Diversity in Engineering:

Understanding and Addressing Stereotype Threat

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What do engineers look like?
But is that really all??!
Still, we could do better...

(UW College of Engineering Bachelor's Degrees, 2008)
Why do we care about diversity?

- Different ideas of problems and solutions
- Awareness of diversity issues for collaborators
- Don't want to miss out on talent!

Why is diversity hard to get?
  - Stereotype Threat: Peixian

What do we do about it?
  - Solutions: Brian
Stereotype Threat
What is stereotype threat?

Stereotype Threat refers to being at risk of confirming, as self-characteristic, a negative stereotype about one's group.

Photo from Isaac Lee's Weblog: http://isaaclee.wordpress.com/
Stereotype Threat & 
Its Consequences

- Awareness of a stereotype can lead to
  - Decreased academic achievement
  - Self-handicapping: Individuals erect barriers to performance to provide attributions for failure
    - Stereotype as an excuse for failure
    - Reduced preparation and efforts
      - Example: practicing basketball
Stereotype Threat Affects Diversity

- Altered Professional identities and aspirations
  - Affecting career choices early in schooling
  - Redirecting aspirations and career paths

- Example: Woman may change their major to a less male-dominated one or even never consider science and engineering fields
Minimizing Stereotype Threat

- Deemphasize threatened social identity
- Offer high standards and assurances of capability
- Provide role models
  - Example: Test Proctors
- Discourage attributions of difficulty to one's social identity.
  - Example: Lego Robots
Conclusions

- Engineer stereotype overlooks diversity in the field
  - Still a need for more diversity
- Stereotypes affect
  - Individual performance
  - Ultimately, the diversity of the field

- We can reduce the negative effect of stereotypes
  - Inside and outside classrooms
  - Targeting both adults and children
References

http://www.reducingstereotypethreat.org
