

### Focus Question 1

How are student perceptions of potential STEM careers and professionals in STEM impacted when introduced virtually to diverse people in STEM careers from around the country?

### Background

The state of Idaho lacks diversity and is having trouble filling STEM jobs with people from the state (Deloitte & Datawheel, 2018; A. Hemingway, personal communication, November 25, 2020). Studies show that children can spend over seven hours a day interacting with media and are usually watching videos of some kind (Keiser Family Foundation, 2013). Additionally, there is a lack of diversity in media, but an introduction to role models through media can have a positive impact on children interacting with it (The Geena Davis Institution on Gender in Media & Lyda Hill Foundation, 2019). The goal of this research was to see if introducing students to STEM professionals from diverse backgrounds through prerecorded Zoom interviews would help shift student perceptions of STEM careers and the people pursuing them. Another desired outcome was to see a positive trend in student belief that they could also pursue STEM careers in the future.

### Focus Question 2

How are student perceptions of their abilities to pursue STEM careers and educational pathways impacted when introduced virtually to new STEM careers as well as diverse people in STEM?

### The Draw-A-Scientist-Test (Finson et al., 1995)

The Draw-A-Scientist Test (DAST) identified stereotypic trends in student perceptions of scientists. Students drew a picture of a scientist before and after treatment and were assigned raw scores for each drawing based on a checklist developed in 1995 (N=113).

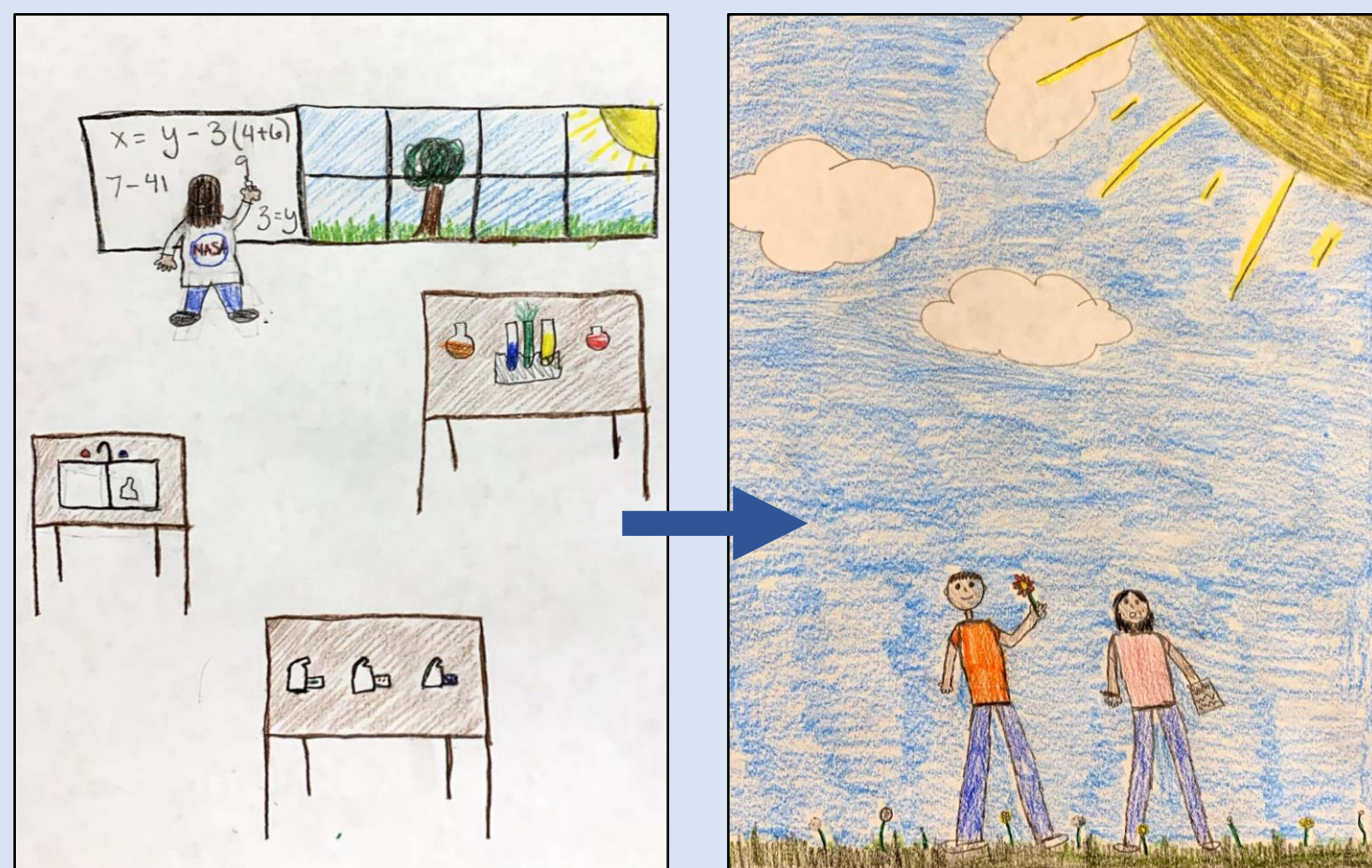


Figure 1. This student sample shows a clear difference in the drawings from the pre to posttest (left to right). Not all students saw a change or an improvement in the posttest, and some scores were higher after treatment. A higher score indicates a more stereotypical drawing of a scientist.

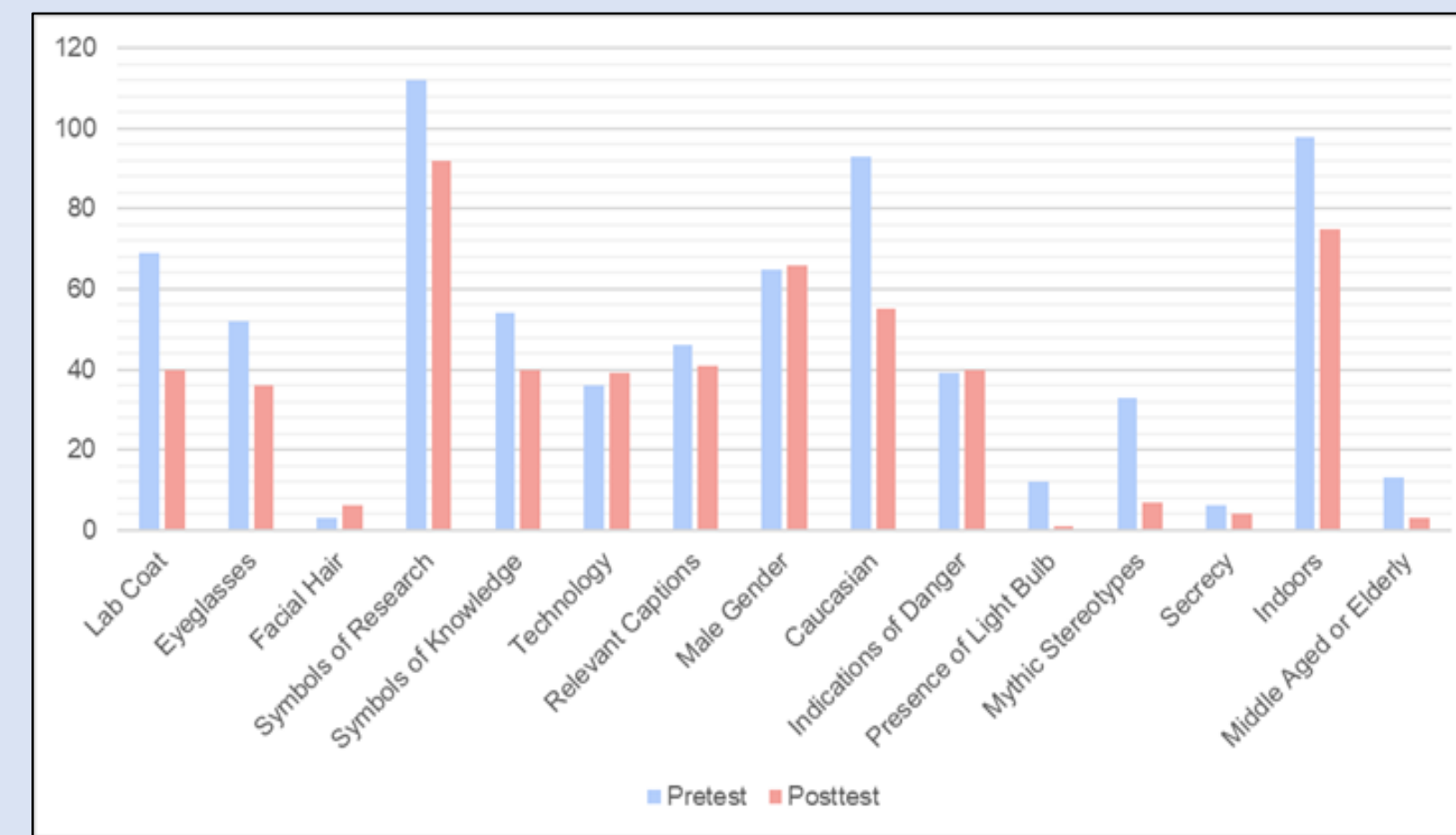


Figure 2. The difference in raw scores for all students from pre to posttest in each individual category of the DAST. Scores typically went down in most areas from pre to posttest, but that was not always the case. Each category was part of the original 1995 checklist and indicated a specific stereotype typically seen in student drawings.

### The Thinking about My Future Survey

This pre and postsurvey assessed student perceptions of their own abilities and interests in pursuing STEM at the college level and beyond, while also taking stock of what careers they might want to learn more about before and after treatment (N=115).

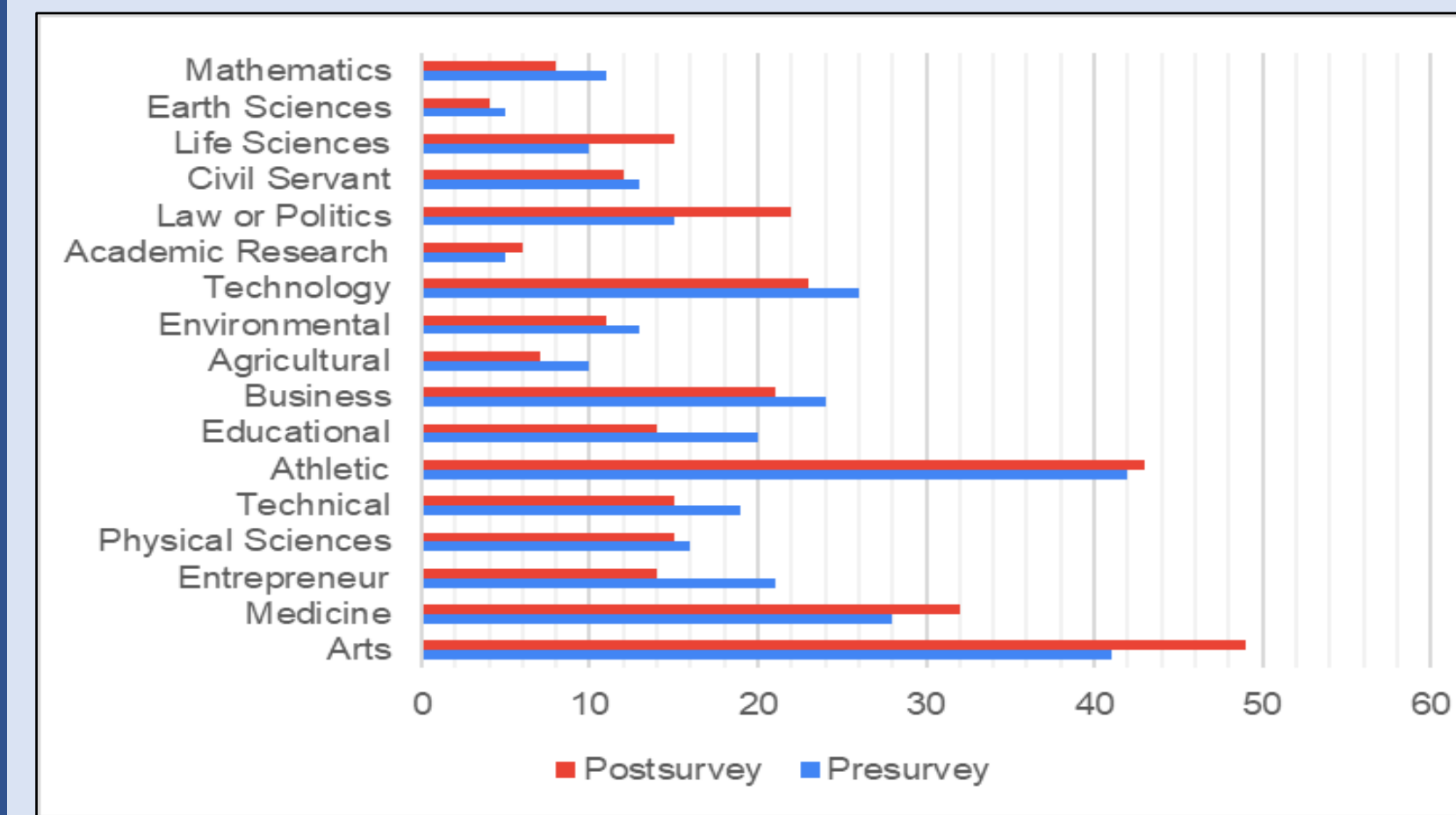


Figure 3. Students indicate which jobs they are most interested in learning more about after and before treatment. Some of the career paths we didn't discuss became more popular after treatment than they were before treatment. Please note that the postsurvey scores come before the presurvey scores in this figure.

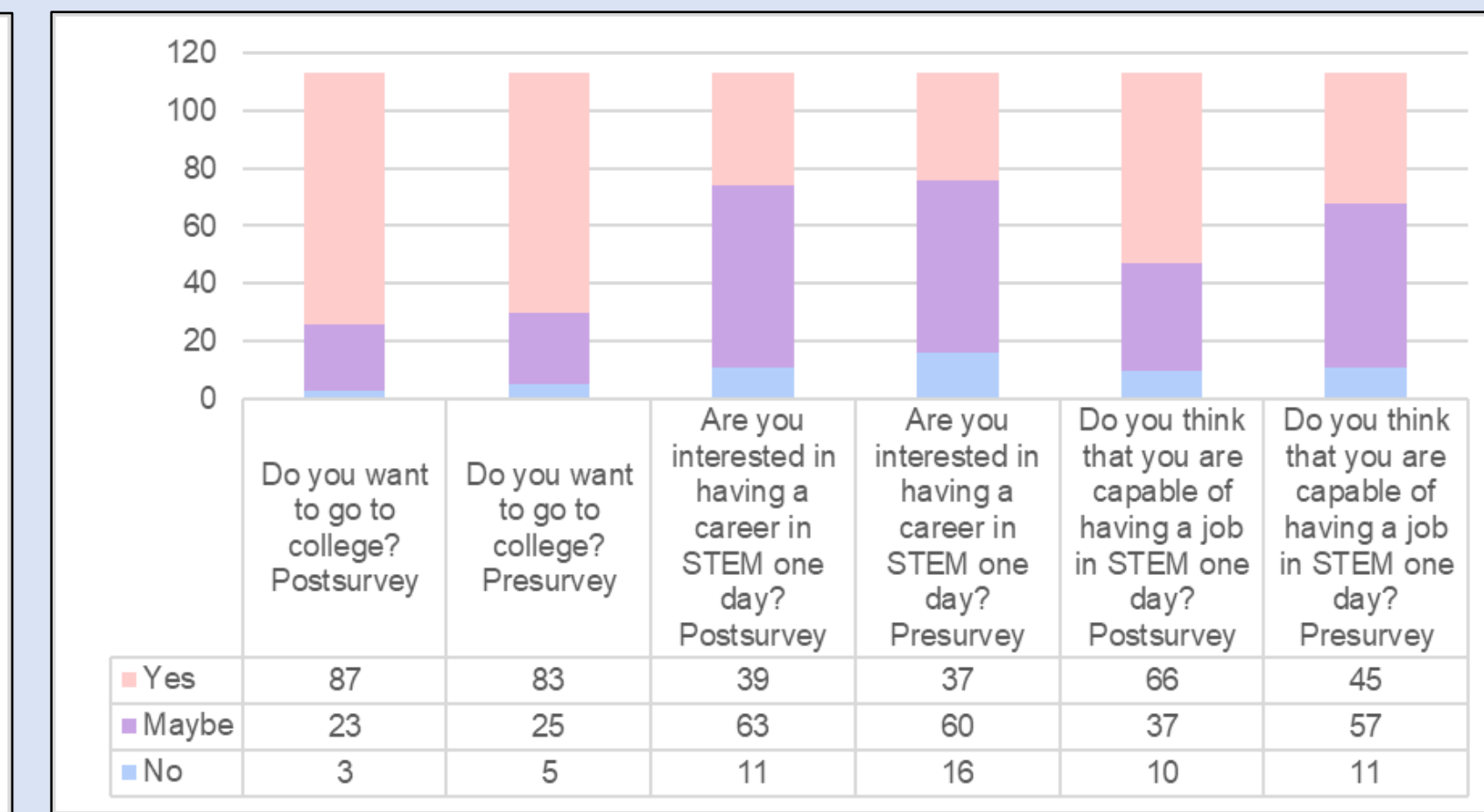


Figure 4. Part of the survey asked students to indicate their feelings toward STEM in a Likert-type set of questions. Notice that more students felt capable of pursuing a STEM job after watching the videos and meeting the group of STEM professionals who were interviewed. Please note that the postsurvey scores come before the presurvey scores in this figure.

### Results

- In the DAST, average student scores dropped from a 6.35 to 4.73. The highest possible score was 15.
- When added together, all student scores totaled 731 in the pretest and 545 in the posttest.
- Use of technology, facial hair, male gender, and indications of danger were the only categories that showed an increase from pre to posttest.
- There were more drawings of scientists working in the outdoors after treatment.
- More students in the Thinking about My Future Survey indicated that they felt capable of pursuing a STEM career after treatment.
- Students did not seem to be any more interested in learning about STEM careers after treatment.

#### References:

Deloitte & Datawheel. (2018). Canyon County, ID. Data USA. <https://datausa.io/profile/geo/canyon-county-id/#:%7E:text=In%202018%2C%20Canyon%20County%2C%20ID,%2449%2C143%2C%20a%205.85%25%20increase.>  
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