

# Exploring Teen Science Identity Development Across Virtual and Physical Experiences

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The Museum of Science and Boston University have leveraged the Living Laboratory model to explore science identity formation in teens engaged in experimental psychology research, science communication, and science education activities, under mentorship by scientists and museum staff. With the onset of COVID-19, the program shifted to be fully online – here, we investigate how **virtual and in-person program elements inform youth science identity** development.



## Engaging in research practices

## Engaging in science communication practices

## Engaging in science education practices

## Experiencing mentorship from STEM professionals

## Becoming a member of a science community

Physical

- Onsite data collection
- Development and piloting of study

- Poster session with MOS and BU staff
- Informal conversations with MOS visitors

- Educational programming with MOS visitors

- Ongoing, in-person with MOS and BU staff
- Regular “job chats” with STEM professionals

- Onsite work at Museum
- Field trip to Boston University

Virtual

- Virtual data collection and analysis
- Technical training

- Poster development for virtual conference
- Writing contribution to research article

- Back-end development of educational products
- Virtual exhibit prototyping

- Weekly Zoom/Teams workshops with MOS and BU staff

- Virtual BU lab meetings and networking events
- Collaboration with MOS project teams



## Evaluation Findings



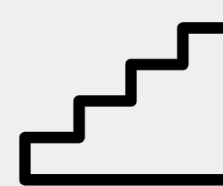
Across both program models, teens reported greatest increases in **interest**; **beliefs** about science and feelings of **self-efficacy** became more nuanced.



While participants acknowledged logistical challenges with virtual workshops, they reported high engagement in the program activities, and particularly so for research practices



Teens reported that the opportunity to connect virtually with a wide network of MOS and BU team members helped support their sense of **belonging**, though they sought to deepen these connections.



Some teens interpreted changes to their science identity as “getting started” in a longer scientific career while others reported it as active involvement in an ongoing scientist role

*“We’re part of the team that’s trying to accomplish something, feeling we’re members of a science community”*

- Cohort 1 Participant



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