**Women in Science: Activation, Barriers and Persistence**

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**Background & Results**

The work of the Science Learning Activation Lab is to understand the role of "activation" in igniting persistent engagement in science learning and inquiry. We examined the life histories of a large sample of women in a variety of science careers in order to determine (1) experiences of science activation and (2) the quantity and quality of barriers on the science career pathway.

Data analyzed here are from a larger retrospective study that included female and male adult scientists and engineers. The case studies presented here were chosen because these women's activation stories included rich examples of interest and participation in science and because each experienced *gendered barriers*: barriers that existed because they were female.

One way to examine the role of activation in a person’s life is to examine how she responds to barriers that posed serious threat to continued activation and eventual success on the pathway to science. Each woman showed early interest in science and persistence in her progress towards a STEM career despite the gendered barriers she faced. These case study examples show three patterns of experiences with gendered barriers.

- Laura faced several small barriers on her pathway but had sufficient interest and drive to overcome them fairly easily. She enjoys her work which combines art and chemistry.
- Kate experienced three clusters of gendered barriers: denial of sports and calculus participation in high school, misogyny in college and sex discrimination in her job search. She earned a PhD from a prestigious university but eventually settled for a career teaching science in high school. She enjoys her work which combines art and chemistry.
- Eleanor’s path shows all positive, activating experiences until college where she experienced major barriers. She continues to feel resentment at her college advisor and her lost confidence in her abilities. She is still passionate about astronomy but has little job satisfaction.

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**Conclusions**

Women face gendered barriers in science. Sometimes, as in these case study examples, a woman is activated enough to overcome barriers and continue on the science career pathway. However, the final destination on that pathway may be unexpected, as in the case of Kate who teaches high school despite having a PhD. Or the final destination may be a disappointment, as in the case of Eleanor who confirmed that she was unhappy in her career. Barriers potentially change the direction and outcome of a science career pathway.

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**Pathways are made up of Activation, Barriers, and Persistence**

![Pathway Diagram](image-url)