated this workshop to help faculty identify some of the pitfalls that thwart the fair evaluation of candidates, particularly women and minorities, in the faculty hiring process. Twenty-two people (12 men and 10 women), of various ranks (including full professor, associate professor, assistant professor, chair, director, staff, post doc and graduate student) attended this event. Participants represented 13 departments.

Respondents were asked to describe what they found most valuable from attending the event. The most common answers were learning about unexamined biases (including a review of the literature and discussion of problems & solutions), the discussion about change agents, and learning about

the usefulness of social science research. One respondent found the evidence that diversity leads to better results as most valuable.

On-Campus Interviews (10/20/10)

Twenty-two people (including 8 men and 13 women), of various ranks (associate dean, full professor, associate professor, chair, staff, post doc and graduate student) attended this event. Participation covered a wide range of disciplines, with 18 departments being represented by attendees.

Respondents were asked to describe what they found most valuable from attending the event. The most common answer was learning of variations in approaches to interviews/candidate selection across departments. Additional answers were: learning about ADVANCE, the web sites to use to obtain information, the junior faculty mentoring program, the opportunity to meet new people, and the fact that the information presented was "confirming."

Interrupting Bias in the Faculty Search Process (9/16/11)

On September 16th, 2011, a film and presentation, "Interrupting Bias in the Faculty Search Process" were presented by Dr. Joyce Yen, Program/Research Manager of the University of Washington's ADVANCE Center for Institutional Change, and a member of the external advisory board. The live action film was created from a case study and vetted at national leadership development workshops. In the film, a search committee of four tenure-track faculty members debate candidate qualifications for an open position. The film and discussion help search committee members prepare to identify biases that occur during evaluation of faculty and faculty candidates, examine assumptions of competence and best-fit, and become change-agents in their department. Thirty-one people (including 6 men and 23 women) of all ranks attended this conversation series. Participants represented 16 departments.

Respondents were asked to describe what they found most valuable from attending the event. The most common answer was learning about sources of implicit bias and tools to reduce its impact. Other responses included: the video, the presentation of research data, and the discussion. When asked to specify how they would share what they learned with colleagues, common answers included: will share (and reinforce) ideas with search committee, will discuss at department or program meetings, will share information with colleagues (informally), and "make Joyce's slide available to wide UNL audience."

Recruitment Strategies/Best Practices (10/11/12)

In this conversation series event, participants met with Associate Vice Chancellors Ron Yoder and Sunil Narumalani, the ADVANCE Faculty Committee, and the ADVANCE Leadership Team to discuss recruitment strategies and experiences for faculty searches. Thirty-nine people (21 men and 18 women) of various ranks (dean, department head/chair, director, full professor, associate professor, staff and post doc) attended this event. Participants represented 28 departments.

Respondents were asked to describe what they found most valuable from attending the event. The most common answers were sharing experiences/ideas with others, and learning about best practices. Additional answers provided by more than one respondent were hearing Concetta's presentation, and networking. Other specific points that respondents found valuable were: the importance of dual career issues, ideas for expanding the applicant pool, ideas on using

conferences for recruiting, "discussing lecturer post as a way to grow potential diverse faculty," and hearing a clear message from leadership.

Participants were also asked to specify how they would share what they learned with colleagues. The most common answers were: discuss with search committees, faculty, and other commissions/councils, distribute best practices guidelines, and share with department head/chair. One respondent said they would use what they learned in their current search.

Search Committee Best Practices (3/14/13)

In this event, participants had the opportunity to discuss recruitment strategies and experiences for faculty searches. Sixteen people (7 men and 9 women) of various ranks (department head/chair, full professor, associate professor, assistant professor, staff, and graduate student) attended this event. Participants represented 8 departments.

Respondents were asked to describe what they found most valuable from attending the event. The most common answers were the need to slow down and take time to develop the process, the discussions about how the search process works in different departments, developing a rubric for evaluation, and the need to clearly define the process.

Participants were also asked to specify how they would share what they learned with colleagues. The most common answer was that they would share what they learned with the search committee, department head, staff, or others in their unit. An additional answer was that they would encourage individuals to participate in future events.

Retention-Focused Events

Vidaver (12/2/2008)

This kick-off event highlighted the career of Dr. Anne Vidaver, Professor of Plant Pathology at UNL. Sixty-one people attended (including 6 men and 51 women) of various ranks (administrator, Full professor, associate professor, assistant professor, lecturer/adjunct, staff, post doc and graduate and undergraduate student). Twenty-five departments were represented.

Attendees were asked to assess how valuable the following aspects of the event were: the content of the presenter's talk, learning about ADVANCE-Nebraska and time spent networking with colleagues. Of those who answered the question, 89.7% found the content of the presenter's talk to be very valuable. Sixty-five percent of attendees found learning about ADVANCE-Nebraska to be very valuable as well. In reference to time spent networking with colleagues, 44.7% found it to be very valuable, 50% to be somewhat valuable, and 5.3% to be not very valuable.

What attendees found most valuable from the event can be grouped into 4 main categories: statistics/information about discrimination and gender disparities, particularly for women in the sciences; hearing the speaker's personal story, experiences and advice; learning how to pursue and succeed in a career as a woman, and learning about ADVANCE-Nebraska. One person remarked that what they found most valuable was the knowledge that "the university, or parts of it, or individuals in it, are serious about improving the situation for women faculty at UNL. There is tremendous marginalization of women scientists."

Attendees were asked whether they met anybody new at the event and whether they found any potential new collaborators. Looking at individuals of all ranks, 64.1% of those who answered the question met someone new, while 35.9% did not. Of those that met new people, 38.9% met 1 new person, 50% met two new people, and 11.2% percent met 3 or 4 new people. Looking at the data by rank, we see that 60% of full professors, 25% of associate professors and 71.4% of assistant professors met someone new that they hope to follow up with. When asked whether they found any potential new collaborators, of the 38 people who answered this question, 81.6% did not.

Most attendees learned about the event from an e-news announcement. Attendees were given the opportunity to provide additional comments about the event. Of those that did, most wrote that it was a great event and was very informative. A few attendees included more specific feedback. One expressed, "As a female full professor I am very pleased to see this happen. I hope you will be able to address issues many of us have repeatedly raised over the last 15+ years we failed to make progress on ie. child care, disability vs. maternity leave, flex time and...salary." Another wrote, "We need to see more Dept heads & male faculty at these events. I suggest ADVANCE provide / request data from each STEM dept. about gender distribution & equity. We need to begin discussing these issues openly at the dept. level." One individual also suggested that there be more widespread publicity about ADVANCE events.

COACH (3/2/09)

The Art of Strategic Performance (morning session) and *Strategies for Leading Change* (afternoon session) facilitated by Lee Warren, Associate Director of the Derek Bok Center for Teaching and

Learning at Harvard University, and Nancy Houfek, Head of Voice & Speech for the American Repertory Theatre at Harvard University.

Twenty-four women attended this workshop (including Full Professors, Associate Professors, Assistant Professors, Graduate Students, Associate Vice Chancellors, Lecturers, Post docs and staff). Participants represented 13 departments.

Attendees were asked whether they met colleagues with whom they will develop a closer professional relationship. Of the 14 people who answered this question, 21.4% strongly agreed, 35.7 % agreed, 26.7% neither agreed nor disagreed, and 13.3% strongly disagreed. The data indicates that 100% of Associate and Assistant Professors either strongly agreed or agreed that they met colleagues with whom they would develop a closer professional relationship, while only 33.3% of Full professors did. In fact, the remaining 66.7% of Full Professors strongly disagreed.

When asked whether time spent networking with colleagues was valuable, 53.3 % strongly agreed, 33.3% agreed and 13.3% neither agreed nor disagreed. Attendees were asked to indicate whether they thought the number of participants in the workshop was too many, too few, or just right. Thirteen people, or 86.7% of those who filled out an evaluation, said the number was just right. The remaining 13.3% said that there were too few. When asked to indicate whether the length of the workshop was too long, too short or just right, 86.7% of those who completed an evaluation said it was just right and 13.3% said it was too long.

Over half of the attendees who filled out an evaluation (53.3%) learned about this event via e-mail. The two other most common ways people learned about the event were via a colleague or advisor (33.3%) and from the ADVANCE- NE website (20%). When asked if there was additional information they would have liked to receive prior to the workshop, 57.1% of the 14 people who answered said yes and 42.9% said no. Looking at those who said yes, they indicated three things that they would have liked to receive: a schedule, an abstract of what would be discussed and the materials given at the workshop.

Attendees were asked whether they were interested in attending a writing retreat. Of the 14 people who answered this question, 50% said yes and 50% said no. Those interested were mostly of Associate professor, Assistant professor and Graduate student rank. Attendees who said they were interested in attending a writing retreat were asked when the ideal time of year would be to participate in one. Of those who answered the question, 2 people said in the summer and 2 said in the fall.

Attendees were asked how likely it would be that they would attend another event sponsored by ADVANCE –Nebraska. Eleven of the thirteen people who answered (86.6%) said very likely, and 15.4% said somewhat likely.

When asked how they would use what they learned from the workshop, most respondents said they would utilize tips given on how to improve voice projection and body language (particularly posture). Other participants said that they would work on planning and strategizing for meetings beforehand so that they could remain focused on the purpose of the meeting. Overall, comments were resoundingly positive and faculty report that they are using their new skills in faculty meetings.

Espy (3/12/09)

This "Paths to Success Luncheon" highlighted the career of Dr. Kimberly Espy, faculty of the Psychology Department and Associate Vice Chancellor for the Office of Research. Forty people attended the event (6 men and 34 women). Faculty were of various ranks including: administrator, Assistant professor, Associate professor, Full professor, graduate and undergraduate students, post doc and staff. Participants from 25 departments attended.

Attendees were asked whether they met colleagues with whom they would develop a closer professional relationship. Of those that answered the question, 12.5% (4 people) "strongly agreed," 31.3% (10 people) "agreed," 37.5% (12 people) "neither agreed nor disagreed," 15.6% (5 people) "disagreed" and 3.1% (1 person) "strongly disagreed." Looking at the data by rank, it indicates that 40% of Associate Professors disagreed that they would develop a closer professional relationship with new colleagues they met, while 100% of full professors and 66.7% of Assistant professors either agreed or strongly agreed.

When asked whether time spent networking with colleagues during the workshop was valuable, 25.8% (8 people) said they "strongly agreed," 35.5% (11 people) said they "agreed," 22.6% (7 people) said they "neither agreed nor disagreed," 12.9% (4 people) said they "disagreed" and 3.2% (1 person) said they "strongly disagreed."

The data indicates that 63.7% of assistant professors either agreed or strongly agreed that time spent networking with colleagues was valuable, while only 40% of assistant professors and 0% of full professors did.

The evaluation also asked whether attendees felt that they learned something valuable about ADVANCE-NE. Of those who answered the question, 34.4% said they "strongly agreed," 31.3% said they "agreed," 21.9% said they "neither agreed nor disagreed," 9.4% said they "disagreed," and 3.1% said they "strongly disagreed."

Attendees were asked whether they met anybody new at the event that they hoped to follow-up with. 54.8% (17) said "Yes" and 45.2% (14) said "No." Forty percent of people that reported meeting someone new said that they met 1 new person, 33.3% said they met 2 new people, 13.3% said they met 3 new people, 6.7% said that they met 4 new people and 6.7% said that they met 6 new people.

When asked if they found any potential new collaborators, 93.5% of those that answered the question (29 people) said "no," while only 6.5% (2 people) said yes.

Attendees were also asked to indicate all of the ways that they learned about the event. Of those who filled out the evaluation, 75% learned by an E-mail announcement, 21.9% learned by "other" means (which included learning from a friend, advisor, or colleague and reading about it in *The Scarlet*), 9.4% learned from the ADVANCE-Nebraska website, 6.3% learned by a flyer in the mail, and 3.1% learned from a department chair.

Attendees were asked whether they were interested in attending a writing retreat. Of those that answered the question, 59.3% (16 people) said yes and 40.7% (11 people) said no.

Of the people interested in attending a writing retreat, 9 said they preferred one in the summer, 3 said spring or summer, and 1 said in the fall. When asked how likely it would be that they would attend another event sponsored by ADVANCE-Nebraska, 83.9% (26) said it would be “very likely” and 16.1% (5) said it would be “somewhat likely.”

Participants were asked to describe what they found to be most valuable from attending the event. The most common responses were: the dialogue about the emotions and experiences of balancing work & family, hearing personal stories, and feeling that they were not alone (that other women were feeling the same way).

Schellman (4/29/09)

This Paths to Success Luncheon highlighted the academic career of Dr. Heidi Schellman, Professor of Physics at Northwestern University and a board member of the Fermi Lab. Thirty-five people attended this luncheon (including 5 men and 26 women). The rank of those in attendance included: Dean, Full professor, Associate professor, Assistant professor, graduate student, and staff. Twenty-one UNL departments were represented. An individual from the Lincoln-Lancaster County Women's Commission also attended.

Attendees were asked whether they met colleagues with whom they would develop a closer professional relationship. Of the 24 people that answered the question, 12.5% strongly agreed, 50% agreed, 25% neither agreed nor disagreed and 12.5% disagreed. Looking at the data by rank, it indicates that while 100% of Full and Associate professors strongly agreed or agreed with this statement, only 40% of Assistant professors and 50% of graduate students did. In fact, 40% of Assistant professors disagreed that they met colleagues with whom they would develop a closer professional relationship.

When asked whether time spent networking with colleagues was valuable, 88% of the 25 people who answered the question said that they strongly agreed or agreed. The evaluation also asked whether attendees felt that they learned something valuable about ADVANCE-NE. Of the 26 people that completed an evaluation, 80.8% strongly agreed or agreed.

The evaluation also asked attendees whether they met anybody new that they hope to follow up with. Of the 26 people that completed the evaluation, 53.8% said yes and 46.2% said no. When asked whether they found any potential new collaborators, 73.1% of those that completed the evaluation said no. All of the Assistant, Associate and Full professors that answered this question (and provided their rank) said no.

Attendees were also asked to indicate all of the ways that they learned about the event. Of those who filled out the evaluation, 57.7% learned from an e-mail announcement, 19.2% learned from other colleagues, 15.4% learned from a flier in the mail, 11.5% learned from the ADVANCE-NE website, 7.7% learned from a department chair, and 3.8% learned about it from a flier posted in the department.

The evaluation asked attendees to note all of the reasons they had for attending the event. The primary reason people attended the event was due to the useful or interesting topic, with 76.9% attending for that reason. The next most common reasons for attending were: to meet new

colleagues (26.9%), to learn more about ADVANCE-NE (23.1%), to learn more about UNL (15.4%), for professional advancement (11.5%) and to interact with administrative or senior colleagues (11.5%).

When asked if they were interested in attending a writing retreat, 57.9% of the 19 people who answered the question said no. Of the 8 people that did indicate an interest in attending a writing retreat, 6 of them specified that the ideal time for them to attend one would be in the summer. When asked how likely it would be that they would attend another event sponsored by ADVANCE-NE, 81% said it would be very likely and 19% said it would be somewhat likely.

What participants found to be most valuable from attending the event can be grouped into three categories: hearing the personal experiences and advice of the speaker, networking with colleagues, and learning how to create a "scientific family."

Coffey (8/28/09)

Bonnie Coffey, Certified Trainer with Contacts Count, facilitated this professional development opportunity for UNL faculty to learn vital tools to make their contacts count in personal and professional situations, at home, and at conferences. Twenty-six people attended (4 men and 22 women). Ranks represented included: Associate Dean, Full professor, Associate professor, Assistant professor, Professor of Practice, Lecturer, Executive Director, staff and graduate student. Sixteen departments were represented.

Attendees were asked whether they met colleagues with whom they would develop a closer professional relationship. Of the 23 people who answered the question, 30.4% strongly agreed, 39.1% agreed, 21.7% neither agreed nor disagreed and 8.7% disagreed. When asked if time spent networking was valuable, 54.5% of the 22 people who answered the question strongly agreed, 24.7% agreed, 18.2% neither agreed nor disagreed and 4.5% disagreed. The evaluation also asked attendees whether they learned something valuable about ADVANCE-Nebraska. Of those who completed an evaluation, 39.1% strongly agreed, 34.8% agreed, 21.7% neither agreed nor disagreed and 4.3% disagreed.

Attendees were asked whether they met anybody new at the event that they hoped to follow-up with. A little over half of the 22 people who answered the question (54.5%) reported that they had and 45.5% had not. The data indicates that 50% or more of Deans or Associate Deans, Department chairs, Full professors, Associate professors and "Others" did meet somebody new, while only one third of Assistant professors and graduate students did. When asked how many new people they met, of the 10 people that answered the question, 40% met 1 new person, 20% met 2 new people, 20% met 3 new people, 10% met 4 new people and 10% met 8 new people. When asked if they found any potential new collaborators, only 15% of the 20 people that answered the question said that they did. Of the three people that answered yes to this question, 33.3% said they met 1 new person and 66.7% said they met 2 new people.

Participants were also asked to indicate all of the ways that they learned about the event. Of those who filled out an evaluation, 82.6% learned from an e-mail announcement, 17.4% were informed by a colleague, 13% learned from a flier in the mail, 13% learned from the ADVANCE-Nebraska website and 4.3% were informed by a department chair. When asked to indicate all of the reasons they had for attending the event, 95.7% said they attended for the useful or interesting topic, 26.1%

for the opportunity to meet new colleagues, 34.8% for the opportunity for professional advancement, 13% to learn more about ADVANCE-Nebraska and 4.3% to interact with administrators or senior colleagues.

When asked how likely it would be that they would attend another event, of the 22 people that answered the question 90.9% said it would be very likely and 9.1% said it would be somewhat likely.

When asked what they found to be most valuable from the event, responses included: methods of networking & strategies for meeting new people, how to introduce yourself (specifically your name), suggestions for what to give & get out of a conversation and learning how to "work a room."

Grew (9/16/09)

This Paths to Success Luncheon highlighted the career of Dr. Priscilla Grew, Director of the University of Nebraska State Museum and Professor in the UNL Department of Geosciences. Thirty-eight people attended (including 8 men and 26 women). The rank of those in attendance included: Associate Vice Chancellor, Dean, Associate Dean, Department Chair, Full Professor, Associate professor, Assistant professor, lecturer, graduate and undergraduate student, and staff. Twenty-one departments were represented.

Participants were asked whether they met colleagues with whom they would develop a closer professional relationship. Out of all 38 people that completed an evaluation, 5% strongly agreed, 45% agreed, 40% neither agreed nor disagreed, and 11% disagreed. Attendees were also asked whether time spent networking was valuable. Of the 37 people who responded to that question, 14% strongly agreed, 60% agreed, 24% neither agreed nor disagreed and 3% disagreed. Finally, participants were asked whether they learned something useful about ADVANCE-Nebraska. Of the 37 people that answered the question, 32% strongly agreed, 43% agreed, and 24% neither agreed nor disagreed.

When asked to describe what they found to be most valuable from attending the event, the most common responses included: learning about the importance of networking and having mentors, hearing about a successful "convoluted" or "non-linear" career path, and hearing the speaker's personal experiences.

Participants were next asked whether they met anybody new at the event. A little over half (54%) of the 37 people that answered the question reported that they did, while 46% reported that they did not.

Looking at the data by rank, it indicates that the majority of attendees at the rank of Associate professor or higher did meet someone new, while at least 60% of individuals at the rank of Assistant professor or graduate student did not meet someone new. Of the 16 people that reported meeting someone new, 38% met 1 new person, 50% met 2 new people, 6% met 3 new people and 6% met 5 new people.

In addition to asking about whether they met anybody new, participants were asked whether they found any potential new collaborators. Of the 36 people that responded to this question, the majority (89%) did not find any new collaborators.

The data indicates that the only participants that did find a potential new collaborator held the rank of Assistant professor, Graduate student or "Other." No one at the rank of Associate professor or above found a new collaborator. When asked to specify how many new collaborators were found, 100% of the 3 people that responded said that they found 1 new collaborator.

Next, participants were asked to indicate all of the ways that they learned about the event. Of those who filled out an evaluation, 74% learned from an e-mail announcement, 16% learned from the ADVANCE-Nebraska website, 11% learned from a flyer in the mail, 5% were informed by a colleague, 5% learned by "Other" means and 3% were informed by a department chair. The 2 participants that selected "Other" were told about the event by a class professor.

Participants were also asked to share all of the reasons that they had for attending the event. Of all those that filled out an evaluation, 71% attended because of the useful or interesting topic, 47% to meet new colleagues, 34% to learn more about ADVANCE-Nebraska, 16% for professional advancement, 13% to learn more about UNL, 11% to interact with administrators or senior colleagues, and 11% for "Other" reasons. The "Other" reasons included: for an assignment, to know more about the speaker, to learn about STEM and to "support the effort." Responses at each rank conform to the overall distribution of responses, with the majority of participants at each rank attending because of the useful or interesting topic. The data also indicates that Department Chairs, Full Professors and Associate Professors were the only participants who attended the event for the opportunity to interact with administrators or senior colleagues.

Participants were asked how likely it would be that they would attend another event. Out of all those that completed an evaluation, 79% said it would be very likely and 21% said somewhat likely.

Contacts Count (1/22/10)

Bonnie Coffey presented this workshop to help participants learn what to do before, during and after conferences and conventions to make them valuable business experiences. Twenty-six people (19 women and 7 men) of various ranks (staff, graduate student, post doc, lecturer, Assistant professor, Associate professor, Full professor, Department Head, and Associate Dean) attended this event. Participants represented 22 departments.

Respondents were neutral when asked whether they met colleagues with whom they will now develop a closer professional relationship (47% neither agreed nor disagreed, while only 12% agreed and 24% disagreed). When asked whether time spent networking with colleagues was valuable, 18% strongly agreed, 18% agreed, 53% neither agreed nor disagreed, and 12% disagreed. Responses were also more neutral in reference to having learned something valuable about ADVANCE-Nebraska (20% Agreed, 73% neither agreed nor disagreed, and 7% disagreed).

Participants were asked to describe what they found most valuable from attending. At this event, the most common answers provided can be grouped into the following categories: the "Gives & Gets" idea, strategies for networking and developing relationships with people, and tips for putting on conferences. Other responses were not as specific, but simply noted that the presentation was excellent, well organized and provided lots of good advice.

As one of the purposes of ADVANCE-Nebraska events is to encourage networking, participants were asked whether they met anybody new at this event that they hope to follow up with. Of the 15 people that answered this question, two thirds (67%) did not meet anybody new. Participants that did report meeting somebody new that they hope to follow up with met either 1 or 2 people. Another question asked was whether they found any potential new collaborators. Of the 16 people that answered this question, 88% did not. The two people that did find a potential collaborator found only one.

When asked how they learned about this event, 82% of all respondents reported learning from an email announcement, 18% from the ADVANCE-Nebraska website, 6% from a Department Chair, and 6% from "other" means (in this case a graduate advisor). Participants were also asked what reasons they had for attending this event. Out of all respondents, 77% attending because of the useful or interesting topic, 47% for the opportunity for professional advancement, 18% for the opportunity to learn more about ADVANCE-Nebraska, and 12% for other reasons. The other reasons listed included attending for self-improvement and attending because they "thought it was more about how to set up conferences."

Responses were very encouraging in reference to attendance at future ADVANCE-Nebraska events. When asked how likely it is that they will attend another event sponsored by ADVANCE-Nebraska, of the 15 people that answered this question, 67% said it would be very likely and 33% said somewhat likely.

Judy Walker (2/11/10)

This Paths to Success Luncheon highlighted the career of Dr. Judy Walker, Professor and Graduate Chair for the UNL Department of Mathematics. She is co-founder of the Nebraska Conference for Undergraduate Women in Mathematics, has served on the Council of the American Mathematical Society and received the 2006 Haimo Award for Distinguished Teaching from the Mathematical Association of America. Thirty-three people attended this event (including 6 men and 22 women). Participants were of various ranks (faculty staff, administrators and students) and represented 24 departments.

Participants were asked if they met colleagues with whom they will now develop a closer relationship. Of those that filled out an evaluation, 26% strongly agreed, 42% agreed, 26% neither agreed nor disagreed, and 5% disagreed. When asked whether time spent networking with colleagues was valuable, 61% strongly agreed, 28% agreed, and 11% neither agreed nor disagreed. When asked whether they learned something valuable about ADVANCE-Nebraska, 47% strongly agreed, 42% agreed, and 11% neither agreed nor disagreed.

Next, participants were asked to describe what they found most valuable from attending. At this event, the two most common answers provided were hearing Dr. Walker's personal story as a successful female faculty member (particularly her path of professional development), and learning about the importance of networking.

Participants were asked whether they met anybody new at this event that they hope to follow up with. Of the 18 people that answered this question, 67% said that they did meet somebody new. Those that did report meeting somebody new were then asked to specify how many new people

they met. Of the 9 people that answered this question, 67% met one new person, 22% met two new people, and 11% met three.

Another question asked was whether they found any potential new collaborators. Responses to this question differed significantly from the previous one, with only 28% of the 18 respondents finding potential new collaborators. Additionally, each of the 4 respondents who did find potential new collaborators reported finding only one.

When asked how they learned about this event, 79% of all respondents reported learning from an email announcement, 32% were informed by colleagues, 26% learned from the ADVANCE-Nebraska website, and 5% were informed by a department chair.

Participants were also asked what reasons they had for attending this event. Out of all respondents, 68% attended due to the useful or interesting topic, 47% for the opportunity to meet new colleagues, 37% for the opportunity to learn more about ADVANCE-Nebraska, 21% for the opportunity for professional advancement, 21% for the opportunity to interact with administrators or senior colleagues, 16% for the opportunity to learn more about UNL, and 5% for “other” reasons. The “other” reason listed was to keep up-to-date about STEM/ADVANCE issues related to women to help with a class they were co-teaching.

Responses were encouraging in reference to attendance at future ADVANCE-Nebraska events. When asked how likely it is that they will attend another event sponsored by ADVANCE-Nebraska, of the 18 people that answered this question, 83% said it would be very likely, 11% said somewhat likely, and 6% said not very likely. Finally, participants were given the opportunity to provide any other comments about the event. Most respondents simply said that the event was great; however, one respondent did note that “the women in STEM need support from colleagues & the University and the ADVANCE program provides it in wonderful ways.”

Perceptions of Climate (2/22/10)

Dr. Christina Falci and Dr. Julia McQuillan presented research findings from two surveys administered to all UNL STEM faculty in spring 2007. Fifty-three people (including 27 men and 25 women) attended of various ranks (including faculty, staff, administrators and students). Participants represented 25 departments.

Attendees were asked whether they met colleagues with whom they will now develop a closer professional relationship. Of those that completed an evaluation, 20% agreed, 35% neither agreed nor disagreed, and 45% disagreed. When asked whether time spent networking with colleagues was valuable, of the 21 people who answered the question, 5% strongly agreed, 29% agreed, 57% neither agreed nor disagreed, and 10% disagreed. When asked whether they learned something valuable about ADVANCE-Nebraska, 20% strongly agreed, 60% agreed, 15% neither agreed nor disagreed, and 5% disagreed.

At every ADVANCE-Nebraska event, participants are asked on the evaluation form to describe what they found most valuable from attending. At this event, the most common answer provided was learning about ways to analyze and evaluate social networks. Other responses included: gaining a better understanding of research methodology in social sciences, learning about gender & race differences, learning about what the ADVANCE team is doing, the report and discussion on

survey outcomes and possible implications, the importance of survey completion, confirmation that research clustering is favorable to a good work environment, and the interesting questions raised by Christina's presentation.

As one of the purposes of ADVANCE-Nebraska events is to encourage networking, participants were asked whether they met anybody new at this event that they hope to follow up with. Of the 20 people that answered this question, only 20% said that they did meet somebody new. Those that did report meeting somebody new were then asked to specify how many new people they met. Of the 4 people that answered this question, 75% met two new people and 25% met three new people.

Another question asked was whether they found any potential new collaborators. Responses to this question were similar to the previous one, with only 15% of the 20 respondents finding potential new collaborators. Additionally, each of the 3 respondents who did find potential new collaborators reported finding only one.

When asked how they learned about this event, 67% of all respondents reported learning from an email announcement, 19% learned from "other" means, 14% were informed by a colleague, 10% learned from a flyer in the mail, 10% were informed by a department chair, and 10% learned from the ADVANCE-Nebraska website. All 4 respondents that learned about the event through "other" means, stated that they were invited by an administrator.

Participants were also asked what reasons they had for attending this event. Out of all respondents, 67% attended due to the useful or interesting topic, 52% for the opportunity to learn more about ADVANCE-Nebraska, 14% for the opportunity for professional advancement, 10% for the opportunity to meet new colleagues, 10% for the opportunity to learn more about UNL, 10% for "other" reasons, and 5% for the opportunity to interact with administrators or senior colleagues. The "other" reasons listed were that they received an invitation and that they attended for the free lunch.

Responses were generally positive in reference to attendance at future ADVANCE-Nebraska events. When asked how likely it is that they will attend another event sponsored by ADVANCE-Nebraska, of the 20 people that answered this question, 50% said it would be very likely and 50% said it would be somewhat likely. Finally, participants were given the opportunity to provide any other comments about the event. Several respondents simply said that the event was great; however, one respondent did caution presenters to "be careful to avoid presenting stereotypes (or the appearance of stereotyping)." One respondent reported getting some great ideas for a potential research project of their own. Another respondent asked that an additional event like this one be held as more data becomes available.

Climate Part II (4/19/10)

Dr. Julia McQuillan presented outcomes of surveys (baseline climate survey of UNL STEM faculty conducted during spring 2008) that demonstrated what is great about UNL and where challenges lie. It focused on information to use in efforts to recruit and retain top faculty. Participants had time to provide input on interpreting the results and the data collection process for the next phase of surveys in spring, 2011. Twenty-seven people (15 men and 12 women) of various ranks (staff, Research Assistant Professor, Assistant professor, Associate professor, Full professor,

Department Head, Dean and Associate Dean) attended this event. Participants represented 20 departments.

When asked what they found to be most valuable from attending this event, only one answer was provided, "sense of what UNL is doing well (or not)." Participants were also asked to describe any changes they would like to see in their department, college or the university as a whole. One respondent wrote, "Faculty need to be encouraged to understand it is ok to take care of themselves; and this includes being with family." When asked if there is anything new they will try to do after hearing the presentation, one respondent said that they "will discuss with at least two women faculty."

When asked how they learned about this event, all 5 respondents reported learning from an email announcement. Participants were also asked what reasons they had for attending this event. Out of all respondents, 40% attended because of the useful or interesting topic, 20% to meet new colleagues, 60% for the opportunity for professional advancement, 20% to interact with administrators or senior colleagues, 40% to learn more about UNL, 60% to learn more about ADVANCE-Nebraska, and 20% for other reasons.

Responses were encouraging in reference to attendance at future ADVANCE-Nebraska events. When asked how likely it is that they will attend another event sponsored by ADVANCE-Nebraska, 4 of 5 said it would be very likely and 1 said somewhat likely.

McKay (4/22/10)

This Paths to Success Luncheon highlighted the career of Dr. Allison McKay, Associate Professor of Civil & Environmental Engineering at the University of Connecticut. Twenty-six people (including 4 men and 19 women) of various ranks (faculty, staff, administrators and graduate students) attended this event. Participants represented 14 departments.

When asked whether they met colleagues with whom they will now develop a closer professional relationship, 26% Strongly agreed, 37% agreed, and 37% neither agreed nor disagreed. When asked whether time spent networking with colleagues was valuable, 42% Strongly agreed, 42% Agreed, and 16% neither agreed nor disagreed.

At every ADVANCE-Nebraska event, participants are asked on the evaluation form to describe what they found to be most valuable from attending. At this event, the most common answer provided was the discussion about the importance of mentoring (and particularly the point about anti-mentoring). Other responses included: learning about work-life balance (or the work-life program), hearing an insider's perspective of academia, the opportunity to meet people, a reminder that you "never know what ideas/info/experiences will be of use to you in the future," and the speaker's useful tips and anecdotes. One respondent also noted that they found the "organizers comments about UNL libraries being able to make papers available on the web" to be useful.

As one of the purposes of ADVANCE-Nebraska events is to encourage networking, participants were asked whether they met anybody new at this event that they hope to follow up with. Of the 19 people that answered this question, 53% said that they did meet somebody new. Of the 6 people that reported meeting somebody new, 33% met one new person, 33% met two new people, 17% met three new people, and 17% met four new people. Participants were also asked whether they

found any potential new collaborators. Responses to this question were not as positive, with only 17% of the 18 respondents finding potential new collaborators. Of the 3 respondents who did find potential new collaborators, 33% found one, 33% found two, and 33% found three.

When asked how they learned about this event, 74% of all respondents reported learning from an email announcement, 26% from a colleague, 16% by the ADVANCE-Nebraska website, 11% by a department chair, 5% by a flyer in the mail, and 5% through “other” means. Participants were also asked what reasons they had for attending this event. Out of all respondents, 79% attended due to the useful or interesting topic, 58% for the opportunity to meet new colleagues, 32% to learn more about ADVANCE-Nebraska, 16% for professional advancement, 16% to interact with administrators or senior colleagues, 11% for “other” reasons, and 5% to learn more about UNL. The “other” reasons listed were that they attended to support ADVANCE.

Responses were generally positive in reference to attendance at future ADVANCE-Nebraska events. When asked how likely it is that they will attend another event sponsored by ADVANCE-Nebraska, of the 17 people that answered this question, 77% said it would be very likely and 24% said it would be somewhat likely.

COACH (3/29/10)

Nancy Houfek and Lee Warren conducted this workshop to help women hone their speaking skills. Participants learned techniques from the theater for increasing confidence and charisma, expanding vocal power, using effective body language, and dramatic strategies. Thirty-three people (including 7 men and 25 women) of various ranks (faculty, staff, post docs and graduate students) attended this workshop. Participants represented 18 departments. One participant was from the Nebraska Department of Environmental Quality.

Participants were asked whether they met colleagues with whom they will now develop a closer professional relationship. Of those that responded, 12% strongly agreed, 31% agreed, 50% neither agreed nor disagreed, and 8% disagreed. When asked whether time spent networking with colleagues during this workshop was valuable, 22% strongly agreed, 48% agreed, 26% neither agreed nor disagreed, and 4% disagreed.

Participants were asked to describe something they learned from the workshop that they will be using this semester. The two most common answers were the importance of body language and use of gestures when giving presentations, and ways to modify PowerPoint presentations to make them more effective. Other answers included: doing vocal & other warm up exercises, creating a connection with the audience, how to convey/feel “empoweredness”, and “the importance of finding a way to get my students to reimagine the situations, characters, social & moral dilemmas of the novels and which tactics to employ to achieve this goal.” Participants indicated that they would use these things when giving research presentations (in conferences, lectures and seminars) and in teaching classes.

Participants were also asked what they learned from the workshop that they will be using beyond this semester. Responses were similar to those given for the previous question, including: paying attention to gestures and body language, how to better present themselves and their ideas in front of an audience, warming up before presentations, how to make connections with the audience, and how much information to include in presentations (and how to ensure including correct

information). Another answer given by several respondents was using personalized metaphors when teaching to better connect with the audience. Respondents said they would use these skills when teaching courses and when presenting research topics in conferences and lectures.

Next, participants were asked what they found to be most valuable from attending the event. The most common responses were: tips on preparing and giving a presentation (such as remembering the purpose, and connecting to the audience), the interactive elements of the presentation (the activities, demonstrations, discussions and handouts), and an overall understanding of the dynamics of speaking/presenting (including body language, gestures, voice, advice on stage fright). Two respondents said that what they value most are the examples of the presenters.

The evaluation asked attendees about the number of participants at the event. All 27 respondents who answered this question said that the amount of participants was just right. Assessing the length of the workshop, 11% of respondents said the workshop was too long, 4% said it was too short, and 85% said it was just right. Respondents who indicated it was too long or too short were asked what an appropriate length of time would be. One respondent simply said that the workshop should be longer because of the interesting topic, while the other said that there should be more breaks and that it should end by 3p.m. When asked under what circumstances they would recommend participation in a future COACH workshop to a colleague, nearly all respondents said under any circumstances; however, one respondent said “none.”

When asked how they learned about this event, 48% of all respondents reported learning from an email announcement, 33% from “other” means, 19% from the ADVANCE-Nebraska website, 11% by a flyer in the mail, and 4% were informed by a department chair. Of those that learned through “other” means, most learned from a colleague. The remaining respondents either learned about the event from a previous ADVANCE event or from a faculty advisor. Participants were also asked what reasons they had for attending this event. Out of all respondents, 82% attended due to the useful or interesting topic, 59% for professional advancement, 11% to learn more about ADVANCE-Nebraska, 11% for “other” reasons, 7% to meet new colleagues, and 4% to learn more about UNL. The “other” reasons listed were that they attended to learn how to become a better teacher and get help in giving presentations.

When asked if there was any additional information that they would like to have received prior to the workshop, only 16% said yes. The information they wanted was the location of the event and an agenda. When asked how likely it is that they will attend another event sponsored by ADVANCE-Nebraska, of the 25 people that answered this question, 84% said it would be very likely and 16% said it would be somewhat likely.

Starting Up and Managing a Research Lab (9/22/10)

This Conversation Series event was geared toward early career faculty who were new to the challenges involved in establishing and managing a research lab. Experienced STEM faculty talked about what they experienced and discovered to be best practices, and answered questions. David Hage (Chemistry Professor), Mehmet Can Vuran (Computer Science & Engineering Assistant professor) and Marjorie Lou (Veterinary & Biomedical Sciences Professor) presented. Forty-seven people (including 23 men and 22 women) of various ranks (Chair, Full professor, Assistant professor, Lecturer, Director, Vice Chancellor, Post doc and staff) attended. Participants represented 20 departments.

Respondents were asked to describe what they found most valuable from attending the event. Over half of all respondents that answered this question mentioned learning some type of management skill, including: managing graduate students (7), time management (3), budget management (2) and lab management (1). The second most common response was hearing ideas / strategies from different people. Other answers provided by two or fewer respondents included: student hiring/ recruiting, ethics awareness, the information packet, learning of personal areas for improvement, open and honest feedback, the multi-person panel, time for questions, and learning that other people don't do things much better than they do.

Nominating Colleagues for National Awards (11/17/10)

Seventeen people (6 men and 11 women) of various ranks (Vice Chancellor, Dean, Chair, Full professor, Assistant professor, staff, and post doc) attended this event. Participants represented 12 departments.

Respondents were asked to describe what they found most valuable from attending the event. The most common answers were the idea that departments should have an awards committee, the importance of networking, and the discussion of experiences and ideas. Additional answers included: tips on award letter-writing, insight about "how applications are viewed and selected to move forward with "Awards" committees," information on mentoring, the opportunity to get to know different faculty, and the need to "work on perceptions at individual, department/program and institutional levels for results for UNL."

Sustaining a Consistent Stream of Research Publications (12/8/10)

Twenty-six people (including 6 men and 19 women) of various ranks (including Associate Vice Chancellor, Assistant Dean, Full professor, Associate professor, Assistant professor, post doc, graduate student, and staff) attended this event. Participants represented 16 departments.

When asked to describe what they found most valuable from attending the event the most common answer was the specific time management/ writing tips given, which included: techniques on prioritizing time, the importance of setting apart large slots of time for writing, how to organize research material, setting writing goals, how to avoid distractions/stay motivated while writing, and pitfalls to avoid. Other answers included the diverse perspectives shared during the discussion, and issues related to graduate students (how to treat them, useful types of training, and management of graduate student publications).

Teaching to Attract and Retain STEM Majors (1/13/11)

Cheryl Bailey of Biochemistry, Jon Pedersen, Director of Science for the Center for Science, Mathematics and Computer Education, and Jack Morris, interim chair of the School of Biological Sciences, discussed ways to make learning STEM more interesting without sacrificing quality.

Twenty-eight people attended (10 men and 18 women) of various ranks (Associate Vice Chancellor, Associate Dean, Assistant Dean, Director, Department head/Chair, Full professor, Associate professor, Assistant professor, Academic advisor, Instructional designer, lecturer, staff, post doc and graduate student). Participants represented 19 departments

Respondents were asked to describe what they found most valuable from attending the event. The most common answer was learning new teaching methods/techniques (particularly how to engage students in a variety of classroom settings). Other answers included learning the “nuts & bolts” of POGIL, exposure to new ideas, and learning of the importance of workshops and mentoring.

Teaching Challenges and Solutions (1/26/11)

At this event, Ted Pardy of the School of Biological Sciences, Gary Bailey of the School of Natural Resources, and Helen Moore of Sociology, helped participants solve knotty problems with teaching. Eighteen people (8 men and 10 women) of various ranks (Associate Vice Chancellor, Associate Dean, Full professor, Associate Professor, Assistant professor, Professor of Practice, Associate Professor of Practice, Research Assistant professor, lecturer and post doc) attended this event. Participants represented 10 departments.

When asked to describe what they found most valuable from attending the event, the most common answer was the data and discussion about the effect of gender and race on student evaluation of teaching. Other answers provided by more than one respondent were: tips on mentoring, listening to different viewpoints, the suggestion to use a lot of testing in classes (or to evaluate students at the beginning of a course with a comprehensive exam), and tips for large classes.

Opportunities to Become a Campus Leader (2/10/11)

Susan Fritz, Associate Vice Chancellor for IANR and Interim Dean, Agricultural Research Division, Pay Dussault, Charles Bessey Professor and former chair of Chemistry, and Dave Sellmeyer, George Holmes Distinguished Professor and Director of the Nebraska Center for Materials and Nanoscience, discussed ways, means and benefits of campus service. Twenty people (7 men and 13 women) of various ranks (Associate Vice Chancellor, Interim Dean, Associate Dean, Department Chair, Full professor, Associate professor, Assistant professor, Academic advisor, lecturer and staff) attended this event. Participants represented 14 departments.

Respondents were asked to describe what they found most valuable from attending the event. The most common answers were hearing the personal stories and experiences of other faculty, learning about balancing service and research, the question and answer discussion, and the importance of cultivating allies in their department. Other answers included: “how to focus effort,” the knowledge that leadership is not always a natural part of career development, and how to say “no.”

COACH 2011

University of Nebraska-Lincoln hosted its third COACH Professional Development Workshop, The Art of Strategic Performance and Strategies for Leading Change. Twenty-seven people (including 3 men and 22 women), of various ranks (Associate Dean, Director, Assistant Director, Full professor, Associate professor, Assistant professor, Professor of Practice, Assistant Professor of Practice, Graduate student, Post doc, and staff) attended this workshop. Participants represented 13 departments.

Respondents were asked to describe what they found most valuable from attending the event. The most common answer was learning voice projection techniques. Other answers given by more than one respondent included: tactics to use when interacting with other people (particularly tactics

of persuasion when presenting ideas), learning and practicing new skills, discussing real life examples in groups, the discussion about strategies for more productive and effective negotiations, the power of positive thought, and the importance of preparation.

Respondents were also asked to describe their plans for sharing what they learned with their colleagues and to specify how ADVANCE-Nebraska could help in doing this. The most common answers were: will discuss what they learned with colleagues or family members, share information with students and postdocs, will share by example, will tell their colleagues to attend this workshop, and will use positive energy/thoughts when interacting with others. One respondent said they would use the information when mentoring a faculty member. Another said they would write about aspects of the workshop on their blog. None of the respondents discussed how ADVANCE-Nebraska could help them share what they learned.

Now I Have Tenure, What Next? (3/31/11)

This panel discussion highlighted how to keep momentum going or re-direct research entirely after receiving tenure. Fifteen people (1 man and 14 women) of various ranks (Associate Vice Chancellor, Professor of Practice, Full professor, Associate professor, Assistant professor, and staff) attended. Participants represented 12 departments.

When asked what they found most valuable from attending this event, the most common answers were hearing the experiences of faculty from other departments, and meeting new faculty. Participants were also asked to describe their plans for sharing what they learned with their colleagues, and how ADVANCE-Nebraska can help in doing this. The most common answer was mentoring junior faculty. Other answers included: having informal discussions with colleagues, discussing at a faculty meeting, and having a website summarizing what they learned here.

Conversations 2.0 (9/8/11)

This professional development event highlighted topics such as: a good start towards tenure, keeping on track for promotion: expanding your horizons, and assuming leadership. Forty-two people (17 men and 25 women) of various ranks (Vice Chancellor, Dean, Associate Dean, Department Chair, Full professor, Associate professor, Assistant professor, post doc and staff) attended this event. Participants represented 22 departments.

When asked to describe what they found most valuable from attending, the most common answers were networking with other faculty (particularly junior faculty), and hearing the perspective of others (especially senior faculty). Participants found the discussion at the table to be particularly valuable. Other answers included: time management strategies, career preparation, authorship expectations, strategies for working with students, lab safety, and the importance of scheduled writing.

Participants were also asked to specify how they would share what they learned with colleagues. Common answers included: would share information at meetings, share in one-on-one conversations or interactions with others (including colleagues, graduate students and post docs), and would share with young faculty members. Other answers included: convey ideas to promotion & tenure committee, "encourage the department to create a sample tenure portfolio," encourage colleagues to attend "Conversations" in the future, and invite junior faculty to lunch.

Don't Ask, Don't Get (1/20/12)

In this mini-workshop, Dr. Geri Richmond of the University of Oregon, discussed the fundamentals of negotiation including identifying why negotiation is important, what issues are and aren't negotiable, the steps towards reaching a final agreement, tactics useful for difficult negotiations and identifying when to end the negotiation.

Thirty-eight people (including 1 man and 36 women) of various ranks (Associate Vice Chancellor, Dean, Full professor, Associate professor, Assistant professor, Assistant Director, Research Associate professor, Adjunct faculty, Lecturer, Graduate student, and staff) attended this event. Twenty-three departments were represented.

What participants found most valuable from attending this event was the negotiation techniques (good phrases to use, how to remain calm, negotiation in different situations, etc.). Participants were also asked how they would share what they learned with others. The most common answers included: will share/discuss information with graduate students, will share PowerPoint slides or notes with colleagues, and will discuss in informal conversations with friends.

Sorcinelli (3/7/12)

Mary Deane Sorcinelli, Associate Provost for Faculty Development at the University of Massachusetts Amherst was the guest speaker for this workshop on faculty mentoring. In this interactive session, participants identified potential roadblocks to success in an academic career; explored traditional and emerging models of mentoring; "mapped" their own networks; and discussed best practices in mentoring, including how to be your own best mentor.

Seventeen people (3 men and 14 women) of various ranks (Full professor, Associate professor, Assistant professor, lecturer and staff) attended this event. Participants represented 10 departments.

Respondents were asked to describe what they found most valuable from attending the event. The most common answers were: learning about unique ways of mentoring, participating in the open discussion (hearing the experiences and thoughts of others), information about funding opportunities, and discussion of a university-level mentoring program. Additional answers included: the importance of mentoring, the parallels between mentoring and networking, mentoring as career-building, problem solving or being proactive in mentorship, and thinking about people outside of UNL who could serve as teaching mentors.

Participants were also asked to specify how they would share what they learned with colleagues. The most common answer was that they will share with a specific group or committee (e.g. department head & faculty meeting, Chancellor's Commission on the Status of Women, and SBS Teaching Mentoring group). Other respondents said that they will share information informally with colleagues and graduate students. Additional answers included: will work with faculty and department head to implement the programs, will set up off-campus lunches with women Engineering faculty, and will approach "new pre-tenure faculty about developing a professional development plan using start-up funds."

How to Set up and Manage a Lab/Roadmap to Success (9/19/12)

At this event, early career faculty were invited to a discussion about best practices involved in establishing and managing a research lab. Dr. Anuradha Subramanian & Justina Clark presented. Twenty-one people (9 men and 12 women) of various ranks (Administrator, Full professor, Professor of practice, Assistant professor, Post doc, and staff) attended.

Respondents were asked to describe what they found most valuable from attending the event. The two most common answers were general tips on developing/managing a lab and the advice on IDEA management. Other answers included: information on how to interact with graduate students and postdocs, the "description of documentation of lab procedures and protocols," and hearing other people's concerns.

Participants were also asked to specify how they would share what they learned with colleagues. The most common answer was that they would share this information through casual conversations. Other answers provided included: will share information with new faculty that did not attend the event, will give advice to others who have a specific problem, and will work on getting their own lab up and running.

Dr. Wu (10/19/12)

At this event, participants had the opportunity to meet Dr. Marinda Li Wu, the American Chemical Society President-Elect. Dr. Wu gave a brief introduction to her work and then answered questions. Thirty-two people (including 22 women and 9 men) of various ranks (Professor of Practice, Full professor, Associate professor, Assistant professor, Research Associate professor, lecturer, post doc, graduate student and staff) attended. Participants represented 4 departments, but were primary from the Chemistry department.

Respondents were asked to describe what they found most valuable from attending the event. The most common answers were hearing the personal experiences of Dr. Wu, awareness of women in the chemistry/biochemistry world, and issues women face in "moving through career ladder." Other answers included: the importance of diversity, information on dual career couples, the fact that gender will be an issue when applying for jobs, networking, career choice considerations, and the knowledge that women in leadership positions are not numerous.

Participants were also asked to specify how they would share what they learned with colleagues. The most common answer was talking to others (colleagues, lab mates, graduate students, friends, and other women) about what they learned. One respondent said they could open a forum or website.

Highlights from the 2011 FNWS (11/2/12)

Dr. Christina Falci presented highlights from the 2011 Faculty Network and Workload Study (FNWS). Forty-three people (including 14 men and 28 women) of various ranks (Senior Vice Chancellor, Associate Vice Chancellor, Associate Dean, Director, Associate Director, Assistant Director, Chair, Full professor, Associate professor, Assistant professor, Post doc, Graduate Research Assistant, Graduate student, and staff) attended this event. Participants represented 23 departments.

Participants were asked whether the event expanded their thinking about ways to support women and other underrepresented faculty members at the university. Of the 31 respondents, 29% strongly agreed, 52% agreed, 13% neither agreed nor disagreed, and 7% disagreed. Responses were similar when asked whether the research presented had given them new insights into issues and challenges relevant to the success of women faculty at the university (32% strongly agreed, 58% agreed, 7% neither agreed nor disagreed, and 3% disagreed).

Respondents were next asked to describe what they found most valuable from attending the event. The most common answers were the presentation of data (particularly the 3D network maps) and learning about network effects. Other common answers included: learning about trends across the university, meeting other people, and the group discussions.

When asked to specify how they would share what they learned with colleagues, the most common answer was that they would share with their department head and/or colleagues (particularly at faculty meetings). Several participants said they would share the information through more informal means (casual conversations with friends/colleagues, during happy hour, and through social media).

More than one respondent requested to have copies of the slides/reports. One respondent also noted, "Appreciate the opportunity to attend today. We actively work to promote collaborative efforts by faculty- particularly across disciplines- so appreciate knowing more about collaborations on campus."

Helen Moore (1/23/13)

Helen Moore presented research-based opportunities to identify, debate and work to resolve subtle organizational practices that reinforce implicit biases in the sciences. Participants discussed how evaluation processes within academic organizations reproduce biases, considered whether STEM pedagogy is biased to such an extent that evaluations by students and peers are skewed and might need modification to best assess merit, and learned how implicit biases in science and its sub-fields influence our letters of reference and promotion and tenure reviews. Participants also examined some merit and research-based strategies for evaluating excellence in STEM fields.

Thirty-three people (6 men and 27 women) of various ranks (Associate Vice Chancellor, Associate Dean, Chair, Full professor, Associate professor, Assistant professor, Director, Associate Director, staff, Post Doc, and graduate student) attended. Participants represented 18 departments.

Respondents were asked to describe what they found most valuable from attending the event. The most common answers were the research about imbedded biases in student teaching evaluations, the concrete steps to help decrease bias, and helping them think practically about how to approach teaching evaluations. Additional answers provided by more than one participant were: the Classroom Guidelines & Observation worksheet, the citations, and the fact that their experiences in the classroom were validated. One participant said it was encouraging to see that so many people attended.

Participants were also asked to specify how they would share what they learned with colleagues. The most common answers were that they would talk about what they learned in informal discussions, and that they would share the material at various committee meetings. Several

participants said it would be helpful for them to get a copy of the PowerPoint presentation, and that ADVANCE-Nebraska could help by making it available online. Two participants said they would include the materials in new faculty packets or distribute them to graduate students in their department. One respondent said they would tweet about it.

Rockquemore- Writing Your Next Chapter: Midcareer AND Getting What You Need: Junior Faculty- (5/7/13)

Two workshops were conducted by Dr. Kerry Ann Rockquemore of the National Center for Faculty Development & Diversity, "Writing Your Next Chapter" (morning session geared toward midcareer faculty) and "How to Get What You Need to Thrive in the Academy" (afternoon session for junior faculty). Kerry Ann Rockquemore's workshops helped faculty negotiate service requests, create a productive research agenda, learn how to work through writer's block and publish, and decide how to balance research and service.

Eighteen people (including 4 men and 13 women) attended the morning workshop (including people of Associate Vice Chancellor, Full professor, Professor of Practice, Associate professor, and Assistant professor ranks). Participants represented 14 departments. Nineteen people (1 man and 18 women) of various ranks (Associate Vice Chancellor, Professor of practice, Associate professor, Assistant professor, Research Assistant professor, Adjunct faculty, Graduate student, and staff) attended the afternoon workshop. Participants at this workshop represented 13 departments.

Respondents were asked to describe what they found most valuable from attending the event. At the morning workshop the most common answers were: an overview of resistance (in reference to writing), the techniques and tips given about how to be more productive, and the importance of self-reflection. One participant noted that what was most valuable was the knowledge that "my experience is similar to what many others go through." At the afternoon workshop the most common answer was identifying specific action steps. Other answers included: exchanging emails for accountability, learning to ask, time management, honesty, the "limiting beliefs," the interactive portion of the workshop, and "the energy and motivation of saying it out loud!"

Participants were also asked to specify how they would share what they learned with colleagues. Answers from the morning workshop included: will have informal discussions with colleagues, will use what they learned as they help develop junior faculty, and they will share the writing software for grad students. At the afternoon workshop, responses included: will share information with peers/colleagues/mentors/chair, will share information when giving presentations or in colloquium, and will encourage other junior faculty to attend similar events.

Appendix C

College- and University-Level Data Sheets

UNL STEM DATA SHEET

THE PERCENTAGE OF WOMEN COMPARED TO NATIONAL AND PEER DATA APPLICANT POOL AND FACULTY POOL

Figure 1.

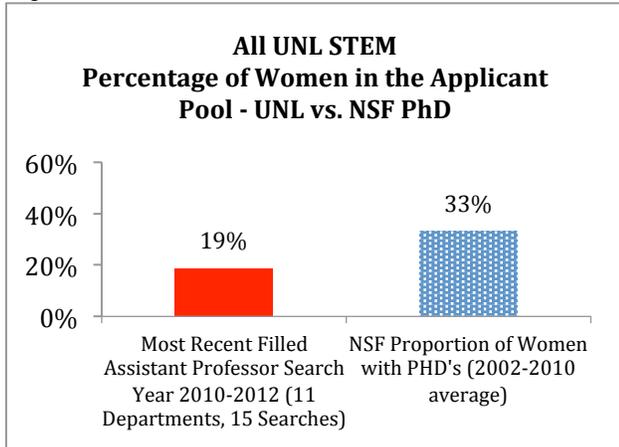
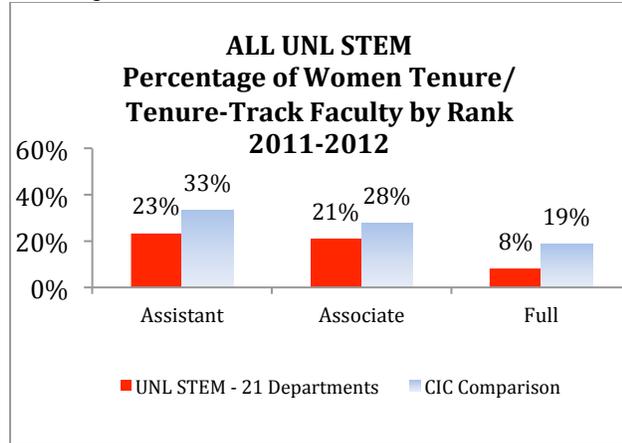


Figure 2.



Figures 1 and 2 are for national and peer comparisons. Figure 1 is the average percentage of women in UNL STEM filled assistant professor searches from 2010 to 2012 (per PeopleAdmin as of Sept 9th, 2012), compared to the NSF average proportion of women graduating with PhD's in corresponding disciplines in 2002, 2005, 2008 and 2010. Figure 2 is the average proportion of women faculty in 9 CIC institutions for 21 UNL matching Departments.

CHANGE OVER TIME IN THE PROPORTION OF WOMEN 2005-2012 APPLICANT POOL AND FACULTY POOL

Figure 3.

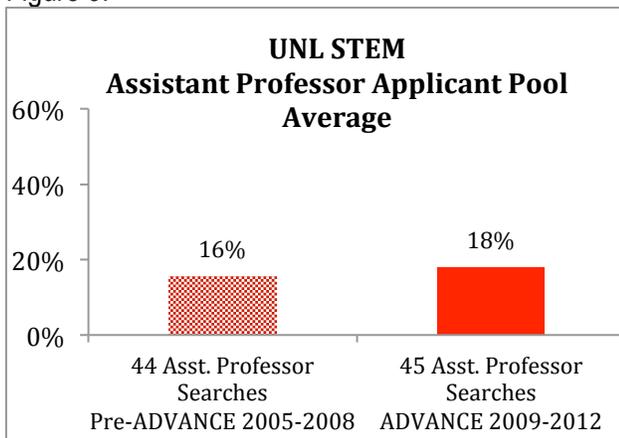
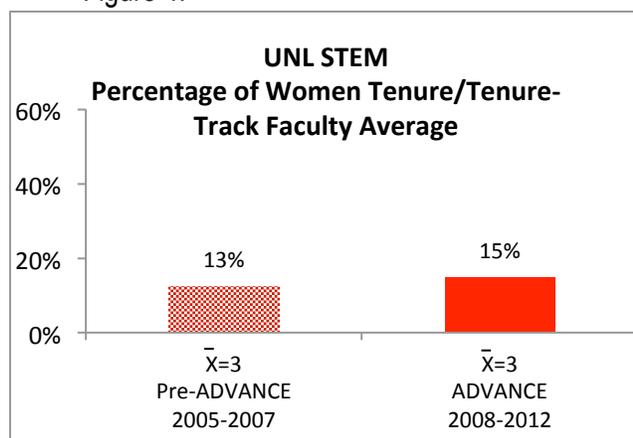


Figure 4.



Figures 3 and 4 are the University's data over time, three years prior to ADVANCE and five years during ADVANCE. The percentages in figure 3 are the percent women in the applicant pool for filled assistant professor positions (Per PeopleAdmin as of Sept. 9th, 2012) averaged for all searches, for all UNL STEM departments, between 2005-2008 and 2009-2012. Figure 4 is the average percent of tenured/tenure-track women faculty in the college averaged over three years prior to ADVANCE, and the five years during ADVANCE.

COLLEGE OF ARTS & SCIENCES

THE PERCENTAGE OF WOMEN COMPARED TO NATIONAL AND PEER DATA APPLICANT POOL AND FACULTY POOL

Figure 1.

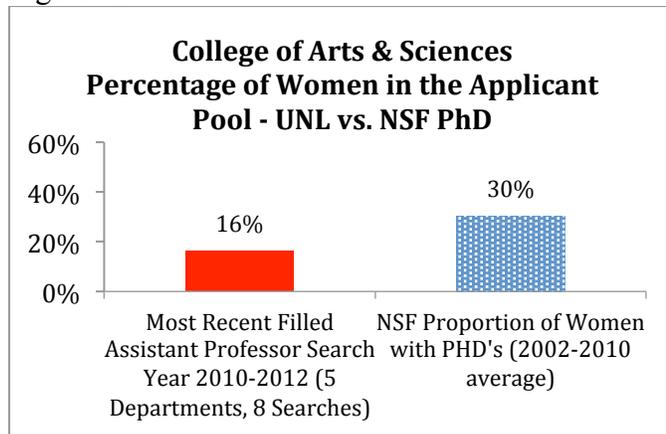
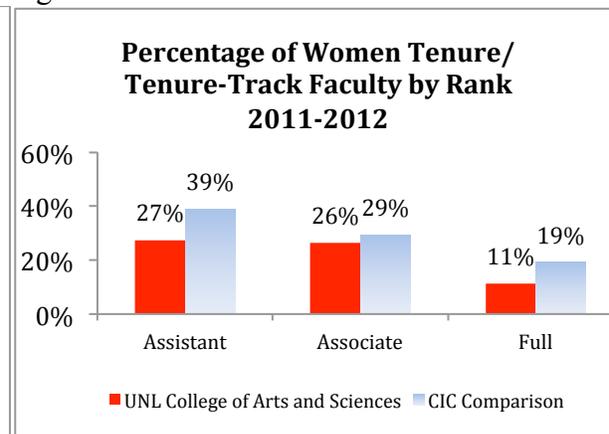


Figure 2.



Figures 1 and 2 are for national and peer comparisons. Figure 1 is the average percentage of women in UNL A&S STEM filled assistant professor searches in 2010-2012 (per PeopleAdmin as of Sept 9th, 2012), compared to the NSF average proportion of women graduating with PhD's in corresponding disciplines in 2002, 2005, 2008 and 2010. Figure 2 is a 2011-2012 peer comparison of UNL A&S departments and the average of their CIC counterparts.

CHANGE OVER TIME IN THE PROPORTION OF WOMEN 2005-2012 APPLICANT POOL AND FACULTY POOL

Figure 3

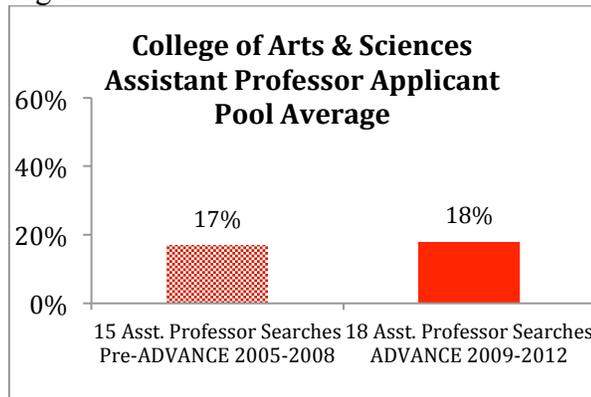
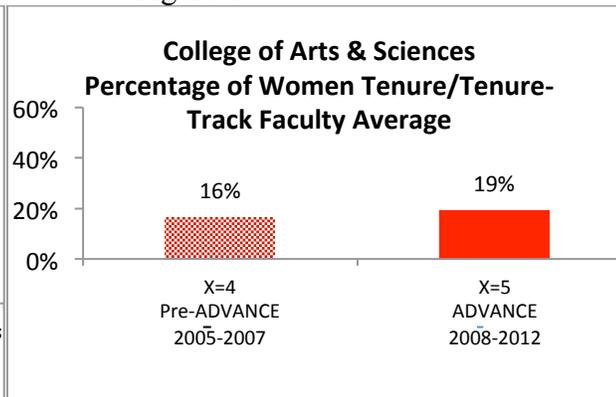


Figure 4.



Figures 3 and 4 are the college's data over time, three years prior to ADVANCE and five years during ADVANCE. The percentages in figure 3 are the percent women in the applicant pool for filled assistant professor positions (Per PeopleAdmin as of Sept. 9th, 2012) averaged for all searches, for all A&S departments, between 2005-2007 and 2008-2012. Figure 4 is the average percent of tenured/tenure-track women faculty in the college averaged over three years prior to ADVANCE, and the five years during ADVANCE.

COLLEGE OF ENGINEERING

**THE PERCENTAGE OF WOMEN COMPARED TO NATIONAL AND PEER DATA
APPLICANT POOL AND FACULTY POOL**

Figure 1.

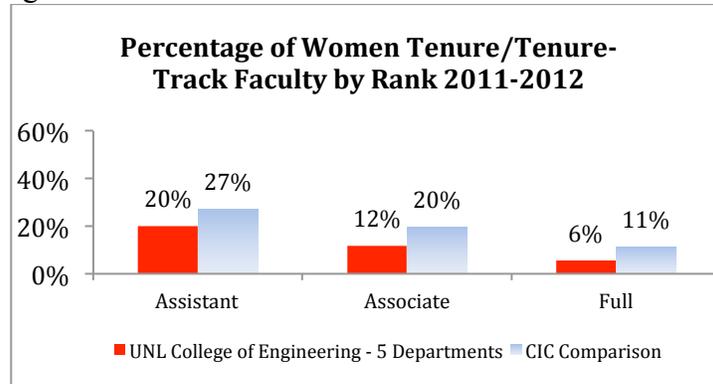


Figure 1 is a 2011-2012 peer comparison of UNL IANR departments and the average of their CIC counterparts for 5 departments (Chemical & Biomolecular Engineering, Civil Engineering, Computer & Electronics Engineering, Electrical Engineering and Mechanical & Materials Engineering).

**CHANGE OVER TIME IN THE PROPORTION OF WOMEN 2005-2011,
APPLICANT POOL AND FACULTY POOL**

Figure 2.

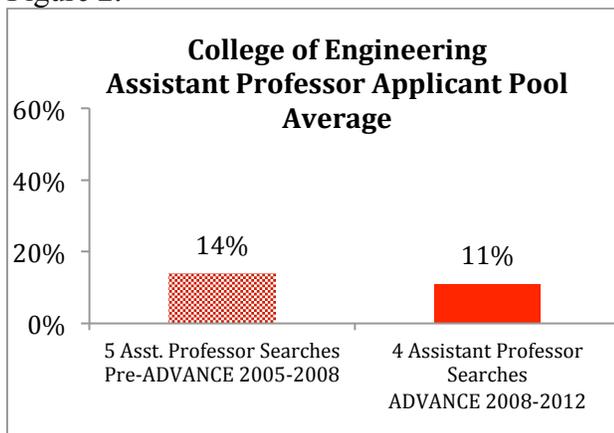
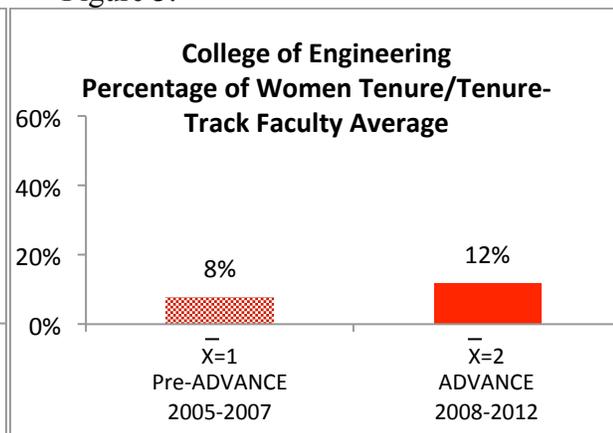


Figure 3.



Figures 2 and 3 are the college's data over time, three years prior to ADVANCE and five years during ADVANCE. The percentages in figure 3 are the percent women in the applicant pool for filled assistant professor positions (Per PeopleAdmin as of Sept. 9th, 2012) averaged for all searches, for all COE departments, between 2005-2007 and 2008-2012. Figure 4 is the average percent of tenured/tenure-track women faculty in the college averaged over three years prior to ADVANCE, and the five years during ADVANCE.

UNL STEM IANR

THE PERCENTAGE OF WOMEN COMPARED TO NATIONAL AND PEER DATA APPLICANT POOL AND FACULTY POOL

Figure 1.

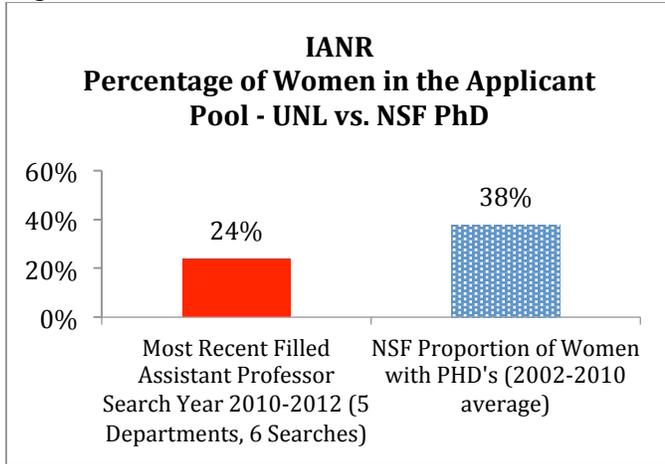
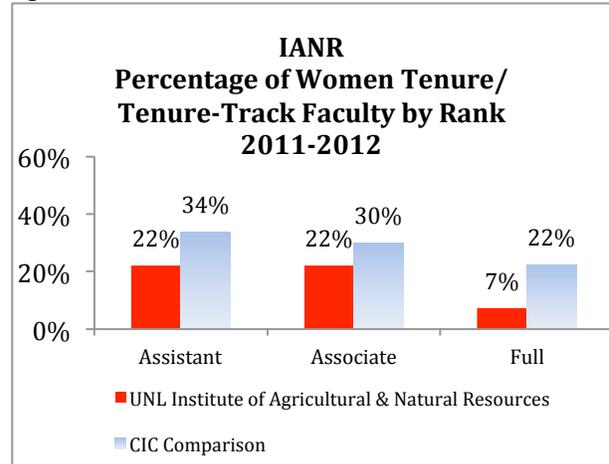


Figure 2.



Figures 1 and 2 are for national and peer comparisons. Figure 1 is the average percentage of women in UNL STEM IANR filled assistant professor searches from 2010-2012 (per PeopleAdmin as of Sept 9th, 2012), compared to the NSF average proportion of women graduating with PhD's in corresponding disciplines in 2002, 2005, 2008 and 2010. Figure 2 is a 2011-2012 peer comparison of UNL IANR departments and the average of their CIC counterparts.

CHANGE OVER TIME IN THE PROPORTION OF WOMEN 2005-2012, APPLICANT POOL AND FACULTY POOL

Figure 3.

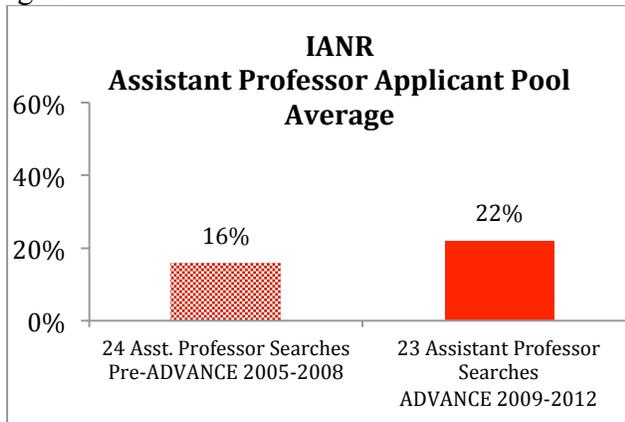
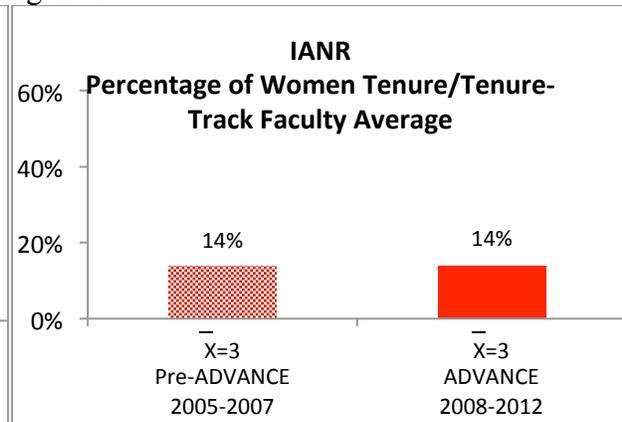


Figure 4.



Figures 3 and 4 are the college's data over time, three years prior to ADVANCE and five years during ADVANCE. The percentages in figure 3 are the percent women in the applicant pool for filled assistant professor positions (Per PeopleAdmin as of Sept. 9th, 2012) averaged for all searches, for all IANR departments, between 2005-2007 and 2008-2012. Figure 4 is the average percent of tenured/tenure-track women faculty in the college averaged over three years prior to ADVANCE, and the five years during ADVANCE.

Appendix D

Recommendations Based on Focus Groups

Recommendations based on UNL STEM Women Focus Group Results

Climate surveys conducted by the ADVANCE-Nebraska research team revealed that STEM associate professor women have the lowest satisfaction for departmental and institutional climate. To identify the causes for lower satisfaction, the ADVANCE-Nebraska evaluation team conducted three focus groups with University of Nebraska-Lincoln (UNL) Science, Technology, Engineering, and Math (STEM) associate and full professor women in Fall, 2012.

The ADVANCE-Nebraska Leadership Team offers the following recommendations to the OSVCAA and IANR based on our interpretation of the focus group results.

Issue 1: Service and Governance

Focus Group Participants discussed being overburdened with service that is undervalued. Certain committees require the service of women and people from under-represented groups who then become differentially burdened with service. In addition, there is a well-documented tendency in the workplace to associate women with “housekeeping” and “motherly” roles (e.g., Undergraduate Advising and Curriculum, certification programs, every woman student graduate committee). Service is, in effect, faculty governance, and must be appropriately valued, rewarded, and equitably shared.

Recommendations:

1.a. Attention should be paid to committee assignments so that women faculty are asked to serve on committees and in positions that build careers (e.g., executive committees, Tenure & Promotion committees, Graduate Advisor).

1.b. Deans should request that department chairs review service loads of faculty at regular intervals, holding chairs and heads accountable.

1.c. UNL should adopt the practice of many ADVANCE Institutions’ of “Equity Advisors”. These are faculty familiar with Best Practices for recruitment, retention, and leadership promotion of under-represented groups in academia. These may be men or women; men thus share the responsibility of keeping the focus on equity.

Issue 2: Lack of access to informal Information Networks

The social network analyses and the focus groups data show that women are more likely to be left out of key networks in departments, colleges, and on the campus, making it more difficult for them to access informally disseminated information. To make the process fair, we need to increase the clarity of the Promotion and Tenure (P&T) process.

Recommendations:

2.a. Attention must be paid to active mentorship of pre-tenure faculty within departments to provide as much clarity of the tenure and promotion process as possible. Exemplar departments at UNL accomplish this in several ways: some allow pre-tenure faculty to attend discussions on tenure bids (pre-tenure faculty do not vote); some have a regular faculty meeting (e.g., every three years) to discuss and clarify tenure requirements.

2b. Hold annual workshops hosted by OSVCAA and IANR for pre-tenure faculty to review what is required of P&T dossiers.

2.c. Department chairs should ensure pre-tenure faculty are aware of college templates for P&T dossiers and provide samples of P&T dossiers. Departments could post these on their own Blackboard sites.

2.d. Adoption of clearly defined annual review procedures and communicate routinely to all faculty.

2.e. Provide workshops, coordinated by OSVCAA and IANR, to provide clarity on the pathway to promotion for associate professors. The Pathways to Promotion workshops in A&S may be reviewed as a model to replicate. Department heads and chairs should encourage faculty to apply for and clarify the benefits of timely promotion to full professor. Benefits include intangibles as well as salary and position. Intangibles include serving as a role model for pre-tenure faculty, graduate students, undergraduates; becoming eligible for awards and other forms of recognition (which further serves as a good role model).

Issue 3: Perception of Inconsistencies in the P&T Process:

3.a. Chairs and heads should review appropriate and inappropriate procedures with P&T committees. This includes information on how UNL work-life balance policies such as stop-the-clock are applied. OSVCAA and IANR should consider providing annual workshops for faculty, chairs and heads on how to implement work-life balance policies until all faculty are educated on this important issue.

3.b. Continuously monitor work-life balance policies and get the word out to faculty through workshops on what the policies are and how to implement them.

3.c. Adopt letter to external letter writers that explains UNL's stop-the-tenure-clock and additional work-life balance policies. For example, the University of Washington uses the following:

We would appreciate that in evaluating this candidate, you do not consider the number of years since PhD or years in position. Instead, your evaluation should consider the totality of the accomplishments rather than the rate or timeliness of the accomplishments.

3.c. Department chairs should Help/Lead discussion by P&T committee of what components are evaluated and in what way, what are appropriate and what are inappropriate discussion points. Exemplar department use formal or informal "rubrics" for evaluation.