

Project Outcomes Report

Award Title: Project TRACS: Empirically Investigating Transformation through Relatedness, Autonomy, and Competence Support

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In 2012, Montana State University received a \$3.4 million ADVANCE Institutional Transformation award entitled “Project TRACS: Empirically Investigating Transformation through Relatedness, Autonomy, and Competence Support.” Grounded in Self-Determination Theory (Deci & Ryan, 2012), Project TRACS developed and tested three initiatives aimed at improving faculty competence, autonomy, and relatedness.

Enhancing Research Capacity and Opportunity: this initiative focused on grant-writing support, connecting faculty to a mentoring network, and providing infrastructure to support research programs. The initiative was highly successful. Over five years, grant expenditures by women in STEM/SBS more than doubled to nearly \$14 million. In that time, the number of projects with women PIs increased by 49% and the average yearly research expenditure per woman faculty member increased by more than 22%. The gender gap in total grant expenditures per STEM PI closed by 14%, with the difference between men and women starting at \$67,274 in 2012, closing to \$27,212 in 2016. Moreover, 79 faculty from 30 different departments and centers (including at least one person from every STEM department on campus) participated in one of five Grant-Writing Bootcamps. A one-year pre-post test of the impact of Bootcamp on women faculty in STEM’s research capacity was reported in the peer-reviewed journal *Bioscience* (Smith et al., 2017). Over the span of one year (and contrasting results with a comparison sample who were not part of the intervention) showed women participating in Grant-Writing Bootcamp significantly increased the number of external grants submitted, number of proposals led as PI, number of external grants awarded, and amount of external funding dollars awarded.

Enhancing Cultural Attunement: this initiative designed and implemented interventions, events, and programs focused on promoting respectful communication, sensitivity to the dynamics of relationships, and respect for the values and beliefs of cultures all intended to reduce implicit bias and increase job satisfaction and belonging. The initiative was highly successful. Longitudinal survey data shows that involvement with Project TRACS significantly increased self-determination and improved all faculty members’ feelings of job satisfaction over time, no matter their gender or field of study (published in Smith, Handley et al). One example of impact of this initiative was a 67% increase in the number of women faculty hires in STEM/SBS. MSU went from 60 women faculty in STEM/SBS at the start to 100 women at the end of ADVANCE. The Broadening the Search Process training was largely responsible for the improvement in faculty hiring as shown by a randomized and controlled trial test of our three-step faculty search intervention based in self-determination theory. Results were published in the peer-reviewed journal *Bioscience* (Smith et al., 2015) and featured in several national media outlets. The data show that the numbers of women candidates considered for and offered tenure-track positions were significantly higher in the intervention groups compared with those in controls. Searches in the intervention were 6.3 times more likely to make an offer to a woman candidate, and women who were made an offer were 5.8 times more likely to accept the offer from an intervention search.

Enhancing Work-Life Integration: This initiative focused on flexible solutions for work-life integration in general and during major life transitions for all faculty. Because of this initiative, infrastructure increased to support faculty during difficult life transitions: 3 policies were created or modified: The Stop the Tenure Clock Opt Out policy, the Faculty Modified Duties Policy (with centralized funding), and the Sick Leave Donation Pool Policy; 4 new family care-rooms were created including in the high profile space in the student union building; and 5 job descriptions were broadened: 2 new job candidate family advocates, 1 Student Family Support Program Manager, 1 faculty dual-career community liaison, and 1 work-life HR specialist. A total of 386 job candidates were supported by a Family Advocate; and

approximately 130 people received one-on-one assistance from a Family Advocate. Project TRACS worked on more than 70 academic partner accommodation cases resulting in 33 tenure-track faculty who accepted positions in 21 different departments (63% women) over five years. Their partners were accommodated in either a tenure-track (53%) or non-tenure-track academic position (47%).

As a result of these programs, women at MSU are now hired at parity with men, are actualizing their research potential, and have more options to better integrate work-life demands. The social science research team studied these changes through annual campus climate surveys, department self-studies, and empirical investigations. The project generated new knowledge about diversity-science resulting in 6 peer-reviewed articles including papers in Science, PNAS, and BioScience, 3 invited popular press contributions, 21 peer-reviewed conference presentations and symposiums, 67 invited national and regional presentations, 13 products, and 3 additional digital media products including a film documenting the social science process of Project TRACS (viewed nearly 500 times).

Summary: Project TRACS catalyzed MSU into a more inclusive, equitable, and diverse university with broader participation by women in STEM.