

Expanding The Health Professions Pipeline: A Mixed Methods Analysis of a High School Biomedical Program for Under-represented High School Students

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Background

- Minority and low-income individuals continue to be significantly under-represented in health professions
- High school biomedical enrichment programs offer a promising strategy to diversify the health professions pipeline

Community Partner



STANFORD MEDICAL YOUTH SCIENCE PROGRAM (SMYSP)

- A 5-week science and medical enrichment program for low-income students from under-represented backgrounds who would be the first in their families to attend college
- Program Components include:
 - Residential experience
 - Hospital Internships
 - Anatomy lab
 - Public Health Research Project
 - Networking
 - Peer Mentors
 - Financial aid guidance
 - SAT prep
 - College app workshops

Project Description

OBJECTIVE: To explore the long-term impact of SMYSP on alumni who participated in the program between 1988-2019

METHODS

- Cross-sectional, mixed methods project with (1) online survey and (2) in-depth interviews
- Participants:** SMYSP alumni between 1988-2019, interviewed sub-sample of alumni working in or completing training in a clinical field
- Data Collection:** Surveys and interviews completed between July and October 2020
- Data Analysis:** Conducted descriptive statistical analysis of survey data. Performed team-based coding (Cohen's kappa score: 0.915) and thematic analysis of interview transcripts

Results

Table 1: Participant Demographics

		Survey Participants (n=83)	Interview Participants (n=21)
Gender	Female	44 (53%)	7 (33%)
	Male	39 (47%)	14 (67%)
Race/Ethnicity	Asian	28 (34%)	6 (28%)
	Latino	25 (30%)	9 (43%)
	Black	15 (18%)	3 (14%)
	Native	4 (5%)	1 (5%)
	White	5 (6%)	1 (5%)
	Multiracial	4 (5%)	1 (5%)
	Other	2 (2%)	0 (0%)
SMYSP Graduation Year	1990-1999	16 (19%)	3 (14%)
	2000-2009	23 (28%)	3 (14%)
	2010-2019	44 (53%)	15 (71%)

Figure 1: Participant Current Educational Status

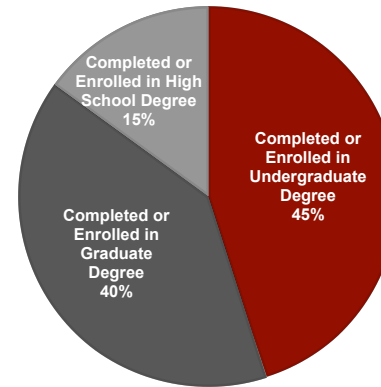


Table 2: Major Themes & Representative Quotes

EXPOSURE TO ROLE MODELS WITH SHARED IDENTITIES DURING SMYSP INSPIRED ALUMNI

“One of my mentors was a med student...and [he] looks like me so...Black people are not stupid And I'm not stupid. And I can [succeed] actually ”

“[Our mentors] weren't legacies, they were from low-income families and under-represented groups. It motivated me to know that people like me can make it and I can make it as well.”

PARTICIPATION IN THE PROGRAM HELPED ALUMNI DEVELOP SELF-CONFIDENCE TO PURSUE HIGHER EDUCATION

“I felt part of a community where I was able to grow. I was very influenced by everything from our internship [to] our research projects and the mentoring—I was influenced by it all. It was just being there at Stanford that changed my life and it changed my perspective. [SMYSP] made me see [that] there are people that look like me here. It made me feel more confident about myself.”

“Prior to SMYSP I always had the mentality of ‘oh it's probably too big of a dream for me.’ But SMYSP really invoked in us that...there is not a difference between us and other people. [SMYSP] really motivated us and gave us the tools to show us that we could do this.”

ALUMNI DESCRIBED CLINICAL EXPERIENCES AS THE MOST IMPACTFUL PROGRAM COMPONENT

“I had to translate for a family who was Mexican and [it] resonated a lot with [me] because I understood them and for me being in that position as an intern working alongside nurses and doctors, it was an eye opener for me. Like this is where you belong, continue to chase this dream.”

“So my high school didn't have a lab. I actually had my first lab experience through SMYSP. So that's why it was so cool like actually touching like a human body and understanding each little part.”

MANY SMYSP ALUMNI DEDICATE THEIR CAREERS TO SERVING MARGINALIZED COMMUNITIES

“One of the things I learned from SMYSP is service and feeling like the experiences that we have growing up... contributes to challenges and presents barriers but is also lived experience that is very valuable and can inform your work and is needed in leadership and clinical care in research.”

“Because of my background and people who helped me, I knew I wanted to do something to involve service. And so, my clinic is in a poor area of the Portland metro and I work with a lot of communities that are poor, people of color.”

Lessons Learned

- SMYSP has shown positive, long-term impact on its alumni
- Health professionals can collaborate with programs like SMYSP to help influence future students pursuing careers in health professions

Recommendations

- Established and evaluated programs like SMYSP should serve as a model to guide the development of future programs seeking to support under-represented students interested in health professions
- The results of this project will be shared with SMYSP alumni during their annual program reunion



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