



**NGCP Webinar Chat Transcript:  
Addressing STEM Stereotypes with Young Children**  
October 20<sup>th</sup>, 2022

Nancy Scales-Coddington: Please introduce yourself in the chat

Nia Johnson: Hello! Nia Johnson, an Engineering Ed PhD student at Ohio State and an informal educator at PAST Foundation. Happy to be here!

Nancy Scales-Coddington: Is this your first National Girls Collaborative webinar?

Tara Cox: Hi everyone! I'm Tara, Assistant Director of Programs at NGCP and joining from the Jersey Shore :)

Adrienne: Hello! NASA Solar System Ambassador!

Sarah Carter: Good afternoon from Minnesota! I'm the STEM and Computer Science Specialist at the Minnesota Department of Education.

Nancy Scales-Coddington: Hi Sarah!

Patricia Sasson: @Tara Cox

Holly Bluhm: Hi! I'm Holly Bluhm, Manager of Programs at Scientific Adventures for Girls in the Oakland & Richmond California area and it's my first National Girls Collaborative webinar.

Patricia Sasson: I am originally from NJ!

Natalie Shaefer (she/her): Hello! I'm Natalie, a science educator from the Air Zoo, an aerospace and science center in Michigan.

Nancy Scales-Coddington: Find more information about NGCP here: <https://ngcproject.org/>

Sarah Carter: Hi Nancy! Excited for the topic today. I'm looking forward to sharing some resources with our early childhood folks at the department

Kelleigh Huey: Hello everyone! I'm Kelleigh Huey. I am an informal STEM educator at the PAST Foundation in Columbus, OH. This is my first NGCP webinar, excited to be tuning in!

Nancy Scales-Coddington: Welcome Kelleigh!

Nancy Scales-Coddington: IF/THEN Collection: <https://www.ifthenshecan.org/>

Trisha Mick, IdahoPTV: Hi all- I'm Trisha from Idaho- I'm a community education specialist for our local public television and also lead a statewide Early STEM working group to support 0-8 year olds and their families and educators.

Liz Coker (she/her), Cade Museum: Love the If/Then Collection!

Nancy Scales-Coddington: Youth Advisory Board  
<https://ngcproject.org/about/initiatives/youth-advisory-board>

Nancy Scales-Coddington: Oh that is great to hear Liz

Nancy Scales-Coddington: Find role models here: <https://www.fabfems.org/>

Nancy Scales-Coddington: Bookmark this page!!! Check out our upcoming events and webinars: <https://ngcproject.org/events-announcements>

Nancy Scales-Coddington: Subscribe to NGCP monthly e-newsletter:  
<http://ow.ly/Zuds30qwpOK>

Nancy Scales-Coddington: Please share this with your colleagues!

Adrienne: The Global NGCP resources are great, too. Hope that aspect will be expanding!

Nancy Scales-Coddington: Glad you find those helpful Adrienne

Martina G. Efeyini, she/her: how identities and stereotypes can be good or bad - they really start as early as under school age

Nancy Scales-Coddington: Catch the recording from last week's webinar on Addressing STEM Stereotypes with Youth and Young Adults: <https://ngcproject.org/resources/addressing-stem-stereotypes-youth-and-young-adults>

Imani Malaika: My mother would not let me take engineering and woodworking classes since they are "for boys"

Tara Cox: I always felt stereotyped into girls being the "notetakers" during group projects, and the boys being more hands-on into the projects

Martina G. Efeyini, she/her: STEM stereotypes are still prevalent and as I have been talking to teens for my focus groups they are still saying a lot of things that I learned when I was a team. This is a shame that it is 2022 and it is still happening

Nancy Scales-Coddington: Agree Martina

Imani Malaika: I Googled "girls using tools" and the only search results were makeup brushes! LOL

Marisa Garcia: my parents are both engineers, but I always struggled with math and they could just never really help me. it wasn't until college when I was studying education and how to teach math concepts that I found a renewed love and interest in math

Louisa Otto: I was interested in genetics in college but didn't know any females in the field. I felt pushed toward teaching instead.

Martina G. Efeyini, she/her: dang Imani - that's messed up

Nancy Scales-Coddington: Ugh - sorry to hear that Louisa

Nancy Scales-Coddington: Breaking the STEM Stereotype by Amanda Sullivan:  
<https://www.amazon.com/Breaking-STEM-Stereotype-Reaching-Childhood/dp/147584204X>

Sarah Carter: Even though I loved science it never occurred to me to pursue science and despite attending a women in science program at the local university it still never occurred to me to become a scientist. It was not something for me.

Nancy Scales-Coddington: Amanda's research: <https://www.amandaalzenasullivan.com/work>

Nancy Scales-Coddington: That is powerful Sarah.

Martina G. Efeyini, she/her: also that girls know they are smart, but often told they can be pretty and smart pick one or you can do stem and art pick one

Trisha Mick, IdahoPTV: Same Sarah- I loved math but never realized that was a career. Was always pushed toward teaching.

Imani Malaika: When I teach STEM, girls participate more if they are in a class with no boys.

Nancy Scales-Coddington: Making space for them Imani

Martina G. Efeyini, she/her: I'm finding that as well Imani - I really notice a different in my all girl focus groups vs coed

Sarah Carter: I wonder what was missing from the women in STEM program that I was a part of in high school that prevented me from taking that step of thinking about a career.

Trisha Mick, IdahoPTV: I did a girls coding club several years back and had K-5 graders in the program. We did a pre-survey where we asked each girl if they had ever coded before and if they thought they were good at it. It was so interesting to see kindergarteners say "I've never done it but I'm good at it" and to see the third graders overwhelmingly say "I've done some coding but I'm not good at it." BROKE MY HEART and lit a fire in me to change that narrative.

Nancy Scales-Coddington: Check out Kim Collazo's picture books:  
<https://www.collazocove.com/books.html>

Liz Coker (she/her), Cade Museum: I always felt like I had to hide my good grades in school because others would pick on me, saying girls shouldn't be smart and I was weird for liking to study and learn.

Martina G. Efeyini, she/her: yeah we got to change the narrative Trisha! Affirm them early and let them know they have a voice so they will continue to affirm themselves

Nancy Scales-Coddington: @Sarah - sounds like STEM identity might have been missing.

Carmelo: It is a pleasure meeting you all today!!

Martina G. Efeyini, she/her: and I think that teaching young people that you can have and embrace all your identities in STEM - we all have multi-identities

Nancy Scales-Coddington: Thank you for sharing everyone. Very powerful experiences.

Marisa Garcia: Yes, Martina! intersectional identities is so important to recognize in yourself and others

Marisa Garcia: I love Chimamanda Adiche!

Imani Malaika: Lots of kids have STEM identity, i.e. a personal passion such as chemistry or space exploration, but adults tell them they are not “suited” for it b/c they are girls, a certain race, etc.

Nancy Scales-Coddington: Yes Imani - this happens all too often. This happened to me.

Imani Malaika: Girls that tell me they want to be a nurse are reluctant to say they want to be a doctor.

Trisha Mick, IdahoPTV: Martina- right on point! Humans are not boxed shape, let's stop putting them in boxes!

Adrienne: representation matters - and practical pathways as well

Imani Malaika: I found it quite interesting that the previous webinar stated that radicalized stereotypes overwhelm role models!

Adrienne: with these impacts occurring so early, it suggests that the role of media is critical as well in challenging stereotypes

Martina G. Efeyini, she/her: I would love to have the link to your study to read and share Allison!

Nancy Scales-Coddington: Follow Dr. Allison Master, University of Houston College of Education on Twitter: @AllisonMaster

Marisa Garcia: I wonder if it's also that they don't know many people in their lives who are working in CS or Engineering since those are newer career paths and typically are common in larger, wealthy cities. so just a general lack of knowledge or access could lead to a lack of interest

Trisha Mick, IdahoPTV: Access and opportunities is a huge barrier for students, especially in rural communities.

Adrienne: The Geena Davis Institute for Gender and Media is doing great data driven work in this area.

Imani Malaika: Pre-teens/teens are acutely sensitive to gender stereotypes. Girls are told boys won't like them if they are “smart” or do “boy's work” - in addition to this pressure to be pretty.

Martina G. Efeyini, she/her: <https://sisterstem.org/2021/10/19/we-need-more-stem-black-girl-magic-on-our-screens-and-we-wont-wait-around-for-it/> I wrote a story on how media makes an impact and talked about the Geena Davis work

Imani Malaika: I think the concept of role models can be problematic. Many emerging technologies and sciences do not have much representation.

Nancy Scales-Coddington: Great resource Martina - thank you for sharing!

Liz Coker (she/her), Cade Museum: Great presentation! Thank you for sharing your research.

Allison Master (she/her): If you missed the QR code, here is the link to our recent paper: <https://www.pnas.org/doi/10.1073/pnas.2100030118>

Trisha Mick, IdahoPTV: Interesting view, Imani. I think role models can be more than just in the specific field. My biggest role models from when I was younger was those who had a growth mindset, showed it was okay to make mistakes, constantly learning and sharing what they learned. Not those in the field I was interested in.

Imani Malaika: Many of our students will be pioneers in certain technologies. THEY will have to be the role models for others!

Martina G. Efeyini, she/her: So true ! Also sometimes it is hard to be the FOD (First Only Different) but with all that we talked about we can make sure that doesn't happen

Allison Master (she/her): @Imani: I agree about role models—the most important part is to show that lots of different people belong in STEM and use STEM to do many different things. Broaden the stereotypes and tell more kinds of stories!

Marisa Garcia: and there are role models, current and historical, who were trailblazers in their own right

Imani Malaika: My observation shows that girls see the women in “Hidden Figures” as exceptions to the rule. They compare this with the number of female singers and entertainers they see.

Marisa Garcia: yes, I've worked with teen girls through EngineerGirl and they feel this pressure of being the exceptions in their schools, lives, potential college. it weighs on them a lot

Adrienne: Using the art and humanities is great! STEAM learning!

Imani Malaika: I agree, Marisa!

Nancy Scales-Coddington: This is a great conversation. Thank you for sharing!

Trisha Mick, IdahoPTV: I'm about to launch a STEM Storytime in a Box program for public libraries in Idaho to get them to include STEM concepts and learning into their early learning storytimes. So many opportunities for picture books and integrating STEM concepts.

Nancy Scales-Coddington: That is great Trisha!

Martina G. Efeyini, she/her: Congrats Trisha!

Tara Cox: The Leap into Science program is all about science and literacy integration! Email us to learn more Trisha!

Nancy Scales-Coddington: Connect with Kim Collazo, Public School Educator & Author on Twitter: @kcollazo

Natalie Shaefer (she/her): Trisha, I would love to connect with you on the Storytime in a Box program- we are trying to get something similar started at my organization!

Kristen Burnham: Please share the website! We have an inventory of STEM supplies that our 12 libraries borrow from my office enhance programs, and having plans would be wonderful.

Imani Malaika: STEM identity is built by project-based learning. When students achieve mastery, it is harder to tell them they are not capable!

Liz Coker (she/her), Cade Museum: We're going to be implementing that bee robot in our pre-school program next year! And I teach a coding class based around the Dash robot. The kids love Dash!

Adrienne: The Smithsonian's National Air and Space Museum has a free monthly storytime event online which combines a story book and a hands-on activity.

Marisa Garcia: @Imani one way we've worked with teens to help them build confident and agency is connecting what they do to their communities. They see lots of female role models making change at the local level, so connecting engineering to community-based supports/programs has helped them gain relevant role models and feel more connected to a larger thing beyond just engineering in isolation

Trisha Mick, IdahoPTV: :) Thanks! It's been a long project. If anyone is interested in sharing, we created a 60minute asynchronous course participants can take- not just those in Idaho. <https://my.nicheacademy.com/idaho/course/53510/sequence/28423>

Nancy Scales-Coddington: WOW - so many wonderful resources. Please keep sharing!

Marisa Garcia: also, connecting teen girls to each other can be HUGE! NGCP's Brite program is a good way to do this, and EngineerGirl Ambassadors program

Trisha Mick, IdahoPTV: Mapping activities with kids are so much fun! My favorite book is Mapping Sam by Hesselberth

Martina G. Efeyini, she/her: @Marisa and @Imani that is so true. finding that connection, culturally relevancy and also language. if we think as science as a language which it is that means students will have to learn English, the language of science (filled with jargon) plus other languages they speak

Louisa Otto: We support a teen science café chapter. We've had great success with girls being leaders in this program and it is attended by about 80% girls. Anyone else part of the teen science café network?

Marisa Garcia: I'm not, but I know about teen cafes and they are great!

Imani Malaika: Girls involved in citizen-science projects give them an identity in the community as an accomplished person. They smile proudly when some one says "You are the girl that built that app, robot, etc."

Nancy Scales-Coddington: The Teen Science Cafe is great!

Patricia Sasson: What a great opportunity for thegirls!

Liz Coker (she/her), Cade Museum: I want to start a Teen Science Café at our museum!

Marisa Garcia: Yes to citizen science, too! so many great opportunities out here

Kate Hay / Piper: Project based learning + STEM is so powerful, we have found many of our programs in rural communities use this approach - SmartFarming! We create STEM products for 3rd-8th grades, so I love hearing all these resources for our teachers. Thank you!

Martina G. Efeyini, she/her: yes to that im using civic science in my work - similar to citizen science. it's about co-designing and working with community members and others to create something

Imani Malaika: Kudos, Martina!

Martina G. Efeyini, she/her: Thanks Imani - I'm glad we have these two sessions and that we are all people in this space that have the same mission 😊

Marisa Garcia:at Penn State, we've been talking about "socially engaged engineering" - essentially helping teachers and students see and experience how engineering is a social endeavor. Connecting STEM to beyond it's perceived "borders" can be powerful

Nancy Scales-Coddington: Great resources!!

Kate Hay / Piper: I love the concepts civic science and socially engaged engineering! Very inspiring -- noting these for my customers.

Trisha Mick, IdahoPTV: YES! I love hearing from parents about their kids who finally get engaged with learning!

Martina G. Efeyini, she/her: such a great story Carmelo - amazing!

Kate Hay / Piper: I agree - start young!

Martina G. Efeyini, she/her: I wish we had this everywhere my niece is 1.5 years

Kate Hay / Piper: Me too Martina -

Trisha Mick, IdahoPTV: I hosted a preschool coding storytime at my last library \_Little Logic Learners- where we focused on computational thinking skills with kids as young as 2. The BEST time.

Marisa Garcia: full circle, Carmelo! Kudos to you

Patricia Sasson: Wow. Love this Carmelo

Adrienne: This preschool approach makes me think of the Reggio Emilia approach - discovery learning - any connections?

Imani Malaika: Pay attention what kids gravitate to. I have students obsessed with chemistry, building things, computers, etc. but no adults are cultivating this if it does not fit with a lesson plan.

Martina G. Efeyini, she/her: 🏆 Imani

Imani Malaika: Physics, biology, and chemistry are so exciting! You have to work very hard to make these subjects boring.

Nancy Scales-Coddington: Kids are naturally curious

Marisa Garcia:LOL Imani, but they also involve a lot of math. As a kid and teen i loathed math, therefore I loathed science. it's tricky how compounding it can become

Martina G. Efeyini, she/her: yes we are naturally born scientists

Martina G. Efeyini, she/her: fireflies and books got me first interested in science and how I got into the work I do today

Nancy Scales-Coddington: That is really cool Martina. Great gateways

Imani Malaika: Yes, Nancy. Listen to what Neil DeGrasse Tyson has to say about this:  
<https://youtu.be/tbX6aMfPtEw>

Adrienne: Yes to interdisciplinary!!!

Trisha Mick, IdahoPTV: If anyone works with preschool kids- PBS KIDS shows has a lot of STEM focused programs (Elinor Wonders Why, Nature Cat, Ready Jet Go, Peg + Cat, SciGirls). We are releasing a new show in February Work It Out Wombats- that is focused on computational thinking skills. Dr. Marina Bers consulted with PBS to produce the show!

Imani Malaika: It is so weird how we compartmentalize learning. How can you teach science without science without math, technology, etc.?

Patricia Sasson: Open-ended questions!

Patricia Sasson: 5Es.

Marisa Garcia: I didn't find a love of science or math until I was a Kindergarten teacher. Having to explain and teach concepts to others helped me heal the learner in myself! I was lucky to have @Amanda Sullivan and her professor Marina Bers select my school to be a pilot school for a robotics program and I LOVED IT! it changed my entire career trajectory

Louisa Otto: I work on marketing for our program and often need to choose the image to use. Is it possible to use female images too much? I often find myself choosing girls doing science but am wary about overcorrecting.

Nancy Scales-Coddington: Thank you Trisha for sharing - PBS has great resources for in the classroom and for parents to foster curiosity

Imani Malaika: Cooking involves chemistry, physics, math, etc.

Nancy Scales-Coddington: and who doesn't love food Imani?

Adrienne: music is math!

Marisa Garcia: I wonder if I was an educator who looked at a very early version of that show, @Tricia. I reviewed some content back in 2013 for PBS about computational thinking for preschool, but it was about monkeys! :)

Marisa Garcia: I'll keep an eye out for the show!

Imani Malaika: Yes, Nancy! Our STEM students made a cookbook of healthy ethnic recipes and included interesting facts about chemistry and physics in cooking.

Martina G. Efeyini, she/her: says ooo!

Imani Malaika: Kids are fascinated with nature!

Nancy Scales-Coddington: Love that Imani! So many skills used to create a cookbook.



Martina G. Efeyini, she/her: ooo I love that there is a cookbook

Trisha Mick, IdahoPTV: @Marisa You might have! Or at least for another PBS show. I think it's something like 70% of all PBS KIDS shows focus on STEM learning skills.

Imani Malaika: KIBO for kinders

Nancy Scales-Coddington: Follow Carmelo Piazza on Twitter at @ScienceFellow

Marisa Garcia: haha yes! I think it was called Monkeying Around, but i don't think it ever came to fruition

Imani Malaika: I just bought a 3D printer for binders.

Liz Coker (she/her), Cade Museum: indi! I just finished creating a new field trip for K-2 featuring indi.

Adrienne: If anyone is interested in space resources, check out [www.nasa.gov/stem](http://www.nasa.gov/stem)

Nancy Scales-Coddington: What questions do you have for our presenters?

Adrienne: any idea of franchising the science preschool idea?

Martina G. Efeyini, she/her: yes please do - that is my dream for you! it is necessary

Kate Hay / Piper: Please do!

Adrienne: Go for it, Carmelo!

Nancy Scales-Coddington: Resource to help you turn strategies from this webinar series into action: <https://ngcproject.org/resources/5-ways-counter-stem-stereotypes-children-and-youth>

Nancy Scales-Coddington: Upcoming Events: <https://ngcproject.org/events-announcements>

Martina G. Efeyini, she/her: i see so much potential on how it will work on the global initiatives for stem!

Adrienne: Thank you to all the presenters and organizers today! and to participants with info in the chat!

Nancy Scales-Coddington: STEM Stories:  
<https://ngcproject.app.neoncrm.com/np/clients/ngcproject/event.jsp?event=708>

Nancy Scales-Coddington: Genius of Play and STEAM:  
<https://ngcproject.app.neoncrm.com/np/clients/ngcproject/event.jsp?event=707>

Marisa Garcia: thank you, I want to check out some of these resources and studies shared during this webinar

Martina G. Efeyini, she/her: so amazing as usual! thank you!

Nancy Scales-Coddington: GSAWN Exemplary Practices:  
<https://ngcproject.app.neoncrm.com/np/clients/ngcproject/event.jsp?event=709>

Imani Malaika: Save the chat!

Nancy Scales-Coddington: Survey:

<https://forms.office.com/Pages/ResponsePage.aspx?id=tP9DY0cGHUGNH9c28obzsHmXn1LOnhxNtf7SYAFQjFZURUNMQjZLMUc0TIhJRIZVMEcwMEMwTEdFNy4u>

Nancy Scales-Coddington: Thank you for sharing so many rich resources today!

Nancy Scales-Coddington: Please take a moment to give us feedback through the survey