

## 2014 STEM Women of the Year



The Making of a 'Lifetime Mentor Award' Winner, Cathy Cockrell  
<https://newscenter.barbie.org/2014/01/20/alice-agogino-wins-2014-lifetime-mentor-award/>



Barbie and GI Joe voice boxes in a project called "Operation NewSpeak."

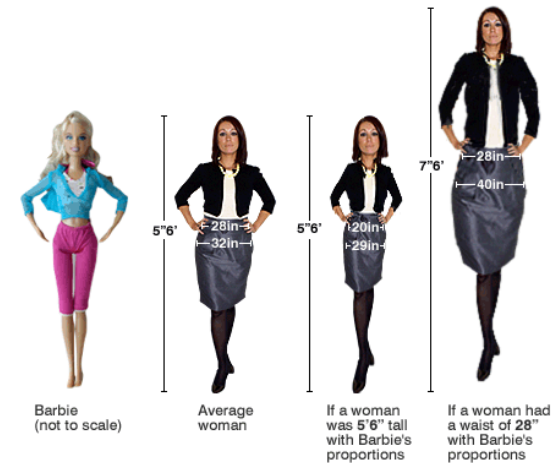
...As a response to criticism Mattel introduced changes: ...Barbie's breasts were reduced to better represent the shape of actual young women. Different multicultural Barbie's were also been introduced, along with career-oriented Barbies in the "I can be ..." series.

I must admit that I very much enjoyed my Barbies as a young girl. I think she inspired me to think about fashion and design. I designed my own clothes as a teenager and I used a sewing machine to make them. I do think the sewing machines and design patterns (perhaps in CAD today) are important tools in a design engineer's tool box.

”

— Alice Agogino, on Engineering Pathway's 'Today in History' blog

## How Would a Real Woman Look with Barbie's Proportions?



## Entrepreneur Barbie

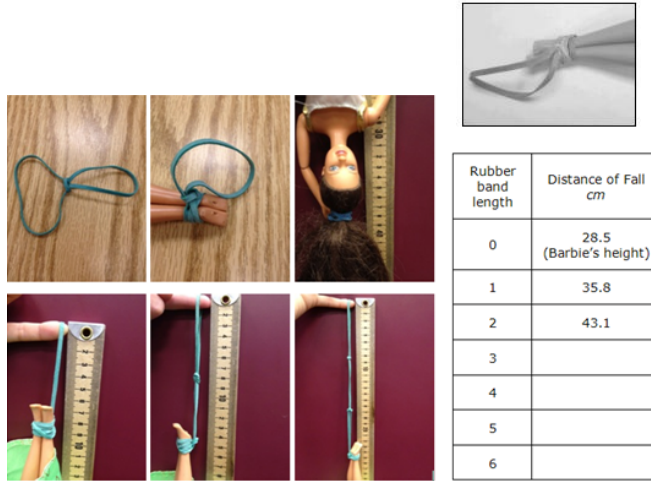


## GoldieBlox: construction toy starring kid inventor Goldie, who loves to build



Target age range: 5-9

## Barbie Bungee



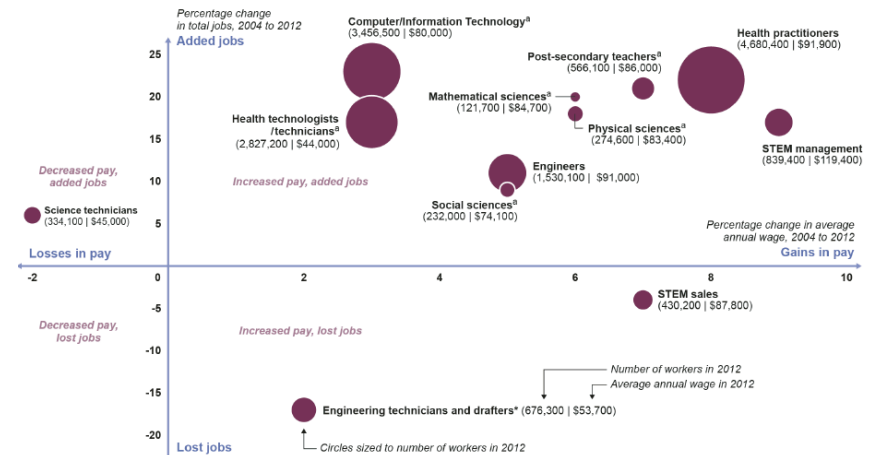
## Elasticity, Linear Regression, Physics, Design



## Bungee Barbie

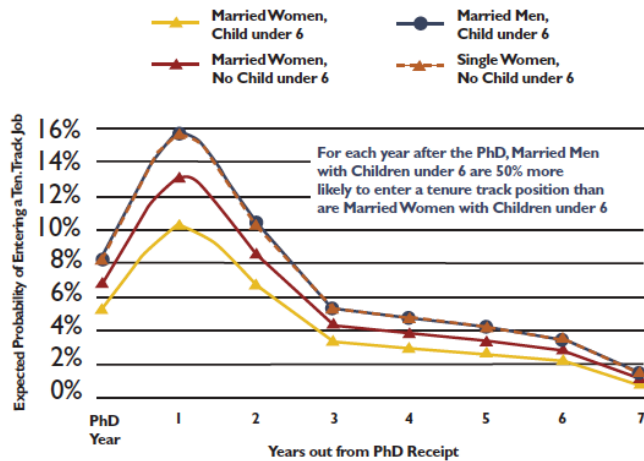


## Employment and Wage Trends across Science, Technology, Engineering, and Mathematics (STEM) Fields, 2004 to 2012



Source: GAO analysis of Occupational Employment Statistics data.

## Leaks in the Pipeline: PhD to Tenure Track Faculty Position



## Gender Diversity Improves Product Design

- improves use rate
- satisfies people's needs and wants and increases the quality of their lives
- doesn't stand alone but is part of an infrastructure
- meshes with the culture
- is sustainable over the product life cycle



Femme Den is here to save good women from bad products

## Early Air Bags Tested on Male Crash Dummies



Ford Windstar, 1999

Today woman make up 50% of automotive buying decisions, compared to 20% in 1990.

## Winning Mustang Design: High Gear Designed and Voted by Woman



40 women designers and engineers

## Gender Diversity Improves Products and Business

- **Connects companies with customers:** Women in the U.S. purchase 50% of computers, 50% of cars and 80% of consumer goods.
- **Improves innovation and problem-solving:** Draws on broader diversity of experiences.
- **Increases the Bottom Line:** Fortune 500 companies with at least 3 women directors have a return on sales increases by at least 42%.

Anita Borg Institute: Innovation by Design  
<http://anitaborg.org/insights-tools/white-papers/innovation-by-design/>

ANITA BORG  
INSTITUTE 