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Year 2 (2014)

List the major goals of the project

The major goal of the project is to develop the Subtle Gender Bias Index (SGBI). To date, no measure exists to assess subtle gender biases within the academic setting. The current study extends on the field's understanding of subtle gender bias by producing a subtle gender biases index that is relevant to women within academic settings (or within STEM fields if data suggests it is more specific). Most importantly, this project will produce a measure that will assess academic women's exposure to subtle gender biases within their academic workplace. The measure will allow us to better understand how academic STEM women's experiences differ from non-STEM women's experiences. The project is split into 2 major steps: (1) in-depth interviews and (2) Index development.

Currently, we are approximately 50% complete with Step 2 of the project where we are finalizing our index item list for pilot testing.

What was accomplished under these goals (you must provide information for at least one of the 4 categories below)? 1) major activities; 2) specific objectives; 3) significant results; and 4) key outcomes or other achievements.

1) During this reporting period, the research team completed qualitative analysis of our original 9 one-on-one pilot interviews of academic STEM women. We recruited an additional 10 STEM women, conducted one-on-one interviews, transcribed, and completed qualitative analysis of the interviews. We developed our initial set of items for the Subtle Gender Bias Index from the 19 interviews. An expert panel of consultants reviewed items and provided feedback to refine items. A Read Aloud protocol was used with 4 STEM women as a final step to revise and refine items.

Analyses have involved a team of 4 coders and a research assistant. All members on the analysis team were trained to code for subtle biases, including microaggressions and micro-inequities. After reaching an acceptable level of inter-rater reliability on the first 2 interviews, coders analyzed interviews in sets of 2. Team members coded the transcribed interviews for the purpose of extracting biases and micro-inequities for index item development. For example, participants report biases in multiple areas of their life and at many different developmental stages in their career from early childhood through to the present day. Team coders have identified specific biases that constitute hostile as well as supportive department cultures and interpersonal relationships (e.g., mentors, advisors, supervisors, colleagues). Perhaps not surprisingly, interviewees also report a number of blatant biases or sexist experiences within their careers both currently and in years past.

Items were developed based on the biases identified within each interview. Items were grouped and refined in multiple phases to ensure consistency in wording and to remove redundant items. This process resulted in a list of approximately 200 items. A panel of expert consultants who are faculty associates at the UMass Lowell Center for Women and Work reviewed items. Experts represented various disciplines including psychology, workplace and environment, nursing, and sociology.

Index Items were then administered to 4 STEM women for a Read Aloud in which participants read the items and provided feedback. Participants shared their interpretation of the items to ensure that it matched with the research team's intention. Confusing items were revised and duplicate items were removed.

* What opportunities for training and professional development has the project provided? Describe opportunities for training and professional development provided to anyone who worked on the project or anyone who was involved

in the activities supported by the project. "Training" activities are those in which individuals with advanced professional skills and experience assist others in attaining greater proficiency. If the research is not intended to provide training and professional development opportunities or there is nothing significant to report during this reporting period, please check "Nothing to Report" if applicable.

Our Interview Analysis Team has continued to receive training on one type of qualitative data analysis, Grounded Theory Analysis. Our research assistant has received training on qualitative data analysis, development in understanding subtle gender biases as a field of study, and general research activities.

* How have the results been disseminated to communities of interest? Describe how the results have been disseminated to communities of interest. Include any outreach activities that have been undertaken to reach members of communities who are not usually aware of these research activities, for the purpose of enhancing public understanding and increasing interest in learning and careers in science, technology, and the humanities.

A poster was presented at the UMass Lowell faculty research symposium sharing project information and building discussion around biases that exist for women in the academy. Informally, associates at the Center for Women and Work, where the research project is being housed, have also heard about preliminary findings. We also created an update flyer with findings to date and distributed it to interested parties at the NSF ADVANCE Workshop, higher administrators and STEM women at our campuses.

* What do you plan to do during the next reporting period to accomplish the goals?

In the next reporting period, we plan to complete the final step in development of the Subtle Gender Bias Index. Specifically, the items developed through our qualitative process will be pilot tested using an online-based quantitative questionnaire. We will collect responses from academic women across the country across academic disciplines and quantitatively refine the items using exploratory factory analysis and confirmatory factor analysis. The intention of the questionnaire pilot testing is to reduce the number of items from 185 to a manageable and easy to use set. The factor analysis process will also help our team to identify the subset of items that produce the most reliable responses. A final read through to ensure that items and domains conceptually meaningful will complete the development of the measure.

* What is the impact on the development of the principal discipline(s) of the project? Describe how findings, results, techniques that were developed or extended, or other products from the project made an impact or are likely to make an impact on the base of knowledge, theory, and research and/or pedagogical methods in the principal disciplinary field(s) of the project.

Subtle biases have long been known to cause women and other minorities to underperform to a greater extent than more overt blatant biases (i.e., sexism). However, no index has been created that allows researchers and organizations to assess the extent to which these biases exist within a setting or for individuals. The development of the Subtle Gender Biases Index will allow researchers and organizations to finally assess these settings. Further, our measure does not require participants (i.e., women) to be able to identify biases that they have encountered in order to report them. Prior work on subtle bias measure has often required women to be capable and willing to label an event as biased or discriminatory based on gender. Our study takes the onus of identifying bias out of participant's hands to see if biases experienced, not acknowledged, affect women's psychological wellness and productivity. This will ultimately facilitate more effective prevention and intervention programming.

*What is the impact on other disciplines? Describe how the findings, results, or techniques that were developed or improved, or other products from the project made an impact or are likely to make an impact on other disciplines.

Broadly speaking, the development of this measures will allow other disciplines to compare and contrast academic settings for academic women in each discipline. So while women are typically compared against men's experiences, we argue and plan to show that the more appropriate comparison group are women in other academic disciplines. We posit this to be the case because men and women do not

experience the same biased events in the same way. For example, men who are told they are ambitious do not experience the comment in the same way that women do.

*What is the impact on physical resources that form infrastructure? Describe ways, if any, in which the project made an impact, or is likely to make an impact, on physical resources that form infrastructure, including physical resources such as facilities, laboratories, or instruments.

*What is the impact on institutional resources that form infrastructure? Describe ways, if any, in which the project made an impact, or is likely to make an impact, on institutional resources that form infrastructure.

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Websites

Title: UMass Lowell ADVANCE Website

URL: https://www.uml.edu/Research/ADVANCE/default.aspx

Short Description: This site serves as the project website. It provides information for potential study participants and others who are interested in learning more about the project.