Barriers and Supports for STEM Motivation for Pacific Islander High School and Undergraduate Students

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Barriers and Supports for STEM motivation for Pacific Islander High school and Undergraduate students

Shanthia Espinosa, Alma Trinidad, and Lisa K. Marriott
Learning Objectives

At the end of this presentation, you will be familiar with or able to:

● Identify the location and categories of the Pacific Islands
● Understand Pacific Islander barriers and support for STEM motivation
● Distinguish motivational factors that Pacific Islanders experience
● Summarize major themes based on preliminary findings
Location of Pacific Islands

Pacific Islands Categories

https://www.britannica.com/place/Pacific-Islands
Introduction

Native Hawaiian Pacific Islander (PI) STEM Research

Understand Pacific Islander barriers and support for STEM motivation

- Limited research on NHPI communities
- Misrepresentation of NHPI data
- Lack of representation within higher education
- Metrics for NHPI student success

https://nces.ed.gov/programs/coe/indicator/cta
Motivational factors

- Distinguish motivational factors that Pacific Islanders experience

- Access to resources
- Mental Health
- First Generation college students
- Support
- Low socioeconomic status
Gap in Knowledge

This study will fill gaps in knowledge by:

● Identifying strategies for supporting student motivation in STEM for Pacific Islander (NHPI) students

● REALD supports disaggregation of NHPI populations allowing a greater understanding of support needs for NHPI students in STEM.
Methods

**Recruitment:** High school and Upper-division PI STEM students will be recruited across NIH-funded BUILD EXITO partner sites, consisting of undergraduates residing in 6 states and territories (Oregon, Washington, Hawaii, American Samoa, Northern Mariana Islands, and Guam).

**Data Collection:**
- Surveys about motivational resilience (10 min; Portland Metro STEM Partnership)
- Virtual focus groups (90 min, semi-structured) assessing strategies for STEM motivation and success for PI students. Focus groups will use stratified groups based on survey results for motivational resilience (tertiles)
## Preliminary Findings

<table>
<thead>
<tr>
<th>Code (Theme)</th>
<th>Data Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Family</strong></td>
<td>Pertaining to mother, father, siblings, aunts, uncles, or close and dear friend that has impacted their motivation to pursuing a STEM major/career.</td>
</tr>
<tr>
<td><strong>Financial</strong></td>
<td>Financial considerations related to pursuing STEM in higher education. Can be used positively (able to afford college) or negatively (unable to afford college). Eg. scholarships, grants,</td>
</tr>
<tr>
<td><strong>Motivation</strong></td>
<td>Drive to engage in STEM higher education. Applies to factors that cause participant from archival study to follow up on their motivation of pursuing a STEM career. Can be used positively (am motivated to STEM) or negatively (am not motivated to STEM)</td>
</tr>
<tr>
<td><strong>Navigation</strong></td>
<td>Pertaining to NHPI individual trajectory and mapping of pathways to acquiring STEM degree (e.g. childhood, affiliations in teenage years, adulthood, and how STEM or biomedical fields impacted their educational journeys.</td>
</tr>
<tr>
<td><strong>Support</strong></td>
<td>Factors that influenced NHPI individual to persist (+) or give up (-) in STEM. Can be used positively (gained unended support in STEM) or negatively (lacked support in STEM)</td>
</tr>
<tr>
<td><strong>Opportunities</strong></td>
<td>Pertains to circumstances leading to a chance of great possibilities (e.g. employment, promotion, education, community etc)</td>
</tr>
<tr>
<td><strong>Barriers or Challenges</strong></td>
<td>Factors that keep NHPI individual from obtaining STEM education or career. Applies to people, e.g. family members who discourage STEM education, systemic racism, microaggressions</td>
</tr>
<tr>
<td><strong>Community and Inspiration</strong></td>
<td>Sense of belonging and commitment and dedication of pursuing educational goals for the benefit and or support NHPI community. Could instill motivational factors.</td>
</tr>
<tr>
<td><strong>Culturally Responsive Strategies</strong></td>
<td>Pertaining to positively (immense support with) Diversity, Equity, and Inclusion or negatively implies (lack of, emphasizing great need) to incorporate more diverse, inclusive, and more equitable STEM environment for all.</td>
</tr>
<tr>
<td><strong>Representation</strong></td>
<td>Pertaining to the visibility of NHPI individuals in STEM. Could be positive (received acknowledgments, constructive criticism etc) or negative (lack of professional and research mentorship, microaggressions, opportunity)</td>
</tr>
<tr>
<td><strong>Location</strong></td>
<td>Polynesia, Micronesia, and Melanesia</td>
</tr>
</tbody>
</table>
Research Schedule

IRB protocol approval (OHSU IRB #22889)

- October 2022: Participant recruitment
- October - November 2022: Focus Groups
- November – December 2022: Qualitative data analysis and linkage with survey results.
- Generation of e-feedback for subsequent testing.
Anticipated Research Findings

This study hope to:
- identify effective **strategies** for encouraging PI **student success** in stem.
- the anticipated results will enable a **greater understanding** and will **expand data** on PI issues impacting STEM motivation.
Acknowledgements
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Build Exito Faculty and Scholars