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Cover

Federal Agency and Organization Element to Which Report is Submitted:	4900
Federal Grant or Other Identifying Number Assigned by Agency:	1608576
Project Title:	IT-C: Differences and Deficits Affecting Women STEM Faculty: Creating a Framework for Change at a Rural Public University
PD/PI Name:	Maeve L McCarthy, Principal Investigator Stephen H Cobb, Co-Principal Investigator Paula J Waddill, Co-Principal Investigator Echo H Wu, Co-Principal Investigator Robin Zhang, Co-Principal Investigator
Recipient Organization:	Murray State University
Project/Grant Period:	05/01/2016 - 04/30/2020
Reporting Period:	05/01/2019 - 04/30/2020
Submitting Official (if other than PD\PI):	Maeve L McCarthy Principal Investigator
Submission Date:	07/17/2020
Signature of Submitting Official (signature shall be submitted in accordance with agency specific instructions)	Maeve L McCarthy

Accomplishments

* What are the major goals of the project?

Many factors related to the underrepresentation of women in STEM disciplines can be conceptualized as falling into two primary categories: deficit and difference factors. Deficit factors are structural obstacles and mechanisms in the workplace that lead to both formal and informal exclusion of female faculty. Difference factors are characteristics internal to the individual that lead to gender disparities, including differences in men's and women's goals, outlook, and behavior. We hypothesize that deficit and difference factors manifest differently at a rural public institution. The major goal of the project is to evaluate this

hypothesis, and to put into action and create a framework for positive changes. We will (a) review existing policies and data to determine if changes to them can positively impact women in STEM; (b) collect new data through surveys and interviews; (c) conduct site-visits to other ADVANCE institutions (University of Western Washington, University of New Hampshire and University of West Florida); and (d) invite nationally recognized external speakers to campus to inform and educate our administration and our entire campus community. Building upon this project and several significant recent change agents including the new MSU Strategic Initiatives Plan and its implementation and the commitment of our new president, MSU is the institution that can be a strong model for change in the status of women in STEM at rural regional universities.

*** What was accomplished under these goals (you must provide information for at least one of the 4 categories below)?**

Major Activities:

Major Activity #1: Identify the pattern of representation at Murray State in STEM disciplines. This involves working with Human Resources, Institutional Research and the Office of Institutional Diversity, Equity and Access.

Major Activity #2: Learn about other policies and programs. This primarily involved working with the ADVANCE community external to Murray State.

Major Activity #3: Sustainable Mentoring Program.

External Evaluator Visit: Susan Wiediger, SIU Edwardsville conducted a formative external evaluation in September 2016. She conducted a summative external evaluation visit in September 2019. Details are in the Products section.

Specific Objectives:

Major Activity #1 – Objective 1: Policy & Program Review. Policy review was conducted by co-PI Robin Zhang.

Major Activity #1 – Objective 2: Analysis of Existing Data. This analysis was conducted by PI Maeve McCarthy.

Major Activity #1 – Objective 3: Interviews. Interviews of male and female STEM faculty at all ranks were conducted by co-PI Echo Wu during Year 1.

Major Activity #1 – Objective 4: Survey. The climate survey was designed by co-PI Paula Waddill and implemented by the Cornell Survey Research Institute. Analysis of the climate survey was conducted by co-PI Paula Waddill. Final report was prepared by PI team.

Major Activity #2 – Objective 1: Site Visits. Paula Waddill and Maeve McCarthy visited University of West Florida in Year 1. Paula Waddill and Robin Zhang visited Middle Tennessee State University in Year 2. During Year 3, Claire Fuller and Maeve McCarthy visited University of Washington, and Paula Waddill and Robin Zhang visited University of New Hampshire.

Major Activity #2 – Objective 2: Workshops. During Year 1, Joan Herbers (Ohio State) and Lydia Villa-Komaroff each presented ADVANCE Seminars to the MSU community. They also conducted workshops for small groups of STEM women. During Year 2, Donna Dean (AWIS & ACS) and Mary Anne Holmes (University of Nebraska Lincoln) each presented ADVANCE Seminars to the MSU community. They also conducted workshops for small groups of STEM women. During Year 3, Christine Grant (CoolSci Productions and NC State) presented an ADVANCE Seminar to the MSU community. She also conducted a workshop for a small group of STEM women. Nancy Houfek (COACH) conducted a workshop on strategic persuasion. This was open to all women faculty at MSU. Patricia Kelley (UNC Wilmington) presented an ADVANCE seminar.

During Year 4, Emily Sandoz (University of Louisiana at Lafayette) presented an ADVANCE seminar.

Major Activity #2 – Objective 3. Meetings at MSU. The ADVANCE Internal Advisory Board met 4-5 times a year. The External Advisory Board met twice a year.

Major Activity #3 – Objective 1 & 2. Peer-mentoring circles were created and assessed. In Year 3, the circles were extended beyond STEM to the College of Business and the School of Nursing and Health Professions. This was funded by the Deans. In Year 4, this activity was funded by our Adaptation award.

Significant Results:

Major Activity #1 – Objective 1: Policy & Program Review. Dr. Zhang presented results to the Internal Advisory Board, including a review of a previous campus climate survey conducted by the President's Commission on Diversity & Inclusion, a comparison of our policies using the AIM Matrix and an analysis of our approach to job advertisements. This led to the development of a new recruiting website. Dr. Zhang wrote a report based on her comparison of our policies with other universities' policies. This was presented to the Internal and External Advisory Boards.

Major Activity #1 – Objective 2: Analysis of Existing Data. Dr. McCarthy presented results to the Internal Advisory Board, including a breakdown of our gender distribution by college, rank and STEM vs. non-STEM. She also presented analysis of search data which demonstrated that the number of qualified women applicants was low in STEM fields. This led to discussion of how we could improve this and the recruiting website.

Major Activity #1 – Objective 3: Interviews. During Year 1, Dr. Wu interviewed 20 faculty with a view to identifying themes that could guide our question development for the climate survey. Although the interviews were informative, no new themes were identified for the climate survey from the interviews. Dr. Wu has presented this work at Understanding Interventions.

Major Activity #1 – Objective 4: Survey. Dr. Waddill designed a survey that consisted primarily of questions from other ADVANCE surveys with a view to allowing comparison of our results with non-rural institutions in the future. The survey was available February 15-March 17 to 519 full-time faculty. There were 315 completed responses (61%) and 58 partial surveys (11%). Preliminary summary data is attached. Dr. Waddill made several presentations to the Internal Advisory Board. This information was shared with the External Advisory Board.

Major Activity #2 – Objective 1: Site Visits. In Year 1, we visited University of West Florida which was finishing a PAID award. We learned about their climate surveys, workshops, mentoring lunches and other activities. We spent a considerable amount of time discussing how to institutionalize ADVANCE at regional comprehensive universities like UWF and MSU. In Year 2, we visited Middle Tennessee State University which had just completed a Catalyst project. We learned about their climate surveys, focus groups, Women in STEM (WISTEM) Center and other activities. We spent a considerable amount of time discussing their main findings and recommendations for institutionalization and sustaining the impacts of ADVANCE.

Major Activity #2 – Objective 2: Workshops. See Objectives.

Major Activity #2 – Objective 3. Meetings at MSU. The ADVANCE PI team met once or twice a month to discuss our goals and how we were working to achieve them. The ADVANCE Internal Advisory Board met four times during the project year. Co-PI Steve Cobb played an integral role here as the Dean of the Jones College Science, Engineering and Technology and a formal member of the Internal Advisory Board. From

his dual-position, he was able to advocate for our project in an effective manner. This work was continued by Claire Fuller, after Steve Cobb stepped down from the Dean position. The External Advisory Board met twice a year via Zoom.

Major Activity #3 – Objective 1 & 2. Peer-mentoring circles based on those that have been carried out at Ohio State University and North Carolina State University were created. Three facilitators were initially recruited: Barbara Cobb, Terry Derting and Claire Fuller. They received training from Christine Grant (NCSU). Three circles were created with 7-8 women faculty at all ranks from a variety of departments. Faculty were not placed in circles with facilitators from their department. The circles met 10 times a year and were evaluated using a survey and open discussion.

Key outcomes or Other achievements:

*** What opportunities for training and professional development has the project provided?**

The workshops and mentoring circles have provided professional development for women in STEM.

*** How have the results been disseminated to communities of interest?**

During Year 1, an oral presentation was given at the Understanding Interventions conference in San Antonio, TX. Two poster presentations were given at the Sigma Xi conference and the Leadership Launch women's program, both at Murray State.

During Year 2, a poster presentation "Peer Mentoring Circles Provide Support and Empowerment for Women Faculty at All Levels" was given by Maeve McCarthy & Paula Waddill at the ADVANCE Workshop in October 2017. An oral presentation "Peer Mentoring Circles for Women STEM Faculty at Murray State University" was given by Maeve McCarthy at the Kentucky Academy of Sciences Annual Meeting in November 2017.

During Year 3, a poster presentation "Providing Empowerment and Support through Peer Mentoring Circles" was given by Maeve McCarthy & Robin Zhang at the Empowered to Lead conference at North Carolina A&T, Greensboro, NC, in May 2018. A poster presentation "The Impact of Mentoring Circles at a Rural University, Providing Empowerment and Support through Peer Mentoring Circles" was given by Maeve McCarthy at the STEMM Equality Congress in Amsterdam in October 2018.

During Year 4, an oral presentation "Mentoring Circles empower STEM Women" was made by Maeve McCarthy at the Equity in STEM Community Convening in October 2019.

Supporting Files

Filename	Description	Uploaded By	Uploaded On
MSU_ADVANCE_2017_Survey_Report_NSF_Sm.pdf	Climate survey report	Maeve Mccarthy	07/17/2020
ADVANCE 2017 Survey Tri-Fold - Final.pdf	Climate survey summary for all faculty	Maeve Mccarthy	07/17/2020

Products

Books

Book Chapters

Maeve McCarthy (2019). The impact of mentoring. *Gender Inequality: A Reference Handbook*. Status = PUBLISHED; Acknowledgement of Federal Support = Yes ; Peer Reviewed = No

Inventions

Journals or Juried Conference Papers**Licenses****Other Conference Presentations / Papers****Other Products***Evaluation Instruments.*

Summative evaluation of MSU ADVANCE Catalyst project by Susan Wiediger, SIU Edwardsville. Posted on www.murraystate.edu/advance

Other Publications**Patents****Technologies or Techniques****Thesis/Dissertations****Websites****Supporting Files**

Filename	Description	Uploaded By	Uploaded On
MSU_Advance_evaluationreport_Fall2019.pdf	Summative evaluation by Susan Wiediger.	Maeve Mccarthy	07/16/2020
Gender Inequality essay.pdf	Paper by McCarthy, Cobb, Waddill, Fuller, Zhang	Maeve Mccarthy	07/17/2020

Participants/Organizations**What individuals have worked on the project?**

Name	Most Senior Project Role	Nearest Person	Month Worked
McCarthy, Maeve	PD/PI	1	
Cobb, Stephen	Co PD/PI	0	
Waddill, Paula	Co PD/PI	1	
Wu, Echo	Co PD/PI	0	
Zhang, Robin	Co PD/PI	1	
Fuller, Claire	Co-Investigator	0	
Cobb, Barbara	Faculty	0	

Full details of individuals who have worked on the project:**Maeve L McCarthy****Email:** mmccarthy@murraystate.edu

Most Senior Project Role: PD/PI
Nearest Person Month Worked: 1

Contribution to the Project: Dr. McCarthy served as PI for the project, coordinating all aspects of the program including setting the agenda for and leading the team meetings, Internal Advisory Board meetings, and External Advisory Board meetings. Each year, she has planned and hosted two speaker visits. The speakers conducted both seminars and workshops which Dr. McCarthy coordinated. She recruited facilitators and participants for the Mentoring Circles program and did much of its preliminary administration. She worked with Accounting, Dining Services, and Tech Support to ensure the grant project is administratively supported by Murray State. She conducted much of the analysis of data provided by Institutional Research to determine gender patterns amongst the STEM & SBES faculty. She conducted further analysis on data from the Office of Institutional Diversity, Equity and Access to determine gender patterns in STEM & SBES search pools. She has presented reports to the Internal Advisory Board at every meeting. She participated in two site visits to University of West Florida and University of Washington. She co-wrote the survey report and presented the results to various university groups.

Funding Support: None

International Collaboration: No
International Travel: Yes, Netherlands - 0 years, 0 months, 3 days

Stephen H Cobb

Email: steve.cobb@murraystate.edu
Most Senior Project Role: Co PD/PI
Nearest Person Month Worked: 0

Contribution to the Project: Dr. Cobb's contribution to the project includes participation in team planning meetings, membership on the campus ADVANCE Advisory Board, meeting external speakers who visit campus for workshops and presentations, and attendance at grant-sponsored campus presentations and events.

Funding Support: None

International Collaboration: No
International Travel: No

Paula J Waddill

Email: pwaddill@murraystate.edu
Most Senior Project Role: Co PD/PI
Nearest Person Month Worked: 1

Contribution to the Project: In addition to meeting regularly with the grant team and the Advisory Board, Dr. Waddill designed the evaluation survey to measure Mentoring Circle participants' satisfaction with the mentoring activities, analyzed the survey responses, and prepared reports for the grant team and Advisory Board. Dr. Waddill co-wrote the survey report. She also participated in a site visit to University of New Hampshire to discuss our program, to learn about their program, and gather information and insights that could be used to improve and facilitate our ADVANCE grant activities.

Funding Support: None

International Collaboration: No
International Travel: No

Echo H Wu

Email: ewu@murraystate.edu
Most Senior Project Role: Co PD/PI
Nearest Person Month Worked: 0

Contribution to the Project: Dr. Wu participated in regular team meetings, external evaluator meetings, Internal Advisory Board meetings, mentoring training, and hosted the external evaluator and the external speakers. Dr. Wu conducted the preliminary interviews of faculty, designing questions and consent forms. She received IRB approval for the interviews. Dr. Wu contacted over 60 faculty members through emails, and consequently conducted 22 personal interviews, each interview was 50-70 minutes in length. She analyzed the interview transcripts, and shared the results with the team. In March 2017, Dr. Wu presented at San Antonio, TX, during the 9th Understanding Intervention annual conference, representing the team to share our research with colleagues from other institutions, and learned a great deal about other NSF and NIH project.

Funding Support: None

International Collaboration: No

International Travel: No

Robin Zhang

Email: qzhang@murraystate.edu

Most Senior Project Role: Co PD/PI

Nearest Person Month Worked: 1

Contribution to the Project: Dr. Zhang participated in team meetings and email communications, attended meetings of the Internal Advisory Board, and helped hosting external speakers. She also visited University of New Hampshire with Dr. Waddill to learn about their ADVANCE grant activities, findings, and sustaining efforts after the end of grant period. She co-wrote the survey report.

Funding Support: None

International Collaboration: No

International Travel: No

Claire Fuller

Email: cfuller@murraystate.edu

Most Senior Project Role: Co-Investigator

Nearest Person Month Worked: 0

Contribution to the Project: Dr. Fuller attended ADVANCE team planning meetings and meetings of the Advisory Board, and participated in ADVANCE workshops and seminars. Dr. Fuller served as Dean of the Jones College of Science, Engineering and Technology for the 2019-2020 academic year. She will “communicate the goals and plans of the ADVANCE project to the President, Provost, other academic deans and program directors, and campus support personnel.”

Funding Support: none

International Collaboration: No

International Travel: No

Barbara Cobb

Email: bcobb@murraystate.edu

Most Senior Project Role: Faculty

Nearest Person Month Worked: 0

Contribution to the Project: As the facilitator for one of the mentoring circles, Dr. Cobb participated in training and decision-making in designing and scheduling the mentoring sessions. She prepared notes and questions for each session, and, when appropriate, provided information that members needed or requested, including campus data on issues related to women and literature related to topics discussed. She led discussions at each session, ensuring that all circle members felt comfortable participating, their voices were heard and ideas shared. Dr. Cobb made sure that participants addressed each topic and stayed on topic as much as possible. At the same time, she encouraged circle

members to raise questions or concerns on any topic of importance to them and made decisions about the best time for addressing those concerns. She encouraged more senior faculty to share their experiences and suggestions with more junior faculty. She informed the circle members of any on-campus speakers or other events that were related to women's issues or issues raised in our meetings, while also raising awareness of changes that have occurred on-campus that result in new issues for incoming faculty that we then explore. Dr. Cobb provided support and contacts for circle members as needed and appropriate. Dr. Cobb also led the training of the new facilitators in August 2019.

Funding Support: none

International Collaboration: No

International Travel: No

What other organizations have been involved as partners?

Name	Type of Partner Organization	Location
Cornell University Survey Research Institute	Academic Institution	Ithaca, NY
Middle Tennessee State University	Academic Institution	Murfreesboro, TN
University of New Hampshire	Academic Institution	Durham, NH
University of Washington	Academic Institution	Seattle, WA
University of West Florida	Academic Institution	Pensacola, FL

Full details of organizations that have been involved as partners:

Cornell University Survey Research Institute

Organization Type: Academic Institution

Organization Location: Ithaca, NY

Partner's Contribution to the Project:

Other: Administered online climate survey

More Detail on Partner and Contribution:

Middle Tennessee State University

Organization Type: Academic Institution

Organization Location: Murfreesboro, TN

Partner's Contribution to the Project:

Other: Site Visit

More Detail on Partner and Contribution: MTSU hosted a visit by Paula Waddill and Robin Zhang on February 12, 2018. We spent the day in a series of meetings learning about the many aspects of their CATALYST award. Their experience as a regional comprehensive university with an ADVANCE award was particularly relevant to our experience.

University of New Hampshire

Organization Type: Academic Institution

Organization Location: Durham, NH

Partner's Contribution to the Project:

Other: Site visit

More Detail on Partner and Contribution: University of New Hampshire hosted a visit by Paula Waddill and Robin Zhang on October 22-23, 2018. We spent the visit in a series of meetings learning about the many aspects of their Institutional Transformation award.

University of Washington

Organization Type: Academic Institution

Organization Location: Seattle, WA

Partner's Contribution to the Project:

Other: Site visit

More Detail on Partner and Contribution: University of Washington hosted a visit by Maeve McCarthy and Claire Fuller on September 13-14, 2018. We spent the visit in a series of meetings learning about the many aspects of their Institutional Transformation award.

University of West Florida

Organization Type: Academic Institution

Organization Location: Pensacola, FL

Partner's Contribution to the Project:

Other: Site Visit

More Detail on Partner and Contribution: UWF hosted a visit by Paula Waddill and Maeve McCarthy on March 2-4, 2017. We spent March 3 in a series of meetings learning about the many aspects of their PAID award. Their experience as a regional comprehensive university with an ADVANCE award was particularly relevant to our experience.

What other collaborators or contacts have been involved?

Susan Wiediger, SIU Edwardsville, External Evaluator

Members Internal Advisory Board (all Murray State employees)

Robert Jackson, President

Tim Todd Provost

Bob Pervine, Associate Provost

David Eaton, COB

Claire Fuller, JCSET

David Balthrop, CHFA

Tony Brannon, HSA

Cami Duffy, IDEA

Melony Shemberger, Faculty Regent

Joyce Gordon, HR

Susana Bloomdahl, PCDI

Firm Faith Watson, FDC

Ashley Ireland, Libraries

Members External Advisory Board

Christine Grant, NCSU

Joan Herbers, OSU

Mary Anne Holmes, UNL
Bobby Lee, WKCTC
Lauren Martin, Appriss

Impacts

What is the impact on the development of the principal discipline(s) of the project?

Several activities and findings during the first year of our project have made and will likely continue to make an impact on the STEM and SBES disciplines, the principal fields of our project.

- 1) Results from our institutional data collection show underrepresentation of female faculty in multiple departments, especially those in the Jones College of Science, Engineering and Technology, and in the Department of Computer Science and Information Systems. The findings have been disseminated to campus leadership via the Internal Advisory Board. The results have reinforced the awareness, informed the stakeholders, and may prompt proactive measures to hire more female faculty in STEM and SBES disciplines.
- 2) We conducted a policy review of Murray State, institutions similar to Murray State, and ADVANCE institutions, on work-life, tenure and promotion, professional and leadership development, and recruitment. The results have identified several areas where we could benefit from a new policy, new interpretation of existing policy, or information. We identified the expansion of the tenure clock, parental leave, and information for prospective employees as areas we will work on. These changes will likely impact the retention and recruitment of female faculty in STEM and SBES.
- 3) Our three Mentoring Circles have brought together about 20 STEM and SBES female faculty to discuss topics of mutual interests every two weeks. The mentoring circles have built and are likely to continue build professional collaboration and social network among the participants, a vital ingredient for success at a rural and geographically isolated institution such as Murray State University.
- 4) We have brought on campus several prominent advocates and experts of diversity in the sciences: Dr. Joan Herbers, Dr. Lydia Villa-Komaroff, Dr. Donna Dean, Dr. Mary Anne Holmes, Dr. Christine Grant, Nancy Houfek and Dr. Patricia Kelley. They have held small group workshops and public seminars, and met with the university leadership. They have helped educate the university community on gender diversity in the sciences and implicit bias, which has increased the awareness and helped to build consensus on advancing women in the sciences.
- 5) Our team traveled to the University of West Florida (UWF) to meet with their ADVANCE team and learn from their experience. The site visit will likely impact our effort to set priorities and our strategies to institutionalize our project. Money to support research, child care and paid parental leave were high priorities for UWF. We also learned that the Faculty Development Center would be a likely venue to continue mentoring and professional development activities for female faculty. We have invited the Director of our Faculty Development Center to join our Internal Advisory Board and get involved in our project. Our team traveled to the Middle Tennessee State University (MTSU) to meet with their ADVANCE team and learn from their experience. The site visit will likely impact our effort to set priorities and our strategies to institutionalize our project. Work-Life Coordinator, WISTEM Center, and considering significant service in promotion especially from Associate Professor to Full Professor were high priorities for MTSU. We also learned that an office in MTSU that is similar to MSU's Faculty Development Center is now involved in mentoring and leadership development activities for female faculty, which is what we have planned to do. We gave a brief report of the visit at a recent Internal Advisory Board meeting, when literature on female faculty's higher service load and the institutional culture of undervaluing service was also discussed. The awareness among higher-level administrators may potentially change how service will be assigned and how it will be counted in faculty evaluations. Our team traveled to the University of Washington and University of New Hampshire to learn about their ADVANCE programs. This will lead to long term changes at Murray State built on the knowledge developed by other ADVANCE institutions.
- 6) We conducted our campus climate survey and have written a final report. The survey has helped us to understand the contributing factors of women's underrepresentation in STEM and SBES, which will in turn drive policy change. Key recommendations are:

1. Improve perception that work/life balance is a priority at Murray State.
2. Provide childcare facility for employees.
3. Develop faculty support network by institutionalizing the mentoring circles through the Faculty Development Center.
4. Assess workload expectations, particularly regarding teaching and service.
5. Increase salaries to be comparable to peer institutions and establish mechanism for annual increases.
6. Introduce optional bias training with a view to improving recruitment activities, and tenure & promotion processes.
7. Increase exposure to policies about extension of the probationary period (see Faculty Handbook).

In sum, through our ADVANCE project, we have shown to the university leadership and community the need to recruit and retain women faculty in STEM and SBES, we have identified a few policy and procedural changes that may be implemented, we have started to build a professional community for women faculty in the sciences, and we are in the process of learning specific factors that contribute to underrepresentation and possible ways to remove the obstacles through awareness and change. The advance of women faculty in science will result in higher productivity and better quality of work by female scientists at Murray State, which will directly advance the STEM and SBES disciplines involved.

What is the impact on other disciplines?

The majority of our findings and policy recommendations will likely to make an impact on other disciplines because any policy change will be campus wide. The policies that have a particular impact on women such as expansion of the tenure clock, parental leave, child care, etc., applies to all faculty. The university leadership is involved with the project as members of the Internal Advisory Board. Our project team have presented the Board with findings from several activities. The Board has identified some action items that are likely to make an impact on other disciplines, such as additional information in job ads and a webpage to distribute information about the community to prospective job seekers.

Our efforts to build a professional community of women faculty will also likely impact all women faculty on campus, because a group of STEM and SBES women who are actively involved in ADVANCE Mentoring Circles are also leaders and active participants of the Women Faculty Caucus, a group that is driving policy change for all women faculty. The overall improvement of campus climate expected as the result of this project will help to advance all women on campus.

Our ADVANCE seminars are open to all faculty, staff, students and community members. They have increased the visibility of our project, enhanced the awareness of issues pertain to women's underrepresentation in the Sciences and diversity in general.

What is the impact on the development of human resources?

The ADVANCE seminars, presentations by the team, climate survey, and Mentoring Circles all increase the awareness of the underrepresentation of women in STEM and implicit bias in hiring and performance evaluation. This will likely result in better recruitment and retention of women in STEM.

What is the impact on physical resources that form infrastructure?

Nothing to report.

What is the impact on institutional resources that form infrastructure?

Nothing to report.

What is the impact on information resources that form infrastructure?

Nothing to report.

What is the impact on technology transfer?

Nothing to report.

What is the impact on society beyond science and technology?

We anticipate the results of the climate study having an impact on the entire Murray State community. All full-time faculty, STEM and non-STEM, at all ranks, were invited to participate. More than 60% of the campus participated and we feel that this will provide valuable information about the recruitment and retention of all faculty.

Changes/Problems

Changes in approach and reason for change

Nothing to report.

Actual or Anticipated problems or delays and actions or plans to resolve them

Nothing to report.

Changes that have a significant impact on expenditures

Nothing to report.

Significant changes in use or care of human subjects

Nothing to report.

Significant changes in use or care of vertebrate animals

Nothing to report.

Significant changes in use or care of biohazards

Nothing to report.

Special Requirements

Responses to any special reporting requirements specified in the award terms and conditions, as well as any award specific reporting requirements.

Nothing to report.