

SciGirls

Season Four



Front-end Evaluation Report

Twin Cities Public Television (*tpt*)

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By

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Significant findings

As part of the development work of *Latina SciGirls*, the independent evaluation firm Knight Williams Inc. conducted a front-end evaluation focused on gathering input from the project's primary public audiences (Latina girls and their parents/guardians) and professional audiences (the project's advisers and partners). A total of 86 participants representing these diverse audience perspectives were asked to review an episode of the *SciGirls* program *Hábitat en Caos/Habitat Havoc* and two role model scientist profile videos featuring [Karin Block](#) and [Victoria Velez](#). Scheduled early in Year 1 of the three-year project, the evaluation provided an opportunity for *tpt* to assess, prior to any production work, the extent to which the feedback validated the project team's key assumptions in planning *Latina SciGirls*, including the importance of: developing a Spanish-language program, featuring more authentic and culturally appropriate story lines, and showcasing Latina role models, both STEM professionals and girl peers.

The main findings that emerged from the front-end evaluation are summarized below.

- **Background of participants:** The participating advisors/partners worked in diverse fields, including STEM education, community nonprofits, educational media, and STEM professions. Almost all, however, indicated they had experience implementing, developing, or evaluating/researching STEM programs for low-to-moderately-low-income Latina girls ages 8-13 and their families.

About half of the advisors/partners and nearly all of the participating youth and their parents/guardians were of Spanish, Hispanic, or Latino origin. The majority of the youth and parents/guardians indicated that their Spanish writing, speaking, and reading skills were good or excellent. While most of the parents/guardians completed the evaluation activities in Spanish, roughly a third of the youth did the same.

All of the youth and most of the parents/guardians were female. The average age of the youth participants was 11, while 39 for the parents/guardians. In both cases, most had little or no prior exposure to *SciGirls* programming.

- **Appeal of *SciGirls* episode:** The youth generally rated *Hábitat en Caos* as *very appealing* to them personally, and the advisors/partners thought the program would be *very appealing* to the target audience of low-to-moderately-low-income Latina girls ages 8-13. Additionally, parents/guardians generally rated the program as *very appealing* to them personally, and the advisors/partners thought the program would generally be *moderately appealing* to the parents/guardians of low-to-moderately-low-income Latina girls ages 8-13.
- **Whether the featured girls are relatable and good role models:** Overall, the youth, parents/guardians, and advisors/partners generally agreed that the girls and STEM professionals featured in *Hábitat en Caos* were good role models. However, though most of the youth felt the featured girls were positive role models, just over half indicated that they could relate to these same girls, while all of their parents/guardians expected this would be the case. The youth who said they *could relate* most often indicated it was

because the girls loved nature, animals, or science, while smaller groups observed that the girls shared their name, looked like them, were Latina, had similar hobbies, were their same age, had friends, or acted like them. Those who said they *couldn't relate* to the girls indicated that they felt this way because the girls weren't believable, because they came across as *overjoyed*, or said they didn't think the girls had to be Latina.

- ***Diversity of girls in show open:*** When asked to share feedback about the diversity of girls in the show open, the majority of youth, parents/guardians, and advisors/partners suggested swapping in footage featuring more Latina girls while maintaining at least some diversity of girls, science topics, and locations.
- ***Use of English and Spanish in theme song:*** When asked to share feedback about the use of Spanish or English in the theme song, the largest groups of youth, parents/guardians, and advisors/partners suggested combining Spanish and English.
- ***Relative importance of SciGirls attributes:*** When asked which of the *SciGirls* attributes (many of which were drawn from the *SciGirls Seven*) they felt were most important to highlight in *Latina SciGirls* episodes, each attribute was chosen by more than half of the youth, parents/guardians, or advisors/partners. Of the seven attributes, 1) *Work together* was chosen by the largest groups of youth and parents/guardians. It was the fourth most common attribute selected by advisors/partners.
- ***Appeal of scientist profile videos:*** The youth and parents/guardians generally liked the Karin Block and Victoria Velez profile videos, finding various aspects of both videos *very* or *extremely appealing*. The advisors/partners also thought Latina girls and their parents/guardians would find the videos appealing. However, several of the parents/guardians and advisors/partners indicated a slight preference for the video featuring Victoria Velez, for various reasons, including that her portrayal seemed more *humanizing* or *person-centered* and highlighted *collaboration*.
- ***Whether the profile videos scientists are good role models:*** The youth, parents/guardians, and advisors/partners generally agreed that the STEM professionals featured in the profile videos were good role models. Some participants expressed an interest in learning more about the scientists, relating to, for example, their: place of residence, personal life, family members, friends, age, education, career path, and advice to girls.
- ***Incorporating Latino culture:*** The youth, parents/guardians, and advisors/partners generally pointed to three primary ways to incorporate Latino culture into *Latina SciGirls* episodes and profile videos: highlighting family, using Spanish, and adding information about Latino culture (such as food, music, art, festivals, dancing, sports, native animals, and plants, among other topics). However, some participants also observed possible challenges involved in highlighting diversity and individuality among the girls and mentors featured, and in particular how to concretely present their culture in a sensitive and meaningful way. While a number of youth, parents/guardians, and advisors/partners suggested highlighting themes that may be relevant across different Latino cultures, many also suggested contextualizing their culture rather than looking for a one-size-fits-all approach.

Introduction

Beginning in September 2015, with funding from the National Science Foundation (NSF), Twin Cities Public Television (*tpt*) initiated the three-year project *Latina SciGirls: Promoting Middle School-Age Hispanic Girls' Positive STEM Identity Development*. The cornerstone of the project is a fourth season of the Emmy Award-winning television and transmedia project *SciGirls* to premiere late 2016, in this case involving six half-hour *SciGirls* episodes filmed in Spanish showing groups of Hispanic girls and their Hispanic STEM mentors investigating culturally relevant science and engineering problems. The television program will be accompanied by a series of family and girl-friendly online role model video profiles in Spanish and English featuring Latina STEM professionals.

Beyond these two core media components, the project will provide opportunities to connect girls and their families with in-person Latina role models and STEM programming via community outreach through a network of Hispanic-serving partner organizations in diverse Hispanic communities. The project will also facilitate an independent research study on the development of STEM identity among girls participating in the project.

Taken together, as summarized in the NSF proposal, the project has four primary objectives/deliverables:

- ❖ Objective/Deliverable One: Develop a six-episode Spanish-language television series following groups of Hispanic middle school girls and their Latina STEM professional mentors as they investigate culturally relevant scientific or engineering problems.
- ❖ Objective/Deliverable Two: Develop and evaluate a series of 12 Spanish-language role model video profiles of Latina STEM professionals that portray the everyday life of a scientist or engineer.
- ❖ Objective/Deliverable Three: Provide the *SciGirls* network of Hispanic-serving partner organizations with media resources, professional development, and opportunities to connect Hispanic girls and families with Latina STEM professional role models.
- ❖ Objective/Deliverable Four: Investigate the intended development of positive STEM identities for Hispanic girls and their families through an associated research effort.

As part of *tpt's* planning for the first two deliverables, the television program and video profiles, the independent evaluation firm Knight Williams Inc. conducted a front-end evaluation focused on gathering input from *Latina SciGirls* primary public audiences (Latina girls and their parents/guardians) and professional audiences (the project's advisors and partners).

Scheduled early in Year 1 of the three-year project, the evaluation provided an opportunity for *tpt* to assess, prior to any production work, the extent to which the feedback validated the project team's key assumptions in planning *Latina SciGirls*, including the importance of: developing a Spanish-language program, featuring more authentic and culturally appropriate story lines, and showcasing Latina role models, both STEM professionals and girl peers. These assumptions were based on *tpt's* extensive experience directing past *SciGirls* projects, prior

external evaluations of *SciGirls en Familia* and *SciGirls en Español*, and review of the literature. The front-end work in essence helped to serve as a check on these assumptions as applied to *Latina SciGirls* and also helped inform specific production decisions.

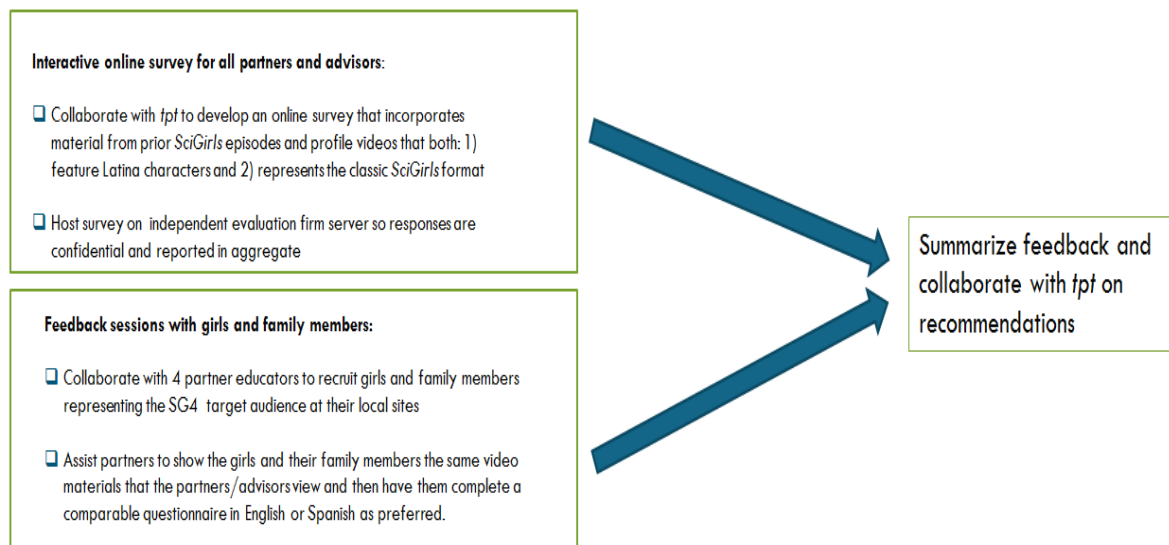
Method

Evaluation Approach

In planning the front-end evaluation early in Year 1, the project and evaluation teams met frequently to determine goals and a timeline for the evaluation, primarily to ensure that the information gathered could be directly used to inform production decisions. As part of this process, the project team was asked to consider and reflect on the following questions to help move the evaluation forward:

- 1) Who does *tpt* consider to be the target audience(s) for the episodes and video profiles and what are *tpt*'s audience goals in each case?
- 2) What kind of feedback does *tpt* want from its stakeholders (advisors/partners and girls/family members) to help inform production decisions?
- 3) What video materials does *tpt* want the stakeholders to view (e.g., an episode or video assemblies of sample content or storytelling techniques)? What about these materials would *tpt* like them to consider?

After several meetings, which further involved reflecting iteratively on the *Latina SciGirls* project model included in Appendix 1, the teams arrived at the following evaluation approach, which varied somewhat depending on the audience targeted for feedback, as summarized in the graphic below.



Professional audiences

The *Latina SciGirls* participating partners and advisors were asked to provide feedback on a set of video materials prepared by the *SciGirls* production team, including a previously Spanish-dubbed episode of a *SciGirls* program entitled *Hábitat en Caos/Habitat Havoc* (hereafter referred to as *Hábitat en Caos*) and two role model scientist profile videos, one featuring [Karin Block](#) and one featuring [Victoria Velez](#). Feedback was collected via an interactive online survey divided into two parts, both of which were hosted on the independent evaluation firm's website, although a paper version of the survey was also available:

Part 1 Feedback on *SciGirls* episode: <http://www.knightwilliams.com/lsg/lsgintro.aspx>

Part 2 Feedback on *SciGirls* profile videos: <http://knightwilliams.com/lsg/lsgpart2.aspx>

Whereas the advisors completed the survey during the kickoff *Latina SciGirls* advisor meeting in March 2016, either onsite or virtually, the partners had an extended timeframe to complete the survey from April – May 2016 from their home organizations.

Public audiences

Collaborating with 4 of the project's 16 partners¹ with regular access to girls and families, the evaluation and project teams organized feedback sessions with the goal of reaching approximately 40 girls and their parents/guardians fitting the target audience for *Latina SciGirls*. During the sessions, the respective program leaders at each partner site met with groups of youth and their parents/guardians for approximately 1.5 hours. At each site, evaluation activities were conducted in Spanish and/or English, as appropriate, with subsequent translation to English for use in reporting to *tpt*. The sessions involved: watching the package of video materials and completing paper versions of the survey completed by advisors and partners, with some questions reworded to be more appropriate for youth and parent/guardian input. In addition to gathering the participants' reactions to the video materials and *tpt*'s specific plans for *Latina SciGirls*, the evaluation also gathered participants' demographic and background information, including gender, age, ethnicity, degree of Spanish fluency, and prior experience watching *SciGirls* programming.

While the sessions were led by the local program leaders with whom the girls and their family members were familiar and shared a history of meeting together in group settings, the evaluation team provided each leader with guidelines and a script for implementing a simple set of evaluation procedures. The expectation was that using this collaborative approach, the project team, evaluation team, and project partners would all directly benefit from the opportunity to learn from the girls and family members that are part of the project's core target audience.²

¹ The project and evaluation teams collaborated to select a diverse cross-section of partner organizations participating in *Latina SciGirls*.

² Knight Williams has successfully used similar collaborative arrangements in past *SciGirls* grantee programs and in a recent NSF-funded Pathways project that focused on the use of media and role models among at-risk Hispanic youth. Youth provided feedback on similar activity ideas using feedback sessions organized by the

Analysis

Basic descriptive statistics were performed on the quantitative data generated from the evaluation. Content analyses were performed on the qualitative data generated in the open-ended questions. The analysis was both deductive, drawing on the project's goals and objectives, and inductive, looking for overall themes, keywords, and key phrases. All analyses were conducted by two independent coders. Any differences that emerged in coding were resolved with the assistance of a third coder.

Background of professional and public audiences

As of June 2016, *Latina SciGirls* had partnered with the 16 Hispanic serving organizations listed below. The front-end evaluation was conducted in collaboration with the four organizations listed in bold at the top of the table. As of the date of this report, *tpt* was in the process of collecting detailed information about the program offerings, audiences served, and plans for implementing *Latina SciGirls* media and activities. This information will be available in a forthcoming report. Basic information about program type, to the extent it was available, is summarized below.

<i>Latina SciGirls</i> Partner Organizations	City	State	Program Type
Children's Museum of Houston	Houston	TX	Afterschool
New Mexico PBS	Albuquerque	NM	Afterschool
Morristown Neighborhood House	Morristown	NJ	TBD
University of Puerto Rico at Mayaguez	Mayaguez	PR	Summer camp
Girls Incorporated of Orange County	Los Angeles	CA	Afterschool
The GLOBE Program	Boulder	CO	Afterschool
Yakima Valley Tri Cities MESA	Seattle	WA	Afterschool and Weekends
Children's Science Center, Fairfax	Fairfax	VA	Afterschool or Spring
Girl Scouts of Southern Arizona	Tucson	AZ	Afterschool/Weekend
San Antonio Pre-Freshman Engineering	San Antonio	TX	Fall event
GirlPower in Science and Engineering - Amphi	Tucson	AZ	Summer (profile)
Society of Women Engineers - Dallas	Dallas	TX	TBD
Texas Girls Collaborative Project	Austin	TX	TBD
Las Latinitas – El Paso	El Paso	TX	TBD
Cientificas De Milwaukee	Milwaukee	WI	TBD
SciPort: Louisiana's Science Center	Shreveport	LA	Weekend program

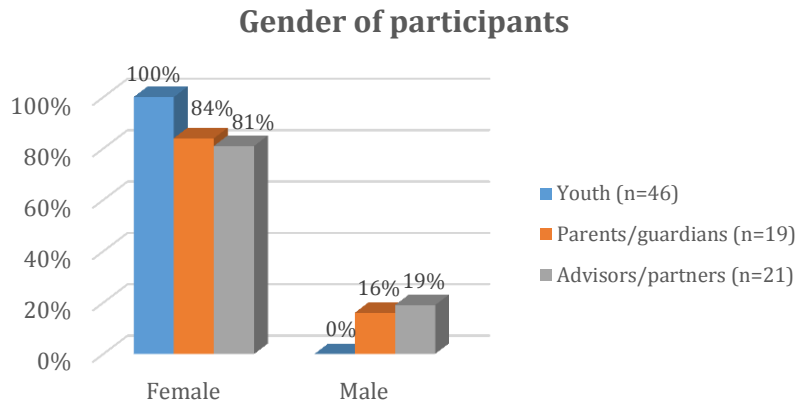
evaluation and project teams (http://informalscience.org/evaluation/ic-000-000-008-533/Final_Report_:Pathways_to_Brighter_Futures_Through_STEM_Careers).

Participant information

Among the 86 participants in the *Latina SciGirls* front-end evaluation, about half were youth (n=46), approximately a fifth were parents/guardians (n=19), and about a quarter were advisors/partners (n=21).³ This section summarizes the gender balance, age range, ethnic composition with respect to Hispanic or Latino origin, Spanish language skills, choice of language for survey completion, and previous exposure to *SciGirls* for each group, with accompanying charts to the right or below in each case.

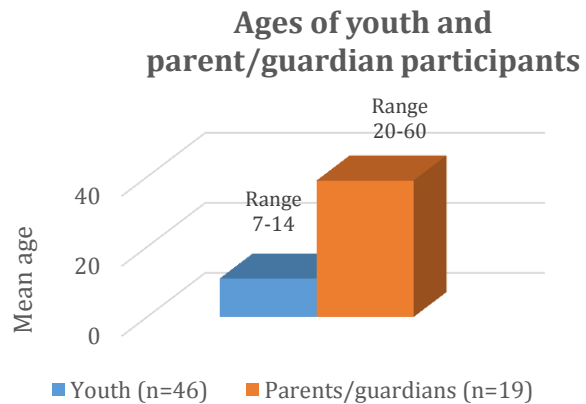
Gender balance

As shown in the chart to the right, all (100%) of the youth were female. More than four-fifths each of the parents/guardians (84%) and advisors/partners (81%) were female.



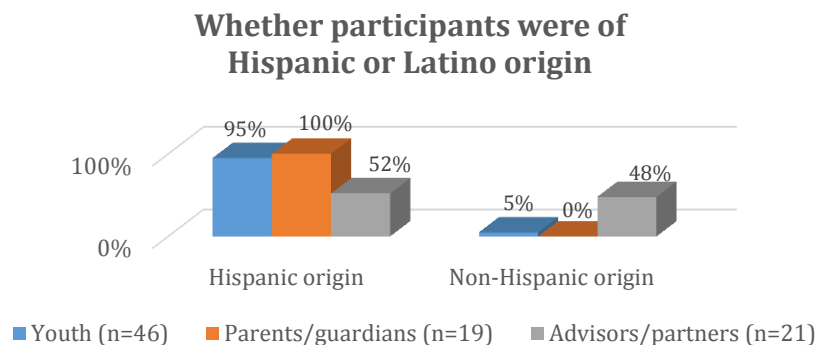
Age range

The youth group ranged in age from 7-14 while the parent/guardian group ranged in age from 20-60, as shown in the chart to the right. The mean ages were 11 for the youth and 39 for the parents/guardians. The ages of the advisors/partners were not gathered.



Hispanic or Latino origin

As shown in the chart below, nearly all (95%) of the youth, all of the parents (100%) and about half (52%) of the advisors/partners were of Spanish, Hispanic, or Latino origin.



³ One advisor completed Part 2 of the survey (which included the background and demographic information questions) but not Part 1. Therefore, his/her feedback is included in Part 2, but missing from the Part 1.

Spanish language skills

The charts to the right detail the self-reported Spanish language skills for the youth and parents/guardians. Advisors/partners were not asked to rate their Spanish language skills.

Speaking

Nearly three-quarters (70%) of the youth indicated that they had *good* or *excellent* Spanish speaking skills, compared to nearly nine-tenths (89%) of the parents/guardians.

Reading

Nearly three-fifths (58%) of the youth rated their Spanish reading skills as *good* or *excellent*, compared to about four-fifths (78%) of the parents/guardians.

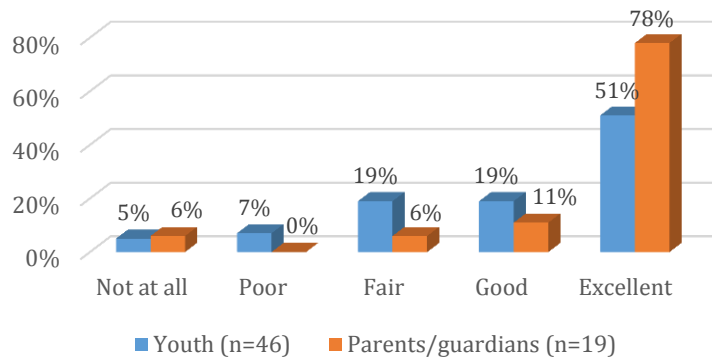
Writing

More than half (53%) of the youth rated their Spanish writing skills as *good* or *excellent*, compared to nearly nine-tenths (89%) of the parents/guardians.

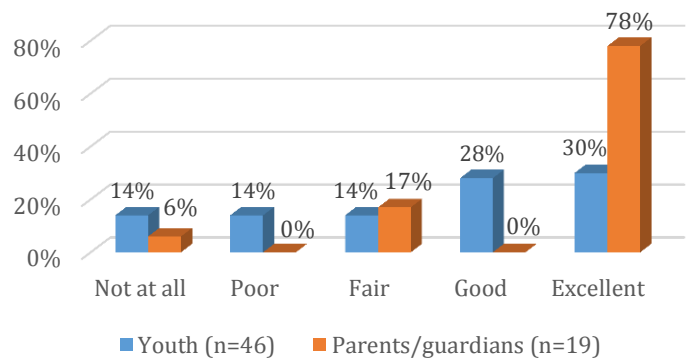
Choice of language for survey completion

Participants were given a choice to complete the front-end survey in Spanish or English. Nine-tenths (90%) of the parents/guardians and just over one-third (36%) of the youth participants chose to complete the survey in Spanish.

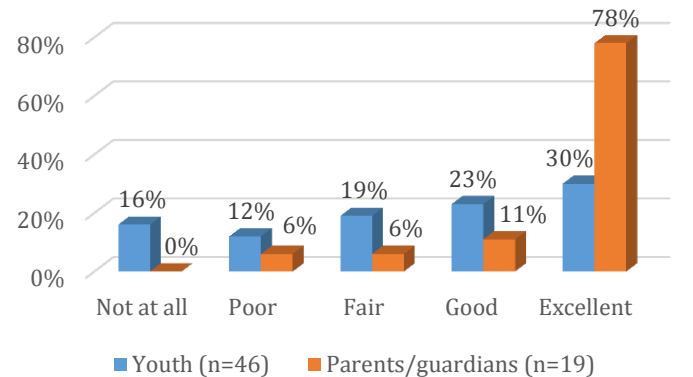
How well participants felt they speak Spanish



How well participants felt they read Spanish



How well participants felt they write Spanish

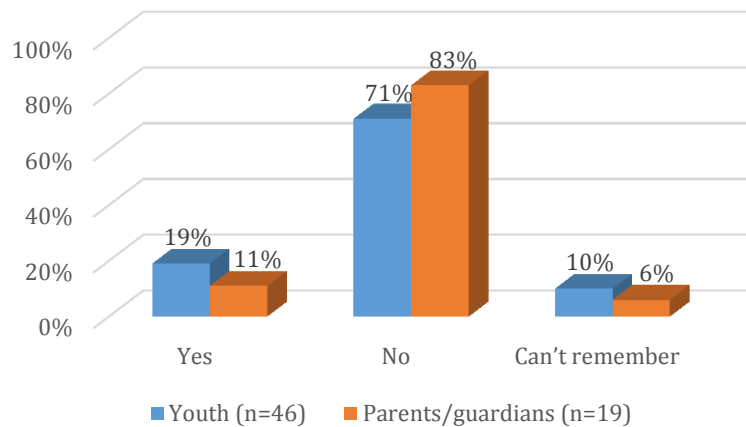


Prior exposure to SciGirls

As shown in the chart to the right, nearly three-quarters (71%) of youth and more than four-fifths (83%) of parents/guardians indicated that they had not seen any *SciGirls* programs or videos before.

The advisors/partners were not asked about their previous exposure to *SciGirls*.

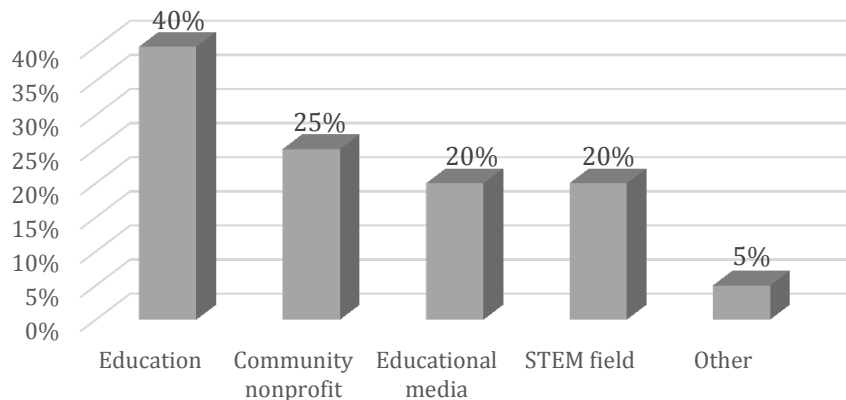
Whether participants had seen any *SciGirls* television shows or videos before



Additional feedback about advisor/partner experience

The advisors/partners were further asked about the area of STEM in which they worked. As shown in the chart to the right, of the 20 who shared a response, two-fifths (40%) mentioned working in education (such as “*CS education and girls*” and “*informal STEM education and research*”). At the same

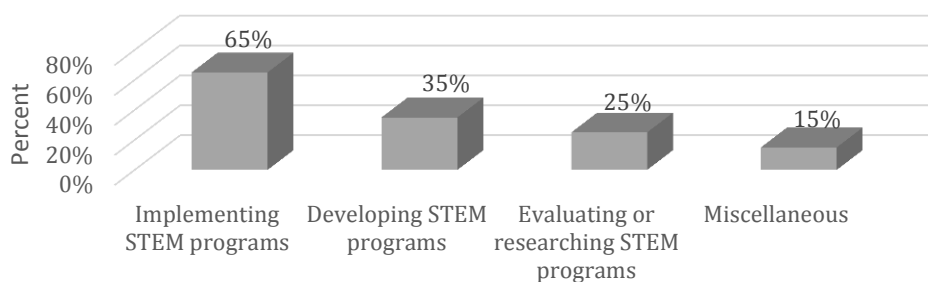
STEM area in which advisors/partners work (n=20)



time, a quarter (25%) explained that they worked at or with a nonprofit or organization in some capacity (as in, “*community program facilitator/coordinator, and board member on several STEM organizations*” and “*administration of all fields, grant organization*”). A fifth (20%) pointed to educational media (as in, “*STEM media youth advisor*” and “*I am a filmmaker, a writer, director and producer*”), and another fifth (20%) described working directly in a STEM field, such as *engineering, public health, or earth science*. Finally, one advisor/partner (5%) said s/he worked in “*all*” areas of STEM but declined to elaborate.

The advisors were also invited to comment on any experience they had in developing, implementing, or evaluating STEM programs for low-to-moderately-low-income Latina girls ages 8-13 and/or their parents/guardians. As shown in the chart on the next page, of the 20 advisors/partners who shared a response, about two-thirds (65%) explained that they had experience implementing STEM programs, about a third (35%) pointed to experience developing STEM programs, and a quarter (25%) had experience evaluating or researching STEM programs. More than a tenth (15%) gave miscellaneous feedback.

Advisor/partner experience with STEM programs designed for low-to-moderately-low income Latina girls 8-13 and/or families (n=20)



Examples of feedback from the advisors/partners in each case are considered below.

Implementing STEM programs (65%)

- 15+ years in tech/engineering education for girls and minorities, informal education, and CS education policy.
- We are leading a national public awareness campaign together with NCWIT - www.technolochicas.org. We also lead STEM booths in Univision Education Fairs (where more than 30,000 Hispanics participate per year) where kids and families are exposed to hands on STEM activities in 7 cities. We fund 5-10 afterschool STEM programs with Latina girls where they perform STEM activities and they also visit companies/industries where they get to talk to STEM professionals (hopefully Latinos) and ask questions.
- Every year, I work with middle school girls (mainly Latina) in a low-income school district to discuss careers in the sciences.
- I have knowledge of and experience with STEM programming due to the organization I work for but my greatest expertise is in working with diverse audiences of girls and their families, and working with Latinas.
- I worked at 2 NSF Engineering research Centers (ERC) in the Education and outreach component developing modules for explaining STEM to k-12 students, and also in a NASA program with educational component. I visited many schools talking about engineering, electronics, weather, and other topics.
- Outreach programs to Latino undeserved communities. Finding trusted partners. Determining needs.
- Served as mentor in my own community (after school programs, in classroom talks, planning implementing community wide events)

Developing STEM programs (35%)

- Although most of our pre college programs have been focused on high school age students, our next phase is working with younger population.
- Programs were developed of SciGirls en Español and SciGirls en familia as outreach initiatives to "colonia" audiences (colonia refers to unincorporated and impoverished communities along the Tex-Mex border).
- Developed, facilitated, and evaluated STEM programs for girls in southern Arizona. Fund raised for STEM programs. Currently part of two STEM education grant proposals (waiting to hear about funding) for upper elementary and middle school girls from low-income neighborhoods, where I will be the evaluator.
- Consult on youth media projects with STEM focus

Evaluating or researching STEM programs (25%)

- I have been engaged in developing, implementing, or evaluating STEM programs for low to moderately low-income girls, some of whom were of Hispanic background, but all from the perspective of a Caucasian female. Some of the girls and families I have been involved with I have spoken with specifically about the context of STEM, girls and their Hispanic background - in particular, through programs that were designed to engage families or girls with the adults important to their lives. I have also been involved in project implementation at sites that were focused only on Latina girls, and have greatly valued the contribution and support of having an 'insider' to a culture that is not mine.
- I have DoS Training. The Dimensions of Success training teaches how to evaluate or assess quality STEM programs. I live in New Mexico where our population is 58% Hispanic.
- I'm a social scientist who studies stem learning and have directed several documentary films and video projects.
- Serve as a grant reviewer on programs seeking funding to work with diverse communities, including Latinas. Provide guidance to organizations working with Latino communities which receive funding, and review their reporting requirements. Work with colleagues who are also managing STEM grants for Latino serving populations.

Miscellaneous (15%)

- Very little
- I have not worked directly in STEM identified programs, although I have mentored girls for over twenty years as interns, as a workshop leader, a Professor, and a guest lecturer. I have done a series (pilots) for COLLEGE TRACK re access to college for underprivileged kids.
- SciGirls en Español; SciGirls en Familia; SciGirls CONNECT.

Finally, the advisors/partners were asked if there was anything else about their backgrounds they wanted to share. Of the 14 who gave a response, two-thirds (64%) shared more about their personal, academic, or employment history, about a fifth (21%) provided miscellaneous comments, and more than a tenth (14%) said they didn't have anything else to share (as in "nope" or "none"). Their feedback is below.

Shared personal, academic, or work history (64%)

- *Was undocumented at one point and parents have only a third grade education from Mexico. Have faced many of the obstacles that the young women we are targeting may face.*
- *I grew up undocumented and attended both public schools then private boarding High School on scholarship and an Ivy League college (also on scholarship). I have seen the systemic inequities in our educational system and have visited and scouted schools around the nation, for work research and in my tours when invited to bring my films to communities around the country. Role modeling and high expectations seem to be key motivators for student success.*
- *While my background is upper middle class, the communities I serve are lower socio economic and Spanish speaking. I am also bilingual.*
- *My perspective comes from someone whom is an immigrant, has a science degree, and works in academia.*
- *I wrote my Doctoral dissertation about Latina leadership in the U.S. and do work around creating a pipeline of Latina leaders in various sectors. I am sure that will be helpful to this work.*
- *I have a communication background and I am always interested in multicultural interpersonal communication. There are contextual roles and paradigms of cultural communication, group communication and the psychology at play.*
- *I have been a project director for an HSI grant at a large community college and have been work with the Latino community throughout my professional career.*
- *I have been working with girls education in rural Latin American settings for more than 10 years.*
- *I have worked collaboratively with many STEM- and women-focused organizations. I am highly interested in engagement and persistence of girls in STEM, which is also part of my job.*

Miscellaneous (21%)

- *Available for full time work.*
- *I like flan.*
- *I'm a bit biased towards tech/engineering as the areas of greatest need.*

Outline

The *Latina SciGirls* front-end evaluation is presented in two parts, as follows:

Part 1: Feedback on the *SciGirls* episode *Hábitat en Caos*

The Part 1 findings are presented in 9 sections:

- 1.1 Overall appeal of the program to Latina girls and their parents/guardians
- 1.2 Feedback about the *SciGirls* attributes
- 1.3 Feedback about the *SciGirls* as role models
- 1.4 Feedback about conveying cultural values via the *SciGirls* mentor relationship
- 1.5 Suggested changes for the show open and theme song
- 1.6 Incorporating cultural values into the science process/engineering design scenes
- 1.7 Illustrating Izzy's cultural heritage in the animated segments
- 1.8 Including family members in "Backtalk" segments
- 1.9 Incorporating family members in the communicate findings/share results scenes

Part 2: Feedback on the *SciGirls* profile videos

The Part 2 findings are presented in 5 sections:

- 2.1 Overall appeal of Karin Block's profile video
- 2.2 Overall appeal of Victoria Velez's profile video
- 2.3 Combined appeal of profile videos, as assessed by advisors/partners
- 2.4 Suggestions for incorporating cultural values and additional topics into the profile videos
- 2.5 Additional feedback about what girls and their parents might want to see featured in the profile videos

Findings

Part 1: Feedback on the *SciGirls* episode *Hábitat en Caos*

In addition to following the procedural information provided under Methods, the evaluation coordinators also provided participants with information about the episode viewed for the evaluation. Specifically, they informed participants that they would be watching a 28-minute episode chosen by the *SciGirls* team that features Latina girls and represents the typical *SciGirls* format. They were also told that an independent evaluation team was working with *tpt* to gather feedback that would be used to inform the production of *SciGirls* Season 4 (SG4) episodes to be filmed in Spanish with English subtitles and that these would be available via PBS, pbskids.org, YouTube Univision, other (web) venues, and through outreach partner events.

All participants were given the option of watching the program in either Spanish or English:

Spanish version: [Hábitat en Caos](#) English version: [Habitat Havoc](#)

Finally, just prior to viewing, participants were asked to consider the extent to which they felt this sample episode was appealing to them (in the case of the youth and parent/guardian participants) or to the project's primary target audience "*of low-to moderately-low income Latina girls ages 8-13 and their parents*" (in the case of the advisors/partners). When completing the survey questions about the episode, participants were asked to remember that there were no right or wrong answers. They were also informed that their frank and honest feedback was appreciated and would be used to help inform a new season of *SciGirls* episodes, and that all feedback would be reported in the aggregate with no names or identifying information used in the reporting to the *SciGirls* team.

1.1 Overall appeal of the program to Latina girls and their parents/guardians

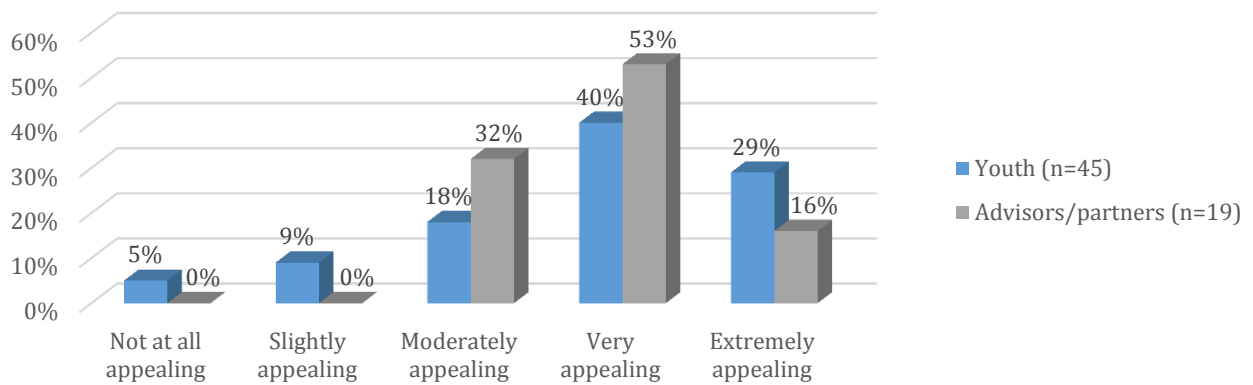
This section presents youth and advisor/partner ratings of the overall appeal of the program to low-to-moderately-low-income Latina girls ages 8-13. It also presents parent/guardian and advisor/partner ratings of the overall appeal of the program to the parents/guardians of low-to-moderately-low-income Latina girls ages 8-13.

1.1a Appeal to Latina girls

The youth were asked to rate the overall appeal of the program to them personally, while the advisors/partners were asked to rate the overall appeal of the program to the target audience of low-to-moderately-low-income Latina girls ages 8-13, which generally characterized the youth participants in the front-end evaluation. Using a scale from 1.0 (*not at all appealing*) to 5.0 (*extremely appealing*), both the youth and the advisors/partners generally rated the

program as *very appealing* (median rating 4.0), though both groups provided a range of ratings, as shown in the chart below.

Overall appeal of *Hábitat en Caos* (to Latina girl audience)



When asked to explain their ratings and/or share suggestions for how the production team could make the episode more appealing, most of the youth and advisors/partners shared feedback. Examples of their specific comments are categorized in the table on the following page, while the main themes are summarized below.

Youth: Of the 37 youth who shared a response, several described the program as *fun* or *enjoyable* to watch, and several others described it as *educational* or indicated that they *learned* something. A few youth commented on liking that the program featured nature or praised some aspect of how the program was presented. At the same time, several youth offered the critique that they felt the program could be more *exciting* or *interesting* in some way, while a few suggested it was *too long* or mentioned that they didn't like seeing bugs talked about or shown.

Advisors/partners: Of the 18 advisors/partners who shared a response, several praised *Hábitat en Caos*, with some commenting on how *authentic* and *appealing* they thought Latina youth would find the girls in the program. At the same time, several other advisors/partners commented on issues specific to the Latina audience, for example critiquing the Spanish dubbing or the lack of cultural connection to the Latino community. A couple of the advisors/partners criticized the animation, and a few shared miscellaneous responses, including comments about the target audience and feedback about elements that they thought girls might find confusing.

Youth and advisor/partner comments on appeal of video to Latina youth target audience

Youth comments (n=37)

Advisor/partner comments (n=18)

Informative/educational

- I liked it because it taught me a lot
- I really liked it because it gives you a lot of information
- It was a very informational but the girls were bringing up off topic subjects. It is educational and fun
- It taught me how plants that are common in my state or environment can be non native to it. It also taught me a lot more things. I liked because I can do fun stuff
- I liked it a lot because I am a very curious child so I would love to do something like that.

Enjoyable/fun

- I liked how they explained to us what was going on. It also kept us engaged. I think it was really perky.
- I learned and enjoyed it
- It is educational and fun
- Because it's interesting
- I liked it because it seemed fun.

About nature

- I liked because it spoke about nature
- I appreciated this video because I liked learning about specific types of trees.
- It taught me how plants that are common in my state or environment can be non native to it. It also taught me a lot more things.

Could be more exciting/interesting

- I liked it a little but it was a bit boring
- My rating is a 3 because I thought the producer can do more.
- They can make the episode more exciting.
- They can add more excitement.
- No, because I do not share the same interests.
- The episode needs other interesting things, not only bugs.
- It takes long and make it fun and something we want to do.
- Don't try so hard.
- Make it look less fake

Too long

- I did not like it that much because it was really long
- They can make the episodes shorter.

Didn't like bugs

- The episode needs other interesting things, not only bugs.
- Because I like how they were doing the project but I didn't like how they talk about bugs.

Well explained/presented

- I liked how they explained to us what was going on. It also kept us engaged. I think it was really perky.
- I liked it because they described what they were doing

Other

- I picked 2 because it was an okay video.
- I liked it a little bit
- Because I did not get it a lot.
- It was a very informational but the girls were bringing up off topic subjects.
- Well I don't know but I liked the video especially Jeffery.
- I love the video because the girls work together like a team.
- I don't really like Spanish

Praised the program

- The girls felt very real and unscripted. Allows for easier connection.
- Some great elements include the girls' friendliness and collaborative qualities
- The girls themselves are very appealing, and the format is great. I'm not sure that the subject would be extremely appealing to girls
- It's appealing because of the girls' interactions between one another. They feel authentic and they voice age related ideas and concerns. I thought the respect shown for their original ideas was very appealing.
- I thought it was great! I can't think of a single reason why it wouldn't be appealing. It had a simple way to highlight the topic, yet it was engaging. Our girls here in the southwest don't have palm trees, but we have different native desert plants that would be interesting to research.
- I found that although the format of the show is a little childish, it was still informative and anyone could learn something from it. It would be very appealing to girls under ten or eleven, and still functional otherwise.

Language issue/lack of cultural connection

- I watched the video in Spanish. I think the English one is probably more appealing than the Spanish. The Spanish one is dubbed and diminishes the connection with the characters. Also, the signs that appear in the Spanish show are not translated (notes on the screen, etc.)
- While the girls worked well together, there did not appear to be something culturally connecting back to the Latino community. Would help to address an issue that Latina girls are facing.
- San Diego is a very expensive place to live and there are many Latino families whose homes and neighborhoods do not look like the neighborhoods of the girls on the video. Also the video did not address how the girls were able to get to the natural park site or the laboratory. Many low-income girls know that these resources are not available to them because of transportation.
- [The girls'] affect and mannerisms seemed a bit forced. Wonder if there is an overlay of class here that might be off-putting to working class kids.
- The target audience lives in many diverse places, many of which are urban/city like and it might be hard for them to identify. It is a great episode for some CA and FL Latinas, and I understand you have to include all of these areas. Where could you find an ecologist in your area? What do ecologists contribute to society?
- The audience would probably relate to some of the girls. Showing one or some that live in an apartment may help.

Feedback on the animation

- I do wonder if the Izzie piece wasn't too long in the beginning - it seems like that makes it seem like an animation only and in the case of the habitat it was quite long before the actual girl piece got going.
- My daughter is 10 and if she sees cartoon characters she will think it's for younger kids and might be turned off. My five year old would like this better.

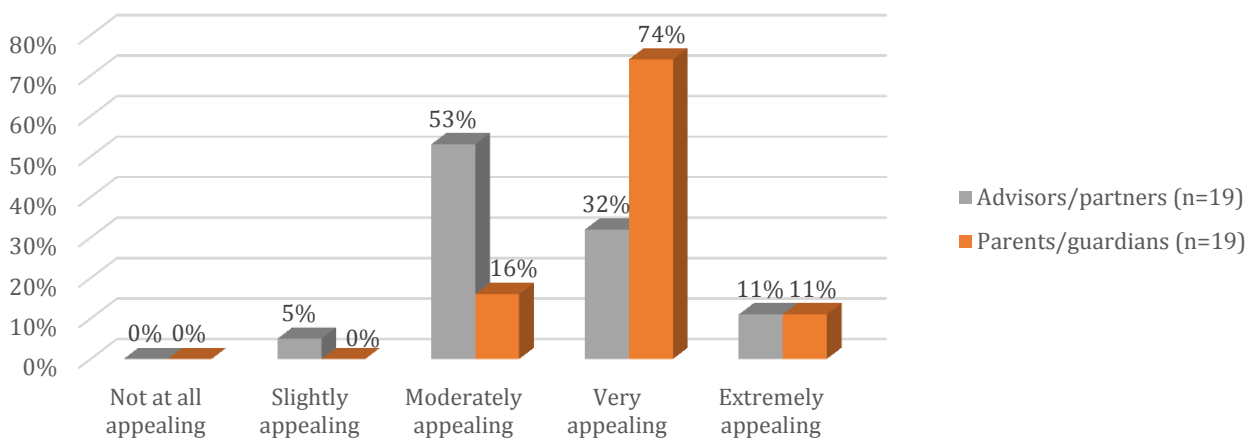
Other

- I am also wondering if you are targeting 1st generation or any Latina girl?
- Not sure that it would be as appealing to the lower age levels. Great for 11-13 though.
- The scientific inquiry featured here is relatively challenging.
- ...the connection between the palms, willows, bugs in each, butterfly garden and Fang was a little unclear.

1.1b Appeal to Latina girls' parents/guardians

The parents/guardians were asked to rate the overall appeal of the program to them personally, while the advisors/partners were asked to rate the overall appeal of the program to the target audience of parents/guardians of low-to-moderately-low-income Latina girls ages 8-13, which generally characterized the parent/guardian participants in the front-end evaluation. Using a scale from 1.0 (*not at all appealing*) to 5.0 (*extremely appealing*), the parents/guardians generally rated the program as *very appealing* (median rating 4.0) and the advisors/partners generally rated the program as *moderately appealing* (median rating 3.0), though both groups provided a range of ratings, as shown in the chart below.

**Overall appeal of *Hábitat en Caos*
(to Latina girls' parents/guardians)**



When asked to explain their ratings and/or share suggestions for how the production team could make the episode more appealing, most of the parents/guardians and advisors/partners shared feedback. Examples of their specific comments are categorized in the table on the following page, while the main themes are summarized below.

Parents/guardians: Of the 11 parents/guardians who provided a response, several shared positive feedback noting that they found the program informative or that they liked that it fostered an interest in science. At the same time, a handful of parents/guardians observed that the translation or voice over could be improved in places, and a couple shared miscellaneous feedback.

Advisors/partners: Of the 16 advisors/partners who shared a response, several expressed concern about how parents might respond to the lack of parental involvement in the program and suggested ways to incorporate their point of view in a relatable way. A few raised considerations about being sensitive to the locations featured in the programs and/or the transportation or safety issues involved, while a few others commented on how they thought parents would value the program, and a couple shared miscellaneous feedback.

Parent/guardian and advisor/partner comments on appeal of video to parents/guardians of Latina youth target audience

Parent/guardian comments (n=11)

Fosters interest in science/nature

- Foster interest in the field of science and ecology.
- The translation and the vocabulary could be improved. In general, I like it because it fosters interest in the field of science.
- I understand that for the eloquence and love of nature and the animals.

Informative

- It presents new and innovative elements.
- Very informative, but I felt it did not capture attention right away. If presenting to teenagers this may or may not be an issue.

Translation/voice issues

- I liked the content but not the translation. Delea's voice is not pleasant and some words are translated incorrectly.
- The translation and the vocabulary could be improved, particularly so that it is shorter.
- The translation could be better.
- The translation and the vocabulary could be improved.
- I found the voices of the girls distracting.

Miscellaneous

- My daughter would love the show because the girls take on their own jobs. They are given instructions and they get the job done.
- Independence and confidence in themselves.
- They could be Latinas.
- I would like a program with younger characters.

Advisor/partner comments (n=16)

Lack of parental involvement/suggestions for including

- Almost all parents want to support their child, so if their daughter is engaged, it will be very appealing to the parent. However if having parents/guardians involved is a top priority, it might be interesting to explore the ways in which the show can 'talk' to or even involve parents in some way. Evidence of any parent engagement is lacking in the video and my limited experience suggests that it is important to show parents involved and present. I wonder if the contexts for these feel familiar - everything from the homes and bedrooms that may not be representative of the low-income audience you are trying to reach...
- Didn't really see but one, so its hard to say.
- We didn't seem much of parents/guardians - one dad for a moment playing ping pong with his daughter. Couldn't say much about this.
- Cultural connecting back to issues facing the Latino community would also help in this case.
- The language used might be hard for parents who are first generation. Also many parents like to know how this knowledge can lead to better jobs. There is a mention of the ecologist at the beginning but it is hard to understand how that contributes to jobs.

Sensitivity to location and related transportation/safety issues

- One concern I have is the focus on the beach- I think it is a little distracting. Understanding it is an obvious source of pride for San Diegoans, I'm not sure how appealing it is for kids who have never gone to the beach or for their parents who likely not be able to take their families there.
- Parents might wonder where the parents of the girls were while the girls were out on the beach and in the woods.
- Considering the families are low to moderately low-income, their communities probably don't have many programs such as the Point Loma Native Plant Garden, and I'm thinking there would be less reliability there.
- Again transportation is a big issue for how much girls can participate in activities, no matter how fun or educational they are. Also, the application of the research may be more appealing to how landscapers might be interested in and have a responsibility towards using native plants.

Value to parents

- The parents would probably appreciate the initiative behind the video more than their kids, and could learn from it as well.
- The fact that the girls are doing 'real science' should have value to parents.
- Yes because of the educational mixed with the adventure and environment.
- It seems to tap into an area of science that parents are really aware of encouraging their girls to engage with.
- The girls seem like positive role models for other girls.

Other

- Personally, I like the focus on native vs. non native plants because I like to putter in the garden. This issue is probably applicable across the southwest as there are many palms in the temperate climate.
- I'm not a parent, but I found this show fun.

1.2 Feedback about the *SciGirls* attributes

This section presents feedback from youth, parents/guardians, and advisors/partners about the *SciGirls* attributes each group thought would be most important to highlight in *Latina SciGirls* episodes. It also considers additional attributes the three groups suggested the production team consider when producing new episodes of *Latina SciGirls*.

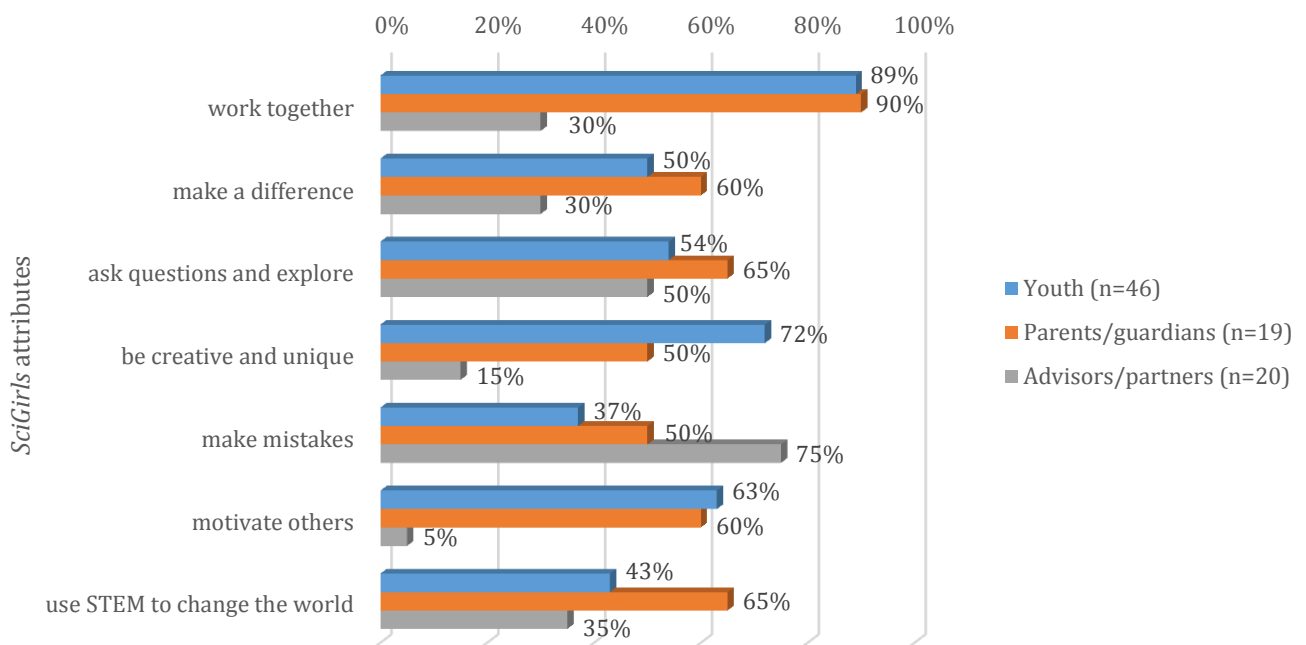
1.2a Use of *SciGirls* attributes in episode production

The youth, parents/guardians, and advisors/partners were informed that girls featured in the *SciGirls* television shows are shown working on science, technology, engineering, and math (or STEM) projects in various ways, including the seven attributes shared in the table to the right, many of which are drawn from the *SciGirls Seven*. With this in mind, the three groups of participants were asked to consider which ways they felt were most important to highlight in *Latina SciGirls* episodes and why. The chart below shows the attributes the youth, parents/guardians, and advisors/partners thought were most important to highlight.

SciGirls are shown...

- 1) Working together
- 2) Making a difference
- 3) Asking questions and exploring
- 4) Being creative and unique
- 5) Making mistakes
- 6) Motivating others
- 7) Using STEM to change the world

Which *SciGirls* attributes participants thought most important to highlight in new *Latina SciGirls* episodes



Attributes the youth, parents/guardians, and advisors/partners thought were most important to highlight are detailed below, in the order the attributes were ranked by each group. Many shared more than one selection, and a few participants differentiated between their first and second choices, though these “rankings” were not considered when determining the percentages in the chart on the previous page. Examples of specific comments from youth, parents/guardians, and advisors/partners regarding each attribute (when available) are presented in the table on the following page.

Youth: Nine-tenths of the 46 youth thought 1) *Work together* was the most important attribute to highlight, while about three-quarters pointed to 4) *Are creative and unique*. Nearly two-thirds selected 6) *Motivate others*, more than half selected 3) *Ask questions and explore*, and half selected 2) *Make a difference*. More than two-fifths pointed to 7) *Use STEM to change the world* and more than a third selected 5) *Aren't afraid to make mistakes*. About half of the youth shared miscellaneous responses.

Parents/guardians: Nine-tenths of the 19 parents/guardians thought 1) *Work together* was the most important attribute to highlight. About two-thirds each pointed to 3) *Ask questions and explore* and/or 7) *Use STEM to change the world*, while three-fifths each pointed to 2) *Make a difference* and/or 6) *Motivate others*. Half each selected 4) *Are creative and unique* and/or 5) *Aren't afraid to make mistakes*. About one-sixth of the parents/guardians shared miscellaneous responses.

Advisors/partners: Three-quarters of the 20 advisors/partners who shared a response selected 5) *Aren't afraid to make mistakes*. Half pointed to 3) *Ask questions and explore*, and about a third each thought 7) *Use STEM to change the world*, 1) *Work together*, and 2) *Make a difference* were the most important to highlight. More than a tenth selected 4) *Are creative and unique* and less than a tenth selected 6) *Motivate others*. A fifth shared miscellaneous responses.

Youth, parent/guardian, and advisor/partner comments on most important SciGirls attributes to include in future episodes

Youth comments (n=46)

1) Work together (89%)

- Because it is good that they work together and everyone makes mistakes.
- Because no mistakes are made it seems like nothing real comes up in reality so you work together to fix it.
- Because no one is perfect and it's important to work together to finish faster.
- Because they can change the world.
- Because they help others learn.
- Because they work together and explore together.
- Because working together is very important when you don't know something the other person that you work with can help.
- For girls to work together.
- I think working together helps people get down faster
- If you work together then you get more stuff finish
- STEM is important because you can make the world a little better by yourself but with other people you can do more.
- They all happen when you work together
- They are important because they need to work together and many more.
- When you work together it goes fast.
- Working together because better communication and asking questions improves your knowledge and motivates others make changes with STEM.
- Working together because it's a way to get to know them.
- Working together because you get thing done on time
- Working together, being creative and unique, and motivating others are important because entertaining many people.

4) Are creative and unique (72%)

- No one's perfect and they should be different because there is no such thing as normal.

5) Aren't afraid to make mistakes (37%)

- Because no one is perfect and it's important to work together to finish faster.
- Because it is good that they work together and everyone makes mistakes.

6) Motivate others (63%)

- Working together, being creative and unique, and motivating others are important because entertaining many people.

7) Use STEM to change the world (43%)

- STEM is important because you can make

Parent/guardian comments (n=19)

1) Work together (90%)

- Teamwork and collaboration is important.
- It is necessary to resolve a problem and come to concrete solutions.
- Working together can help. Asking each other questions is a way of learning.
- Because it is important to work in groups where the other team members have common thoughts and distinct personalities but with a common end goal.
- Because it motivates the girls to work as a team and inspire love for the environment.
- I think that while more girls see these programs we will have more prepared and creative women in the future and working together is very important.

2) Make a difference (60%)

- I think that these ways of doing STEM contributes to improve the future and our planet.
- Promote the benefits to the real world.
- We have to change and improve the world.
- Hispanic and Latina girls in New Mexico have lives where they are taught and treated as a minority. Most come from struggling limited homes. This could empower them to know they can rise from their current paths, And mentor others. And be role models to younger siblings.

3) Ask questions and explore (65%)

- Asking each other questions is a way of learning.
- Because STEM is giving them the opportunity of studying, exploring, and living together.

4) Are creative and unique (50%)

- Being unique and creative is important.
- I think that while more girls see these programs we will have more prepared and creative women in the future and working together is very important.

6) Motivate others (60%)

- checked all of them because motivated group work is good. They can learn from each other.
- Because it motivates the girls to

Advisor/partner comments (n=20)

1) Work together (30%)

- Work together: we need to collaborate to include diversity of our society and it can lead to more innovation
- Seeing young girls work together and encourage one another is powerful and sets the stage for developing a good support system of women.
- Work together...collaboration. They are all learning together.

2) Make a difference (30%)

- To encourage identities as change agents
- Make a difference - important for them to see the greater impact on community, school, etc.

3) Ask questions and explore (50%)

- 3. [and] 5. Ask questions and explore/ goes together with 5: to not be afraid to ask, be wrong, rethink and re-do! All are things tweens get very worried about and are very self conscious.
- to showcase curiosity rather than apathy
- I think number 3 (ask questions and explore) is the most important to highlight because public school often suppresses that. At least in my experience, elementary school was all about learning what you are told to and not what interests you.

4) Are creative and unique (15%)

- I especially like being unique. Not everyone is the same, and everyone has something unique to offer
- ...being creative and unique. Many girls are afraid to be unique, whether it is in academic situations, or fashion, or choosing their friends. Many do not want to stand out and be noticed as different. It is good for girls to see other girls using their unique talents to make an impact

5) Aren't afraid to make mistakes (75%)

- 5 to show growth mindset and resiliency.
- Aren't afraid to make mistakes - it's critical that girls know that this is a part of the process-a huge part and real world as well. Can't do real STEM w/o it!
- Number five. This is the big hurdle to get over. They are not being graded

6) Motivate others (5%)

- 1, 3, 4, 5 and 6.

7) Use STEM to change the world (35%)

- Being unique and creative is important7. Use STEM to change the world (and your life): since many girls do relate to projects with community or social components.
- 7. Use STEM to change the world - girls like knowing they can make a difference!
- The research on girls and my own experience

the world a little better by yourself but with other people you

- Using "STEM" to change the world can help the world can do more.

Miscellaneous (52%)

- Because the exploration was to find insects, leaves, etc.
- Because the show is kind of cheesy.
- Because these are the most important things SciGirls should do.
- Bringing issues that are associated with Latin America.
- I chose these because they are the most important that I will do.
- It is important because you need it.
- Recipes, sports.

work as a team and inspire love for the environment.

7) Use STEM to change the world (65%)

- We have to change and improve the world.
- I think that these ways of doing STEM contributes to improve the future and our planet.

Miscellaneous (15%)

- Because it would help with their comprehensive growth
- Because it motivates the girls to work as a team and inspire love for the environment.

suggests that projects of relevance and value (#7) is important...

- Use STEM to change the world so that the Latina SciGirls can see how they can apply those skills & traits to solving issues in their communities.

Miscellaneous (20%)

- "Allow them" are critical
- Initiating action for this age group seems especially important as well.
- What happened to #2 of "are personally relevant"? I think this one is crucial since it relates to culture and life style.
- I also feel like the show needs to feel authentic - like the questions are child driven and not scientist driven. This one didn't feel that way - and there were pieces that felt more 'staged' in this one than in others

1.2b Additional attributes to include in episode production

Next, the youth, parents/guardians, and advisors/partners were asked if they could think of additional attributes the production team should add to the list of *SciGirls* attributes when producing *Latina SciGirls*. Examples of specific comments from each group are categorized in the table on the following page, while the main themes shared by each group are summarized below.

Youth: Seventeen (17) of the youth shared additional attributes they thought the production team should add to the list of *SciGirls* attributes when producing *Latina SciGirls* or made miscellaneous comments. More than one-quarter (29%) felt nothing more was needed or weren't sure what to add, one-fifth of the group (17%) suggested the program add *tomboys*, while more than half (58%) of the youth pointed to other things, including: featuring different projects, offering Spanish versions, showing how to plant, motivating family members, and showing the girls' uniqueness.

Parents/guardians: Twelve (12) of the parents/guardians shared additional attributes or thoughts. About two-fifths of this group pointed to showing how to research/do projects/use technology (41%), while smaller groups suggested including Latin themes (16%), including family members (8%), indicated nothing more was needed (8%), or had miscellaneous suggestions (25%).

Advisors/partners: Fifteen (15) of the advisors/partners shared additional attributes or miscellaneous thoughts. Of this group, more than a quarter (27%) suggested expanding on the *SciGirls* attributes, while a fifth (20%) pointed to the inclusion of the girls' family members. One advisor or partner (7%) said s/he didn't have anything to add. The largest group, slightly less than half (47%), made miscellaneous suggestions that weren't shared by other advisors/partners.

Youth, parent/guardian, and advisor/partner suggestions regarding additional attributes to include in episode production

**Youth comments
(n=17)**

**Parent/guardian comments
(n=12)**

**Advisor/partner comments
(n=15)**

Include tomboys (17%)

- Some should be tomboys.
- They should be tomboys or rebels
- Some of them should be tomboys..

None (29%)

- I can't think of another attribute to add.
- I can't think of anything.
- I don't know.
- Nothing, I thought it was good.
- Nothing.

Miscellaneous (58%)

- how to plant native plants.
- I think what they already have is very good.
- Nature equipment can help exploration
- Some of them should be tomboys.
- Some should be tomboys.
- Text 3b. Can you think of additional ways of doing STEM the SciGirls team should add to this list when producing the new SciGirls episodes for Latina girls and their families?
- They can have more excitement.
- They had different thoughts.
- They should be planting and watering.
- They should be tomboys or rebels.
- They should provide a Spanish version.
- We could build a potato clock.
- Yes because the girls can have fun.
- Yes so that everyone can work together.
- You could show them motivating not only their classmates but also their family members

Show how to research/do projects/use technology (41%)

- Forming hypotheses and collaborating at the end. Reach various conclusions based on the hypotheses.
- I believe the list is complete.
- Show how to prepare a presentation for a class.
- The use of instruments, technology, programs and computers.
- Making decisions in a particular situation.

Include Latin themes (16%)

- Using Latin methods to create and make projects.
- Add themes that are relevant to the Latin community.

Inclusion of family members (8%)

- I think that some family values add how her family supports her daughter for this program, the respect for nature, and all the natural creation.

None (8%)

- No

Miscellaneous (25%)

- Showing girls that have come from a hard life and that this club/program motivates them to make a difference
- Areas that are not STEM, like art.
- No, they don't necessarily have to be Latin

Expand on SciGirls attributes (27%)

- Maybe massage "work together" to include conflict resolution?
- #2 of being "personally relevant" should include socio-cultural relevance, since where you are located (live) and where you come from and what is going on at home are crucial.
- Allowing girls to debate the pros and cons of the issue. Are there benefits for introducing non-native plants? The girls never asked about the consequences of removing the palms, they just followed the advice of the researcher.
- More on risk... Emotional, intellectual, physical. More on reflection embedded throughout. More on locus of control emphasizing girls as self-directed.

Inclusion of family members (20%)

- Based on my experiences, especially with Latino audiences, there might be some advantage to having a girl and her mom participate, or the integration of a connection to family that might be made evident and even more drawn out?
- Seeing connections to or involvement with parents or caregivers
- Parent advocacy would also be great. One way would be to ask parents what their daughters did and to help explain what they accomplish. Also in the sense of engaging the parents in the process, like the mentors, to help drive the family affair.

None (7%)

- I can't think of another attribute to add.

Miscellaneous (47%)

- Are normalized and approachable
- Having fun is also good but that isn't in your list. The girls were having fun.
- OK for girls to be a little shy, and/or doesn't speak fluent English
- Be flexible with language- I believe most groups of girls are going to code-switch. It's part of the bi cultural world they inhabit and its totally fine intellectually, academically etc.
- Application. That really is an off shoot of 287.
- Girls aren't afraid to try new things - even things they are completely unfamiliar with.
- Integrate STEM into your existing world.

1.3 Feedback about the *SciGirls* as role models

The youth, parents/guardians, and advisors/partners were informed that when casting and producing *SciGirls*, the production team aims to feature *SciGirls* that viewers can identify with and see as positive role models. They were further reminded that the *Hábitat en Caos* episode featured *SciGirls* Alicia, Ashley, and Lea, pictured in the screenshot to the right.



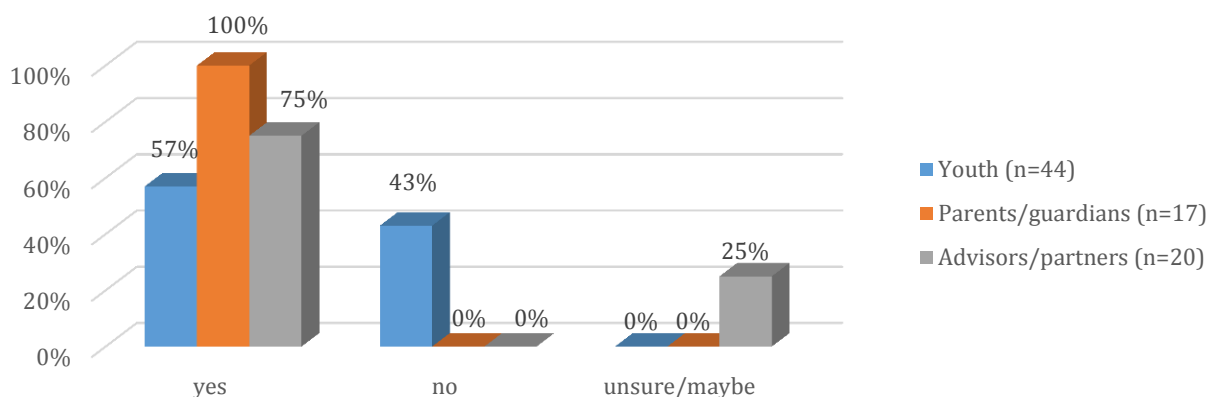
This section presents feedback from youth, parents/guardians, and advisors/partners about the relatability of the girls in the program, and feedback from youth and parents/guardians about whether they found the *SciGirls* to be positive role models.

1.3a Whether the *SciGirls* were relatable

The youth were asked if they felt they were able to relate to the girls in the program, while the parents/guardians were asked if they felt their daughters would be able to relate to the girls. The advisors/partners were asked whether they felt the audience of Latina girls ages 8-13 would be able to identify to the girls in the program and see them as positive role models.

Whether youth felt they could relate to the *SciGirls* in *Hábitat en Caos*

(and whether their parents/guardians and the advisors/partners expected they would)



As shown in the chart above, more than half (57%) of the youth thought they would be able to relate to the girls in the program, while all (100%) of the parents/guardians and three-quarters (75%) of the advisors/partners thought this would be the case. About two-fifths (43%) of the youth thought they wouldn't be able to relate to the girls. A quarter (25%) of the advisors/partners were unsure, said maybe, or thought this would probably be the case but gave qualifications.

When asked to explain their responses, most of the youth, parents/guardians, and advisors/partners shared feedback. Examples of their specific comments are categorized in the table on the following page, while the main themes are summarized below.

Youth: Several of the 44 youth who responded said they could relate to the girls in the program because they loved nature and animals. A handful said they could relate because the girls in the program liked science, and one or two youth each pointed to the girls in the program sharing their name, appreciated that they looked like them, or liked one of the following aspects: that they were Latina, had similar hobbies, were their same age, had friends, or acted like them. The few who said they couldn't relate to the girls indicated that they felt this way because the *SciGirls* weren't believable, because they came across as *overjoyed*, or said they didn't think the girls had to be Latina.

Parents/guardians: The majority of the 19 parents/guardians said they felt their daughters would relate to how the girls in the program liked to learn or were curious to investigate or explore, while a handful thought their daughters would like that the girls in the program liked animals. A few noted that their daughters would like that the girls liked science, and individual parents/guardians pointed to the girls in the program being active, creative, or friendly.

Advisors/partners: Several of the 20 advisors/partners who elaborated said they thought the target audience of Latina girls would find the *SciGirls* in the program to be *normal*, *unscripted*, and *relatable*. A few commented on the *SciGirls* being leaders in the community and role models for Latina audience members. A couple praised the program for what it showed about the scientific process, and one questioned what the audience would think about the socioeconomic status of the girls in the program. A few advisors/partners were unsure, said maybe, or said yes with qualifications.

Youth, parent/guardian and advisor/partner comments on the relatability of the *SciGirls* in *Hábitat en Caos*

Youth comments (n=44)

Parent/guardian comments (n=19)

Advisor/partner comments (n=20)

Yes (57%)

- Yes because 2 girls have the same skin color
- Yes because Ashley has the same name As me Ashley
- Yes because I like how they loved their environment.
- Yes because they are kind of my age and it was cool.
- Yes because they were describing what was happening.
- Yes because they were friends and I have friends.
- Yes because they were nervous and jumpy at one point and I get that way.
- Yes, because all of them are Latina
- Yes, because I liked how they explored.
- Yes, because they looked like me and close to my age. And they liked science
- I did think I related to it because they worked on nature.
- I can relate to them because I like science and I would love to do something like that.
- Because I like the animals
- Yes, I like animals like them.
- Yes, it utilized fun strategies (?)
- Yes, because I like the animals.
- Because I play volleyball and one of them plays volley ball.
- Yes, because there are many sciences like them and you have the same emotion.
- Yes, because I like volleyball and cooking.
- Yes because I love nature and animals.
- Yes because they do good work.
- If because I want to see how animals live
- Yes because I like nature
- Yes because I really like science.
- Yes because I like going seeing them and want to be like them.

No (43%)

- No because they were overjoyed.
- No because it's not believable.
- I don't think so because the other girls don't have to be Latin. At some points of the video because I was not with them in the city of San Francisco.
- I did not because it needs detail and the girls look too much happy.
- No because I don't know them.
- No because I never did some thing like that
- No because I'm 8 and there 13
- No because I've never went and did that.
- No because they are older then me
- No because they showed way too much happiness.
- No because they were so excited to explore the environment.
- No because they were very overjoyed.
- No I didn't feel related to the girls in this episode because they are all girly.
- No they were weirdly overjoyed.

Yes (100%)

- Yes, she really likes science and animals.
- Yes, because she likes science and they are very creative.
- Yes, they are positive and active.
- Yes, I like that the girls have dogs.
- Yes, she likes to carry out research to understand why and how things function.
- Yes, the girl likes animals and wants to be a vet.
- Yes, the girl likes research and uses instruments for gathering data.
- Yes, they could identify because they like math and science. They also like to learn.
- Yes, because she is adventurous and is not afraid of insects. She loves animals and is very curious.
- Yes, because my daughter loves animals and insects.
- yes because motivation to others
- Yes, she likes the nature and always likes to learn new things.
- Yes, because she likes to do research.
- Yes, because she is friendly and likes to participate.
- Yes, because they can learn different things.
- Yes, because it would be good to learn about environment.
- Yes
- Yes because she likes to research.
- Yes she experimenting and learning new things.
- Yes, she is motivated to make a difference. She does not fall to peer pressure and is self driven.

Yes (75%)

- I think 8-13 Latina girls would absolutely identify with the *SciGirls*. The short video profiles and incorporation of their school showed that they are just regular students.
- The girls are approachable and have age-relatable interests, and seem connected to their communities. They also are comfortable with their classmates.
- Yes- They're recognizable. They make the material more accessible because they have an "every" girl quality.
- Yes, although I do wonder about their socioeconomic status.
- Yes, I think the girls worked very well together and were able to show in general the scientific approach to learning about their issue/problem.
- Yes, they are great role models for girls. We can see and hear them process the "why" about the importance of research. It might be more impactful for Latinas if the girls also addressed issues from home life and other responsibilities. This would show that the girls are choosing to create time and devote resources to science investigation.
- Yes, they seem to be leaders in their school/community
- Yes, they were from different races and very nice in front of the camera, very natural
- Yes. Again very real and unscripted. Easier to connect to and see yourself as one of them.

Unsure/maybe/probably but with qualifications (25%)

- I am not a Latino so it is hard for me to know what those expectations might be. That said, I think *SciGirls* has done a good job choosing diverse girls, and trying to show the 'teenager' nature of who they are - tying to the age similarities more than the culture/racial ones. It might be interesting if the girls tied there *habitat* experience to their lives in some way - especially if it started in another country?
- Maybe. On the positive side, they were all very outgoing, related well with each other, had fun, learned from the mentor and their investigation. However, those are not qualities shared by many middle school girls, and even less by Latina girls. Also, when the girls introduced themselves they didn't mention where they or their families were from, other than San Diego. "
- They will. But as I said before, the show has a different feel in different languages. In the Spanish one, because we can't hear the real voices of the girls I think it's harder to connect with them completely. I do like that at the beginning they present themselves and what they like and where they live and I think that makes the characters in the show

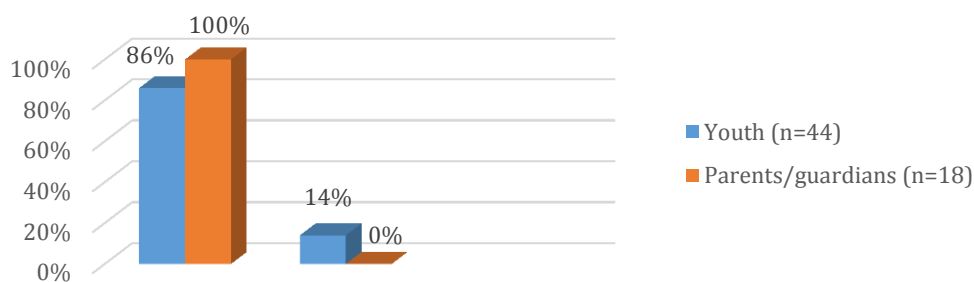
- No, because it sounded like they were really not expecting what was going on.
- No, because they liked some of the stuff that I didn't like.
- Not really, I could do it differently.
- They were over joy because they were happy.
- No, because I have fear of the sands.
- I don't think I can because I am younger
- No because I don't like it very much and I do not think that I am as good as them.

- more appealing
- The girls are great and are funny and normal but only one girl seemed obviously Latina. but I like that they are regular girls with a great curiosity and the process of gathering data in a fun way. They might see them as positive role models, although they also seem divested of Latino culture which would be nice to see so there is a cultural connection if the idea is to create a connection with Latina girls.

1.3b *SciGirls* as role models

In addition to asking whether the *SciGirls* were relatable, the youth were also asked if they felt the *SciGirls* were positive role models. Their accompanying parents/guardians were asked if they felt the girls in the show were positive role models for their daughter or other Latina girls.

Whether the *SciGirls* in *Hábitat en Caos* were seen as positive role models



As shown in the chart above, all (100%) of the parents/guardians thought the girls in the program were positive role models to their daughters or other Latina girls. At the same time, nearly nine-tenths (86%) of the youth said they thought the *SciGirls* were positive role models and just over a tenth (14%) said this was not the case.

When asked to explain their response, most of the youth and parents/guardians shared feedback. Examples of their specific comments are categorized in the table on the following page, while the main themes are summarized below.

Youth: Several of the 44 youth who elaborated said they could relate to the girls in the program as role models because they were doing something positive/good/helpful (to nature or people). A handful noted the girls were displaying gender equality (girl power/girls can do it), and a few each noted the girls were driven or had a positive attitude/didn't give up. One or two individual youth each noted that the girls were: smart, kind, having fun, happy, motivating, or were Latina (like them).

Parents/guardians: Of the 17 parents/guardians who elaborated, a handful pointed to the girls in the program helping nature, while one or two each pointed to the girls: being independent, having good manners, showing teamwork, or showing positive gender equality (girl power/girls can do it).

Youth and parent/guardian comments on whether the SciGirls in *Hábitat en Caos* were positive role models

Youth comments (n=44)

Yes (86%)

- Because it is important.
- Because we can write for girl in sci
- I actually did see role models cause they have original items.
- I did think the girls where good role models they were interesting girls.
- I saw them as positive role models because they are so kind and smart.
- Kind of because they show us a very good example but I don't think anyone is like that.
- Kind of because they were like all happy.
- Latinas because I can understand them more.
- These Latina girls were good.
- They are doing their own thing.
- Yeah, the girls did both look like positive role models because they were interested and having fun.
- Yes because they are role models to girl like use
- Yes because it shows any race can be equal.
- Yes because it shows that girls can do what boys do and they were positive.
- Yes because many girls want to be like them and the SciGirls are a motivation for other girls.
- Yes because they are doing things to help people to learn.
- Yes because they can make the world better.
- Yes because they did something good. And many kids can trust them
- Yes because they did something right
- Yes because they were happy.
- Yes because they were very focused and interested in what they were doing.
- Yes cuse they are doing something good
- Yes I did because they can all see how other people of other girls love science.
- Yes I did because they love science and they aren't messing around.
- Yes, because even though the bug sucker didn't work they were still positive.
- Yes, because I want to join the program because they made me excited about it.
- Yes, because they are encouraging to other people.
- Yes, because they are helping nature instead of destroying it
- Yes, because they are researching and helping nature.
- Yes, because they are scientists who helped the animals.
- Yes, because they are very imaginative.
- Yes, because they aren't negative.
- Yes, because they have done many good things for the community and the place they are.
- Yes, because they help the environment and work together.
- Yes, because they like animals.
- Yes, I like to help nature.
- Yes, they explain that we must help nature.
- Yes, they kind of showed me that I can do anything even if you are a girl.
- Yes, they were doing something good

No (14%)

- No because they were overjoyed.
- No because it's not believable.
- I don't think so because the other girls don't have to be Latin.

Parent/guardian comments (n=17)

Yes (100%)

- Yes, because they are doing positive things for the environment.
- Yes, they promote conviving and working in a group.
- Yes, they are dynamic and they know how to work independently
- Yes, because they see that research is fun.
- Yes, they are aware of the environment.
- Yes, because they promote that girls can be part of science and engineering.
- Yes, because at such a young age they take research seriously.
- I think so, because they are proactive and they break and paradigm of the common girl.
- Yes, because they are interested in the environment and motivate others to do the same. Yes, they are normal girls who have families with pets and like sports I think they identify with them although Latinas would be better.
- Yes because they are confident role models with good self esteem
- Yes, because you are working with nature.
- Yes because they did something very good.
- Yes, The environment is important.
- Yes.
- Yes, because they show them learning about nature and habitats.
- Yes because most girls around their age become uninterested in science.
- Yes because they are still showing that they have individual qualities outside of this project. They reflect their different personalities, yet can still work together.

1.4 Feedback about conveying cultural values via the *SciGirls* mentor relationship

Each *SciGirls* episode features girls interacting with successful STEM professional women, as illustrated in the screenshot from *Hábitat en Caos* to the right.



The youth, parents/guardians, and advisors/partners were asked if they noticed anything about the mentor interactions in *Hábitat en Caos* that could be conveyed more effectively by incorporating cultural values, and, if so, to explain where and how such values might be included.

Note, however, that not all youth or parents/guardians likely noticed this question in the survey. In translating the survey from English to Spanish a question number was inadvertently removed from the Spanish version of the survey, which may have resulted in many of those who completed the Spanish version to miss this particular question. Though the question was still included in the survey, it did not have a number assigned to it, as the other questions did. This oversight likely occurred in the fast turnaround required in translating the surveys at *tpt* and then forwarding the surveys directly to the partner sites.

Examples of the specific comments from those who answered the question are categorized in the table on the following page, while the main themes are summarized below

Youth: Fifteen (15) youth answered this question, of whom one-third each suggested adding different cultures (33%) or showing the *SciGirls'* culture and/or race (33%). Smaller groups indicated nothing needed to be changed (13%), said they didn't know what to add (13%), or gave miscellaneous responses (13%).

Parents/guardians: One (1) parent/guardian answered this question, noting "*I did not notice anything that should be changed.*"

Advisors/partners: More than half (53%) of the 19 advisors/partners who answered the question suggested including the girls' family members or cultural values in some way. A slightly smaller group (47%) commented on the mentor, with a few praising her connection to the girls, several suggesting she share more about her background and experience, and a couple suggesting the production team find younger, Latina mentors for future episodes. More than a tenth (11%) of the advisors/partners shared project content ideas, and about a fifth (21%) shared miscellaneous feedback, including one advisor/partner who didn't feel able to answer the question.

Youth, parent/guardian and advisor/partner comments on conveying cultural values via the *SciGirls* mentor relationship

Youth comments (n=15)	Parent/guardian comments (n=1)	Advisor/partner comments (n=19)
<p><u>Add different cultures (33%)</u></p> <ul style="list-style-type: none"> I think that it is important to do a little bit of each culture in <i>SciGirls</i>. They should add China culture. They should show Chinese culture. This should add different cultures. <p><u>Show <i>SciGirls</i> culture/race (33%)</u></p> <ul style="list-style-type: none"> It may be better if they just show their cultures. It should be added so they know that they can do it too. By not seeing races, I really don't know. They can have a little bit of a Spanish accent. <p><u>Fine as is (13%)</u></p> <ul style="list-style-type: none"> I think it was okay but I don't know. I think that we wouldn't change it because they communicate and work well. No I think she was fine. <p><u>Don't know (13%)</u></p> <ul style="list-style-type: none"> I think it was okay but I don't know. I don't know <p><u>Miscellaneous (13%)</u></p> <ul style="list-style-type: none"> I may be because. 	<p><u>Nothing (100%)</u></p> <ul style="list-style-type: none"> I did not notice anything that should be changed. 	<p><u>Suggest including family members or cultural values (53%)</u></p> <ul style="list-style-type: none"> Engaging the parents in the process with the mentors would also be a great way to loop everything in. It depicted a dad in the film, but perhaps having a parent give a 20 second talk about why they think this is important, why they are proud of the child, why science is relevant, how do they use science... Perhaps, asking if any of the girls has a family story to share that relates to the topic? How about including family? It might have been nice to see the girls sharing what they learned with parents, grandparents, siblings, etc. It is hard to give suggestion on this in a vacuum, however there are ways that you can connect things like cultural values to science, while trying to refrain from creating essentialist stereotypes... Adding cultural values could help making them feel that the problem is more 'theirs' and therefore increase their efforts to find a solution. <p><u>Comments about the mentor (47%)</u></p> <ul style="list-style-type: none"> The relationship with the mentor was really focused on what the girls were doing, and how the mentor could help the girls succeed. The mentor was also genuinely effusive in her praise of the girls. It appeared that the girls and the mentor developed a meaningful relationship. All these are important -- and it's critical that the relationship seem authentic and not forced. The relationship was very good, she let the girls work independently but also guided them when necessary. Cultural values could be something that mentors can bring into the episode by speaking about their personal experience in a similar project. What their approach was, how they failed, and what they learned. It could be a short debrief in the end or throughout the experiment. ...a little more chit chat and sharing among the participants and scientists felt missing to me. The start felt a bit abrupt and although the scientist conveyed pride in the girls at the end, I think evidence of them having formed a relationship was not evident in this segment We also could have learned more about the mentor herself. Having near peer mentors who are Latinas will make a big difference. Also having the mentors share a bit about their own story, maybe even related to whether their parents supported them, and how, would be an effective strategy. Wish it was an obvious Latina role model (by the way, she might have been but it wasn't obvious). Also someone younger that doesn't look like their mom. I find kids identify with kids that are a bit older but not three times or more older. <p><u>Suggest project content (11%)</u></p> <ul style="list-style-type: none"> I think it would have helped to explore more the importance of the insects to the ecosystem - tie it back to food and harmony with the environment. It is hard to give suggestion on this in a vacuum, however there are ways that you can connect things like cultural values to science, while trying to refrain from creating essentialist stereotypes. Cooking for example, can illustrate all kinds of chemical reactions and you could use familiar foods and ingredients from Latin cuisines, everything from why do some people tolerate more hot sauce than others, to how fats serve as binding agents, etc. Likewise I can imagine using familiar tropes from specific cultural output - music, dance, etc. to explore scientific concepts. <p><u>Miscellaneous (21%)</u></p> <ul style="list-style-type: none"> I don't feel able to answer this question, although I don't see why the mentor interactions would not appeal to a Latina audience. They were respectful. The way the mentor and other adults are addressed. They can talk about how early people who lived in the area used the native plants for food and other ways for everyday life. It could be a follow up discussion to how the Palms came to the area. It might have been interesting to ask the girls if they had palms in their own yard. Consider having girls visit each other's homes on back talk segments to offer more perspectives and go a little deeper into these segments.

1.5 Suggested changes for the show open and theme song

This section presents suggestions from youth, parents/guardians, and advisors/partners about changing the proportion of Latina girls in the show open (shown in the screenshot below) and the language of the show’s theme song.

1.5a Use of Latina girls in the show open

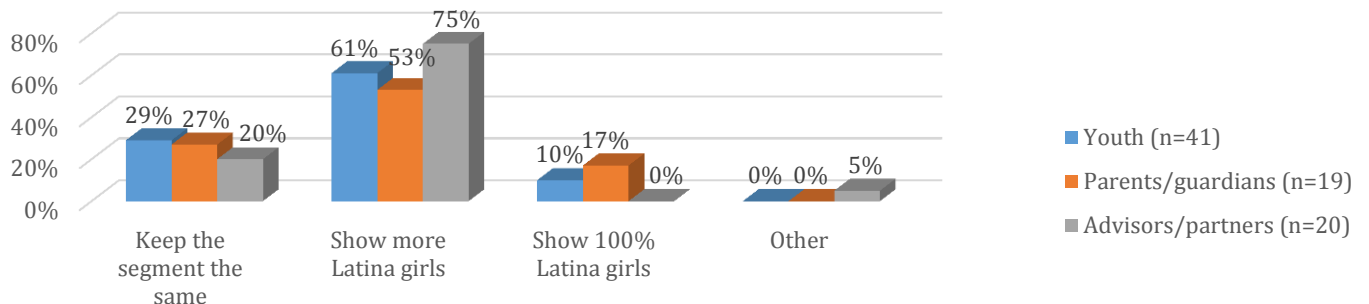
Currently the show open features a diverse group of “live action” girls, some but not all of whom are Latina. The youth, parents/guardians, and advisors/partners were told that the production team was considering the options of swapping in live action footage featuring either: a) **more** Latina girls or b) **all** Latina girls.

Given the footage the production team has available, the tradeoff of increasing the proportion of Latina girls is that the show open would then have less diversity in science topics and locations than currently featured. In addition, adding more or all Latina girls would reduce the overall racial/ethnic diversity among the girls featured (currently African American, Asian, Latina, and White).



Considering these production options and constraints, the youth, parents/guardians, and advisors/partners were asked which of the following approaches they would recommend: Option 1) Keep the segment as is to maintain the diversity of girls, science topics, and locations featured; Option 2) Swap in footage featuring more Latina girls but still have at least some diversity of girls, science topics, and locations featured; or Option 3) Swap in footage featuring 100% Latina girls, recognizing that this will reduce the diversity of girls, science topics, and locations featured.

Whether the show open should feature more or all Latina girls or keep current level of diversity



Production options under consideration by *tpt*

Responses from youth, parents/guardians, and advisors/partners are presented in the chart on the previous page and summarized below. Examples of their specific comments are categorized in the table on the following page.

Youth: Nearly two-thirds of the 41 youth who answered the question suggested showing more Latina girls in the show open. More than a quarter recommended keeping the segment the same, and a tenth thought the production team should show 100% Latina girls.

Parents/guardians: Just over half of the 19 parents/guardians suggested that the show open show more Latina girls while just over one-quarter thought the producers should keep the segment the same, and just under one-fifth suggested the production team feature 100% Latina girls.

Advisors/partners: Three-quarters of the 20 advisors/partners who answered the question suggested changing the *SciGirls* show open by featuring more Latina girls. A fifth suggested keeping the show open the same, and one partner shared another suggestion. None of the advisors/partners suggested replacing the footage to only feature Latina girls.

Youth, parent/guardian, and advisor/partner comments on diversity in the show open

Youth comments (n=41)

Keep the segment the same (29%)

- Because it's not if there is only one type of girls so it's okay to put all kinds of girls.
- 3 are a good team
- Because you can learn different things from different people.
- It shows different races can work together.
- It's good as it is.
- Keep it the same because that way every kind of girl would participate and not feel left out.
- So people in the world are more able to see it.
- It's good to have Latinas and different girls so that more girls watch.
- What SciGirls has is very informative.

Show more Latina girls (61%)

- Because if they want it for Latinas they should have more Latinas but keep the diversity.
- Because it is okay to have more Latina girls but if at least they have a little diversity so they can go to more places.
- Because it should be more Latina girls because they should see American scientist and Latina scientist so everyone can be equal
- Because more is better.
- Because there's a lot of cool things in Mexico and other places.
- It's good to see more Latinos on TV
- More because the Latinas can speak English and Spanish.
- Once again a little bit of each.
- Show more because so that Latina girls know what they can do it.
- The more the better/more fun.
- Yes some Latina girls because if they do not know how to say some thing then one of them can help
- Because it expands on the highlighted areas
- Because there could be more.
- Because we are Latin.
- More Latinas but with people from other places.
- Should have diversity and talk about different things
- So that more Latinos and Latinas have fun.
- So that they can be like me.
- There should always be diversity.

Show 100% Latina girls (10%)

- So people can understand voting (?) is and boys are helpful
- I like to see people help
- There could be more Latinas.

Parent/guardian comments (n=19)

Keep the segment as is (27%)

- Because it is a combination of research and ?
- It is important to have diversity in the program without giving preference to a particular nationality. I would like more variety.
- It's a good thing the program is fun because it communicates that these topics are relevant to everyone.
- Well my opinion is that you can see more girls from different Latin American and African backgrounds.
- I think this segment's message is easy to understand, 'diversity of the girls' not classify by race

Show more Latina girls (53%)

- For Latin girls to understand the language with words that will help them understand English.
- For the message to get to or possibly get to the public.
- Show the Latin girls to live in Latin America
- Personally I teach my daughters to share with people regardless of race, nationality, or religion, but yes I would like to have a little more Latinas in the program and learning more.
- Showing more Latino values.
- Is good to incorporate more girls for work as scientists.
- If in New Mexico that is the majority of minor girls. Being here, they would be able to relate better.

Show 100% Latina girls (17%)

- It's very important to create Latin role models who are professionals. Many young Hispanics in the US are not aware that there are Hispanics with PHDs
- To capture the culture of Latin girls.

Advisor/partner comments (n=20)

Keep the segment as is (20%)

- Gives you more flexibility.
- I don't think kids know the difference. Also, I think diversity is real world. We don't live in a world of just one ethnicity so limiting this creates a distorted sense of the real world.
- I think that it is fine as is. Latinas exist in a diverse world with lots of kids.
- Most Latina girls live with a diversity of friends. I think this option better captures their reality in a positive way.

Show more Latina girls (75%)

- This series really is about Latinas and boosting their participation in STEM. But the fact that our girls do and should work with girls of other cultures/ethnicities is important to include. Hence my "more" and not 100%.
- I don't like swapping to 100% 'Latina' girls, because many Latinas are blonde or black, and the stereotype of Latina might not include that.
- I like a more diverse group, as we live in a diverse world. IT is neither all Latino nor free of Latino, the two extremes where we often find representation in the media.
- I recommend this since the reality is that we are a diverse society and we should see interactions with all girls. Specially high school that is so clicky, it really helps to see team work with girls from different ethnic groups. The only issue would be language. Maybe some Spanglish could happen? Or a mix of Spanish and subtitle use?
- I think incorporating more Latina girls would generally make the film more relatable for Latina girls. Frankly, I don't see a problem with 100% Latina girls, but it would have to be specifically advertised as Latina. It would cut down on the audience quite a bit. Schools would probably not show it, and some parents would be uncomfortable with it.
- Prefer option 2 - include both, but prominently feature Latinas

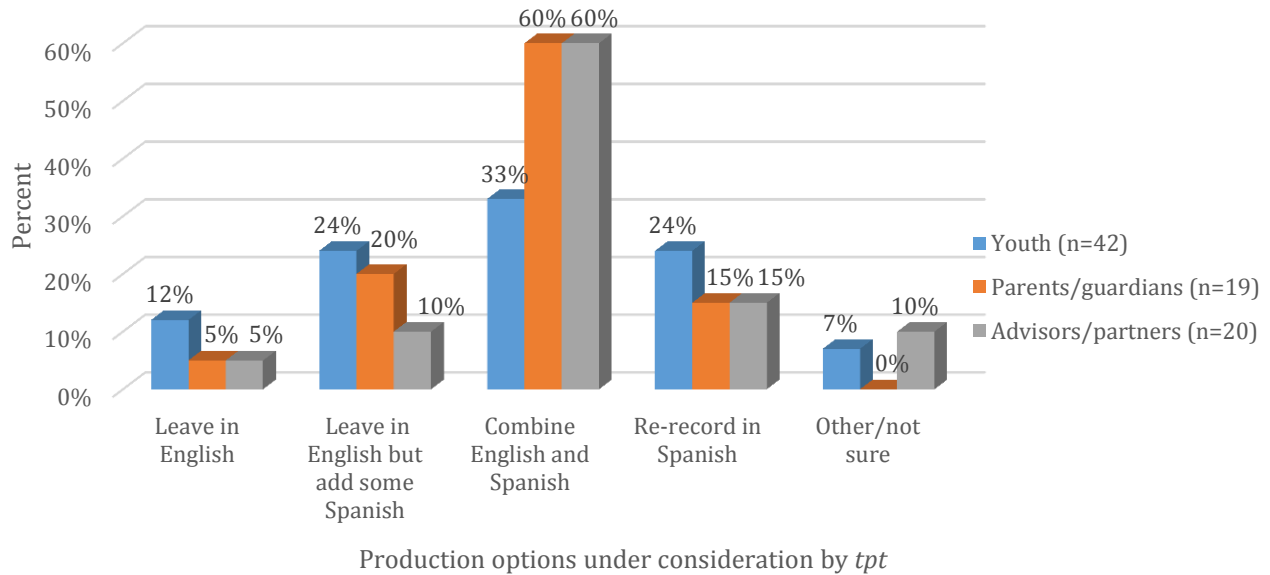
Other (5%)

- None, I encourage a different approach that includes boys and girls, men and women, AND ethnic diversity across the board for the opening

1.5b Use of Spanish in the theme song

The youth, parents/guardians, and advisors/partners were told that the production team did not plan to change the *SciGirls* theme song or music that plays during the show open, but that the team could leave the lyrics in English (as is), add some Spanish, use a combination of English and Spanish, or translate the lyrics into Spanish and re-record the song with a singer in Spanish. They were then asked to select which approach they would recommend.

Whether and how the *SciGirls* theme song should incorporate Spanish



Responses from youth, parents/guardians, and advisors/partners are presented in the chart above and summarized below. Examples of their specific comments are categorized in the table on the following page.

Youth: Among the 42 youth who answered the question, a third suggested combining English and Spanish in the *SciGirls* theme song. A quarter each recommended leaving the theme song in English but adding some Spanish or re-recording the song in Spanish. More than a tenth thought the production team should leave the theme song in English, and less than a tenth shared other responses.

Parents/guardians: Three-fifths of the 19 parents/guardians suggested changing the *SciGirls* theme song to use a combination of English and Spanish. A fifth recommended leaving the song in English but adding some Spanish. More than a tenth thought the production team should re-record the song in Spanish and less than a tenth suggested leaving it in English.

Advisors/partners: Three-fifths of the 20 advisors/partners who answered the question suggested changing the *SciGirls* theme song to use a combination of English and Spanish. More than a tenth suggested translating the lyrics and re-recording the song in Spanish. A tenth thought the production team should add some Spanish to the theme song, while less than a tenth thought the team could leave the show open music in English. A tenth shared another response or said they were not sure.

Youth, parent/guardian, and advisor/partner comments on incorporating Spanish into the theme song

Youth comments (n=42)

Leave in English (12%)

- Not everyone understands Spanish.
- Not that many Latina girls if there is most understand English.

Leave in English but add some Spanish (24%)

- Because some people may not know Spanish.
- For everybody to understand
- For some people who don't know English.
- Leave lyrics in English and add some in Spanish because the girls know more Spanish
- So Latinas are able to understand.

Combine English and Spanish (33%)

- Because if people only speak Spanish they would not understand
- Because it will be cool having a combination.
- Because some kids can be Latin and does not know English
- Combine English and Spanish shows together
- I think they should use both so people that only talk Spanish or English can understand it well.
- So we can hear the song in (English and Spanish)
- Use combination so that it has English and Spanish.

Re-record in Spanish (24%)

- Because Latina girls can hear more Spanish.
- Because we can do it Latinas.
- because you can hear lyrics in different languages
- Because we can do it.
- Cause it's not fair if you just use English
- I understand Spanish more.

Other (7%)

- It does not really make sense.

Parent/guardian comments (n=19)

Leave in English (5%)

- Because words are very different.

Leave in English but add some Spanish (20%)

- The program should be bilingual
- The song and the rhythm should be maintained equal and can include Spanish words.
- The song should stay original and some parts of the song can be in Spanish.
- There might be some people who don't speak English.

Combine English and Spanish (60%)

- Because Latina girls should have a variety of English and Spanish not only English
- Combining both languages will attract viewers from more countries.
- Having a Latina culture should be about both.
- If they live in this country the majority of children are bilingual.
- It is a way to stay connected with a language that forms then is taught.
- It is important to include Spanish.
- It should have both languages to represent the target audience.
- Maybe it can be re-made.
- Try to capture the best ... language?
- Some Latina girls come from Spanish/bilingual homes. With Spanish the parents can relate.

Re-record in Spanish (15%)

- If you girls speak completely Spanish think is important because so understand fully all dialogue, but that is not the case for my daughter who speaks 2 languages.
- It is best to keep it to one language. It can be used in Spanish classes.

Advisor/partner comments (n=20)

Leave in English (5%)

- Really depends who the majority of the audience is.

Leave in English but add some Spanish (10%)

- Adding some Spanish would be helpful and nice, but not a deal breaker in my opinion. Content is more important in my opinion.
- Help viewer to related to Latino cultural pride and inspiration.

Combine English and Spanish (60%)

- Done carefully, using a combo of English and Spanish, including Spanish intonation, can aid in making it approachable. See Fusion TV as an example.
- English is important for science, so I would have a mix of both languages.
- Again, changing it all to Spanish would cut the audience down a lot.
- I am worried not about the Latina girls but the parents. I myself was confused when I heard it the first time. S-C-I when being spelled out and thinking in Spanish, I thought it was saying "es si hay...". So I recommend leaving the spell out in English but replacing the "we need you" and other phrases, to say things related to "ninas y las ciencias".
- I think a combo represents what a lot of girls will hear in their daily lives!
- Many girls and their families speak a combination of English and Spanish.
- Many of our 8-13 age girls are identifying more and more as bi-lingual for various reasons, it allows them to continue to bridge both worlds.
- Most of the 8-13 target audience probably speak both languages, but many parents/family members may only speak Spanish, so a combination would be good.
- We need to demonstrate proper English, but honoring other languages would be respectful and bilingual is what kids are comfortable with. This way families that are primarily Spanish speaking would enjoy co-viewing.

Re-record in Spanish (15%)

- I think the producers should consider replacing the music. There is a "rock" vibe, I think you should incorporate the Latin music.
- This will help with parents' understanding the message of the show.
- I suggest that you re record the entire song in Spanish with a Spanish singer. Or even Spanglish (very used among Latina girls of your target age.) But it needs to show that you are honoring the language and the audience by recording something that is special to that audience.

Other/not sure (10%)

- I just don't feel qualified to answer this. I wonder, too, if the responses from the target audiences will vary? Perhaps you look at the responses of your largest target Latino audience?
- It's interesting how many foreign shows (e.g. seen on Netflix) have English lyrics in their theme songs and some background music. Maybe the English lyrics for the theme would be OK. You'd have to ask the target audience!

1.6 Incorporating cultural values into the science process/engineering design scenes

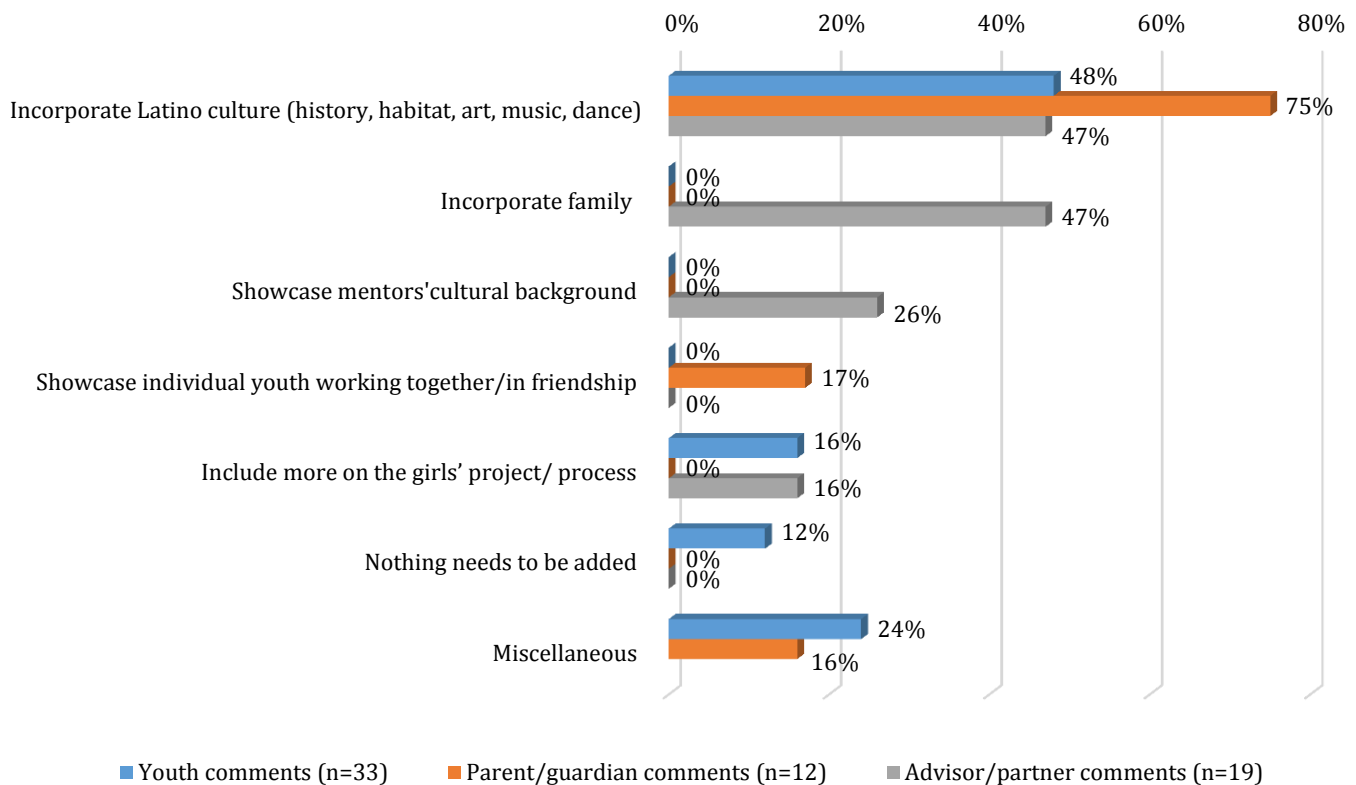
Every *SciGirls* episode features a science process/engineering design segment. In the example of *Hábitat en Caos* Alicia, Ashley, and Lea investigate what the non-native Canary Island Palm does to San Diego habitats, comparing the palms to native trees, as shown in the screenshots to the right



Noting the *Latina SciGirls* episodes will similarly feature Latina girls collaborating on a science/engineering project and working with a mentor on inquiry/design process, the youth, parents/guardians, and advisors/partners were asked how the production team might incorporate cultural values in these scenes in a way that would appeal to the target audience of Latina girls and their parents/guardians. The summaries of their responses are shared in the chart below.



Suggestions for incorporating cultural values into the science process/engineering design scenes



Responses from youth, parents/guardians, and advisors/partners are presented in the chart on the previous page and summarized below. Examples of their specific comments are categorized in the table on the following page.

Youth: Among the 33 youth who shared a response, nearly half commented on including aspects of Latino culture, particularly relating to food, music, festivals, dancing, native animals, or plants, while a smaller group pointed to something that involved including information about the girls' project and process or adding the message that everyone can do science. Other youth felt that nothing more needed to be added/said they didn't know or gave miscellaneous responses.

Parents/guardians: Among the 12 parents/guardians who shared a response, three-quarters commented on including aspects of Latino culture, particularly relating to art, music, and food, while a couple others pointed to showing individual youth working together and/or in friendship or shared miscellaneous feedback.

Advisors/partners: Among the 19 advisors/partners who shared a response, about half each commented on incorporating family into the science process/engineering design scenes and/or including aspects of Latino culture or Spanish language. About a quarter thought the inclusion of cultural values could be addressed by the mentors, and one-sixth thought the production team should include more information about the girls' project and process. Just over a tenth shared miscellaneous feedback, including one advisor/partner who said s/he "didn't know" and another who suggested "polling the girls" to get their feedback.

Youth, parent/guardian, and advisor/partner comments on incorporating cultural values into the science process/engineering design scenes

Youth comments (n=33)

Parent/guardian comments (n=12)

Advisor/partner comments (n=19)

Incorporate Latino culture (48%)

- I think I would like to see more of the food.
- Yes include things such as the food, music, and others.
- Can put on something about a festival.
- Include pop music.
- The things that I would like to see included are more information and some random people questions and to add all around the world culture.
- hang a flag in his cage from his country
- Like if you are from Mexico you can do something about science but related to Mexico.
- Present activities of each country where the episode takes place.
- Working with animals or things of the countries in which they work and/or cultural dances.
- Cultural birds
- Yes, the park and the beaches
- The plants that they research.

Include more on the girls' project/process (16%)

- More adventures.
- I think they have enough included but should add more projects that go fast.
- Work together on a research project.
- Then give them rules about engineering then give them examples.

Nothing needs to be added (12%)

- Not right now.
- I don't think so.

Miscellaneous (24%)

- It teaches kids about different races working as equals. Because they are equal.
- I think all races can do this.
- I like to see more people.
- I like to see more people.
- They can do a diagram of how much Latina scientists in the world
- Include the family.
- To understand how to do things like them.
- I think that you can take videos and save them all.

Incorporate Latino culture (75%)

- Creativity, respect for nature and above all the unity between them is very important to carry a good friendship.
- The form and procedures of project are coupled with similar ancestral practices.
- Teaching the culture of each country and its habitat. Include food and art.
- Of course, the culture can be the main attraction. For example, the musical flavor.
- Do research in different countries to become familiar with their culture.
- Include elements that have to do with food.
- I think that the project should exemplify music that Latins identify with.
- If desired, experiences from diverse countries or cultural groups can be included.

Showcase individual youth working together/in friendship (17%)

- Creativity, respect for nature and above all the unity between them is very important to carry a good friendship.
- Them working together in all the project and ... (?)

Miscellaneous (16%)

- Science that has to do with agricultural areas where the parents work making the genre visible.
- Include family and themes that have to do with our culture.

Incorporate Latino culture (47%)

- Bring in cultural aspects organic to Latino experience
- If you can find points of reference in teaching about habitat, history, etc. that incorporate Latino presence, history, etc. into the show, that would be a great way to add Latino content.
- The episode could focus on an animal, such as the coquí, that represents something important for a particular Latina girl, or a celebration, like an annual festival at a beach and see the impact of people on habitat during event, for instance.
- The topics could also be those that are very important to issues affecting Hispanics (such as health issues- diabetes- and food habits).
- Maybe give a bit of a background or feature a country relevant to the topic. More than culturally relevant, be more culturally sensitive.
- Accept the inevitable code switching between English and Spanish when the girls talk to each other as a strength of their bilingualism. Perhaps keep the close captioning intact throughout the conversations, including the English and Spanish, for flow.

Incorporate family (47%)

- I think not only including the girls but their parents, or siblings, or even older generations is a way of honoring the cultural values of these audiences. Often times multiple generations live in the same household. Family is very important.
- Make parents and/or a family member part of the girls' conversation about the problem/possible solution/s. For example, each girl could find ways to make a family favorite recipe more healthy and have a cook-off with all the mothers/grandmothers as judges.
- Include parents or siblings in the episodes. Tie parents' line of work to STEM topics

Showcase mentors' cultural background (26%)

- Having the mentors do a debrief on how their culture experiences helped them in solving similar problems in the past.
- Showcase mentor...use a Latina mentor, and similar to Back Talk, introduce the mentor, their cultural background and roots, and how they got to their career and why.
- Also recording the show in Spanish and finding mentors who are native Spanish speakers
- Back talk segment from mentors
- There should be more info about the mentor, where is she from, how did she get there, what is the name of her position/career? Also for Hispanic parents it is important to know those careers lead to what kind of jobs.

Include more on the girls' projects/process (16%)

- It might also be helpful to incorporate how the girls can self teach themselves using the internet (since many of them don't have a parent around since they work several jobs)
- Most important would be to set a strong, meaningful context for the activities, whether science or engineering. WHY are these girls interested in their investigation? How

does it tie to their own communities. This obviously also requires the right choice of subject!

- I feel odd being asked about what cultural values to include when the culture is not mine. I am not sure how to answer this. I will say that this particular segment felt a bit unnatural and the conversations at times contrived. It also seemed like the scientist and not the children were driving the questions and process. If addressing cultural barriers is a focus, then I think that there need to be ways of showing girls who are working towards addressing those barriers.

1.7 Illustrating Izzy’s cultural heritage in the animated segments

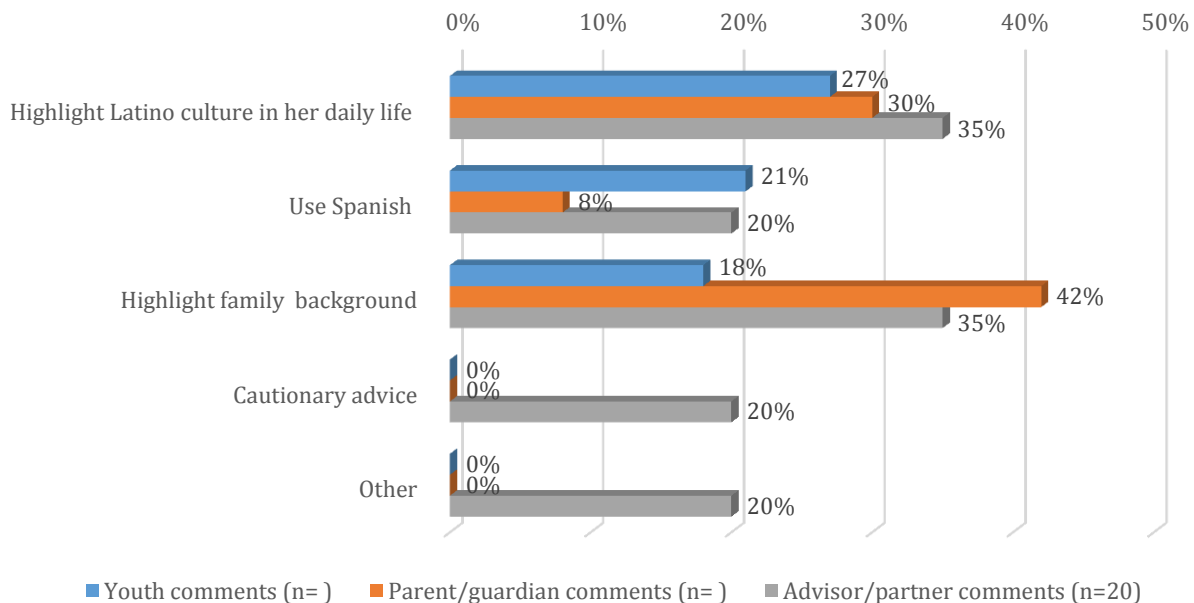
Each *SciGirls* episode features animated segments featuring three characters: Izzy, Jake, and Jake’s pet mouse Fang. In the *Hábitat en Caos* animation segments, Jake tries to figure out why his pet mouse Fang doesn’t seem to like his new mouse house, as shown in the image to the right.



In all of the *SciGirls* animated segments, Izzy is Hispanic but with no explicit storytelling about her heritage or family (currently), though it is reflected in her bedroom décor and her kitchen. Jake is non-Hispanic white.

With this in mind, the youth, parents/guardians, and advisors/partners were asked how they would suggest the production team integrate cultural aspects into Izzy’s life and the new stories. The chart below presents the types of responses shared by each group.

Suggestions for illustrating Izzy’s cultural heritage in the animated segments



Responses from youth, parents/guardians, and advisors/partners are presented in the chart on the previous page and summarized below. Examples of their specific comments are categorized in the table on the following page.

Youth: Among the 33 youth who shared a response, over one-quarter commented on including aspects of Latino culture in Izzy's daily life, while one-fifth pointed to using Spanish, and under one-fifth pointed to highlighting her family background.

Parents/guardians: Among the 13 parents/guardians who shared a response, more than two-fifths commented on highlighting Izzy's family background, while under one-third focused on highlighting aspects of Latino culture in her daily life, and a small group pointed to using Spanish.

Advisors/partners: Among the 20 advisors/partners who shared feedback about the animation, more than a third pointed to highlighting Izzy's family background, while a group of the same size suggested highlighting aspects of Latino culture in Izzy's daily life. A fifth each pointed to the use of Spanish, shared cautionary advice with the production team, or provided miscellaneous suggestions.

Youth, parent/guardian, and advisor/partner comments on illustrating Izzy's cultural heritage in the animated segments

Youth comments (n=33)

Highlight Latino culture in her daily life (27%)

- I see that it helps in everyday life.
- I would like to see her daily life like with their parents..
- The girls in Latin activities or at meals
- Talk about music
- She could speak Spanish or look kind of different.
- She could have different hair or show her room.
- For her to speak Spanish or talk about her life. A flag on his cage so we know where they are from.

Use Spanish (21%)

- She could talk Spanish
- To tell her about if she speaks Spanish or not.
- She should speak Spanish.
- To speak Spanish in the video
- Speak a little bit of Spanish while speaking English
- She could speak Spanish or look kind of different.

Highlight family background (18%)

- You can put a family tree and a map and where they come from.
- Show her family and her culture
- Show what Izzy's parents are like and show their story.
- My mom says "do you want chicken?"
- The grandmother said "Do you want rice with beans"
- I would like to see her daily life like with their parents.

Parent/guardian comments (n=13)

Highlight family background (42%)

- I would like for the characters to identify with their heritage. This can be done during the introduction of the episode allowing for the characters to have distinct qualities according to their culture. Perhaps include family members
- Yes, a call from a family member. Showing that there are commonalities between Latins.
- Showing their family relationships and how they revolve around the project.
- Possibly getting advice given to her from her abuelita or abuelito, tio or tia, in her conversation with Jake.
- History about the family, like a family tree or items their ancestors or grandparents had.

Highlight Latino culture in her daily life (30%)

- You can use a traditional Puerto Rican hat called a "pava". If not, leave it as is.
- Your way to dress up using language.
- Show a food of preference but do not reveal its country of origin but let it represent the Latin community as a whole.
- Talk about music, customs and food.

Use Spanish (8%)

- Speak in Spanish without saying where they are from

Advisor/partner comments (n=20)

Highlight Latino culture in her daily life (35%)

- Add some items to her living space that are a nod to Latino culture.
- Room decor - change things on her wall, e.g., photos of recognizable Latino scientist/astronaut, a soccer ball/soccer hero, Becky G (singer)
- Food, music, flags, sports posters, etc. - My husband teaches middle school orchestra and they have quite a few kids in the middle school mariachi band. Maybe Izzy could play in one?
- Cuisine and chemical reactions, Latino music and sound waves, finding ways of using cultural explorations as part of the scientific exploration.
- Musical instruments, books, food or other items that relate to the culture. They need to be done carefully not to fall into any stereotypes.

Highlight family background (35%)

- Have her tell some backstory - talk about family, grandparents, etc.
- Both Izzy and Jake solving issues that are more family based. For example, Jake could be helping his mom prepare for a family birthday celebration, and he and Izzy create a cake-icing machine.
- Creating a stronger home/social/community background for Izzie would be a high priority, so her interest in science is visible against that background.
- Maybe if she shares her room with a sibling (very common in our culture). Showing pictures of her family.
- Yes have Izzy, relate her family story, or traditions, maybe even have her interview her parents. At least put this on the website.

Use Spanish (20%)

- A little Spanish could be added to her vocabulary.
- ...sprinkle Spanish into her speech
- Using common Spanish words in context (normal- not for all Spanish episodes!) Name adjustment- hard "Z" sound not part of Spanish not part of Spanish alphabet sounds.
- Her name "Izzy" might be changed to Spanish and call her Isa, Lizzy, or something on that end.

Cautionary advice (20%)

- I think that Izzy is fine and having a non-Latino friend is fine. But her being in a room with a boy by herself is no good. Switch to a girl.
- Use of a flag in her room may alienate some viewers. The flag can be something that may easily be seen in the mentor's office?
- Musical instruments, books, food or other items that relate to the culture. They need to be done carefully not to fall into any stereotypes.
- Yes, that would be nice, but very challenging. Hispanic heritage can come from so many different options. It would be a challenge to find one that is common to all, for instance, some Hispanic cultures love spicy food, other don't. Some love mariachis, others love salsa, or cumbia, or merengue dance. and so on.

Other (20%)

- I would need to know if those who are Hispanic have picked up on these indicators? IF so, if they feel they are stereotypical or authentic? If there are others to recommend?
- I also had a hard time understanding the link of the animated series and the problem they have (the mouse not liking his home) with calling the SciGirls... maybe the animation may be more related to what the girls are doing?
- Replace Jake- give Izzy a Latino friend.
- Not really grabbed by the animated bits that much.

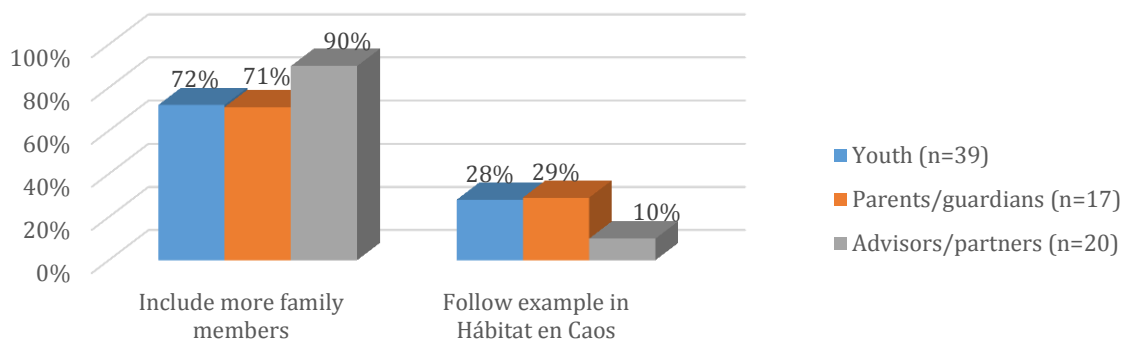
1.8 Including family members in “Backtalk” segments

Each *SciGirls* episode features girl profile “Backtalk” segments wherein the girls talk about their home lives and interests, sometimes showing pets, musical instruments, sports, and bedrooms. In the case of *Hábitat en Caos* the episode highlights the lives of Alicia, Ashley, and Lea, as captured in the screenshot to the right.



Youth, parents/guardians, and advisors/partners were told that the production team was considering the option of including more family members in these segments, and were asked whether or not they would recommend this change.

Whether “Backtalk” sections should include more family members



Production options under consideration by *tpt*

As shown in the chart above, nearly all (90%) of the advisors/partners suggested including more family members in the girl profile “Backtalk” segments, and slightly less than three-quarters each of youth (72%) and partners/guardians (71%) shared this recommendation. More than a quarter each of youth (28%) and parents/guardians (29%) suggested following the example in the program. A tenth (10%) of advisors/partners shared this recommendation.

The youth, parents/guardians, and advisors/partners who suggested adding family members to the “Backtalk” segments were asked how they thought the production team might incorporate Latino families into these scenes, while those who suggested following the example in *Hábitat en Caos* were asked to elaborate on their response. Examples of their specific comments in each case are categorized in the table on the following page, and their responses are summarized below.

Youth: All of the 11 youth who elaborated on their suggestion to include more family members recommended showing the girls interacting with their families in some way. Among the 9 youth who elaborated on their suggestion to have the segment follow the example provided in *Hábitat en Caos*, just about all indicated that this segment didn’t need the inclusion of family members for various reasons.

Parents/guardians: All of the 9 parents/guardians who elaborated on their suggestion to include more family members recommended showing the girls interacting with their families. The 4 parents/guardians who elaborated on their suggestion to have the segment follow the example provided in *Hábitat en Caos* all suggested that it would be better for the production team to focus on the girls and/or their research.

Advisors/partners: The 12 advisors/partners who elaborated on their suggestion to include more family members made two main suggestions – showing the girls interacting in an unscripted/natural way with their family members and/or including interviews with the parents (or, as suggested by one respondent, finding parents who could serve as mentors during an episode). Two (2) advisors/partners elaborated on their recommendation that the segment follow the example provided in *Hábitat en Caos*, with one saying that the inclusion of family “*would distract from the girls*” and the other explaining, “*I found the segments to add some interest and serve as a break so the episode is not straight science. I think more would start to get annoying.*”

Youth, parent/guardian, and advisor/partner comments on including family members in “Backtalk” segments

Youth comments (n=20)

Show girls interacting with their families

- Because it shows you need a good relationship with your family.
- Because we can know where they are and how they live
- Brother, sisters, boyfriend, best friends, aunts.
- Include them throughout the show
- So I know where they are from.
- They should be included so that they know what they like to do with their parents.
- What they do to include other people is that they can say what they do.
- Yes because they don't have to be selfish.
- Yes I what to meet the family and learn were to girl are from
- Yes to learn more about the family and country
- Yes, because to learn what they do for fun

Don't show girls interacting with families

- Because I would just like to stick to girls my age so I can interact and relate with them more.
- Because it doesn't need the family.
- Because not everybody wants to know about their family.
- Because the families don't have to do with the video and some people from their family might not want to be in it.
- I don't know.
- I think anything is fine.
- I think we should stay more on the science part of it not to family.
- No because some people don't want to be in it.
- No because the families aren't that involved in the activities.

Parent/guardian comments (n=13)

Show girls interacting with their families

- Participating in experiments. Explaining to those who do not understand. Presenting to a family in a family environment.
- Show all the students entering and exiting the biology building.
- The collaboration and relationship between the family members.
- Yes, the Latin family is involving themselves in education.
- For us family support is important and would be a great help to identify with those families.
- When the project involves the family, it contributes to empirical knowledge or study.
- I learned about things and words that I have never heard and seen in my life.
- The Latina and Hispanic culture is very family oriented and a lot of Latina and Hispanic girls' role models are family members.

Better to focus on girls

- It's good to touch on the subject of the dynamic between the girls.
- Because I prefer that they participate in some sections during the research process.
- Because it's the job of the working girls and involving the families is dependent on the program
- Depends on the segment of research.

Advisor/partner comments (n=14)

Show girls interacting with their families

- Family members could even be walking behind the girls on the beach.
- Hobbies that include interaction with family members.
- I bet many girls share their bedrooms with siblings so this would be a great way of incorporating other family members. As I said before, family is crucial in our culture.
- Show the girls at home or enjoying a celebration with relatives. Or, they can be sharing info with younger siblings.
- Show the girls in their family context; include comments from family members about their daughter and her interest in STEM or investigating/solving problems.
- The girl can talk about family events that she enjoys, like holiday traditions. It would also be good to show the adult family members taking an interest in the project she is working on. Hispanic family members don't like as much when activities isolate girls from their families.

Include additional interviews with parents/find parent mentors

- Add a short clip of a parent speaking of why they see this as important, what they are proud to, how they (parents) use science, maybe the girls showing their respective parents their project
- Asking parents/family members to explain in their own words what the students did would be a great way to engage them and have it be relevant to the episode. Also, what changes and transformation they saw in the girls through their involvement in the Latina SciGirls episode.
- In ways that make sense...perhaps why their daughter was identified to be on this show? What they think about her pursuing the subject area of interest? What their dreams are for their child?
- Perhaps, having the girls interview their parents? Asking them what they know about the topic? Having them relate a family story or folktale or myth?
- Maybe finding girls whose parents can also be mentors or science experts.

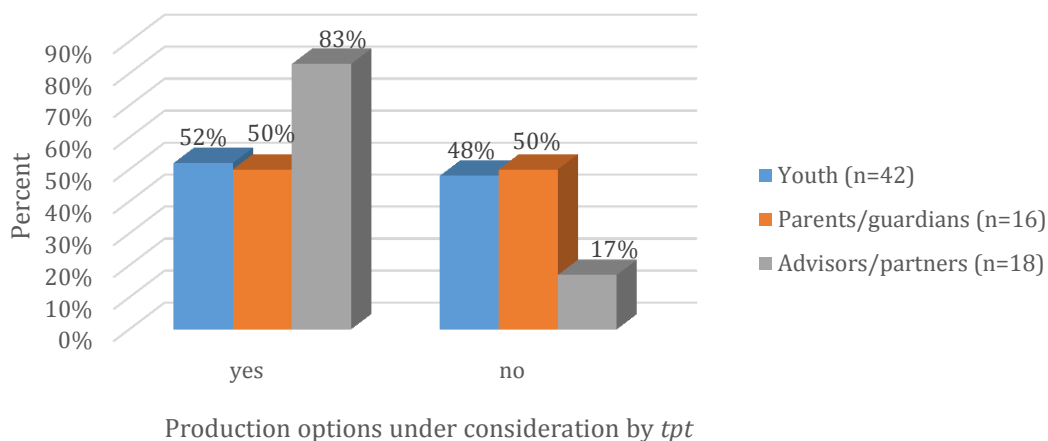
1.9 Incorporating family members in the communicate findings/share results scenes

Toward the end of each *SciGirls* episode the *SciGirls* team communicates and shares its findings. In *Hábitat en Caos*, the *SciGirls* present their findings to their classroom, as shown in scene to the right, although in other episodes *SciGirls* frequently present their findings to a mixed-age group, often including family members.



The youth, parents/guardians, and advisors/partners were told that the production team was considering including families more explicitly in these sharing scenes, and were asked whether or not they would recommend this change.

Whether final "sharing" scenes should incorporate families more



As shown in the chart above, nearly all (83%) of the advisors/partners suggested including family members in the final scenes of the program, while about half each of the youth (52%) and parents/guardians (50%) shared this recommendation. At the same time, half each of the youth (48%) and parents/guardians (50%) advised *against* doing more to incorporate families into the final scenes, as did less than a fifth (17%) of the advisors/partners.

The youth, parents/guardians, and advisors/partners who suggested adding family members to the final “sharing” scenes were asked how they thought the production team might incorporate Latino families more explicitly in these scenes, while those who suggested *not* incorporating Latino families more explicitly were asked to elaborate on their response. Examples of their specific comments in each case are categorized in the table on the following page, and their responses are summarized below.

Youth: Of the 10 youth who shared feedback about their recommendation that the production team incorporate Latino families more explicitly, several suggested inviting families to the presentation and a few each commented on having family members participate and/or how their inclusion would show caring or excitement. The 11 youth who elaborated on their recommendation that family members not be incorporated more explicitly shared miscellaneous feedback.

Parents/guardians: Of the 9 parents/guardians who shared feedback about their recommendation that the production team incorporate Latino families more explicitly, a few each commented on including family members by having them participate or suggested inviting families to the presentation. The 4 who elaborated on their recommendation that family members not be incorporated more explicitly shared miscellaneous feedback.

Advisors/partners: Of the 11 advisors/partners who shared feedback about their recommendation that the production team incorporate Latino families more explicitly, several suggested adding reflections from family members on the girls’ research and the impact of the project, while a few suggested invited family members to the presentation in the final scenes of the program. A handful suggested including family members in the “Backtalk” segments but didn’t address how family members might be included in the presentation scenes. The 3 who elaborated on their recommendation that family members not be incorporated more explicitly shared miscellaneous feedback.

Youth, parent/guardian, and advisor/partner comments on including family members in the final “sharing” scenes

**Youth comments
(n=21)**

**Parent/guardian comments
(n=13)**

**Advisor/partner comments
(n=14)**

Invite family members to presentation/to learn/see result

- So their families know what they did and they can learn something new too.
- They could get all their families together and present them their findings.
- They should so they can see what they do with family.
- Yes because you are showing them about what you learn.
- Yes, if families don't know
- Yes, in this way you can see the results

Include family members to show caring/excitement

- Because it could show how much they really care
- To excite the families so that they are happy.

Have family members participate

- Parents help with the things that have to be done.
- Have things of different interests like games or something else

Don't include family members

- I do not think that it's necessary.
- Because it would be much longer and more practice
- Because a project is more like to show your class in school.
- Because they don't have to do with the video.
- For me it doesn't make sense for the family.
- I think it's good.
- No because the families could interrupt.
- I don't think it's necessary.
- They might get embarrassed around them.
- We do not need to learn about them
- We need to focus on science not culture.

Include family members to participate

- Participating in experiments. Explaining to those who do not understand. a
- As I already mentioned the support of it is important because the classroom or where they practice is helping this family and will involve their parents and siblings grandparents in the project
- The collaboration and relationship between the family members.
- Yes, the Latin family is involving themselves in education.

Invite family members to presentation/to learn/see result

- Family meeting and explaining the project
- As grandparents or parents know empirically what is concluded at the end of the experiment.
- Presenting to a family in a family environment.
- Show all the students entering and exiting the biology building.
- Yes because in the Latina and Hispanic culture girls are not expected to succeed. Having families there can show them that they are strong and smart enough to be above the stereotype.

Don't include family members

- It's good to touch on the subject of the dynamic between the girls.
- Depends on scenes that they're making.
- Because the girls are doing the experiments
- Because I prefer that they participate in some sections during the research process.

Include family members to reflect/affirm/comment

- Be great to hear from different family members on how their daughter, niece, etc. has changed or has been impacted.
- Interviewing younger siblings' reactions and thoughts.
- Have them explain what the girls did and/or how they transformed over the LSG episode.
- Not always, but sometimes the parents could be around and make affirmations such as "I did not know you could do that as a _____ (mention career path)". This space could help other Hispanic parents learn about the world of science, how much the girls can benefit from the exploration/activities related to science and discovery and show how they all can learn.
- Parents/family members could comment on what the girls present or do - this would provide viewers with a model for how they might interact with their own daughters

Invite family members to presentation to learn/see result

- Families at presentation of results.
- I think sharing the information in English to classmates AND in Spanish to relatives (particularly interested grandparents)
- The producer mentioned some public events, family events that are featured in other shows. These would probably be good opportunities to include family members. It also might be that family members would help the girls create whatever presentation they make about their project.

Include family in the "Backtalk" segments

- Have a family dinner scene? Or do it in the "Backtalk" section.
- In the Backtalk part to have one of the kids cooking with mami or playing with siblings or something in their home that connects with their heritage
- Include mention of family among the mentors. Include siblings/parents in the back talk segments.
- Including them in the Back Talks perhaps.

Don't include family members

- Because in the professional world they will present finding to their peers, not family.
- Keeping the student audience would make it more relatable to young Latina girls.
- Presentation implies showing results to entire family and many children come from diverse family make up. Relationships between girls and one and two family members okay but need to be careful about implying the necessity of entire family standardized unit

Part 2: Feedback on the *SciGirls* profile videos



In addition to following the procedural information provided under Methods, the evaluation coordinators also provided participants with information about the two profile videos viewed for the evaluation. Specifically, they informed participants that they would be watching two short 3-5 minute videos about women working in different STEM professions and that the *SciGirls* team chose these videos as both feature Latina STEM professionals and represent the typical *SciGirls* profile video format. They were also told that an independent evaluation team was working with *tpt* to gather feedback that would be used to inform the production of a new set of profile videos to be filmed in Spanish with English subtitles and that these would be available via PBS, pbskids.org, YouTube Univision, other (web) venues, and through outreach partner events.

All participants were given the option of watching the [Karin Block](#) video in either Spanish or English, although the more recently produced [Victoria Velez](#) video was only available in English.

Finally, just prior to viewing, participants were asked to consider the extent to which they felt the sample profile videos were appealing to them (in the case of the youth and parent/guardian participants) or to the project's primary target audience "*of low-to moderately-low income Latina girls ages 8-13 and their parents*" (in the case of the advisors/partners). When completing the survey questions about the videos, participants were asked to remember that there were no right or wrong answers. They were also informed that their frank and honest feedback was appreciated and would be used to help inform a new set of profile videos, and that all feedback would be reported in the aggregate.

Reporting of advisor/partner findings in Part 2

In the sections of Part 2 relating to the advisor/partner feedback (presented under 2.1 and 2.2), findings are provided for just 8 advisors/partners who completed an updated version of the front-end survey that asked them to watch and rate the two profile videos separately. The remaining 13 advisors previously completed the original survey at the kickoff *Latina SciGirls* advisor meeting. This survey asked them to watch and rate the two videos together, as representative examples of the profile videos (these findings are presented under 2.3). The *Latina SciGirls* team determined during the advisor meeting that the profile videos were sufficiently different in approach that they should subsequently be rated separately by the remaining front-end evaluation participants (including advisors, partners, youth, and parents/guardians).

2.1 Overall appeal of Karin Block's profile video



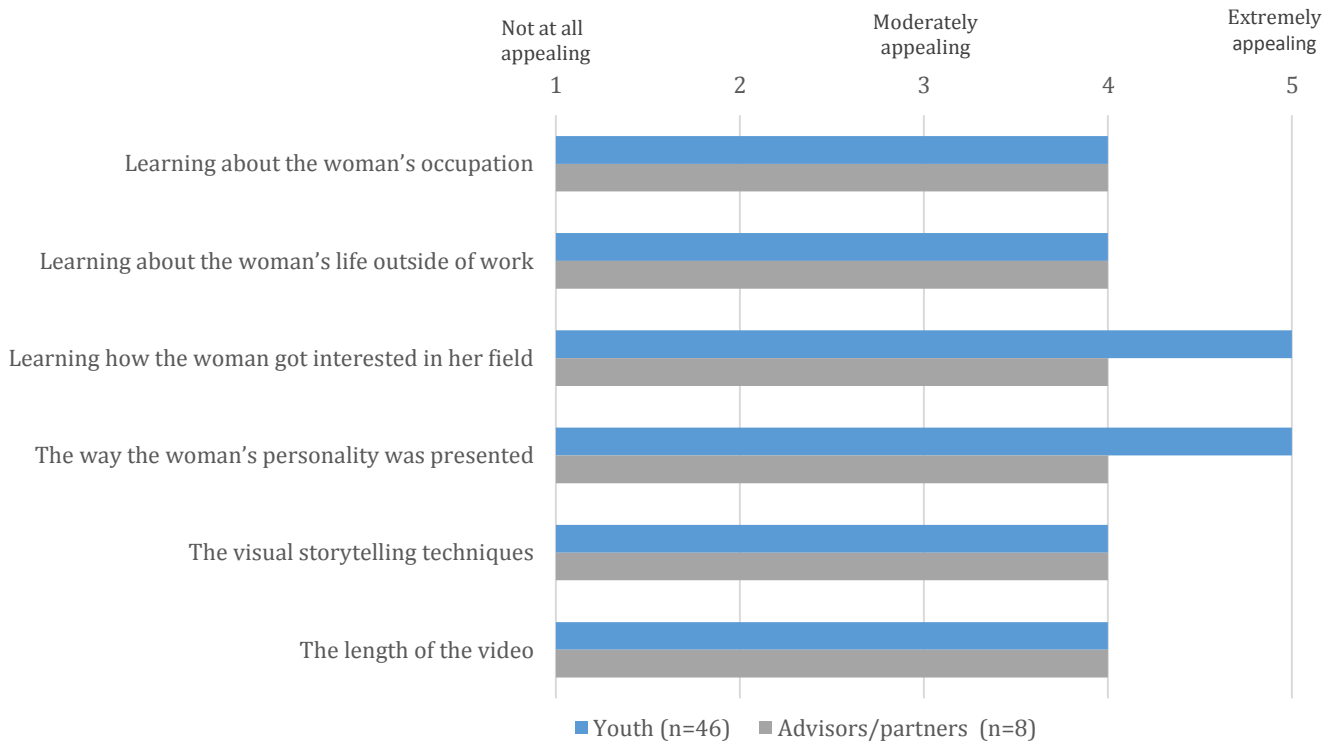
This section presents youth and advisor/partner ratings of the overall appeal of Karin Block's profile video (shown in the screenshot above) to low-to-moderately-low-income Latina girls ages 8-13. It also presents parent/guardian and advisor/partner ratings of the overall appeal of the profile video to the parents/guardians of low-to-moderately-low-income Latina girls ages 8-13.

2.1a Overall appeal to Latina girls ages 8-13

The youth were asked to rate the overall appeal of various aspects of [Karin Block's profile video](#) on a scale from 1.0 (*not at all appealing*) to 5.0 (*extremely appealing*), while the group of advisors/partners who completed the front-end evaluation after the advisor meeting (n=8) were asked to rate how appealing they felt the target audience of low-to-moderately-low-income Latina girls ages 8-13 would find each aspect.

Though they provided a range of ratings in each case, as shown in the chart on the next page, both groups generally rated the following aspects of Karin Block's profile video *very appealing* (median rating 4.0 each): *learning about her occupation, learning about her life outside of work, the visual storytelling techniques (video photograph, pacing, music, etc.), and the length of the video*. Meanwhile, while the advisors/partners also found the final two aspects, *the way her personality was presented* and *learning how she got interested in STEM/her field*, to be *very appealing* (median rating 4.0), the youth generally rated these aspects *extremely appealing* (median rating 5.0 each).

Median ratings of overall appeal of Karin Block's profile video to Latina girls



When invited to explain their ratings, a dozen youth and several advisors/partners shared feedback. Examples of their specific comments are categorized in the table on the following page, while the main themes are summarized below.

Youth: Of the 12 youth who explained their ratings, several praised the video generally or pointed to some aspect they liked, while a few stated that the video was too short and wished it was longer.

Advisors/partners: Of the 6 advisors/partners who explained their ratings, a few praised both profile videos. A couple suggested adding more detail about the mentor's work/challenges faced in her career and pointed to things they thought the production team might want to change. One said s/he wanted *more* and another shared an issue with the voice over.

Youth and advisor/partner comments on appeal of Karin Block's profile video to Latina youth target audience

Youth comments (n=12)

Liked the profile video

- I liked it a lot,
- I liked it more because it was exciting.
- I rated learning about the woman's job and career because I want to have that job.
- I really like it.
- I think that the duration should stay as is.
- I was good

Video was too short

- I would have like if it was longer
- I would have liked that it was longer.
- It's a little short.
- the video was too short
- Video was to short
- Visuals were good. Colorful.

Advisor/partner comments (n=6)

Praised the profile video(s)

- The profile videos were great!
- I thought both videos were very appealing. Both feature young STEM professionals who are excited about their careers and showcased exactly what some of their works is as explained, the Block video seemed to appeal to younger girls and the Velez video targeted the older girls, was careful to acknowledge the challenges of being a woman in a 'mans' field of study and celebrating that, which I thought was a strong and important message.
- Two different experiences- better effective.

Focus on the mentor more

- Highlight the mentor's challenges a bit more. Also, what the future of their career looks like- eg. what would they like to pursue further. Enjoyed the family tie in the second video, but may need to tone down the technical phrasing for 8-13 age group.
- From my experience, girls want to learn about what I do at work, what I do outside of work, how I got to that profession, and challenges along the way. They also always want to know how much money I make. (Even ranges.)

Wanted more

- I always want more... I always want to really spend time with these ladies.

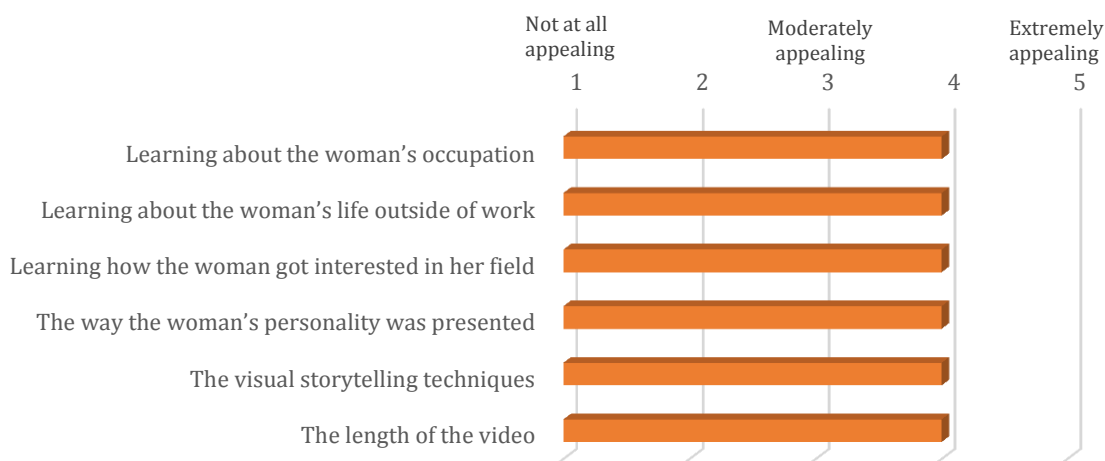
Voice over issue

- I also found the voice over in Spanish distracting. Why didn't she do a second version in Spanish?

2.1b Overall appeal to Latina girls' parents/guardians

The parents/guardians were asked to rate the various aspects of the overall appeal of [Karin Block's profile video](#) to them personally. Though the parents/guardians provided a range of ratings in each case, as shown in the chart below, as a group they generally indicated that they thought all six aspects the video were *very appealing* (median rating 4.0 each): *learning about her occupation; learning about her life outside of work; learning how she got interested in STEM/her field; the way her personality was presented; the visual storytelling techniques (video photograph, pacing, music, etc.); and the length of the video.*

Median ratings of overall appeal of Karin Block's profile video to parents/guardians (n=19)



In addition to the parents/guardians who went on to provide feedback about their ratings, the 8 advisors/partners who rated the overall appeal of Karin Block's profile video from the standpoint of the youth target audience were asked to share any comments they might have regarding the likely appeal of the video to the parents/guardians of Latina girls in the target audience. Examples of both groups' specific comments are categorized in the table on the following page, while the main themes are summarized below.

Parents/guardians: Of the 5 parents/guardians who provided feedback, a few wished for the video to be longer and/or more detailed, while a couple of individuals found it interesting or pointed to it being age-appropriate for 7-11-year-olds.

Advisors/partners: Of the 4 advisors/partners who shared a response, a few commented on things they thought the parents/guardians would like about the video and one stressed the importance of including families and making the videos available in Spanish.

Parent/guardian and advisor/partner comments on appeal of Karin Block's profile video to parents/guardians of Latina youth target audience

Parent/guardian comments (n=5)

Video too short/wanted more

- *I would have liked more details about their assignments and how they became a professional*
- *The duration of the videos is too short. Everything else is fine.*
- *The video is too fast. The video should be a little longer.*

Interesting

- *Interesting and dynamic. Presents a good example for careers and success*

Age-appropriateness

- *Should be for girls and adolescents in the age group 7-11 years.*

Advisor/partner comments (n=4)

Things they thought parents/guardians would like

- *I think the parents would like the purpose of the video. I can't think of any potential problems here.*
- *I think the parents would really relate to this lady. Especially since she seems to have change career paths.*
- *Probably parents will like to know if there's something they can do to motivate their kids in STEM*

Importance of including family and adding Spanish

- *Showing family and the influence of family is important! When you are ready, please view the second video by going to the link below. This video is not yet available in Spanish.*

2.2 Overall appeal of Victoria Velez’s profile video

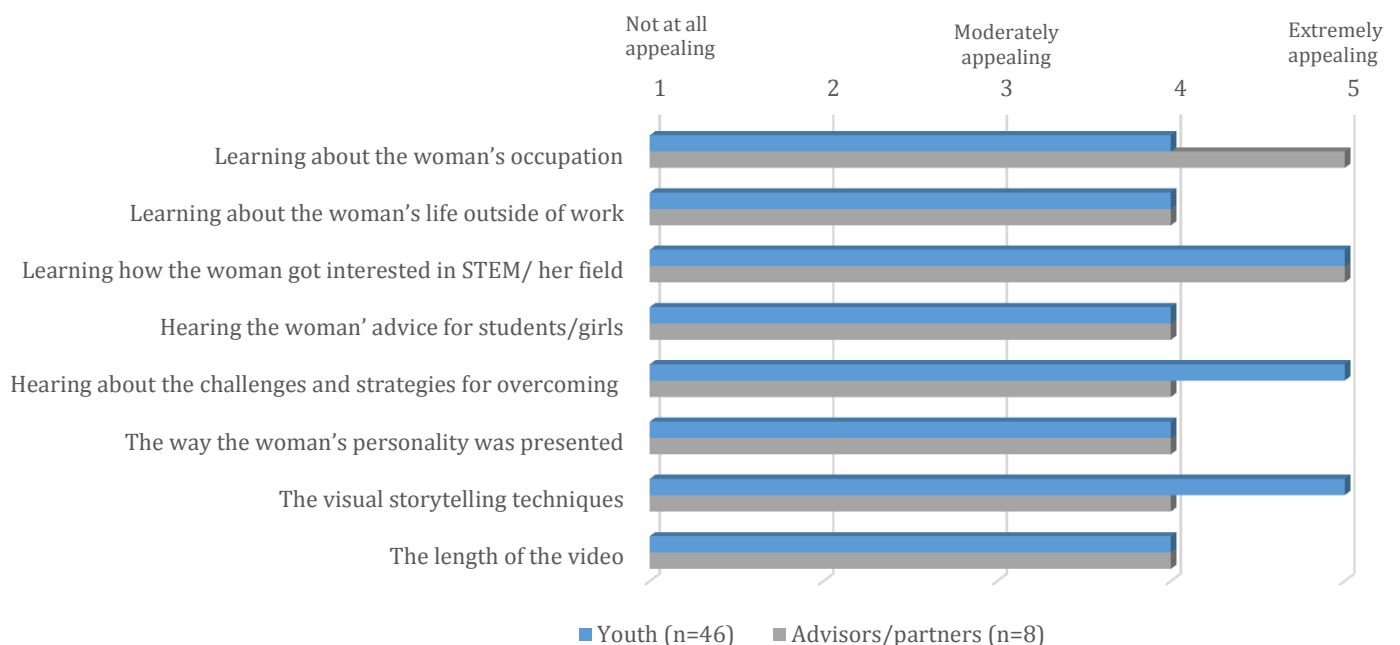


This section presents youth and advisor/partner ratings of the overall appeal of Victoria Velez’s profile video (shown in the screenshot above) to low-to-moderately-low-income Latina girls ages 8-13. It also presents parent/guardian and advisor/partner ratings of the overall appeal of the profile video to the parents/guardians of low-to-moderately-low-income Latina girls ages 8-13.

2.2a Overall appeal to Latina girls ages 8-13

As with the Karin Block video, the youth were asked to rate the overall appeal of various aspects of [Victoria Velez’s profile video](#) on a scale from 1.0 (*not at all appealing*) to 5.0 (*extremely appealing*), while the group of advisors/partners who completed the front-end evaluation after the advisor meeting (n=8) were asked to rate how appealing they felt the

Median ratings of overall appeal of Victoria Velez’s profile video to Latina girls



target audience of low-to-moderately-low-income Latina girls ages 8-13 would find each aspect. Though they provided a range of ratings in each case, as shown in the chart on the previous page, both groups generally found it *extremely appealing* (median rating 5.0) to *learn how she got interested in STEM/her field*. Both groups also generally rated the following aspects of Victoria Velez’s profile video *very appealing* (median rating 4.0 each): *learning about her life outside of work, hearing her advice for students/girls, the way her personality was presented, and the length of the video*. The advisors/partners tended to rate *learning about her occupation* higher than did the youth (median rating 5.0 vs. 4.0) while the youth tended to rate *hearing about her challenges and strategies for overcoming them* and *the visual storytelling techniques (video photograph, pacing, music, etc.)* higher than did the advisors/partners (median rating 5.0 vs. 4.0).

When invited to explain their ratings, about a dozen youth and a few advisors/partners shared feedback. The main themes that emerged from their comments are summarized below, followed by examples of their quotes in the table at the bottom of this page.

Youth: Of the 13 youth who shared a response, most described something they liked about the video, with a few youth each mentioning that they wanted something more in the video or that it didn’t sustain their interest for some reason.

Advisors/partners: Each of the 4 advisors/partners who commented on their ratings explained that they liked the video, with a couple mentioning what they liked in comparison to Karin Block’s profile video and one suggesting that the production team add more information about the challenges Victoria Velez faced in her career.

Youth and advisor/partner comments on appeal of Victoria Velez’s profile video to Latina youth target audience

Youth comments (n=13)

Liked the profile video(s)

- *Everything is good.*
- *I feel proud*
- *I kind of liked it but the first one more.*
- *I liked it a lot.*
- *I liked this video because it was a Latina girl and interesting.*
- *It was very funny because it s the video.*
- *The video of Victoria Velez is very informative of her career and her education.*

Wanted more

- *More about their personality.*
- *I would like it if it lasted longer.*
- *I think that the woman could talk more about her family*

Didn’t hold my interest

- *I like the other one more because it had me interested. The joke was good.*
- *little too long*
- *It was very boring to be an engineer*

Advisor/partner comments (n=4)

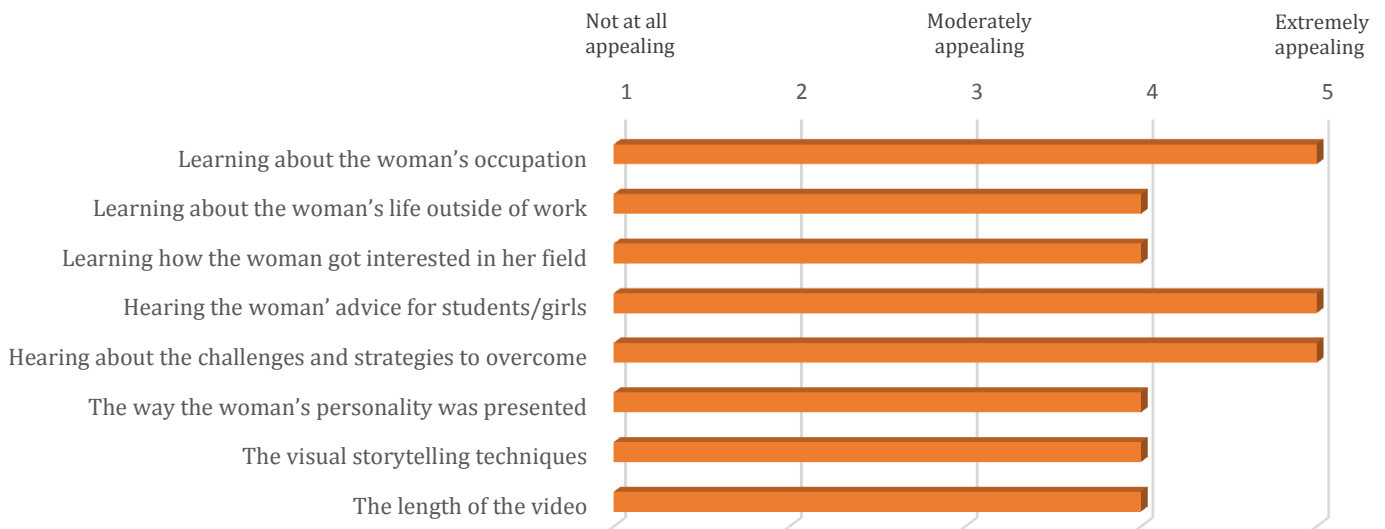
Liked the profile video

- *Great that it had inside about how she got interested, family background, everyday life, she working with co-workers, etc. it cover a bit of everything in a short time!*
- *I thought this video was less over-the-top than the other one. I also think Young Latina Girls would relate to Victoria more because she is young and she elaborates on her family life and how she got started.*
- *This was very engaging... and more in depth. I liked it, even though I thought it was at a slower pace, which I don't if the girls will like it as much as I did.*
- *I loved this video! The only part I might change is having her address struggles along the way a little more. It makes it seem like her life has always been very easy, which might make girls feel discouraged.*

2.2b Overall appeal to Latina girls' parents/guardians

The parents/guardians were asked to rate the various aspects of the overall appeal of [Victoria Velez's](#) profile video to them personally. Though the parents/guardians provided a range of ratings in each case, as shown in the chart below, as a group they generally indicated that they thought three of eight aspects of the video were *extremely appealing* (median rating 5.0 each): *learning about her occupation, hearing her advice for students/girls, and hearing about her challenges and strategies for overcoming them*. The remaining five aspects they generally rated as *very appealing* (median rating 4.0 each): *learning how she got interested in STEM/her field; learning about her life outside of work; the way her personality was presented; the visual storytelling techniques (video photograph, pacing, music, etc.); and the length of the video*.

Median ratings of overall appeal of Victoria Velez's profile video to parents/guardian (n=19)



In addition to the parents/guardians who went on to provide feedback about their ratings, the 8 advisors/partners who rated the overall appeal of Victoria Velez's profile video from the standpoint of the youth target audience were asked to share any comments they might have regarding the likely appeal of the video to their parents/guardians of Latina girls in the target audience. The main themes that emerged from their responses are summarized below, followed by a table on the next page that categorizes examples of both groups' comments.

Parents/guardians: Of the 5 parents/guardians who shared a response, all provided a comment relating to the appropriateness of the video for girls, with a couple suggesting the video was more appropriate for older girls (and one pointing to 13 years or older).

Advisors/partners: All 8 advisors/partners shared a response, with several commenting on the appeal they thought the profile video would have for parents/guardians and a few suggesting small changes the production team could make to future profile video, such as embedding messages, featuring women who attended less prestigious universities, and providing more information about the role models' careers.

Parent/guardian and advisor/partner comments on appeal of Victoria Velez's profile video to parents/guardians of Latina youth target audience

Parent/guardian comments (n=5)

Appropriateness for girl audience

- *Very inspirational for our girls. The music could be better.*
- *I really liked it. It is for my area of interest and my age group, however, I do not think that the younger age group will find it interesting.*
- *I little long. Very focused on girls in the age group 8-13 years. Interesting for families.*
- *It is not very attractive for girls ages 8-11 years. I think that it's better for an audience of 13 years or older.*
- *It's good to show the balance between a career and life outside of work.*

Advisor/partner comments (n=8)

Things they thought parents/guardians would like

- *Again, I think it would be fantastic for parents/guardians too. She is a very positive role model!*
- *I think parents will love this! Especially with the slower pace, and it was more in depth, showing the support she has had with her family.*
- *It should be a very positive role for them to view the potential of their daughters*
- *Love the big interpretation. Loved the inclusion. Her positive reaction to being a young woman in a largely male discipline.*
- *This video might be more appealing to Latino parents because again, she spoke about her family life and high school.*

Suggestions for the production team

- *Embed messages for parents/guardians.*
- *I think parents will appreciate the story of a woman who is successful in the male dominated STEM career. However, the backstory of a Colombia University graduate is intimidating. I think showing young professionals in less selective universities is going to be important for parents to feel that the perception for a STEM career is realistic for their child, The mentoring part was nice.*
- *Would need to explain further the applicability of the careers. What everyday things are used and what other similar careers exist. Feature parents-possible short interview with the parents.*

2.3 Combined appeal of profile videos, as assessed by advisors/partners

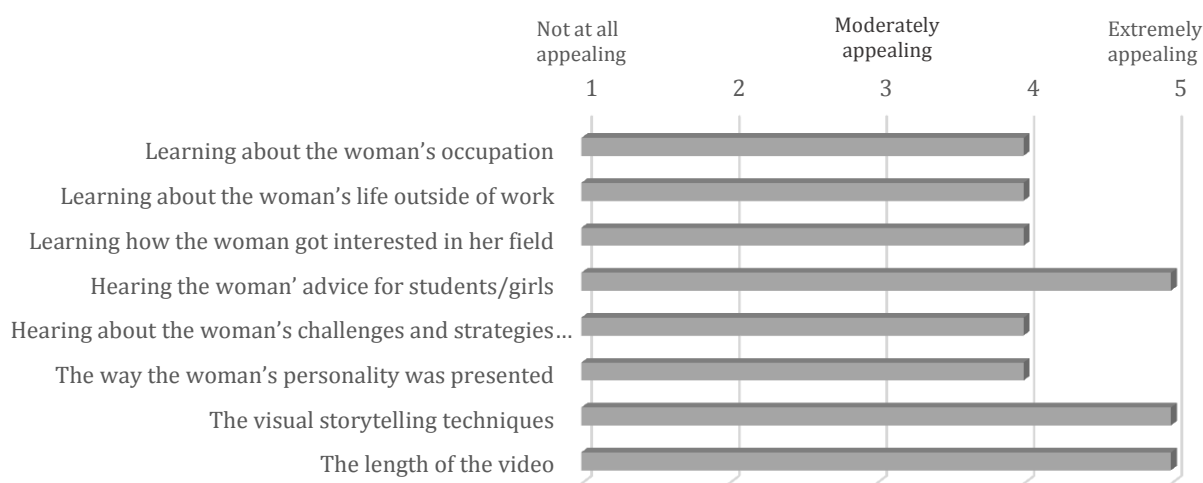


While the 8 advisors and partners referenced in sections 2.1 and 2.2 completed an updated version of the front-end survey that asked them to watch and rate the two profile videos separately, the remaining 13 advisors previously completed the original front-end survey at the advisor meeting that asked them to watch and rate the two videos together, as representative examples of the profile videos. The *Latina SciGirls* team determined during the advisor meeting that the profile videos were sufficiently different in approach that they should subsequently be rated separately by the remaining front-end evaluation participants (including advisors, partners, youth, and parents/guardians). As a result, the findings cannot easily be interpreted together so are presented separately for the production team's consideration.

2.3a Overall appeal to Latina girls ages 8-13

The 13 advisors/partners who attended a *Latina SciGirls* advisor meeting in February 2016 watched the Karin Block and Victoria Velez profile videos and were asked to rate various aspects of the overall appeal of the videos to Latina girls ages 8-13. Though they provided a range of ratings in each case, as shown in the chart below, they generally indicated that they thought the following aspects of the profile videos would be *extremely appealing* (median rating 5.0 each) to Latina girls: *hearing the woman’s advice for students/girls, the visual storytelling techniques (video photograph, pacing, music, etc.), and the length of the video*. The advisors/partners also thought Latina girls would find the following aspects of the profile video *very appealing* (median rating 4.0 each): *learning about the woman’s occupation, learning about the woman’s life outside of work, learning how the woman got interested in STEM/her field, hearing about the woman’s challenges and strategies for overcoming them, and the way the woman’s personality was presented*.

Median advisor/partner ratings of overall appeal of both profile videos to Latina girls (n=13)



When invited to explain their ratings, 9 advisors/partners shared a response. Of this group, several commented on their preference for the video featuring Victoria Velez, with one noting the need for the production team to highlight a range of backgrounds and stories. At the same time, a few advisors/partners shared ideas the production team might want to want to keep in mind when reaching out to Latina girls, such as creating a range of video lengths for different formats, sharing tools that contextualize the profile videos, and adding Spanish. Finally, one advisor/partner said s/he: “*selected ‘very appealing,’ and not extremely [for The way the woman’s personality was presented], because many girls feel that relationships between girls or women are naturally ‘catty.’ They follow the example they see on reality TV, especially around personality traits.*” Feedback from this subgroup of advisors/partners is shared below.

Preference for Victoria Velez’s profile video

- *I am mostly talking about the Victoria Velez example*
- *The first video showed the profession as lonely and did not show collaboration, the second video did a great job in doing this and making it more appealing.*
- *Person centered approach of second video was more compelling and humanistic*

- The above rating was on the newer video. The first video was engaging as it was a bit comical, however didn't cover family life, exactly what got her interested in the field other than it was an interest. The challenges weren't discussed either. It was a fun video and perhaps good for a younger audience.
- The second video did a better job of conveying the challenges via words and images- the photos of her with her peers, This applies to her support as well - her family.
- The story of Victoria would be appealing to young Latina girls because the video showed several elements such as video clips of her in action at work. However, Victoria's story highlighted someone whom went to an Ivy League... Which is great. Yet, we also have to acknowledge the reality of the educational system and the systemic oppression that results in many families seeing IVY league schools as a dream because they are expensive or their children wouldn't get in because of inadequate resources in public schools, etc. It is important to highlight the wide range of stories that exists within the Latino community. It is also equally important to highlight diverse pathways to success... Example Two year college transfer to 4 yr institution. The impact of these videos really lies on how much the girls will relate to the story.

Suggestions for the production team

- It is important to have different versions for on-line, TV and web. Many Latina girls access internet through their phones and their attention span is shorter. Maybe you could have 30 second ones to spark interest on social media and lure them into the YouTube or Vimeo channel. It is very appealing for the girls to hear about the role models trajectory and Hispanic/US upbringing and mix of cultures.
- The videos present an opportunity for Latinas to learn about Latinas in STEM which can help motivate some of them to pursue an interest in STEM but if they aren't interested, they might not connect with the videos which is why I gave a 4 rating in two areas. Overall, I think the videos are great tools but I do suggest there might be some background work done before playing the videos; maybe conversations or readings to provide context for the girls and/or their families.
- It seemed odd to me that the video of the scientist was not filmed in Spanish - and was instead a voice over. I am left wondering if there couldn't be a way to do both in the same show somehow? I especially liked that both were able to embed her heritage into the story and to contextualize what she was doing for the viewer."

2.3b Overall appeal to Latina girls' parents/guardians

The 13 advisors/partners who rated the overall appeal of both profile videos to Latina girls were further asked to share any comments they might have regarding the likely appeal of the videos to the parents/guardians of Latina girls in the target audience. More than three-quarters (77%) thought parents/guardians would find the profile videos appealing, often because of their focus on the role models' work, personal lives, and pathways to their current professions. Just under a third (31%) mentioned the appeal of or need for Spanish in the videos, and about a quarter (23%) shared suggested content changes, including information to add and larger debates to consider (such as the use of Spanish, English, or Spanglish and the need for project stakeholders to reflect on the different meanings of Hispanic and Latino). Examples of the feedback given by advisors/partners in each of these areas are shared below.

Thought parents would find the videos appealing (77%)

- The video does a good job of covering the key elements at make the role model relatable and appealing.
- Parents would be interested in showing their daughters this kind of example that shows perseverance, hireability, and an accessible, personable, attractive and competent (but appropriately humble) role model.
- [Parents] are very interested on how the girls can get jobs in STEM and the benefits these bring.
- I would think it might be of interest to the viewers - girls and parents - to hear the joy both have in their work and the trajectory that brought them here. I found it especially interesting that Karin did not find the first job satisfying, although as a parent, I was left wondering who she found this out and how she was able to transition.
- I think the profile videos were great, especially learning about the women and their lives which will or not, resonate with girls and their families. One cultural challenge can be the lack of exposure in STEM for Latinas which would be a possible disconnect between the girls, their families and the stories.
- I think the video can be appealing to parents, specially the part with the family photos and when the mentors talk about their up bringing. It can also be informational for the parents to see Latinas going into male driven careers and know it is OK.
- Parents will like seeing her parents and family, even if they have a different family structure.
- They will be very appealing to family members. Like the girls, they may not know of women in STEM career fields and this will give them good examples.

Appeal of or need for Spanish (31%)

- The fact that there are some Spanish words and Latino cultural nuances included in the profiles can be a positive connection.
- I believe both would appeal to parents but of course it would have to be in their language.
- If going on TV it would be useful to offer subtitles just in case Latino parents are watching

- *...the video showcased family through embedded images. However, the parents did not speak. I think it would have been beneficial to have the parents talk in the video to help widen audience of video to baby boomers and immigrant parents. Second, the video brought in cultural elements through food (flan) and or some Spanish words. Throughout the video the role model Victoria stated her name and some Spanish words in English tone. While it is important that the role model expresses herself as she wishes, pronouncing Spanish words with an English tone brings up potential tension between believers of purist Spanish forms. Spanish versus Spanglish versus Spanish with English tones is a topic of debate within US Latinos. If our audience is families and not just second, third, fourth generation students, we need to address this issue. It's more of a philosophical question of what role we want these videos to play within this philosophical debate.*

Suggested content changes (23%)

- *For adults, greater depth would probably help.*
- *Re: Victoria, I would have liked to see a bit more around her college pathway. What it took to get to college and what classes she took.*
- *The video touched upon several important topics of discussion within the US Latino community. First, the video showcased family through embedded images. However, the parents did not speak. I think it would have been beneficial to have the parents talk in the video to help widen audience of video to baby boomers and immigrant parents. Second, the video brought in cultural elements through food (flan) and or some Spanish words. Throughout the video the role model Victoria stated her name and some Spanish words in English tone. While it is important that the role model expresses herself as she wishes, pronouncing Spanish words with an English tone brings up potential tension between believers of purist Spanish forms. Spanish versus Spanglish versus Spanish with English tones is a topic of debate within US Latinos. If our audience is families and not just second, third, fourth generation students, we need to address this issue. It's more of a philosophical question of what role we want these videos to play within this philosophical debate. Additionally, the inconsistent use of Hispanic and Latino within the SciGirls proposal... There is a big different between both. They are not interchangeable and the use of one or another or even ethnic origin terms is a huge topic of debate within the US Latino community. Once again, how are these videos going to address or align or challenge these issues?*

2.4 Suggestions for incorporating cultural values into the profile videos

The *SciGirls* profile videos typically include four segments, not necessarily in this order:

- *My Job (at work)*
- *My Life (outside work)*
- *Challenges/barriers and solutions/strategies*
- *Advice to Girls*

With each video, the production team hopes that the *Latina SciGirls* audience of Latina girls ages 8-13 and their parents/guardians will come to view the STEM professionals featured in the profiles to be positive role models. One way they plan to facilitate this process is by incorporating cultural values into the profile segments that can help establish a cultural connection with viewers. In the sections that follow, this evaluation considers youth, parent/guardian, and advisor/partner suggestions for incorporating cultural values into the four segments of the profile videos.

2.4a Incorporating cultural values into the *My Job (at work)* segment

Examples of specific comments shared by youth, parents/guardians, and advisors/partners about incorporating cultural values into the *My Job (at work)* segment are categorized in the table on the following page, while the main themes are summarized below.

Youth: Among the 14 youth who shared a response, a couple each suggested they wanted to see more about the professional's job, more about science, or simply said "Yes" or "Nothing."

Parents/guardians: Among the 7 parents/guardians who shared a response, a couple suggested showcasing research sites while others provided miscellaneous suggestions.

Advisors/partners: Seventeen (17) of the advisors/partners shared a response. Several in this group suggested highlighting the role models' interests, the impact of their work, and the (personal and financial) fulfillment achieved through their careers. A slightly smaller group suggested incorporating interactions with colleagues/workplace culture and/or including family or memories in this segment. A few shared cautionary advice, and several provided miscellaneous ideas not recommended by other advisors/partners.

Youth, parent/guardian, and advisor/partner comments on incorporating cultural values into the *My Job (at work)* segment

**Youth comments
(n=14)**

**Parent/guardian comments
(n=7)**

**Advisor/partner comments
(n=17)**

See more about her job

- I'd like to see her do more stuff in her work
- What they do? How they do it? What's fun?

More science

- More science.
- More science.

Nothing

- Nothing
- Nothing.

Yes

- Yes
- Yes

Miscellaneous

- I don't have work.
- I want to be a mechanical engineer.
- Same
- show around
- Make it more interesting for younger children.
- The guy in a small cart selling candy and other.

Showcase research sites

- Visit a research lab.
- Projects or research considering the places to visit for research.

Miscellaneous

- ... the traditions in science?
- Appropriate for adolescents
- Assist families with different languages of South American countries.
- They told me to see the video at work
- Yes

Role models' interests, impact of job, and fulfillment achieved

- Center this on the statement of questions that drive their passions.
- What can I accomplish or achieve?
- Feature the end product to see the everyday connection to their job. How does the product help address issues in communities from audiences- i.e. Latino community issues.
- Hard work, success, and what that means in my family. Personal fulfillment from my career.
- WRT to economic mobility, talk about ease of getting job, lucrative nature of job, how many opportunities she had coming out of college.
- If research is relevant to communities, how communities are included and valued.

Incorporate into interactions with colleagues/workplace culture

- If she has colleagues with which she speaks Spanish, include that (though it should come across natural)
- ... ask coworkers of contributions of role model.
- Maybe sharing cultural celebrations with co-workers (of all backgrounds)
- The collegiality and mutual support; a view of the workplace as diverse

Family or memories

- Making the connection between how the parents approach their jobs (i.e. the qualities, the values) and what they learned.
- Showing how important it is to her family and her sense of personal responsibility.
- Hard work, success, and what that means in my family.
- When talking about the job, mentioning a childhood memory of an issue the job she has now could have benefited to.

Cautionary advice

- This can be a sensitive area as some mothers may not work outside of the home so setting the stage for working women can be key. Talking about the impact of that job/role can tug at the heart strings and gain buy from families.
- Victoria had a lot of advantages that contributed to getting her job that didn't have anything to do with her culture. Would be good to have role models who are first generation to go to college or to be in a STEM career.

Other

- Include cultural cues in dress/jewelry (when appropriate).
- Maybe a daily segment would be a good idea this could connect to at work and outside of work.
- Maybe elaborate on the challenges being Latina and working in a field dominated by white men.
- Bringing in examples from history or the discipline if there were any Latino-oriented models, inventors, etc. that might be referred to. Mayans invented the zero, the meteorite theory of dinosaur extinction was imagined by Luis Alvarez, etc.

2.4b Incorporating cultural values into the *My Life (outside work)* segment

Examples of specific comments shared by youth, parents/guardians, and advisors/partners about incorporating cultural values into the *My Life (outside work)* segment are categorized in the table below, following a summary of the main themes that emerged.

Youth: Among the 16 youth who shared a response, a handful suggested adding more animals or pets, a couple pointed to house tours, and a couple more each simply pointed to “*Nothing*” or “*Yes.*” A few others provided miscellaneous suggestions.

Parents/guardians: The 3 parents/guardians who shared a response gave miscellaneous responses, two of which related to the scientists’ daily life or customs.

Advisors/partners: Of the 19 advisors/partners who shared a response, just under half praised this segment in the videos they saw for already incorporating cultural values or said they had nothing to add. A group of the same size suggested integrating cultural elements related to hobbies, the role model’s community, or her friends, and a slightly smaller group suggested integrating the role model’s family.

Youth, parent/guardian, and advisor/partner comments on incorporating cultural values into *My Life (outside work)* segment

Youth comments (n=16)	Parent/guardian comments (n=3)	Advisor/partner comments (n=19)
<p><u>More animals/pets</u></p> <ul style="list-style-type: none"> • <i>Pets, family, nature,</i> • <i>Show more dogs.</i> • <i>Tell us what places you live</i> • <i>The life story</i> • <i>What do you do? Is it fun?</i> <p><u>Include house tours</u></p> <ul style="list-style-type: none"> • <i>House tours and what they do.</i> • <i>House tours.</i> <p><u>Nothing</u></p> <ul style="list-style-type: none"> • <i>Nothing</i> • <i>Nothing.</i> <p><u>Yes</u></p> <ul style="list-style-type: none"> • <i>Yes so</i> • <i>Yes.</i> • <i>Yes.</i> <p><u>Miscellaneous</u></p> <ul style="list-style-type: none"> • <i>I want to be a mechanical engineer.</i> • <i>Drawing</i> • <i>Green school</i> • <i>Green School</i> 	<p><u>Miscellaneous</u></p> <ul style="list-style-type: none"> • <i>Yes.</i> • <i>Presenting their real life, how to balance obligations and responsibilities.</i> • <i>Present the participants customs.</i> 	<p><u>Praised how the segment incorporated cultural values/nothing to add</u></p> <ul style="list-style-type: none"> • <i>I think the video did very well here. A lot of Latina girls and their parents could relate to her home life.</i> • <i>Love the bits about intersections of their life with work and how prior experiences did and did not mesh with their work.</i> • <i>Loved the approach in the second video. Finding parallels in the role models experience that were familiar.</i> • <i>Loved the mention of family and background.</i> • <i>The piece with her mom was great.</i> • <i>Victoria's reflection on her dual perspective and experiences was very powerful - it showed that she valued her cultural bkgd and was not giving up for her career. Both were able to work together.</i> • <i>You do a great job including pictures, some Spanish speaking, what these young role models like to do.</i> • <i>Nothing to add</i> <p><u>Suggested integrating cultural aspects related to hobbies, community, and friends</u></p> <ul style="list-style-type: none"> • <i>Show segments of video of role models within the community. Shopping at local grocery stores, restaurants, etc. I have found that sometimes girls view role models as outsiders greater than life. Often times being surprised to learn that the role models like to dance or also shop at certain stores, etc.</i> • <i>Great opportunity to incorporate cultural holidays, meals, events, pastimes.</i> • <i>Typical food like the flan, celebrations</i> • <i>How one works in the community and is helping the community.</i> • <i>...Also include young adult social life, hanging out, friends.</i> • <i>This can be a great area for the girls and their families to connect with the person being profiled. Including cultural nuances, experiences, and words in the profile can be a great strategy.</i> <p><u>Suggested integrating the role model's family</u></p> <ul style="list-style-type: none"> • <i>Family influence. How far are they? How often do you check in?</i>

- *Family life, family relations, and how it supports work life*
- *Interview family mentors. Mentee feature in second video was great, but more family on camera time would have been great. Also, showing the doing outside work activities in their communities would be great.*
- *It is important to show the adult women staying connected to their family members. As I stated before, families do not want other things to get in the way of family togetherness, even if it is a good opportunity for the daughter.*
- *Show the mentors background (family photos), interactions with family members and friends...Show mentor with her own family (kids, husband/wife, etc.).*
- *Show the parents*

2.4c Incorporating cultural values into the *Challenges/barriers and solutions/strategies* segment

Examples of specific comments shared by youth, parents/guardians, and advisors/partners about incorporating cultural values into the *Challenges/barriers and solutions/strategies* segment are categorized in the table on the following page, while the main themes are summarized below.

Youth: Of the 12 youth who shared a response, a few each said that no barriers should be addressed or suggested focusing on translating to Spanish or using Spanish, while a few more gave miscellaneous responses.

Parents/guardians: The 4 parents/guardians who shared feedback gave miscellaneous suggestions.

Advisors/partners: Of the 16 advisors/partners who shared feedback, several suggested making girls aware of the challenges they might face but doing so with caution, while several others suggested elaborating on the challenges the girls might face. Slightly smaller groups praised this segment of the profile videos and/or shared comments not noted by other advisors/partners (including one who said s/he was “*not sure*”).

Youth, parent/guardian, and advisor/partner comments on incorporating cultural values into the *Challenges/barriers and solutions/strategies* segment

Youth comments (n=12)	Parent/guardian comments (n=4)	Advisor/partner comments (n=16)
<p><u>No/nothing</u></p> <ul style="list-style-type: none"> • NO! • No. • Nothing • Nothing <p><u>Translate/use Spanish</u></p> <ul style="list-style-type: none"> • Speak Spanish • Translating words to English. • Translating works. • Translating. <p><u>Miscellaneous</u></p> <ul style="list-style-type: none"> • Yes. • Same • I don't know. • It makes you feel good that you do things like that because not many Latinas do things like that. 	<p><u>Miscellaneous</u></p> <ul style="list-style-type: none"> • The woman who is a mother... ? • The problem of where to get funding for education. • Very important. • Present challenges and conflicts that are relevant in the age group. 	<p><u>Awareness with caution</u></p> <ul style="list-style-type: none"> • These need to be addressed!!! There were many comments made during the meeting about role models not "bitching" and discouraging girls. Yes, there should be a balance. However, we can't ignore how systemic oppression has contributed to these experiences. So are we doing a disservice to girls by highlighting these great careers and awesome potential incomes without addressing isolation, racism, and oppression? • Girls 8-10 still don't know of all the stereotypes, so we should be careful of not introducing them. If we are addressing them (such as the low number of women), make sure we also show how things are changing and give a positive message. • Important to both acknowledge these exist but also to make sure that the role models are trained not to dissuade the girls from entering the field. • This area can be positive or negative to the families in terms of encouraging or discouraging their daughters from pursuing STEM careers. It may be helpful to have a follow-up group discussion to further address the obstacles and allow them to ask questions. • Do not over focus on being isolated and the only one in the classes/field. See the Supergirl Dilemma research from Girls Inc. <p><u>Elaborate on challenge</u></p> <ul style="list-style-type: none"> • This needs to be highlighted more. Don't quite recall many challenges or barriers in the second video. Recall the note on only women but there are more issues. Leaving home to go to work would be a good way to connect to parents and family. • Again, elaborate on the challenges of being Latina and working in a field dominated by white men. • Relating family struggles, migration, economic challenges, etc.. show the adversity...everyone has a story.. • I think stressing challenges along the way and how the women overcome them or are still dealing with them needs to be emphasized more. At one point in the video, she is the only female in the room - how does she feel about that? • Appreciating the target audience is low-income, these two felt pretty privileged - so it might be good to highlight the possibilities for pursuing STEM for girls who do not have two parents who are scientists or access to a school/university experience that provides a special immersive experience. <p><u>Praised the segment</u></p> <ul style="list-style-type: none"> • The journey of the role model was positive and idealized- • Impressed with the segment of Velez working in collaboration with her male colleagues- she was respected, listened to and unintimidated, all strong messages. • Love these parts! This is where growth mindset can be foregrounded. <p><u>Other</u></p> <ul style="list-style-type: none"> • What strategies have helped me in difficult situations. • Anecdotes related to their cultures like misconceptions • I am not sure

2.4d Incorporating cultural values into the *Advice to Girls* segment

Examples of specific comments shared by youth, parents/guardians, and advisors/partners about incorporating cultural values into the *Advice to Girls* segment are categorized in the table on the following page, while the main themes are summarized below.

Youth: Of the 18 youth who shared a response, nearly half pointed to the idea that girls can “do things”/not just boys, while a few focused on the idea of dreaming and not giving up. A couple of youth simply said “No” or “Nothing,” while a few more gave miscellaneous responses.

Parents/guardians: The 4 parents/guardians who responded shared miscellaneous ideas.

Advisors/partners: Of the 15 advisors/partners who shared feedback, several suggested sharing advice on how to help girls reach their goals. At the same time, slightly smaller groups recommended highlighting the range of opportunities available to girls in STEM, helping the girls identify with the role model in the video, or said everything “*worked well*” and that they had “*nothing to add.*” One advisor/partner suggested keeping this segment short (as in, “*Nice as summary. Keep it to one thing!*”).

Youth, parent/guardian, and advisor/partner comments on incorporating cultural values into the *Advice to Girls* segment

Youth comments (n=18)

Girls can do it/not just boys

- boys are not the only ones
- Do what you want to do.
- Don't let men explore world
- Girls can do things guys like boys
- Girls can to things just like boys
- How hard was it? Was it challenging because of your race?
- Women and children can do just as much as men.

Dream/don't give up

- Never give up.
- Never give up.
- To never give up on your dreams
- Try harder.

No/nothing

- Nothing
- Nothing.

Miscellaneous

- Same
- Speak honestly.
- Stop being so fresa and cheesy.
- To not be that girly.

Parent/guardian comments (n=4)

Miscellaneous

- Examples for older girls, not just young ones.
- It would be very nice.
- At the end, participants should give positive advice to motivate other girls to follow in their foot steps.
- Continue its roots.

Advisor/partner comments (n=15)

Share advice on how to reach their goals

- Introduce girls to members of the community that would benefit from the project - local business owners, workers in agriculture, food preparers, or other professions that Hispanics usually occupy.
- I really liked the way Victoria gave encouragement...just wonder if there is a place perhaps online to get more info or to find programs that give substance/a concrete path forward to her recommendation.
- Emphasizing the fun or the process of discovery, failure a step to success, etc.
- Lengthen a bit more the advice. Provide practical steps on things girls can do today to lead them to STEM careers.
- Mentoring part and the advice to not be divided from your interests due to an overwhelming number of men was great reality check.

Highlight diversity of opportunities available

- There is more than one path. This was my path. Options other than university.
- Have mentors that have had different pathways to reach the place they are at. It is great to feature Ivy League schools but it might be more relatable to feature the community college path.
- Instead of "don't be afraid, you can do this" which implants the idea that they should be afraid, focus on how STEM/engineering can reflect any interest - want to help people, solve problems, or be part of innovation - engineering is a pathway to that.

Help the girls identify with the role model in the video

- "I am like you... Here is what I found... you can too!"
- Add a prompt to help role models to position advice for e target age group, maybe something like "when I was in 5th grade, I did xyz that really got me interested in abc"
- This is probably the easiest area to connect with the girls on a simple level to give them advice and encouragement to pursue an area of study and work where there aren't many people who look/sound like her.

2.5 Additional feedback about what girls and their parents might want to see featured in the profile videos

Finally, the youth, parents/guardians, and advisors/partners were asked if they had additional feedback regarding what Latina girls and/or their parents might want to know about the role models' lives or careers that they didn't see featured in the videos. Examples of their specific comments are categorized in the table on the following page, while the main themes are summarized below.

Youth: Of the 18 youth who shared additional feedback, several suggested adding more personal facts about the featured scientists (relating to, for example, their age, education, and residence), while several others said nothing more was needed or gave miscellaneous responses.

Parents/guardians: The 4 parents/guardians who shared a response to this question gave miscellaneous responses.

Advisors/partners: Nearly half of the 20 advisors/partners who shared a response suggested adding more information about the role models' friends, family members, and/or personal life to the profile videos. A slightly smaller group thought the profile videos could or should include more about the role models' career paths (including who their own role models were, the value of their work, the educational steps they took to get where they are, and their currently salary or quality of life). A few suggested sharing advice regarding next steps for girls and their parents, and a couple said there was nothing they wanted to add.

Youth, parent/guardian, and advisor/partner comments on additional feedback to incorporate in profile videos

Youth comments (n=18)

Add more personal facts

- Can they tell us how old they are
- did not tell us how old they are
- Their familia.
- Where do they go to school
- Yes
- You never said where did you live
- I would want to learn about their family.
- Include how many girls and boys there are, how much they make, how long they were in college and what is the name of the college.

No/nothing.

- No, I saw what was needed to be honest
- No it told a lot
- No or thinking Chemical Engineering.
- No.
- Nothing
- Nothing

Miscellaneous

- Do not let the men learn about new thing. Girls should learn too.
- Interesting for teens
- Make it fun and exciting.
- They should feature more women for more fun!
- I don't know.

Parent/guardian comments (n=4)

Miscellaneous

- Impact in their family community.
- Their lives as students. Did they do sports or art?
- How difficult was it to reach their goals?
- Their contributions to research as well as their jobs.

Advisor/partner comments (n=20)

Add more information about the role models' friends, family members, and/or personal life

- Do they still keep in touch with their family members, like their grandparents? What did their parents say when they told them they wanted to study rocks? The women can talk about family traditions.
- Friendships w/other girls/students and social life - especially relevant for the high school audience. Demonstrate lifestyle, showing the life that is enabled by this work.
- Have parents now provide insight on how their children's lives have changed as a result of pursuing STEM. Have parents explain, if possible, what their kids do or how they are proud of them.
- I think the family history, if relevant, is key. The family stories of the 2 women profiled was catchy to make a connection with not just her but also her life story and journey.
- I would like to hear briefly from the parents/family members who didn't initially support their girl and their process to move to support.
- More information on social context. If they came to the US, why? Include the families and social network in the interviews even if its just one or two sentences (teachers that were mentors, pastors, relatives, younger siblings that can speak to how the girls are role models).
- Perhaps economic level of parents, educated level of parents.

Include more about the role models' career paths

- Who are their role models?
- What do smashing rocks or sticking a wire through veins lead to in terms of helping the world, leading to discovery, improvement in health or material life or other applications of this knowledge in business or service, how are these things connected to the bigger picture in terms of utility. Also, remuneration for this type of work vs other types of work. Steps one takes to getting a degree (how many years, pathways) and be able to work in any particular field.
- For elite universities, include scholarship acceptance (when its part of the mix, obviously). Again, without acknowledging the financial barrier this kind of education entails, it seems as if this career may not be accessible.
- Maybe financial issues regarding college.
- I am not sure how this could be done but talk about how profitable (how much \$ mentors make) the career is and whether it is demanding (lots of job openings).
- Their quality of life, the benefits of being independent, self sufficient

Advice regarding next steps

- A call to action at the end of the videos is important. Maybe it should lead to a landing page? Once you spark the interest, then what? Where are some resources?
- Aspirations moving forward ... In stem or otherwise.
- How can parents help

Nothing

- I think it's well covered
- No

Summary of findings

Part 1: Feedback on the *SciGirls* episode *Hábitat en Caos*

1.1 Overall appeal of the program to Latina girls and their parents/guardians: The youth were asked to rate the overall appeal of the program to them personally, while the advisors/partners were asked to rate the overall appeal of the program to the target audience of low-to-moderately-low-income Latina girls ages 8-13, which generally characterized the youth participants in the front-end evaluation. Using a scale from 1.0 (*not at all appealing*) to 5.0 (*extremely appealing*), both the youth and the advisors/partners generally rated the program as *very appealing* (median rating 4.0), though both groups provided a range of ratings.

Similarly, the parents/guardians were asked to rate the overall appeal of the program to them personally, while the advisors/partners were asked to rate the overall appeal of the program to the target audience of parents/guardians of low-to-moderately-low-income Latina girls ages 8-13, which generally characterized the parent/guardian participants in the front-end evaluation. Using a scale from 1.0 (*not at all appealing*) to 5.0 (*extremely appealing*), the parents/guardians generally rated the program as *very appealing* (median rating 4.0) and the advisors/partners generally rated the program as *moderately appealing* (median rating 3.0), though both groups provided a range of ratings.

1.2 Feedback about the *SciGirls* attributes: The three groups of participants were asked to consider which of the *SciGirls* attributes (many of which were drawn from the *SciGirls Seven*) they felt were most important to highlight in the *Latina SciGirls* episodes and why. Summaries of the responses from each group are below.

➤ **Youth:** Nine-tenths of the 46 youth thought 1) *Work together* was the most important attribute to highlight, while about three-quarters pointed to 4) *Are creative and unique*. Nearly two-thirds selected 6) *Motivate others*, more than half selected 3) *Ask questions and explore*, and half selected 2) *Make a difference*. More than two-fifths pointed to 7) *Use STEM to change the world* and more than a third selected 5) *Aren't afraid to make mistakes*. About half of the youth shared miscellaneous responses.

➤ **Parents/guardians:** Nine-tenths of the 19 parents/guardians thought 1) *Work together* was the most important attribute to highlight. About two-thirds each pointed to 3) *Ask questions and explore* and/or 7) *Use STEM to change the world*, while three-fifths each pointed to 2) *Make a difference* and/or 6) *Motivate others*. Half each selected 4) *Are creative and unique* and/or 5) *Aren't afraid to make mistakes*. About one-sixth of the parents/guardians shared miscellaneous responses.

➤ **Advisors/partners:** Three-quarters of the 20 advisors/partners who shared a response selected 5) *Aren't afraid to make mistakes*. Half pointed to 3) *Ask questions and explore*, and about a third each thought 7) *Use STEM to change the world*, 1) *Work together*, and 2) *Make a difference* were the most important to highlight. More than a tenth selected 4) *Are creative and unique* and less than a tenth selected 6) *Motivate others*. A fifth shared miscellaneous responses.

Next, the youth, parents/guardians, and advisors/partners were asked if they could think of additional attributes the production team should add to the list of *SciGirls* attributes when producing *Latina SciGirls*. Summaries of their responses are shared below.

- **Youth:** Seventeen (17) of the youth shared additional attributes or made miscellaneous comments. More than one-quarter felt nothing more was needed or weren't sure what to add, one-fifth of the group suggested the program add *tomboys*, while more than half of the youth pointed to miscellaneous things, including: featuring different projects, offering Spanish versions, showing how to plant, motivating family members, and showing the girls' uniqueness.
- **Parents/guardians:** Twelve (12) of the parents/guardians shared additional attributes or thoughts. About two-fifths of this group pointed to showing how to research/do projects/use technology, while smaller groups suggested including Latin themes, including family members, indicated nothing more was needed, or had miscellaneous suggestions.
- **Advisors/partners:** Fifteen (15) of the advisors/partners shared additional attributes or miscellaneous thoughts. Of this group, more than a quarter suggested expanding on the *SciGirls* attributes, while a fifth pointed to the inclusion of the girls' family members. One advisor or partner said s/he didn't have anything to add. The largest group, slightly less than half, made miscellaneous suggestions that weren't shared by other advisors/partners.

1.3 Feedback about the *SciGirls* as role models: More than half of the youth thought they would be able to relate to the girls in the program, while all of the parents/guardians and three-quarters of the advisors/partners also expected this to be the case. Meanwhile, just over two-fifths of the youth thought they couldn't relate to the girls, and a quarter of the advisors/partners were unsure about the relatability of the *SciGirls*, said maybe, or thought this would probably be the case but gave qualifications.

In addition to asking whether the *SciGirls* were relatable, the youth were also asked if they felt the *SciGirls* were positive role models. Their accompanying parents/guardians, meanwhile, were asked if they felt the girls in the show were positive role models for their daughter or other Latina girls. All of the parents/guardians thought the girls in the program were positive role models for their daughters or other Latina girls. At the same time, nearly nine-tenths of the youth said they thought the *SciGirls* were positive role models and just over a tenth said they did not feel this was the case.

1.4 Feedback about conveying cultural values via the *SciGirls* mentor relationship: The youth, parents/guardians, and advisors/partners were asked if they noticed anything about the mentor interactions in *Hábitat en Caos* that could be conveyed more effectively by incorporating cultural values, and, if so, to explain where and how such values might be included. Summaries of the responses from each group are shared on the next page. Note, however, that not all youth or parents/guardians likely noticed this question in the survey. In translating the survey from English to Spanish a question number was inadvertently removed from the Spanish version of the survey, which may have resulted in many of those who completed the Spanish version to miss this particular question. Though the question was still included in the survey, it did not have a number assigned to it, as the other questions did. This

oversight likely occurred in the fast turnaround required in translating the surveys at *tpt* and then forwarding the surveys directly to the partner sites.

- **Youth:** Fifteen (15) youth answered this question, of whom one-third each suggested adding different cultures or showing the *SciGirls'* culture and/or race. Smaller groups indicated nothing needed to be changed, said they didn't know what to add, or gave miscellaneous responses.
- **Parents/guardians:** One (1) parent/guardian answered this question, noting "*I did not notice anything that should be changed.*"
- **Advisors/partners:** More than half of the 19 advisors/partners who answered the question suggested including the girls' family members or cultural values in some way. A slightly smaller group commented on the mentor, with a few praising her connection to the girls, several suggesting she share more about her background and experience, and a couple suggesting the production team find younger, Latina mentors for future episodes. More than a tenth shared project content ideas, and about a fifth shared miscellaneous feedback, including one advisor/partner who didn't feel able to answer the question.

1.5 Suggested changes for the show open and theme song: The youth, parents/guardians, and advisors/partners were asked which of the following approaches they would recommend for the live action footage in the show open: Option 1) Keep the segment as is to maintain the diversity of girls, science topics, and locations featured; Option 2) Swap in footage featuring more Latina girls but still have at least some diversity of girls, science topics, and locations featured; or Option 3) Swap in footage featuring 100% Latina girls, recognizing that this will reduce the diversity of girls, science topics, and locations featured. Summaries of the suggestions made by each group are below.

- **Youth:** Nearly two-thirds of the 41 youth who answered the question suggested showing more Latina girls in the show open. More than a quarter recommended keeping the segment the same, and a tenth thought the production team should show 100% Latina girls.
- **Parents/guardians:** Just over half of the 19 parents/guardians suggested that the show open show more Latina girls while just over one-quarter thought the producers should keep the segment the same, and just under one-fifth suggested the production team feature 100% Latina girls.
- **Advisors/partners:** Three-quarters of the 20 advisors/partners who answered the question suggested changing the *SciGirls* show open by featuring more Latina girls. A fifth suggested keeping the show open the same, and one partner shared another suggestion. None of the advisors/partners suggested replacing the footage to only feature Latina girls.

Next, the youth, parents/guardians, and advisors/partners were told that the production team was not planning to change the *SciGirls* theme song or music that plays during the show open, but that the team could leave the lyrics in English (as is), add some Spanish, use a combination of English and Spanish, or translate the lyrics into Spanish and re-record the song with a

singer in Spanish. They were then asked to select which approach they would recommend. Summaries of the responses from each group are shared below.

- **Youth:** Among the 42 youth who answered the question, a third suggested combining English and Spanish in the *SciGirls* theme song. A quarter each recommended leaving the theme song in English but adding some Spanish or re-recording the song in Spanish. More than a tenth thought the production team should leave the theme song in English, and less than a tenth shared other responses.
- **Parents/guardians:** Three-fifths of the 19 parents/guardians suggested changing the *SciGirls* theme song to use a combination of English and Spanish. A fifth recommended leaving the song in English but adding some Spanish. More than a tenth thought the production team should re-record the song in Spanish and less than a tenth suggested leaving it in English.
- **Advisors/partners:** Three-fifths of the 20 advisors/partners who answered the question suggested changing the *SciGirls* theme song to use a combination of English and Spanish. More than a tenth suggested translating the lyrics and re-recording the song in Spanish. A tenth thought the production team should add some Spanish to the theme song, while less than a tenth thought the team could leave the show open music in English. A tenth shared another response or said they were not sure.

1.6 Incorporating cultural values into the science process/engineering design scenes:

Noting the *Latina SciGirls* episodes will feature Latina girls collaborating on a science/engineering project and working with a mentor on inquiry/design process, the youth, parents/guardians, and advisors/partners were asked how the production team might incorporate cultural values in these scenes in a way that would appeal to the target audience of Latina girls and their parents/guardians. Summaries of the responses from each group are below.

- **Youth:** Among the 33 youth who shared a response, nearly half commented on including aspects of Latino culture, particularly relating to food, music, festivals, dancing, native animals, or plants, while a smaller group pointed to something that involved including information about the girls' project and process or adding the message that everyone can do science. Other youth felt that nothing more needed to be added/said they didn't know or gave miscellaneous responses.
- **Parents/guardians:** Among the 12 parents/guardians who shared a response, three-quarters commented on including aspects of Latino culture, particularly relating to art, music, and food, while a couple others pointed to showing individual youth working together and/or in friendship or shared miscellaneous feedback.
- **Advisors/partners:** Among the 19 advisors/partners who shared a response, about half each commented on incorporating family into the science process/engineering design scenes and/or including aspects of Latino culture or Spanish language. About a quarter thought the inclusion of cultural values could be addressed by the mentors, and one-sixth thought the production team should include more information about the girls' project and

process. Just over a tenth shared miscellaneous feedback, including one advisor/partner who said s/he “*didn’t know*” and another who suggested “*polling the girls*” to get their feedback.

1.7 Illustrating Izzy’s cultural heritage in the animated segments: Each *SciGirls* episode features animated segments featuring three characters: Izzy, Jake, and Jake’s pet mouse Fang. In all of the *SciGirls* animated segments, Izzy is Hispanic but with no explicit storytelling about her heritage or family (currently), though it is reflected in her bedroom décor and her kitchen. Jake is non-Hispanic white. With this in mind, the youth, parents/guardians, and advisors/partners were asked how they would suggest the production team integrate cultural aspects into Izzy’s life and the new stories. Summaries of the responses from each group are below.

- **Youth:** Among the 33 youth who shared a response, over one-quarter commented on including aspects of Latino culture in Izzy’s daily life, while one-fifth pointed to using Spanish, and less than one-fifth pointed to highlighting her family background.
- **Parents/guardians:** Among the 13 parents/guardians who shared a response, more than two-fifths commented on highlighting Izzy’s family background, while under one-third focused on highlighting aspects of Latino culture in her daily life, and a small group pointed to using Spanish.
- **Advisors/partners:** Among the 20 advisors/partners who shared feedback about the animation, more than a third pointed to highlighting Izzy’s family background, while a group of the same size suggested highlighting aspects of Latino culture in Izzy’s daily life. A fifth each pointed to the use of Spanish, shared cautionary advice with the production team, or provided miscellaneous suggestions.

1.8 Including family members in “Backtalk” segments: Youth, parents/guardians, and advisors/partners were told that the production team was considering the option of including more family members in the girl profile “Backtalk” segments (wherein the girls talk about their home lives and interests, sometimes showing pets, musical instruments, sports, and bedrooms), and were asked whether or not they would recommend this change. Nearly all of the advisors/partners suggested including more family members in the “Backtalk” segments, and slightly less than three-quarters each of youth and partners/guardians shared this recommendation. More than a quarter each of youth and parents/guardians suggested following the example in *Hábitat en Caos*. A tenth of advisors/partners shared this recommendation.

1.9 Incorporating family members in the communicate findings/share results scenes: The youth, parents/guardians, and advisors/partners were told that the production team was considering including families more explicitly in the scenes in which the *SciGirls* communicate their findings/share their results, and were asked whether or not they would recommend this change. About four-fifths of the advisors/partners suggested including family members in the final scenes of the program, while approximately half each of the youth and parents/guardians shared this recommendation. At the same time, about half each of the youth and parents/guardians advised *against* doing more to incorporate families into the final scenes, as did less than a fifth of the advisors/partners.

Part 2: Feedback on the *SciGirls* profile videos

2.1 Overall appeal of Karin Block's profile video: The youth were asked to rate the overall appeal of various aspects of [Karin Block's profile video](#) on a scale from 1.0 (*not at all appealing*) to 5.0 (*extremely appealing*), while the group of advisors/partners who completed the front-end evaluation after the advisor meeting (n=8) were asked to rate how appealing they felt the target audience of low-to-moderately-low-income Latina girls ages 8-13 would find each aspect. Though they provided a range of ratings in each case, both groups generally rated the following aspects of Karin Block's profile video *very appealing* (median rating 4.0 each): *learning about her occupation, learning about her life outside of work, the visual storytelling techniques (video photograph, pacing, music, etc.), and the length of the video.* Meanwhile, while the advisors/partners also found the final two aspects, *the way her personality was presented* and *learning how she got interested in STEM/her field*, to be *very appealing* (median rating 4.0), the youth generally rated these aspects *extremely appealing* (median rating 5.0 each).

The parents/guardians were also asked to rate the various aspects of the overall appeal of [Karin Block's profile video](#) to them personally. Though the parents/guardians provided a range of ratings in each case, as a group they generally indicated that they thought all six aspects the video were *very appealing* (median rating 4.0 each): *learning about her occupation; learning about her life outside of work; learning how she got interested in STEM/her field; the way her personality was presented; the visual storytelling techniques (video photograph, pacing, music, etc.); and the length of the video.*

2.2 Overall appeal of Victoria Velez's profile video: The youth were asked to rate the overall appeal of various aspects of [Victoria Velez's profile video](#) on a scale from 1.0 (*not at all appealing*) to 5.0 (*extremely appealing*), while the group of advisors/partners who completed the front-end evaluation after the advisor meeting (n=8) were asked to rate how appealing they felt the target audience of low-to-moderately-low-income Latina girls ages 8-13 would find each aspect. Though they provided a range of ratings in each case, both groups generally found it *extremely appealing* (median rating 5.0) to *learn how she got interested in STEM/her field.* Both groups also generally rated the following aspects of Victoria Velez's profile video *very appealing* (median rating 4.0 each): *learning about her life outside of work, hearing her advice for students/girls, the way her personality was presented, and the length of the video.* The advisors/partners tended to rate *learning about her occupation* higher than did the youth (median rating 5.0 vs. 4.0) while the youth tended to rate *hearing about her challenges and strategies for overcoming them* and *the visual storytelling techniques (video photograph, pacing, music, etc.)* higher than did the advisors/partners (median rating 5.0 vs. 4.0).

The parents/guardians were also asked to rate the various aspects of the overall appeal of Victoria Velez's profile video to them personally. Though the parents/guardians provided a range of ratings in each case, as a group they generally indicated that they thought three of eight aspects of the video were *extremely appealing* (median rating 5.0 each): *learning about her occupation, hearing her advice for students/girls, and hearing about her challenges and strategies for overcoming them.* The remaining five aspects they generally rated as *very appealing* (median rating 4.0 each): *learning how she got interested in STEM/her field; learning about her life outside of work; the way her personality was presented; the visual storytelling techniques (video photograph, pacing, music, etc.); and the length of the video.*

2.3 Combined appeal of profile videos, as assessed by advisors/partners: The 13 advisors/partners who attended a *Latina SciGirls* advisor meeting in February 2016 watched the Karin Block and Victoria Velez profile videos and were asked to rate various aspects of the overall appeal of the videos to Latina girls ages 8-13. Though they provided a range of ratings in each case, they generally indicated that they thought the following aspects of the profile videos would be *extremely appealing* (median rating 5.0 each) to Latina girls: *hearing the woman's advice for students/girls, the visual storytelling techniques (video photograph, pacing, music, etc.), and the length of the video*. The advisors/partners also thought Latina girls would find the following aspects of the profile video *very appealing* (median rating 4.0 each): *learning about the woman's occupation, learning about the woman's life outside of work, learning how the woman got interested in STEM/her field, hearing about the woman's challenges and strategies for overcoming them, and the way the woman's personality was presented*.

These 13 advisors/partners were further asked to share any comments they might have regarding the likely appeal of the videos to the parents/guardians of Latina girls in the target audience. More than three-quarters thought parents/guardians would find the profile videos appealing, often because of their focus on the role models' work, personal lives, and pathways to their current professions. Just under a third mentioned the appeal of or need for Spanish in the videos, and about a quarter shared suggested content changes, including information to add and larger debates to consider (such as the use of Spanish, English, or Spanglish and the need for project stakeholders to reflect on the different meanings of Hispanic and Latino).

2.4 Suggestions for incorporating cultural values into the profile videos: The youth, parents/guardians, and advisors/partners were invited to share suggestions for incorporating cultural values into the four segments of the profile videos: *My Job (at work)*, *My Life (outside work)*, *Challenges/barriers and solutions/strategies*, and *Advice to Girls*. Summaries of the responses from each group, by segment, are below.

Incorporating cultural values into the *My Job (at work)* segment

- **Youth:** Among the 14 youth who shared a response, a couple each suggested they wanted to see more about the professional's job, more about science, or simply said "Yes" or "Nothing."
- **Parents/guardians:** Among the 7 parents/guardians who shared a response, a couple suggested showcasing research sites while others provided miscellaneous suggestions.
- **Advisors/partners:** Seventeen (17) of the advisors/partners shared a response. Several in this group suggested highlighting the role models' interests, the impact of their work, and the (personal and financial) fulfillment achieved through their careers. A slightly smaller group suggested incorporating interactions with colleagues/workplace culture and/or including family or memories in this segment. A few shared cautionary advice, and several provided miscellaneous ideas not recommended by other advisors/partners.

Incorporating cultural values into the *My Life (outside work)* segment

- **Youth:** Among the 16 youth who shared a response, a handful suggested adding more animals or pets, a couple pointed to house tours, and a couple more each simply pointed to “Nothing” or “Yes.” A few others provided miscellaneous suggestions.
- **Parents/guardians:** The 3 parents/guardians who shared a response gave miscellaneous responses, two of which related to the scientists’ daily life or customs.
- **Advisors/partners:** Of the 19 advisors/partners who shared a response, just under half praised this segment in the videos they saw for already incorporating cultural values or said they had nothing to add. A group of the same size suggested integrating cultural elements related to hobbies, the role model’s community, or their friends, and a slightly smaller group suggested integrating the role model’s family.

Incorporating cultural values into the *Challenges/barriers and solutions/strategies* segment

- **Youth:** Of the 12 youth who shared a response, a few each said that no barriers should be addressed or suggested focusing on translating to Spanish or using Spanish, while a few more gave miscellaneous responses.
- **Parents/guardians:** The 4 parents/guardians who shared feedback gave miscellaneous suggestions.
- **Advisors/partners:** Of the 16 advisors/partners who shared feedback, several suggested making girls aware of the challenges they might face but doing so with caution, while several others suggested elaborating on the challenges the girls might face. Slightly smaller groups praised this segment of the profile videos and/or shared comments not noted by other advisors/partners (including one who said s/he was “not sure”).

Incorporating cultural values into the *Advice to Girls* segment

- **Youth:** Of the 18 youth who shared a response, nearly half pointed to the idea that girls can “do things”/not just boys, while a few focused on the idea of dreaming and not giving up. A couple of youth simply said “No” or “Nothing,” while a few more gave miscellaneous responses.
- **Parents/guardians:** The 4 parents/guardians who responded shared miscellaneous ideas.
- **Advisors/partners:** Of the 15 advisors/partners who shared feedback, several suggested sharing advice on how to help girls reach their goals. At the same time, slightly smaller groups recommended highlighting the range of opportunities available to girls in STEM, helping the girls identify with the role model in the video, or said everything “worked well” and that they had “nothing to add.” One advisor/partner suggested keeping this segment short (as in, “Nice as summary. Keep it to one thing!”).

2.5 Additional feedback about what girls and their parents might want to see featured in the profile videos: Finally, the youth, parents/guardians, and advisors/partners were asked if they had additional feedback regarding what Latina girls and/or their parents might want to know about the role models' lives or careers that they didn't see featured. Summaries of the responses from each group are below.

- **Youth:** Of the 18 youth who shared additional feedback, several suggested adding more personal facts about the featured scientists (relating to, for example, their age, education, and residence), while several others said nothing more was needed or gave miscellaneous responses.
- **Parents/guardians:** The 4 parents/guardians who shared a response to this question gave miscellaneous responses.
- **Advisors/partners:** Nearly half of the 20 advisors/partners who shared a response suggested adding more information about the role models' friends, family members, and/or personal life to the profile videos. A slightly smaller group thought the profile videos could or should include more about the role models' career paths (including who their own role models were, the value of their work, the educational steps they took to get where they are, and their currently salary or quality of life). A few suggested sharing advice regarding next steps for girls and their parents, and a couple said there was nothing they wanted to add.

Final remarks

This front-end evaluation of *Latina SciGirls* presents feedback from the project's primary public audiences (Latina girls and their parents/guardians) and professional audiences (advisors and partners). Participating youth, parents/guardians, and advisors/partners were asked to review a set of video materials prepared by the production team, including the previously Spanish-dubbed episode of the *SciGirls* program *Hábitat en Caos* (which was also made available in English) and two role model scientist profile videos featuring [Karin Block](#) and [Victoria Velez](#).

A review of the participants' responses indicates that the final versions of the Season 4 *SciGirls* episodes and profile videos have the potential to engage interest, inform, and motivate Latina girl audiences 8-13 years and their parents/guardians in the ways envisioned by *tpt*. At the same time, caution should be taken in drawing broad implications from the findings given the inherent goals and limitations of formative evaluations, with the evaluation design in this case relying on a budget-limited sample of 86 participants to provide in-depth feedback for the purpose of informing the development of the *SciGirls* media, as opposed to providing a full assessment of their impact, as is characteristic of a summative evaluation. The following comments and suggestions are given in the spirit of assisting the production team's brainstorming, as the ideas presented here are certainly not the only way to respond to the participants' feedback.

Specifically, this evaluation considers the extent to which feedback from youth, parents/guardians, and advisors/partners validates the project's key assumptions in planning *Latina SciGirls*, including the importance of: developing a Spanish-language program, featuring more authentic and culturally appropriate story lines, and showcasing STEM professionals and girl peers as Latina role models. With these goals in mind, we look across the findings at themes that emerge in numerous places to briefly summarize a few issues that might help inform *tpt*'s further development of the television program and profile videos.

Feedback about the video materials

- The youth generally rated *Hábitat en Caos* as *very appealing*. Additionally, the advisors/partners thought the program would be *very appealing* to the target audience of low-to-moderately-low-income Latina girls ages 8-13. In their comments about their ratings, several youth and advisors/partners praised the program and described it as fun/enjoyable to watch and/or informative/educational, indicating that the current production approach would likely be appropriate for future episodes of *Latina SciGirls*.

Though the advisors/partners thought the program would generally be *moderately appealing* to the parents/guardians of low-to-moderately-low-income Latina girls ages 8-13, the (small sample of) parents/guardians who participated in the evaluation generally found the program *very appealing*. In their comments about their ratings, several parents/guardians described liking that the program was informative and that it fostered their daughters' interest in science.

- When the youth, parents/guardians, and advisors/partners were asked to consider which of the *SciGirls* attributes (many of which were drawn from the *SciGirls Seven*) they felt were most important to highlight in *Latina SciGirls* episodes, each of the seven attributes were chosen by more than half of the youth, parents/guardians, or advisors/partners, indicating that all of the attributes are at least somewhat important to highlight.
 - Of the seven attributes, #1 *work together* was chosen by the largest groups of youth (89%) and parents/guardians (90%). It was the fourth most common attribute selected by advisors/partners (30%).
 - Of the seven attributes, #5 *make mistakes* was chosen by the smallest groups of youth (37%) and parents/guardians (50%). However, this attribute was also selected by the *largest* group of advisors/partners (75%). Many of the advisors/partners who commented on their rating called it a “*big hurdle to get over*” and said “*it's critical that girls know that this is a part of the process,*” indicating that advisors/partners may be more aware of and willing to embrace the value of making mistakes than audiences of Latina girls and their parents.

- When asked to share feedback about the diversity of girls in the show open, the majority of youth (61%), parents/guardians (53%), and advisors/partners (75%) suggested swapping in footage featuring more Latina girls while maintaining at least some diversity of girls, science topics, and locations. As explained by two of the advisors/partners, “*This series really is about Latinas and boosting their participation in STEM. But the fact that our girls do and should work with girls of other cultures/ethnicities is important to include*” and “*I don't like swapping to 100% 'Latina' girls, because many Latinas are blonde or black, and the stereotype of Latina might not include that.*”

- When asked to share feedback about the use of Spanish or English in the theme song, the largest groups of youth (33%), parents/guardians (60%), and advisors/partners (60%) suggested combining Spanish and English. Several parents/guardians and advisors/partners noted that this bilingual approach would likely reflect “*what a lot of girls will hear in their daily life,*” and participants from all three groups explained that using both languages would be inclusive to Spanish and English speakers.

- The youth and parents/guardians generally liked the Karin Block and Victoria Velez profile videos, finding various aspects of both videos very or extremely appealing. The advisors/partners also thought Latina girls and their parents/guardians would find the videos appealing. However, several of the parents/guardians and advisors/partners indicated a slight preference for the video featuring Victoria Velez, for various reasons (for example, “*Person centered approach of second video was more compelling and humanistic*” and “*The first video showed the profession as lonely and did not show collaboration, the second video did a great job in doing this and making it more appealing*”).

Overarching feedback about the project's goals and assumptions

- Throughout their surveys, the youth, parents/guardians, and advisors/partners generally pointed to three primary ways to incorporate Latino culture into *Latina SciGirls* episodes and profile videos: highlighting family, adding cultural elements, and using Spanish.
 - The majority of youth (72%), parents/guardians (71%), and advisors/partners (90%) suggested including family members in the episodes' "Backtalk" segments. Those who commented on their preference for including more family members generally made two main suggestions – showing the girls interacting in an unscripted/natural way with their family members and/or including interviews with the parents. Additionally, a number of participants suggested highlighting Izzy's family/background in the animated segments, including family members in the episodes' science process/engineering design scenes and final "sharing" scenes, and providing more information about or interaction with family members in the scientist profile videos. As explained by one parent, *"For us family support is important and would be a great help to identify with those families."*
 - Throughout their surveys, participating youth, parents/guardians, and advisors/partners suggested adding information about Latino culture – sharing examples relating to food, music, art, festivals, dancing, sports, native animals, and plants – to the episodes and profile videos. Additionally, a few advisors/partners cautioned that this would *"need to be done carefully [so as] not to fall into any stereotypes."*
 - Throughout their surveys, participating youth, parents/guardians, and advisors/partners suggested adding Spanish to the episodes and profile videos. In addition to suggesting that the theme song incorporate both Spanish and English, as described above, many participants recommended using Spanish in the science process/engineering design scenes or final "sharing" scenes, having Izzy speak Spanish in the animated segments (and/or changing her name), adding more Spanish words or conversations to the profile videos, or making the profile videos available in Spanish.

Some of the participants said they thought the translation, vocabulary, or voice over in *Hábitat en Caos* could be improved upon (as in, *"I liked the content but not the translation. Delea's voice is not pleasant and some words are translated incorrectly"*) and at least one of the advisors/partners suggested making the Spanish voice over more engaging (as in, *"I think the English one is probably more appealing than the Spanish. The Spanish one is dubbed and diminishes the connection with the characters. Also, the signs that appear in the Spanish show are not translated"*).

Finally, some of the participants suggested embracing the girls' *"inevitable code switching between English and Spanish,"* and one shared feedback about considering the larger debate about Spanish, English, and Spanglish (as in, *"Throughout the video the role model Victoria stated her name and some Spanish words in English tone. While it is important that the role model expresses herself as she wishes, pronouncing Spanish words with an English tone brings up potential tension between believers of purist Spanish forms. Spanish versus Spanglish versus Spanish with English tones is a topic of*

debate within US Latinos. If our audience is families and not just second, third, fourth generation students, we need to address this issue. It's more of a philosophical question of what role we want these videos to play within this philosophical debate”).

➤ Throughout their surveys, the youth, parents/guardians, and advisors/partners generally agreed that they thought the girls and STEM professionals featured in *Hábitat en Caos* and the scientist profile videos were good role models. Specific feedback about both kinds of role models (the *SciGirls* and the STEM professionals) is considered below.

- The majority of youth (57%) felt they were able to relate to the girls in the program, while larger groups of parents/guardians (100%) and advisors/partners (75%) thought this would be the case. Commenting on their ratings, several youth said they could relate to the girls in the program because they loved nature and animals. The majority of parents/guardians thought their daughters would relate to the *SciGirls* because they liked to learn and were curious about the world around them. Additionally, the majority of youth (86%) and parents/guardians (100%) thought the *SciGirls* were positive role models, with several youth and parents/guardians explaining that the *SciGirls* were good role models because they were shown doing something positive, good, or helpful for nature or other people.

Throughout their surveys, several youth, parents/guardians, and advisors/partners commented on ways the youth audience would or did connect with the girls in the program, for example explaining that they looked like them, shared hobbies and academic interests, shared a name, acted like them, or were *authentic, unscripted, and relatable*.

- The youth, parents/guardians, and advisors/partners generally liked learning about the professional role models' work, personal lives, and pathways to their current professions, and several participants commented on the importance of helping youth audiences connect with these role models (as in, *"This is probably the easiest area to connect with the girls on a simple level to give them advice and encouragement to pursue an area of study and work where there aren't many people who look/sound like her"*).

Throughout their surveys, several of the participants expressed an interest in learning more about the mentors in the program and profiles videos (as in, *"Can they tell us how old they are," "I would want to learn about their family,"* and *"There should be more info about the mentor, where is she from, how did she get there, what is the name of her position/career? Also for Hispanic parents it is important to know those careers lead to what kind of jobs"*).

Additionally, a few participants suggested the production team work with young Latina role models (as in, *"Having near peer mentors who are Latinas will make a big difference"*), and a couple suggested showcasing role models from a range of backgrounds (as in, *"Victoria's story highlighted someone whom went to an Ivy League... Which is great. Yet, we also have to acknowledge the reality of the educational system and the systemic oppression that results in many families seeing IVY league schools as a dream because they are expensive or their children wouldn't get in because of inadequate resources in public schools, etc. It is important to highlight the wide range of stories that*

exists within the Latino community. It is also equally important to highlight diverse pathways to success”).

- Finally, some of the advisors/partners shared words of caution or pointed to additional debates that are worth highlighting at this early stage of the project.
 - When casting the *SciGirls* and selecting production locations, some advisors/partners suggested sensitivity to location and related transportation/safety issues (as in, *“Considering the families are low to moderately low-income, their communities probably don't have many programs such as the Point Loma Native Plant Garden”* and *“Again transportation is a big issue for how much girls can participate in activities, no matter how fun or educational they are”*).
 - Some of the advisor/partner comments about the *Challenges/barriers and solutions/strategies* segment of the scientist profile videos might also apply to future *Latina SciGirls* episodes. For example, several suggested making girls aware of the challenges they might face but doing so with caution (as in, *“Girls 8-10 still don't know of all the stereotypes, so we should be careful of not introducing them. If we are addressing them (such as the low number of women), make sure we also show how things are changing and give a positive message”*), while several others suggested elaborating on challenges girls might face (as in, *“I think stressing challenges along the way and how the women overcome them or are still dealing with them needs to be emphasized more. At one point in the video, she is the only female in the room - how does she feel about that?”*).
 - Returning to the point of potential stereotyping referenced earlier in an advisor/partner comment about possible challenges involved in highlighting diversity and individuality among the girls featured in *SciGirls*, the issue of how to concretely present the featured girls' Latino culture in a sensitive and meaningful way surfaced in various places in the evaluation. While a number of youth, parents/guardians, and advisors/partners suggested highlighting themes that may be relevant across different Latino cultures (which one parent/guardian characterized as *“showing that there are commonalities between Latinas”*), many also suggested contextualizing the girls' culture rather than looking for a one-size-fits-all approach. As one advisor/partner cautioned: *“Hispanic heritage can come from so many different options. It would be a challenge to find one that is common to all, for instance, some Hispanic cultures love spicy food, other don't. Some love mariachis, others love salsa, or cumbia, or merengue dance, and so on.”*

Throughout the evaluation many participants offered specific suggestions for how the production team might portray the *SciGirls* within the context of their daily schedule, family life, larger family heritage, friendship network, community base, and/or country of origin. For example, one parent/guardian recommended, *“I would like for the characters to identify with their heritage. This can be done during the introduction of the episode allowing for the characters to have distinct qualities according to their culture.”* Another parent/guardian suggested, *“The form and procedures of project are coupled with similar ancestral practices.”* A few different youth similarly suggested as follows: *“You can put a family tree and a map and where they come from;”* *“For her to speak Spanish or talk about her life. A flag on his cage so we know where they are from;”* *“I would like to see her daily life with her parents;”* and *“Working with animals or things of*

the countries in which they work and/or cultural dances.” Several advisors also weighed in on how to provide meaningful cultural context, here again often mentioning themes that involved building a stronger personal, social, and community presence for the characters, such as, “Creating a stronger home/social/community background for Izzie would be a high priority, so her interest in science is visible against that background.”

- Finally, one of the advisors/partners commented on “*the inconsistent use of Hispanic and Latino within the SciGirls proposal*” and recommended *Latina SciGirls* stakeholders keep this issue in mind when developing the rest of the project (as in, “*There is a big different between both. They are not interchangeable and the use of one or another or even ethnic origin terms is a huge topic of debate within the US Latino community. Once again, how are these videos going to address or align or challenge these issues?*”).

Appendix 1

Latina SciGirls Logic Model

Assumptions: Barriers to STEM engagement: Low English-proficiency especially among parents; Few or low exposure to Latino role models and mentors; Low STEM self-esteem (negative or neutral STEM identity); Lack of knowledge and/or misunderstanding of STEM fields; Lack of family-level programming. **Culturally relevant role model video profiles:** Studies show students engage the most with relatable role models that focus on their personal story; TV show and role model profile videos designed to be culturally responsive can address some of the barriers to STEM engagement.

Front-end Evaluation:

- 1) Investigate **barriers to STEM engagement** among Latina girls and their families;
- 2) Investigate elements that make TV shows and role model video profiles **culturally relevant and engaging to Latina girls and their families:** e.g. research-based strategies for girl-friendly, family-oriented programming portraying Latinas in STEM fields, working in the community: **real stories about STEM professional Latina women's life and work experiences.**

