Catalysts for Change
Science Explorations for St. Louis-Area 9th Grade Girls
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Purpose
The “Catalysts for Change” project is a component of the “Women-in-Science” Program, which is an undergraduate program affiliated with the Department of Chemistry and the Women, Gender, and Sexuality Studies program. The “Catalysts for Change” project aims to expose female high-school students to the different STEM fields and career paths, to educate the high-school students on “stereotype threat,” and to encourage them to take courses in physics, chemistry, biology, and mathematics. Our project addresses barriers women face in science through a three-tiered mentoring program between graduate, undergraduate and high-school female students.

Mentoring Strategy
The Catalysts project creates a partnership to benefit the three groups of female students in the following ways:
- High-school girls receive the opportunity to learn from successful women in STEM fields as well as gain knowledge about how to succeed.
- Our female undergraduate and graduate students gain self-confidence and leadership skills by:
  1. Planning two consecutive Saturday workshops focusing on science labs.
  2. Teaching these activities to the ninth-grade girls.
  3. Serving as undergraduate team leaders.

Our Program
The program took place on April 13 and April 20 from 10 a.m. to 3 p.m. We welcomed 46 ninth graders on April 13th and 41 ninth graders on April 20th. In teams composed of two undergraduate leaders and eight high-school students, the teams rotated through several different stations (relating to biology and biotechnology, physical sciences, and engineering. The graduate students facilitated the activities and lab experiments. During lunch, all three levels of students had the opportunity to hear successful female STEM professionals speak about their careers and ask questions about their careers, their education, and work-life balance.

Participants
Our high school students came to Washington University from all over the St. Louis area:
- Confluence Academy
- Francis Howell North
- Hazelwood Central High School
- Kirkwood High School
- Lindbergh High School
- Mary Institute-St. Louis Country Day
- McKinley Classical Leadership Academy
- Mehlville High School
- Parkway West High School
- Pattonville High School
- Rosati-Kain High School
- Soldan High School
- St. Joe’s Academy
- University City High School
- Webster Groves High School

Lab Activities
- Eggs in Space Design and Launch
- Forensic Lab
- Creating Slime Lab
- Creating Magnetic Fluids Lab
- Photosynthesis Lab
- Aroma Lab
- Liquid Nitrogen Ice Cream
- Starfish Dissection Lab
- Flame Test Lab

Feedback from our 9th Graders about Science
If a friend who did not participate in the Catalyst for Change program asked you what you had learned from the program, what would you say?
“you should have went...it was way different from other camps”
“I learned quitting is never the answer. I also learned math & science is the best path to take to make money”
“I would say I learned about how interesting science can be”
“that women are amazing and great workers”
“how to make ice cream, what’s inside a starfish, & the different chemicals that make different colors”
“We learned extended biology education, then chemistry, forensics, and physics with a side of engineering and it was glorious”

What was your favorite part of the program? Why?
“my favorite part was the materials lab because we did experiments that they don’t do in high school”
“dissecting a starfish.....I did it correctly”
“the student leaders because they were nice & fun”
“my favorite part of the program I liked all of it”
“how friendly the people are and how interactive they were with us because I’m very shy sometimes and that helps me open up”
“my favorite part was learning new things relating to science”
“Meeting new people. I usually like to be alone, but this changed everything.”

To learn more about Catalysts for Change, visit: http://teachingcenter.wustl.edu/Scholarship/CatalystsforChange/Pages/default.aspx

In-kind support provided by:
- Jimmy Johns Gourmet Sandwiches
- St. Louis Bread Company
- Papa Johns Pizza
- Girl Scouts