







neglect. Her inability to recognize the relational resource speaks to the naturalization of privileges through whiteness.

The stories told by Laura and Mary reflects discourses around stereotypic attribution bias [9]. From the two examples shown, both Laura and Mary display a sense of discredit to certain resources and the cause of their access to them. Laura talks about her engagement in science activities as a child, attributing her limited access to these material resources as her own fault, due to a “lack of [her] being outgoing”. Mary begins her story of idolizing a female physicist character on a popular TV show by premising it with the statement “it’s actually kind of a stupid story”. Her language discredits what she implies as a very influential ideational resource, giving less meaning to what caused her inspiration.

The trends that emerged from this two-part analysis show that there is much to learn about the differences in experiences of physics students. By examining the narratives of these UEs experiences in this analytic way, we can construct broad understandings of the ways that students in physics make sense of the resources that lead them to the field. This understanding pulls from the broader discourses around race and gender in STEM fields, and the experiences that students from underrepresented groups in physics tend to have.

## V. SIGNIFICANCE

Societal and cultural structures provide youth different opportunities and resources based on their race, causing students from different backgrounds to understand the resources being provided to them differently [10]. Because of this, understanding these trends can help better quantify the experiences of certain groups, and in turn help develop knowledge around ways to better serve students from underrepresented groups through informal science education.

Through this examination, useful information can be extracted for PISEC, and other educational programs that have a similar mission [11]. By understanding the stories of students already in the field, we can better understand what aspects of our educational programs can be more impactful to the building of this identity. Through the cases presented here, we have begun to develop ideas around ways to create environments to provide access to those resources that are most influential for the students we are trying to engage (underrepresented minorities). We can also begin to

understand how whiteness influences perceptions about the accessibility of the field, and how we can manage these perceptions amongst our majority white volunteers as well as the roles that gender attribution biases play in the construction of identity. Armed with this information, we can work to avoid perpetuating these stereotypes within the program. We plan continue this work by conducting a larger study similar to this on all UEs that participate in PISEC for the 2015/2016 academic year.

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**TABLE 2.** Coding narrative language around whiteness.

Construct	Whiteness as a racial discourse [8]
Excerpts	<b>A:</b> I ended up in physics because I got to college and realized that I didn't like writing papers
	<b>M:</b> Well I always liked science. My grandpa was a physicist so we would do like stupid little science experiments sometimes...but not really, not a ton.
Resources taken for granted	<b>A:</b> Ideational Resources <b>M:</b> Relational Resources

**TABLE 3.** Coding narrative language around gender.

Construct	Stereotypic Attribution Bias [9]
Excerpts	<b>L:</b> I didn't really have like the opportunity to do sciency things (due to) a lack of me being outgoing, but like I don't remember school doing any cool science stuff and being involved with anything like that.
	<b>M:</b> Yeah it's actually kind of a stupid story *laughs*. I got really into a sci-fi show, called Stargate and it had this really awesome physicist chick and I was like “This is cool!” and there was just enough like actual physics that ... I got into it and somehow was like yeah I should do this for a career.
Resources discredited	<b>L:</b> Material Resources <b>M:</b> Ideational Resources

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