

Background

Historically, students have envisioned scientists as white males in lab coats, reinforcing exclusionary stereotypes that can discourage diverse participation in STEM. Mentorship has the potential to broaden perspectives, enhance self-esteem, and support identity development, yet research on its specific impact in middle school remains limited.

Methods

We conducted two Draw a Scientist Tests, one at the beginning of the semester and one at the end. We then used the rubric listed below and recordings of guided discussions after the drawings to analyze if the students DAST grew beyond traditional stereotypes

	2 Broader than Traditional	1 Traditional	0 Indeterminate	-1 Sensationalized
Gender	Includes a woman or self	Contain an ordinary-looking white male	Cannot be categorized or difficult to determine	Contain a man or woman who may resemble a monster or who has a clearly odd or comic book appearance
Location	Includes a scene that is different from a traditional laboratory setting	A traditional lab with a table or equipment in a normal looking room	Difficult or unable to determine or setting is a classroom	Location resembles basement, cave, or setting of secrecy, scariness, or horror, often with elaborate equipment not normally found in a lab
Activity	Non-stereotypic activities that reflect the work a scientist other than chemist	Stereotypic activity that appears mainly to be chemistry	Difficult or unable to determine	Activity that may include scariness or horror, often with equipment not normally found in a typical laboratory. Fire, explosives, or dangerous work could be included
Skin tone (Joy et al., 2024)	Darker skin tone (outline color)	Light skin tone (outline color)	Skin the color of the paper	Colored with unrealistic color
Dress (Chambers, 1983)	Dress appropriate for the location	Lab coat, glasses, gloves	Uncategorized and/or not science related	Costume (usually part of the comic genre)
Symbols of knowledge (Finson, 2003)	Other than traditional (could be ancient – owl)	Books, pens in pocket, clipboards, chart boards	None	Uncategorized
Technology (Finson, 2003)	Other than traditional: astronomy, field based, etc.	Traditional: chemistry equipment; highly 'lab' based	None	Uncategorized
Indicators of secrecy (Quiles-Cervero et al., 2021)	Other than traditional	Private, keep out, do not enter	none	
Symbols of belonging	Stickers or t-shirt or other that tells of belonging; more than one person	Without any outward sign of belonging; only one person	None	

Research Question

How does mentees' identity in science and healthcare professions develop through interactions with mentors and peers?

Discussion

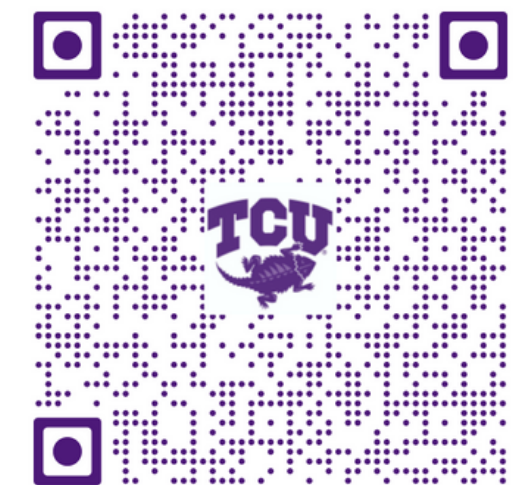
Results are stil pending, but the study anticipates that students will depict more diverse scientists over time, moving beyond traditional stereotypes. Findings are expected to reveal more diverse depictions of scientists, offering insights into how mentorship fosters inclusivity and belonging in STEM for underrepresented middle schoolers.

Limitations

Outcomes



References



Acknowledgements

