Although there is a large discrepancy between the number of respondents from the pre- and post-tests, the representation shown below is very similar to the sample from the pre-test.

The Girls at a Glance

Project Scientist attracts girls of different ages and races. We recognize girls have unique experiences depending on their racial identity. In this report, we will compare results between girls of different racial identities.

Daily Social Media Use

Social media use is a factor that can influence responses. Social media can be particularly influential in ideas around gender roles, confidence and self-esteem.

There are no concerns over influence of social media use in this report.
The above graphs compare respondents’ perceptions of Project Scientist from the Pre-Test to how they felt about Project Scientist after completing the program.

There are no visible trends in how girls of different ages and racial identities felt about the program.

Project Scientist Virtual Lab created an online environment where girls could be themselves, get excited about camp and explore STEM.

- **87%** Of girls felt they could be themselves at Project Scientist Virtual Lab.
- **89%** Of girls looked forward to participating in Virtual Lab everyday.
- **88%** Of girls feel like they could make mistakes.
- **93%** Of girls met someone in a career they admire at Project Scientist Virtual Lab.

What did you learn at Project Scientist Virtual Lab?

- I learned weather tools and what they’re used for.
- I learned **space and airplanes**.
- There are all different types of energy.
- How to make a circuit.
- How people **make flavours to put in food**.
- That salt melts ice faster.
- How **rain was formed** and how clouds were made.
- That you don’t need soil to grow plants.
- That you get your DNA from your family and that’s why you look like your family.
- I learned that you don’t have to be just one thing.
- I learned to **never give up**.
Online Learning

Participation in Project Scientist Virtual Lab had a notable impact on how girls felt about online learning.

69% Of girls reported that they like online learning better after participating in Project Scientist Virtual Lab.

86% Of girls would participate in Project Scientist Virtual Lab again.

How would you describe online learning?

- It is like normal camp just online to keep everyone safe. It is still super fun.
- It is difficult at first, but it gets easier and easier. I’m able to understand everything and its easy for me to do it.
- You get to work with people from all over the world but not be together in person.
- It’s fun because you can still see each other and learn, but you can’t see each other in person.
- It’s not as good as the real thing, but it is really really fun.

STEM Interest | 3.44 score out of 4

**STEM Interest by Age**

<table>
<thead>
<tr>
<th>Age</th>
<th>Average Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ages 10-12</td>
<td>3</td>
</tr>
<tr>
<td>Ages 7-9</td>
<td>3.5</td>
</tr>
<tr>
<td>Ages 4-6</td>
<td>3.2</td>
</tr>
</tbody>
</table>

**STEM Interest by Racial Identity**

<table>
<thead>
<tr>
<th>Race</th>
<th>Average Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiracial</td>
<td>3.5</td>
</tr>
<tr>
<td>Asian</td>
<td>3</td>
</tr>
<tr>
<td>Indian</td>
<td>3</td>
</tr>
<tr>
<td>Hispanic/Latina</td>
<td>3.5</td>
</tr>
<tr>
<td>Caucasian/White</td>
<td>3.5</td>
</tr>
<tr>
<td>Black or African American</td>
<td>2.5</td>
</tr>
</tbody>
</table>

The above graphs compare respondents’ STEM interest score by age and racial identity. There are no statistically significant differences in STEM interest by age or racial identity.

Through Project Scientist girls increased their interest in STEM.

- **98%** Of girls want to learn more about STEM.
- **97%** Of girls believe they are smart enough to pursue a career in STEM.
- **91%** Of girls feel more confident studying STEM after Project Scientist Virtual Lab.
- **93%** Of girls can see themselves working in a STEM career.
How would you describe STEM to a friend?

After Project Scientist Virtual Lab, girls’ descriptions of STEM expanded to include careers and building.

Before Project Scientist Virtual Lab some girls were unsure of how to describe STEM and some girls provided the incorrect definition. After Project Scientist Virtual Lab, all respondents provided an explanation and no girls responded unsure.

**Social Connectedness | 3.25 score out of 4**

There are no visible trends in how girls of different ages and racial identities felt about the program.

All age groups reported an increase in social connectedness after completing the program.

Project Scientist Virtual Lab created a space for girls to connect with friends virtually and apply practices to engage in healthy friendships.

59% Of girls reported they connected with friends at Project Scientist Virtual Lab.

93% Of girls reported that they can tell their friends if they hurt their feelings.

97% Of girls reported that they have friends they can be themselves around.
Gender Perceptions | 3.55 score out of 4

Gender Perceptions by Age

<table>
<thead>
<tr>
<th>Age</th>
<th>Post-Test</th>
<th>Pre-Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ages 10-12</td>
<td>3.7</td>
<td>3.2</td>
</tr>
<tr>
<td>Ages 7-9</td>
<td>3.6</td>
<td>3.4</td>
</tr>
<tr>
<td>Ages 4-6</td>
<td>3.4</td>
<td>3.3</td>
</tr>
</tbody>
</table>

Girls ages 4-6 and 10-12 reported an increase in how they perceive women in STEM.

Gender Perceptions by Racial Identity

<table>
<thead>
<tr>
<th>Race</th>
<th>Post-Test</th>
<th>Pre-Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiracial</td>
<td>4.0</td>
<td>3.8</td>
</tr>
<tr>
<td>Asian</td>
<td>3.7</td>
<td>3.4</td>
</tr>
<tr>
<td>Indian</td>
<td>3.6</td>
<td>3.3</td>
</tr>
<tr>
<td>Hispanic/Latina</td>
<td>3.3</td>
<td>3.1</td>
</tr>
<tr>
<td>Caucasian/White</td>
<td>2.9</td>
<td>2.6</td>
</tr>
<tr>
<td>Black or African American</td>
<td>1.8</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Although there are slight variances between racial identities, they are not statistically significant.

What is your dream career?

- Marine biologist
- Chemist
- Doctor
- Astronaut
- Astrophysicist
- Science teacher
- Food Scientist
- Veterinarian
- Mathematician
- Engineer
- Zoologist

Project Scientist created a space for girls to learn about career opportunities in STEM. After participating in Project Scientist Virtual Lab, 63% of girls said their dream job is in a STEM field.
**PROJECT SCIENTIST 2020 PARENT REPORT**

*Surveys and Report by Lunaria Solutions*

**Major Themes:**
- Views of Project Scientist
- Value to the family
- Girls’ interest

**Question Type:** Qualitative and quantitative

**Number of Questions:** 18

**Evaluation Type:** Post Survey

**The Families at a Glance**

**Racial Identity**

- American Indian or Alaska Native
- Multiracial
- Asian
- Indian
- Hispanic/Latina
- Caucasian/White
- Black or African American

**Daughter’s Generation**

- She is Native American
- She is third generation (My parents immigrated to the United States from another country)
- She is second generation (I immigrated to the United States from another country)
- She is first generation (She immigrated to the United States from another country)

Project Scientist attracted families with a variety of cultural identities and connections to the Americas. No differences by race or generation were found among participating families.

**Education Level**

- Highschool
- Certificate
- Trades training
- Bachelor degree or College Degree
- Masters Degree
- PhD

Project Scientist attracted families with a variety of educational backgrounds. Most parents had received a post-secondary education or higher. No differences by education level or COVID-19 impacts found among participating families.

**Impacts of COVID-19**

- One or more have had hours increased.
- One or more have had hours reduced.
- One or more have lost their employment.

**The Sample Size**

- 81 usable responses
- 49% Scholarship
- 51% Paid
Choosing a Camp

Top motivations to register for Project Scientist Virtual Labs

- Fun
- To increase STEM interest
- To increase STEM knowledge
- Create social interactions for my daughter

Most parents were motivated to register to increase their daughter’s STEM interest and/or knowledge.

How did you discover Project Scientist?

<table>
<thead>
<tr>
<th>Source</th>
<th>Percent of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Email</td>
<td>45%</td>
</tr>
<tr>
<td>Big Brothers Big Sisters</td>
<td>25%</td>
</tr>
<tr>
<td>Internet</td>
<td>20%</td>
</tr>
<tr>
<td>Friend</td>
<td>10%</td>
</tr>
</tbody>
</table>

87% Of families were new to Project Scientist | 48% increase from last year.

This year, Project Scientist attracted more new families.

Most parents discovered Project Scientist through an independent search on the internet, or through the Project Scientist email.

Other sources not listed include the Military Resource, OC Family Magazine and LMU Rock, Run and Roll magazine.

Why did you choose Project Scientist Virtual Labs?

- Giving her something interesting to do while I worked, having her exposed to new ideas, having her get excited about science.
- My daughter needs a space of her own to thrive and grow. She has a long attention span when she’s engaged in activities she loves, which includes science. Her current goal is to be a science teacher. She wants to teach other kids how interesting and fun science can be. Project Scientist teachers and STEM superstars are her role models.
- Wanted her to be engaged in something other than youtube. She loves science so I thought it would benefit her. Hopefully she can come back next year.
- I know that Project Scientist provides high-quality programs but the in-person site is too far for my family. I was excited to bring Project Scientist into our home for this experience!
- I I wanted her to meet other girls with an interest in STEM and know that she is not alone. Her friend group and neighborhood girls are not as interested as she is in science and the way things work. They all want to be dancers or singers or Mommies.
- She attended Project Scientist last year and she would always come home happy and sharing everything she did at CalTech.
- It’s an educational summer camp and I love to have the message of empowering woman as much as possible. I love to see the careers out there. They don’t see that anywhere at home. So I love that and we have been a project scientist family for maybe 4 years now and we love everything about them.
- She LOVES, LOVES, LOVES everything about project scientist! She honestly gets more excited about Project Scientist than most other activities.
The Project Scientist Experience

82% Of parents would enroll their daughter in a Project Scientist program again.

91% Of parents would recommend Project Scientist to other parents.

90% Of parents said their daughter looked forward to Project Scientist everyday.

Most parents reported being happy with their Project Scientist experience and how it was received by their daughters.

The Project Scientist Experience

What the parents are saying:

• Project Scientist is amazing!!! My daughter has been going through a rough patch and Project Scientist helped her come back to her normal self a little bit. She met some amazing scientists and made some cool STEM experiments.

• The presentations by the women in STEM fields were very interesting. They presented great role models of real women in these fields. I'm very excited about this program and what it offers our girls.

• The Parent Lab is a gift. I LOVE LOVE LOVE it! After listening to this week’s panelists, I want them to be my mentor so that I can be a better parent. They would be excellent role models for my daughter. We need more wisdom like them. They're juggling family life, overcoming their insecurities, yet giving back to the community through Project Scientist.

• I learned so much and felt empowered to encourage my girls about STEM careers and pathways. Encouraging for me as well, as I create my own path moving forward.

• Project Scientist was the #1 choice for our daughter. We are incredibly grateful she received a scholarship and maximized all opportunities. The Parent Club, access to STEM Superstars as role models for our daughters, lab kits, approachable female staff (technical, behind-the-scenes, and teachers), set Project Scientist apart from other options. My son was incredibly jealous he couldn’t do camp like this due to not having something of this caliber for boys or both sexes.

• Our dinner conversations were enhanced based on the conversations around what was learned throughout the week at Project Scientist.

• My daughter looked forward to class everyday and it was a great way to keep her spirits lifted during summer quarantine.

• My daughter was excited about her day in camp and could not wait to summarize the lessons, experiments and guest speakers she had.

• Whatever my daughter learned, she shared with her older and younger brother. It boosted her confidence that her older brother didn’t know everything she learned. Also, she was able to share her knowledge with her younger brother, which is rewarding for her as an older sister. Also, she enjoyed debriefing about future careers and discussing STEM options for girls (I’m not an expert in career coaching so I listened in on every Parent Club.)
Learning Opportunity

STEM Interest
Project Scientist created a space for parents to introduce their daughters to STEM and expand their knowledge.

**82%** Of parents reported Project Scientist as their daughter’s first STEM extracurriculars.

**93%** Of parents reported their daughter mentioned Project Scientist STEM topics at home.

**97%** Of parents believe Project Scientist taught their daughter more about STEM.

Continuation of Learning
Parents are facing a multitude of issues as a result of COVID-19. Parents are worried their child will face learning loss and some struggle to keep their child engaged in school online. Project Scientist was created to bridge the STEM gap, and in unprecedented times, respond to the learning gap.

Barriers to education at home after school closures

- **41%** Of parents reported that before Project Scientist it had been difficult to keep their daughter engaged in school online.
- **72%** Of parents reported they are worried their daughter will face learning loss due to school closures.

What the parents are saying:
- **Project Scientist is giving her something interesting to do while I worked**, having her exposed to new ideas, having her get excited about science.
- **Project Scientist is by far the most engaging and impressive (comprehensive, hands-on) program I saw offered and we had originally signed up for the in-person camp pre-COVID.**
- In addition to keeping a schedule/regimen it provided a focus on STEM and introduced her to a whole new world of learning above and beyond what she was getting AND helped both parents with workload and responsibility.
- **We appreciated the fact that the program went on and in spite of the disruptions caused by COVID-19. Amidst all the chaos caused by the pandemic, there was the opportunity to keep my daughter’s interest in science going.**
- **Project Scientist has given my daughter exposure to STEM and increased her interest in the subject. This makes me happy as she struggled in school with these subjects AND e-learning - I was worried if she would engage and like it and she loves it! She can’t wait to join each day and sets her own alarm to get up in time. This is a kid who would sleep until 10.**
Project Scientist Engagement

100% Of teachers were excited to teach at Project Scientist Virtual Lab everyday.
100% Of teachers would teach again with Project Scientist if given the chance.
100% Of teachers would recommend that other teachers work with Project Scientist.

What the teachers are saying:

- Project Scientist brings together a community of life long learners who share the same commitment to young girls. Through collaboration and creative thinking, we as a team concreted experiences for girls to find success: building of materials, math moments, and community building through games and fun.

- It’s great to have a space that is less formal than the regular school year to interact with kids through Zoom and work on fun, engaging STEM with them.

- It’s very organized! Other staff are understanding and willing to listen to your ideas! Your class is your own and you may use your teacher expertise to engage scholars even more!

- At Project Scientist Virtual Lab I get to connect with so many young women and fuel their interest in STEM. By leading them in fun activities and experiments I help to broaden ideas about their future and help them to see how they can fit into the STEM field.

- My teaching experience with Project Scientist was amazing. It was exciting to see so many young girls interested in the STEM activities and to hear share their thoughts about each task we completed.

- Teaching at Project Scientist has 100% contributed to my growth as an educator. The online platform gave me a chance to try new technology tools in a safe setting and get real time feedback from students. Teaching at Project Scientist Virtual Lab has taught me effective classroom management skills in a virtual setting.
Teacher Development

Project Scientist created spaces for teachers to grow alongside each other professionally.

100% Of teachers reported that their experience at Project Scientist added value to their teaching career.

77% Of teachers reported that their professional teaching networks grew through Project Scientist Virtual Lab.

For some teachers, Project Scientist Virtual Lab was their first experience teaching online. As teachers move forward, they will apply online teaching methods learned at Project Scientist to other classrooms.

89% Of teachers reported they will be teaching online in the future.

What the teachers are saying:

• I hadn’t taught a whole class of students before PSVL. Now I feel much more confident in all the nuts and bolts of how to make a class work.

• I am now a Zoom and Padlet master!

• I learned different kinds of activities to incorporate into my lessons like different math moments, music, and fun videos.

• I learned a lot about classroom management and student engagement in a virtual setting. I also learned how to teach in an environment where students do not always have the same resources. It taught me how to think on my toes to ensure all students had the same access to learning.
Project Scientist Virtual Lab created an opportunity for teachers to learn about new STEM topics they can bring to future classrooms.  

**89%** Of teachers reported they learned about new STEM topics at Project Scientist Virtual Lab.

**What the teachers are saying:**

- Through the academic coaching guides that we’re provided with the kits, I learned how to introduce a topic and how to tie a topic to something new that they were beginning to learn. I learned it was important to go over vocabulary and background knowledge before jumping right into an experiment.

- I learned how to effectively implement KWL charts in a STEM setting and I also learned strategies to elicit student ideas when answering a science-based question.

- I learned how to provide engaging, hands on virtual science lessons to students.

![Changes in confidence teaching](image-url)

Training provided to teachers enabled them to leave Project Scientist more confident in their teaching abilities.

After Project Scientist, teachers rated their confidence teaching online and teaching STEM topics higher.
83% of students said that they felt like their work mattered at Project Scientist Virtual Lab.

83% of students said that they would recommend other students teach at Project Scientist Virtual Lab.

100% of students said that they left Project Scientist Virtual Lab feeling excited for the next step in their career.

Project Scientist attracted university students from a variety of disciplines to speak to the intersections of STEM.

Educational Backgrounds

<table>
<thead>
<tr>
<th>Digital Media and Design</th>
<th>Music</th>
<th>Humanities</th>
<th>Health</th>
<th>Math</th>
<th>Science</th>
<th>Engineering</th>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>83%</td>
<td>83%</td>
<td>100%</td>
<td></td>
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