Welcome to the National Girls Collaborative Project
National Webinar
The Importance of a Growth Mindset: Action Steps for Educators
September 21, 2016
Agenda

• NGCP Vision and Goals
• Research and Problems behind Micromessaging
• Action Steps
• What’s next?
• Discussion
NGCP Vision

The National Girls Collaborative Project (NGCP) brings together organizations that are committed to informing and encouraging girls to pursue careers in science, technology, engineering, and mathematics (STEM).
1. **Maximize access** to shared resources within projects and organizations interested in engaging girls in STEM.

2. **Strengthen the capacity** of programs by sharing exemplary practice research and program models, outcomes and products.

3. **Use the leverage of a network** and the collaboration of individual girl-serving STEM programs to achieve gender equity in STEM.
National Network of Collaborative Teams
Micromessaging

Activity: Read the following statement and write down the message(s) that you receive from it:

To one of the women pictured below: “I would have never guessed that you were a scientist”

* Share your response with the group in the chat box
Goals

1. Understand the impact of gender differences in STEM self-efficacy: the confidence gap
2. Understand the importance of building a growth mindset
3. Understand the impact of micromessages on the development of mindset and self efficacy in STEM
4. Recognize culturally-based implicit biases that underlie our micromessages
5. Identify strategies to minimize micro-inequities and maximize micro-affirmations
Gender Gap STEM Self-efficacy

Overall

- Males: 33%
- Females: 44%

STEM Classroom to Career: Opportunities to Close the Gap (2016). Student Research Foundation.
Gender Gap STEM Self-efficacy

- Overall: Males 33%, Females 44%
- High STEM Interest: Males 45%, Females 53%
- High GPA: Males 52%, Females 65%
- AP STEM: Males 43%, Females 56%

STEM Classroom to Career: Opportunities to Close the Gap (2016). Student Research Foundation.
The Impact of Fixed and Growth Mindset Messages

**Fixed Mindset:** Some people are born ‘smart’ and others… well, they just aren’t.

**Growth Mindset:** Learning takes time and is a product of effort!
### Fixed Mindset Limits Attainment and Increases Inequality

<table>
<thead>
<tr>
<th>Fixed Mindset</th>
<th>Growth Mindset</th>
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</thead>
<tbody>
<tr>
<td><strong>Ability</strong> static…like height</td>
<td>can grow…like muscle</td>
</tr>
<tr>
<td><strong>Goal</strong> look good</td>
<td>to learn</td>
</tr>
<tr>
<td><strong>Effort</strong> for those with no talent</td>
<td>path to mastery</td>
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<tr>
<td><strong>Challenge</strong> avoid</td>
<td>embrace</td>
</tr>
<tr>
<td><strong>Failure</strong> defines your identity</td>
<td>provides information</td>
</tr>
<tr>
<td><strong>Reaction to challenge</strong> helpleness</td>
<td>resilience</td>
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</table>
Educators Play a Key Role in the Development of Mindset

Activity: Decide how one or more of these phrases would make you feel if directed towards you

1. Don’t worry, you’ll get it if you keep trying.
2. Not everybody is good at math. Just do your best.
3. Great effort! You tried your best.
4. The point isn’t to get it all right away. The point is to grow your understanding step by step. What can you try next?

*Write your answers in the chat boxes*
Micromessages Contribute to the Development of Mindset

Micromessages: small, subtle, universally understood messages that we send and receive.

- can be positive or negative
- are often semi-conscious or unconscious
- have a greater impact on the performance of underrepresented populations, i.e., youth of color, with disabilities, socioeconomically disadvantaged, limited English proficient, etc.
Implicit Bias Underlies Micromessages

Activity: Solve this brain teaser

A father and his son were in a car accident. The father is killed and his son is seriously injured. The son is taken to the hospital where the surgeon says, “I cannot operate because the boy is my son.”
Stereotypes are Communicated through Micromessages
Micromessages Affect Self-image, Self-efficacy and STEM Identity

**POSITIVE** micromessages
Encourage and motivate youth

**NEGATIVE** micromessages
Discourage and devalue youth
Micromessages are Communicated in Many Ways

- Verbal
  - What is said
- Para-Verbal
  - How it’s said
- Non-Verbal
  - Body language
- Contextual
- Omission
  - What is not said or not done
- Praise and Criticism
  - Feedback messages

Micromessages

National Girls Collaborative Project
Micromessages in STEM Education

“the communication of unconscious beliefs or biases, despite educator’s best intentions, can discourage underrepresented students from pursuing STEM and other high wage, high demand careers.” NAPE, 2007
Impact is More Important than Intent

Intent → Engagement with youth → Impact

Teacher Micro Messaging → Engagement with youth
Youth Performance

Small and seemingly insignificant behaviors may result in unfavorable learning outcomes.
Micro-inequities with Youth

• Chronically mispronounce select youth names
• Tolerate calling out answers from some but not others
• Discipline boys more severely than girls for similar behaviors
• Avoid eye contact with select youth
• Sigh when certain youth get the wrong answer

Add to the list based on your experience
Micro-affirmations with Youth

- Meet and greet youth at the door
- Listen whenever youth are talking
- Assign females and males to activities based on skill, not gender
- Celebrating the backgrounds and cultures of all youth
- Ensure setting and curriculum are culturally responsive

Add to the list based on your experience
Biases are Rooted in Culture

- Self-efficacy
- Cultural stereotypes
- Accumulation of (dis)advantage
- Bias
- Micro-messages

Adapted from NAPE Culture Wheel
Steps to Minimize Micro-inequities

1. Address your biases (assume you have them)
   - Observation & critical reflection

2. Counteract micro-inequities by building micro-affirmations
Building Micro-affirmations

1. Know what youth bring to your setting.
2. Be aware of the micromessages you are sending, both positive and negative.
3. Make a concerted effort to practice micro-affirmations and counteract micro-inequities.
4. Work with peers and mentors to identify unintended biases that impact youth attitudes and performance.
5. Make your youth setting culturally responsive.
Building Micro-affirmations

1. Be diverse in the examples used with youth to illustrate concepts and ideas.
2. Plant micro-affirmations in your daily conversations with youth.
3. Teach youth how to use micro-affirmations when communicating.
4. Take advantage of professional development opportunities that address micromessaging.
5. Educate parents in the use of micromessaging at home to encourage youth through affirmation to believe in their dreams.

Add to the list based on your experience.
Get started!

Think about:

**ONE** thing you will **start** saying or doing…

**ONE** thing you will **stop** saying or doing…
Resources


National Alliance for Partnerships in Equity – [www.napequity.org](http://www.napequity.org)


Project Implicit by Harvard [https://implicit.harvard.edu/implicit/demo/](https://implicit.harvard.edu/implicit/demo/)

Resources


STEM Classroom to Career: Opportunities to Close the Gap (Full Report) - http://bit.ly/2chFd8u

STEM Classroom to Career: Opportunities to Close the Gap (Infographic) - http://bit.ly/2chEJiB
Questions and Discussion
Get Involved with NGCP

• Follow us on social media
• Attend local events and national webinars
• Join your local Collaborative leadership team
• Collaborate to serve more girls in STEM.
• Celebrate our birthday!

How has NGCP helped you increase your collaboration? Join us as we celebrate the power of collaboration "NGCP style" using the hashtag #NGCP14Yrs.
Upcoming NGCP Webinars

- September 29, 2016: Lessons Learned for Effective Evaluation of Girl-Serving CS Programming
- October 13, 2016: Changing the Game for Girls in STEM, with Chevron and Techbridge
- November 2, 2016: Smithsonian Latino Virtual Museum - Day of the Dead Celebration and Resources