

Developing *YOUth!* Research Brief #2: Meaningful Opportunities

This is part of Transition Points, a series of briefs describing the lived experiences of some alumni of the Museum's youth development program as they matriculated through college. For more details, background and other briefs visit <http://bit.ly/12345>

At a Glance

A major feature of MSI's Science Minors and Achievers program was our youths' active engagement with the Museum community. The following report explores how participants experienced community engagement through STEM education and how these experiences may have impacted their academic and career choices while in college.

As part of the **Developing *YOUth!* Project**, we talked to youths from the Science Minors and Achievers (SMA) program at the Museum of Science and Industry, Chicago (MSI). This report is part of a series of briefs discussing the lived experiences of some of our participants as they graduated from the program and matriculated through college.

About the Study

The **Developing *YOUth!* Project** is a mixed-method, longitudinal study following graduates of the Science Minors and Achievers program at MSI. The program focuses on high school youths from historically underserved communities and aims to prepare them for college. This study combines annual surveys with in-depth repeated interviews to follow participants through their college and professional careers. As of 2023, we will have followed our oldest cohort of participants for eight years, allowing us to look more broadly at how our participants' experiences with STEM and within STEM spaces has changed over time.

For these briefs, we drew upon qualitative research methods such as participant observation and multiple years of formal and informal in-depth interviews. We aim to center some of their lived experiences within STEM formal and informal spaces, including within the Museum itself.

This brief was prepared by Cindy La Nguyen, Ph.D. and C. Aaron Price, Ph.D.



Meaningful Opportunities

While At MSI

Participants in the Science Minors and Achievers program felt their time in the program gave them opportunities to impact their communities. In particular, they felt their experiences teaching STEM on the Museum floor and interacting with guests were meaningful.

Throughout the SMA program, participants were given various opportunities to develop their communication skills and teach science to guests on the Museum floor as well as to other youths in the program. Participants described these teaching experiences as meaningful as they were placed in leadership positions that made them feel important, knowledgeable, and self-efficacious. These teaching experiences also made them feel like they were serving a purpose by making science accessible to everyone. Soon after graduating from the program, we interviewed Andy. He talked about how experiences teaching on the Museum floor made him feel:

Volunteering at the Museum of Science and Industry, and you know, when a kid 'gets' something and they feel more inspired to be a future scientist, or doctor, or engineer, or poet, or anything. I feel like I made an impact on somebody's life [...] I think that makes me feel really good about myself.

While In College

After graduating from the Science Minors and Achievers program, participants continued to consider ways they could impact their communities. In most instances, our participants felt their time in the Science Minors and Achievers program contributed to their choices to focus on or even center community impact.

Many participants chose more formal ways to impact their communities through their chosen careers. After completing college and starting his professional career, Andy recalled the impact he felt Science Minors and Achievers had on him and his peers in the program:

Being at the Museum, we kind of learn that, that you know, we have these passions, and STEM isn't just about doing all these cool science-y things. It's also about giving back to your community and inspiring the next generation of leaders to do the same thing. And you know, there's a lot of problems in our society that need to be tackled. And I think there is a way that [a] STEM skill set can be used to help solve those [problems]. Even if it's not directly STEM, but the learning processes that you learn via STEM... [That can] help you solve these problems.

Floriana is currently pursuing a master's in education, which she is coupling with an undergraduate degree in Biology in order to become a high school science teacher. She explained that the lack of science literacy she witnessed in various communities during the COVID-19 pandemic drove her to consider what sort of impact and contribution she could make herself. She said,

So it was during those experiences that made me think, 'Oh, when is the time that I got interested in science and I got comfortable in science?' And that was in school, in high school. And that's where I was like, 'Oh, I could be a teacher.'

[...] There is such a fundamental lack of science literacy and so many people are just uncomfortable with science. They're like, 'Ah, this is a lot of scary long words.' It was also MSI's program, that it was just like, 'hey, scientists aren't just old white men, you know, in lab coats, [scientist can be] everyone.'

In addition, many participants also made efforts to engage with their community via STEM by volunteering as math and science tutors at community centers, teach a science class at their church, and facilitate youth science activities at local afterschool programs. Whether in a formal or informal sense, participants indicated that they felt they had the ability and sometimes the responsibility to engage with and impact their communities.

Implications

While the Science Minors and Achievers program has a focus on science education, the program goes beyond teaching science concepts, logic, and critical thinking. According to our participants, a lasting feature of the program is its emphasis on community engagement with and through science. This emphasis has shown our participants the real impact they can have on their communities and inspired them to continue doing so.

The impact the program has on how participants might use Science to engage with their communities even after they've left the Museum, indicates that outcomes of the program may go beyond whether or not our participants end up enrolling in a STEM major or going into a STEM career. At the Museum, our participants were able to experience STEM in various forms, including as a way to actively engage with their communities

Introducing Our Youth and Young Adults

These research briefs center the lived experiences of program alumni who began as youth and are now young adults. This is a little more about them.

Andy

Andy identifies as an Asian American, Asian Indian American, and White man. He majored in Computer Science and Political Science. After spending some time working in Big Tech, Andy was able to narrow in on a career path that would allow him make use of his double major.

Kevin

Kevin identifies as an Asian American and Korean American man. He graduated with a degree in Communication and works in client management at a finance-related firm. While he doesn't consider himself a typical "Science person," he loves teaching and presenting science to others and helping people think critically and make logical connections.

Floriana

Floriana identifies as a Latinx, Mexican American, and white cis-woman. After graduating with a bachelor's degree in biology, Floriana is pursuing a degree in education and aims to become a high school science teacher.

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