The *Growing YOUth*! Project

A Longitudinal Study of an Out-of-School Program and Underrepresented Populations

museum of science+industry chicago

How does participation of adolescent youth from traditionally underrepresented groups in a well-established, out-of-school time science program affect their career choices and attitudes towards science as they mature into early adulthood?

The study follows three cohorts of adolescent youth (~200) over a four-year period using a wide variety of culturally valid and sensitive instruments and frameworks. Quantitative data will be collected through surveys, tests, and program participation metrics. Qualitative data will be collected through deep immersion participant-observation research, semi-structured interviews, and archival research.

The Science Minors and Achievers Program

Participants begin as a *Science Minor* and are promoted to *Science Achiever* after participating in 10 weeks of sessions and contributing 50 service hours to the Museum. Ages typically range from 14-18. Approximately 140 youth participate each year. Each 10-week session includes an intensive exploration of core science concepts through collaborative, semi-structured and project-based learning experience on topics such as robotics or rollercoaster physics. Communication skills are developed through opportunities to facilitate hands-on science experiences with Museum guests and by bringing science learning to community partner sites across Chicago (libraries, parks, schools, etc.). In addition, youth participate in leadership and college readiness programs. In 2014, the self-reported gender distribution was 65% female, 30% male and 5% other. They also reported as 55% African American, 24% White or Caucasian (Non-Hispanic), 9% Hispanic or Latino, 7% Asian and 6% South Asian, using categories from the U.S. Census.

The program is a *relationship-driven,* positive youth development program. Decisions about the program's scope of work are often based around the emergent needs of each individual with whom the program engages, rather than being based around a particular predetermined program theory.

Insights and Challenges

The project is at a very early stage, but we feel it is important to limit our assessments and frameworks to only those that have been culturally validated through prior research with our target demographics. We also are partnering with the current cohort of participants to co-develop research questions and design the study. They will also have a voice at the data collection, analysis, and dissemination stages.

Most of our significant challenges regard the longitudinal nature of the study. These include technical issues such as keeping in touch with an age group that is highly mobile, and methodological issues such as how to identify and recruit equivalent control groups in an ethical and equitable manner.

A Look at Past Data

In a retrospective longitudinal study of the last 10years of alumni we found interesting differences in how the program impacted females and males (Figure 1 – Below). Interviews suggest female alumni perceived the program as being less structured than males and they saw the program staff as more like family than teachers. Similar patterns were found with African-American alumni (of both genders) but not among other ethnic/racial groups. Findings are being prepared for publication.

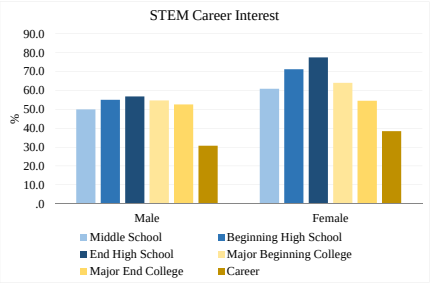

Figure 1. STEM Career Interest of Science Achievers Alumni

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This project is supported by National Science Foundation Grant No. DRL-1514593.