

# SciGirls

## Season Four



## Executive Summary 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.

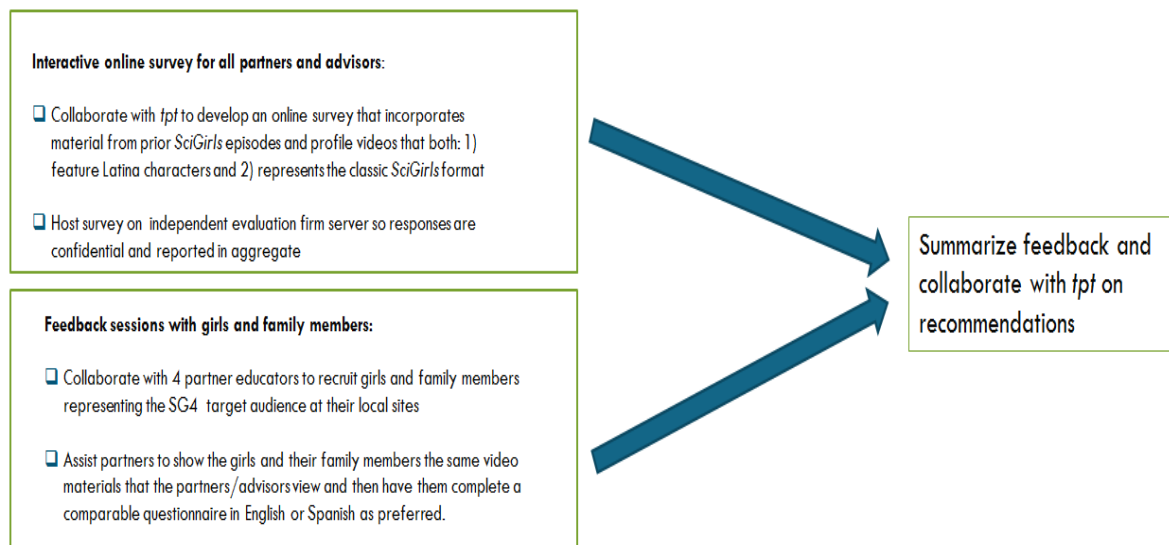
## Method

### 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 partners<sup>1</sup> 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.<sup>2</sup>

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

<sup>2</sup> 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 executive summary, *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.

<b><i>Latina SciGirls</i> Partner Organizations</b>	<b>City</b>	<b>State</b>	<b>Program Type</b>
<b>Children's Museum of Houston</b>	<b>Houston</b>	<b>TX</b>	<b>Afterschool</b>
<b>New Mexico PBS</b>	<b>Albuquerque</b>	<b>NM</b>	<b>Afterschool</b>
<b>Morristown Neighborhood House</b>	<b>Morristown</b>	<b>NJ</b>	<b>TBD</b>
<b>University of Puerto Rico at Mayaguez</b>	<b>Mayaguez</b>	<b>PR</b>	<b>Summer camp</b>
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

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evaluation and project teams ([http://informalscience.org/evaluation/ic-000-000-008-533/Final\\_Report:\\_Pathways\\_to\\_Brighter\\_Futures\\_Through\\_STEM\\_Careers](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).<sup>3</sup> This section summarizes the gender balance, age range, ethnic composition, Spanish language skills, choice of language for survey completion, and previous exposure to *SciGirls* for each group.

## ***Gender balance***

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. 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***

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.

## ***Spanish language skills***

The bullet points below 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.

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<sup>3</sup> 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.

### ***Prior exposure to SciGirls***

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*.

### ***Additional feedback about advisor/partner experience***

The advisors/partners were further asked about the area of STEM in which they worked. 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 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. 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.

# Outline

The executive summary of 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:** 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 below. 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

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 summaries 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:** 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 her 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 in the videos. 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 executive summary of the 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 executive summary 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 the 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 and concrete 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 difference 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

