

README File for the Dataset Associated with the Research Article Titled: Webs of Science: Mentor Networks Influence Women’s Integration into STEM Fields

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Research Article Abstract: Mentorship can be part of the solution to developing a more diverse global scientific workforce, but robust longitudinal evidence is limited. Developmental mentor network theory can advance our understanding of the impact of a wide range of mentors across social contexts by distinguishing between the content of mentorship support (eg career support) and the structural characteristics of an individual’s mentor network (eg density of connections among mentors). We tested the influence of mentor network characteristics on longitudinal social integration into earth and environmental sciences, as indicated by science identity development (a key indicator of social integration) and STEM graduate school applications, in a sample of 233 undergraduate women at 9 universities in the U.S. Findings indicate that belonging to close-knit, larger, and skill-focused mentorship networks creates a “sticky web” of social connections, providing information and resources that increase retention of college women in the earth and environmental sciences.

Keywords: developmental network, mentor, gender, STEM education, identity, persistence

Recommended Data Citation: Hernandez, P. R., et al. Data associated with “Webs of Science: Mentor Networks Influence Women’s Integration into STEM Fields.” Colorado State University. Libraries. <http://dx.doi.org/10.25675/10217/233920>

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Data Description: Survey data were collected via the online Qualtrics survey system in following semesters: spring 2018, fall 2018, and spring 2019. Participants were undergraduate women in STEM majors in the Colorado/Wyoming (FrontRange) and the Carolinas. This repository contains the data file

associated with the longitudinal surveys utilized in the analyses and the code for Mplus statistical software used generate the results presented in this research article.

Spatial coverage: Colorado, Wyoming, and North and South Carolina

Temporal coverage: 2018-03-01-2019-05-01

Format of Files: Data files are in .csv format. Files can be opened by most software (e.g., Notepad, WordPad, Excel) – anything that can read a comma delimited ASCII text file. Here, the file name is “Dataset.” In addition, a meta-data file accompanies the data file. The meta-data file contains the variable names, variable labels, and value labels for all variables contained within the “Dataset.csv” file. A second version of the data file is included with the variable labels removed (Datasetnn.csv). This is the version used in the Mplus code, which can’t process labels. Code is in .inp format, an input file for Mplus statistical software which can also be viewed in a text editor (e.g. Notepad). Analysis was done using Mplus version 8.7.

Those interested in using these data are encouraged to contact Dr. Paul Hernandez (prhernandez@tamu.edu) and Dr. Emily Fischer (evf@rams.colostate.edu) for more information.

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