Why Don’t They Hear What I Say?

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National Girls Collaborative Webcast
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National Girls Collaborative Project

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).  

www.ngcproject.org

Regional Collaboratives
California:  www.ngcproject.org/california
Florida:  www.ngcproject.org/florida
North Carolina:  www.ngcproject.org/northcarolina
Northwest:  www.ngcproject.org/northwest
Project Goals

1. Maximize access to shared resources within projects and with public and private sector organizations and institutions interested in expanding girls’ participation in STEM.

2. Strengthen capacity of existing and evolving projects by sharing promising practice research and program models, outcomes and products.

3. Use the leverage of a network or collaboration of individual girl-serving STEM programs to create the tipping point for gender equity in STEM.
People’s ideas about gender are deeply embedded, long lasting, and complex. These ideas are a complicated mix of beliefs about the way the world is, the way the world should be, and the way we should be in the world. Counter-evidence often fails to change people’s ideas.
So What Can We Do?

• Make sure we have the facts
• Understand that words matter
• Examine the frames we are giving our messages
• See how we can influence media
So What Can We Do?

Make Sure We Have the Facts

*Course taking:*  
- More girls than boys complete courses in advanced biology, Advanced Placement (AP) or International Baccalaureate (IB) biology, and chemistry  
- Boys complete physics and AP/IB physics courses at higher rates than girls  
- There are no sex differences in mathematics coursetaking

*Achievement:*  
Sex differences in math and science achievement are small but favor boys in most cases
So What Can We Do?

**Make Sure We Have the Facts**

*Mean differences*

Differences between individual girls or between individual boys are much greater than those between the “average” girl and the “average” boy.
Understand That Words Matter

Words and the concepts and social divisions they invoke can evoke strong emotions. The words we use may not be the words others hear.

Consider:

- gender vs. sex
- illegal alien vs. undocumented immigrant
- African American vs. Black
- STEM vs. science
- lady vs. woman
- girl vs. woman
- stereotype vs. image
- math vs. mathematics
- comparison vs. control groups
So What Can We Do?

Understand That Words Matter

*Develop a sense of your audience.* When you craft a message, be sure you know who your ultimate audience will be.

*Do your homework.* Find out as much as you can about the kinds of words commonly used and avoided by your target audience and what emotions, divisions, and concepts these words evoke.

*Anticipate pitfalls.* For your audience, is it more important that you sound authoritative or approachable? Are there particular parts of your message that are likely to trigger negative reactions? Let your word choices help you avoid or navigate these dangers.
So What Can We Do?

Examine the Frames We Are Giving Our Messages

*Group 1*: Write down some words you would use to accurately describe engineering if you want to attract more *women* to the field.

*Group 2*: Write down some words you would use to accurately describe engineering if you want to attract more *men* to the field.
So What Can We Do?

Examine the Frames We Are Giving Our Messages

Possible Women in Science frames include:

- Individual economic self-sufficiency
- International competitiveness
- Fairness
- The girl crisis vs. the boy crisis
- Helping girls helps boys
- Girls in need of help
- Girls as discriminated against
Annalee Newtiz on reporting science and gender:

[W]e need quotes from you, we need anecdotes, we need people. That's how we get people interested….often times editors believe that the masses relate best to stereotypical individuals, so we want to see stereotypical images of men and women. …many science stories are structured around the idea of a conflict because people like conflict. [Editors think] we like to see people fighting.
So What Can We Do?

See How We Can Influence Media

Remember:

*Journalists are storytellers.* They care about your work, but they also care about the human reaction. Be able to explain why your work is important and why the average reader/listener should care.

*Journalists need quotes from people, not from publications.* Most journalists aren't going to be allowed to quote your written work. You need to be available to speak with them.

*Journalists are interested in broader impacts.* If your work is funded by NSF, you already have some ideas as to what the broader impact is. Draw on those ideas in your interview.

*Different media have different requirements.* In print, people read and can read again. In radio, they listen and only listen once. In TV, they listen and view. Your statements need to reflect different ways of delivering and receiving information.
We need to:

• Make sure we have the facts
• Understand that words matter
• Examine the frames we are giving our messages
• See how we can influence media
Using Blogs To Encourage Girls Toward Science Careers

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Why Blogs? They...

...Are a source of women in science role models.

...Show realities of the lives of women in science.

...Provide interesting science content.

...Show what scientists do.

...Build sense of community, encourage problem-solving, and reduce isolation.

...Help us meet girls “where they're at.”
Types of Women and Science Blogs

Blogs of a scientist’s work life
  e.g. Rants of a Feminist Engineer
  feministengineer.blogspot.com/

Blogs of women balancing science careers and kids
  e.g. On Being a Scientist and a Woman
  scienceblogs.com/sciencewoman/

Blogs of exciting science
  e.g. Cocktail Party Physics
  www.twistedphysics.typepad.com/
  Antarctic Journal antarcticjournal.blogspot.com/

Compilations of women and science blogs
  e.g. Scientiae Carnival http://scientiae-carnival.blogspot.com/
“I’m a new engineering faculty member with a lefty-leaning, an addiction to locally-sourced food, a penchant for singing, and a minor in women’s studies.

“I hope that more women choose to become engineers because of how I teach engineering, or some such link that is overly ambitious and probably unmeasurable. However, I also hope they go into engineering because engineering becomes a better place to be, in a whole set of ways. In academic contexts, I hope engineering can become a place where students - men and women - can engage their whole selves, become galvanized to improve the world for the better, learn to become informed citizens who participate and serve their communities both through their engineering practice and as themselves.”
“I share my life as the mother of a spunky seven-month old girl who has already ‘helped’ with field work and seminars. I describe the dramas of being a first-year assistant professor, scrambling to write lectures and grant proposals and figure out what ‘service’ means, while trying to be home for a little playtime before my daughter's 7 pm bedtime. I write blog posts while pumping breastmilk and strategize research ideas over the course of 2 am feedings…..

“I don't pretend to be an expert on women in science issues. I don't profess to have all the answers. I just follow the old adage - I write about what I know. And right now, I know that I have to finish preparing for my lecture and write a few more sentences of my grant proposal, because sometime in the next hour, my daughter is going to wake up and want her mommy.”
Cocktail Party Physics: Physics With A Twist

“I relish the challenge of sharing the continually unfolding story of physics with those like my former physics-phobic self, who quail at the first sight of a mathematical equation and prefer, say, Stephen King to Stephen Hawking. If I can make it fun, funky, unconventional, and blur the lines between traditional disciplines -- both within the sciences themselves, and science and the arts/pop culture -- so much the better. We need fewer barriers and more bridges in this world.”
Bringing Excitement to Science

Antarctic Journal

“I write this journal from Ross Island, Antarctica, where I’m working on my graduate research project on the foraging ecology of Adelie Penguins.”

Photo Copyright: Viola Toniolo, used with permission, http://antarcticjournal.blogspot.com/2007_01_01_archive.html
Scientiae Carnival is a blog carnival that compiles posts written about the broad topic of “women in STEM,” including:

• Stories about being a woman in STEM
• Exploring gender and STEM academia
• Living the scientific academic life as well as the rest of life
• Discussing how race, sexuality, age, nationality and other social categories intersect with the experience of being a woman in STEM
• Sharing feminist perspectives on science and technology
• Exploring feminist science and technology studies
Next Steps

• Check out more Women in Science blogs
• Look for exciting, relevant, and timely topics
• Comment on blog posts
• Write guest posts for blogs
• Create an individual or group blog
• “Science Up” your existing online presence
• And of course, keep it fun
FairerScience Resources

Words Matter: Speaking and Writing About Gender and Science
www.fairerscience.org/WordsMatter.html
Why Don’t They Hear What I Say? Understanding Gender Ideologies (Multimedia Presentation)
www.fairerscience.org/pages/kathryn_1_1.html
KISI (Keep it Simple and Interesting): Journalists’ Advice to Researchers
www.fairerscience.org/kisi.html
KICI (Keep it Careful and Intelligent): Researchers’ Advice About Journalists
www.fairerscience.org/kici.html

Highlighted Blogs

Rants of a Feminist Engineer* feministengineer.blogspot.com/
On Being a Scientist and a Woman scienceblogs.com/sciencewoman/
Cocktail Party Physics* www.twistedphysics.typepad.com/
Antarctic Journal antarcticjournal.blogspot.com/
Scientiae Carnival scientiae-carnival.blogspot.com/

Blogs marked with * occasionally use language that would have gotten Pat's mouth washed out with soap when she was a child.
Women in Science Blogs

Life as a Woman Scientist:
Female Science Professor [http://science-professor.blogspot.com/]
Dr. Medusa [http://www.doctormedusa.com/]
The Happy Scientist [http://thehappyscientistblog.blogspot.com/]
A Chemist's Laboratory Notebook [http://chemistrylabnotebook.blogspot.com/]
Eastern Blot* [http://science.easternblot.net/]
Kate’s Casebook [http://katescasebook.wordpress.com/]
A Lady Scientist [http://biochemgradstudent.blogspot.com/]
Pondering Pikaia* [http://sunaddict86.blogspot.com/]
Eye on DNA* [http://www.eyeondna.com/about/]
KBlog by Kimberly Blessing* [http://www.kimberlyblessing.com/]

Balancing Science and Family:
Dr. Mom, My Adventures as a Mommy-Scientist [http://mommyscientist.blogspot.com/]
Mother of All Scientists* [http://motherofallscientists.blogspot.com/]
See Jane Compute* [http://seejanecompute.blogspot.com/]
Tales of a Traveling Professor [http://boringdrmom.blogspot.com/]
Mom Seeks Tenure [http://momseekstenure.blogspot.com/]

Making Science Exciting:
Bioephemera* [http://bioephemera.com/]
Kathryn’s SPT Journey [http://southpoletelescope.uchicago.edu/blog/kathryn/index.html]
Science to Life [http://scienceblogs.com/sciencetolife/]
VWXYZNot? [http://vwxynot.blogspot.com/]
The Culture of Chemistry [http://cultureofchemistry.blogspot.com/]
Star Stryder* [http://www.starstryder.com/]
Chaotic Utopia* [http://scienceblogs.com/chaoticutopia/]

A Source of Science Blogs:
Science Blogs [http://scienceblogs.com/]

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More NGCP Information

Program Directory
www.ngcproject.org/directory

Join the NGCP listserv
www.ngcproject.org/resources/newsletter.html

Upcoming Webcast
Wednesday, February 13, 2008, 11:00-12:00 PST
“Reaching out to Underserved Populations in STEM”
www.ngcproject.org/events/webcast.cfm