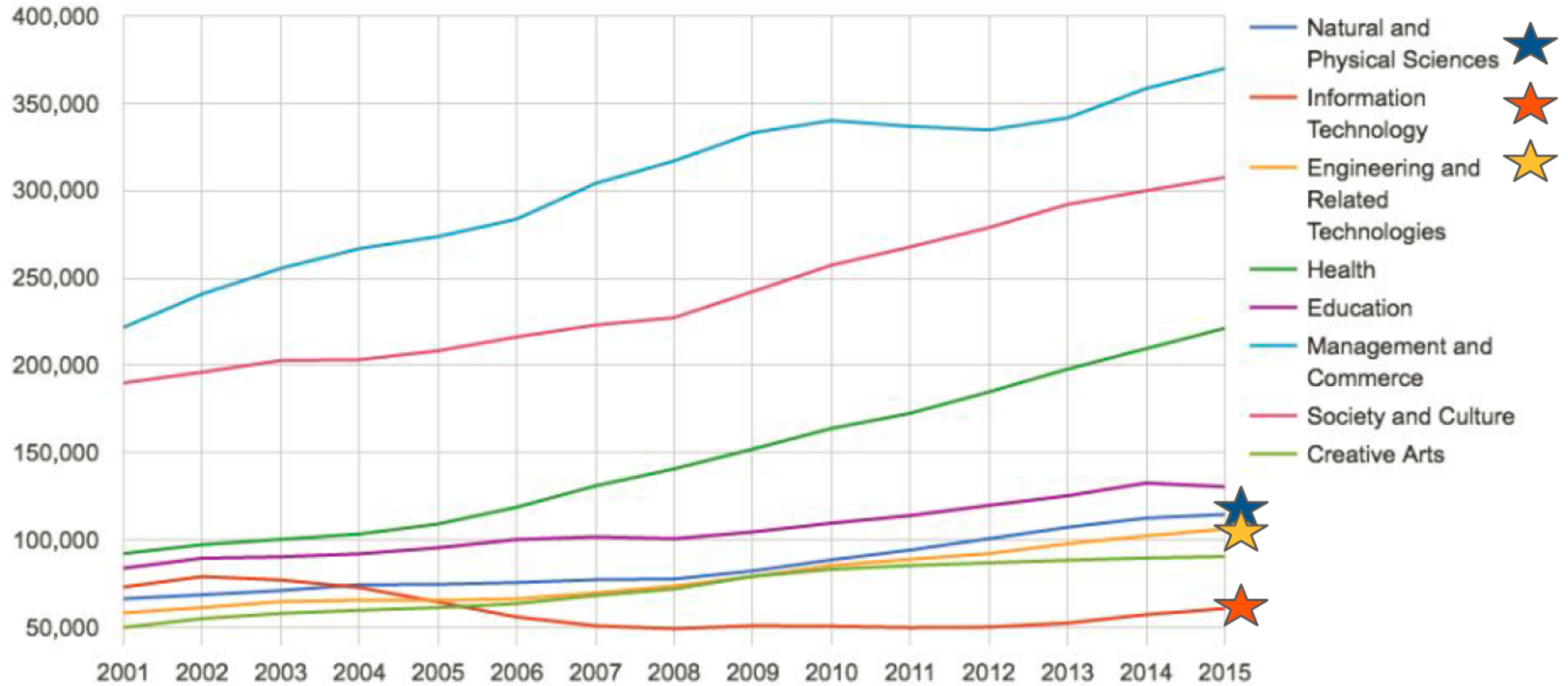


# Equity and Diversity in ICT

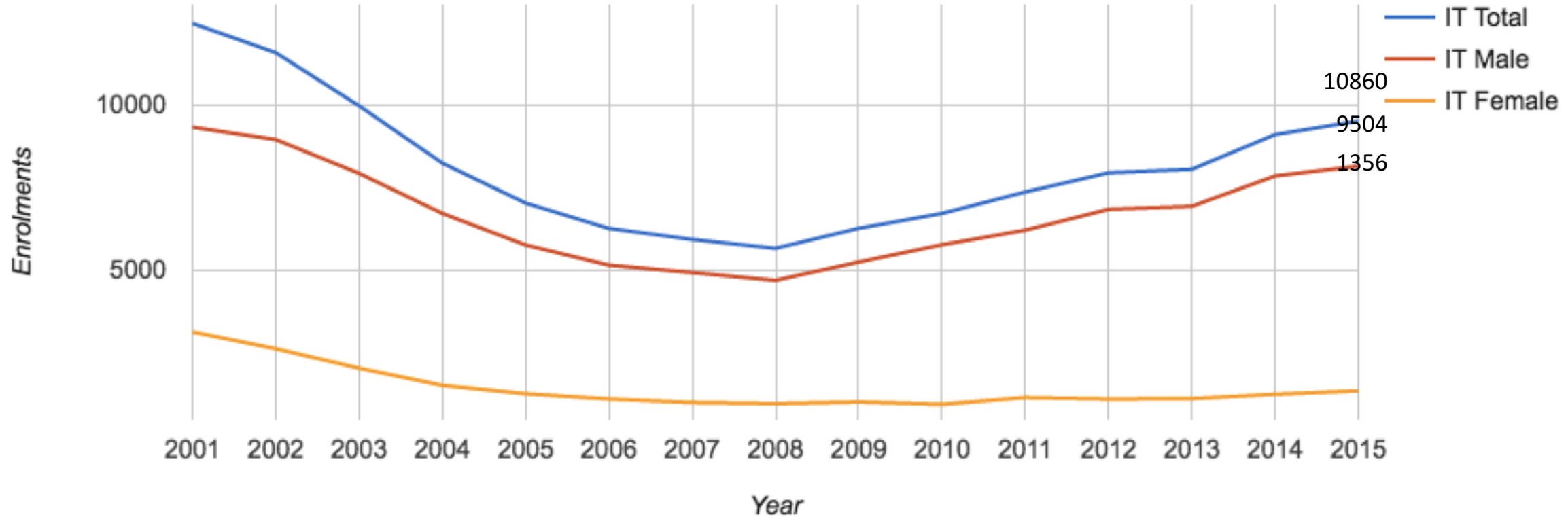
Jo Coldwell-Neilson

Deakin University

Australian Higher Education Enrolments (uCube Data)



## Commencing Domestic IT Enrolments



Total domestic enrolments:

2001 – 684,540

2008 – 771,570

2015 – 1,046,682

## UNIVERSITY

2.8% of females choose to study Computing (Australian Computing Society 2015).

Domestic **Computing enrolments have increased 67.9% since 2008**; female enrolments only 40.5%. (uCube, 2016).

**14.9% of women were studying Engineering** in 2015 (Engineers Australia, 2017).

**0.4% of students pursue Math or Statistics**, less than half the OECD average. (Australian Academy of Science, 2016).

## JOBS

**75% of Jobs will require STEM skills.**



Health Care & Social Assistance (by 256,600) Professional, Scientific & Technical Services (173,000)



Manufacturing (by 117,700) Agriculture, Forestry & Fishing (38,800) Wholesale Trade (13,500)

### MEGATRENDS

- Computing power, Artificial Intelligence, connectivity, data.
- Changing employment markets.
- Era of Entrepreneurship.

Australian Government (2016)

## SCHOOLS

**Secondary teachers teaching out-of-field**

- 20% Mathematics
- 21% Physics
- 30% Computing/IT

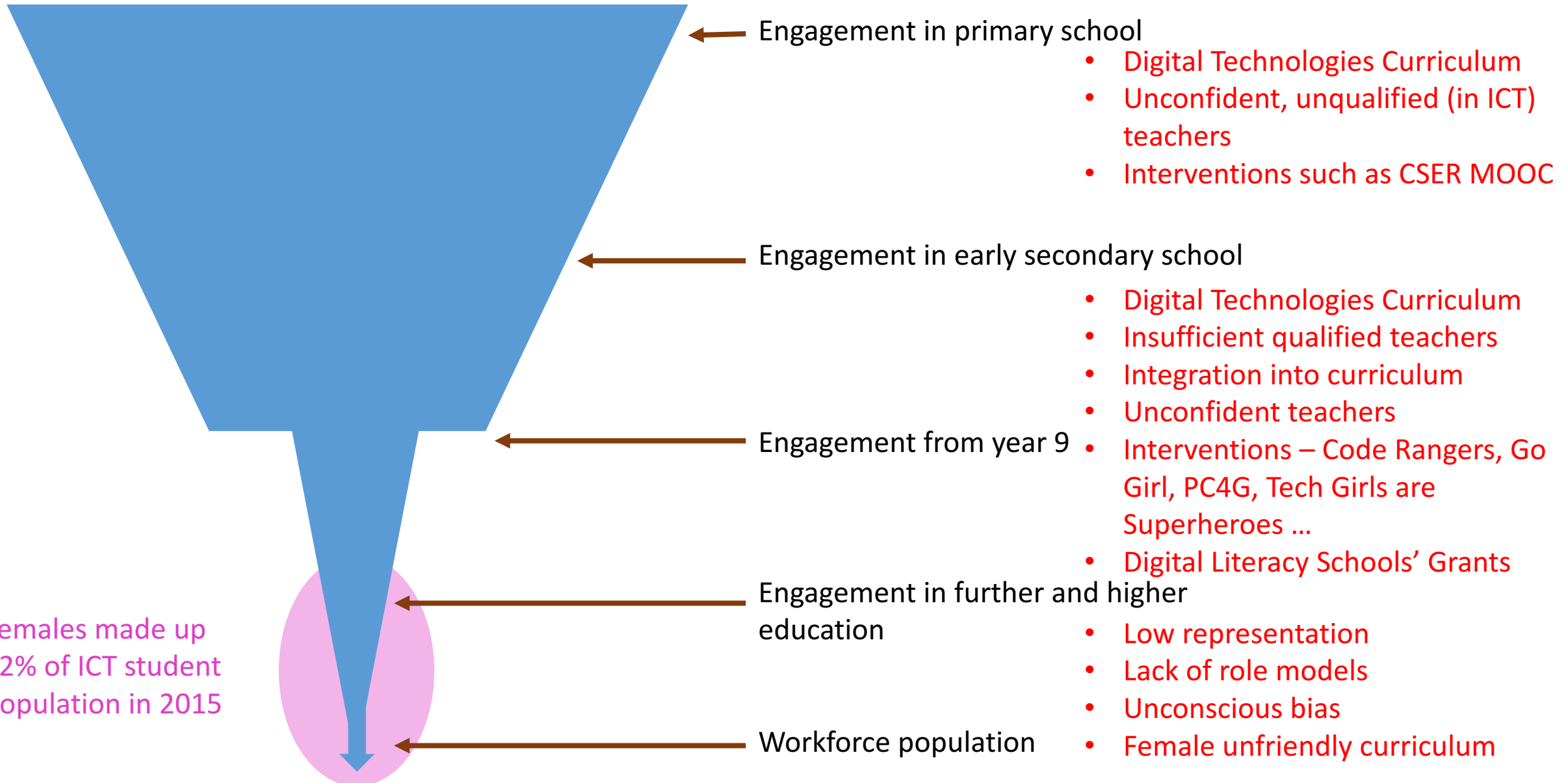
More males teach secondary Computing & Math (Weldon, 2015).

**Boys are more likely to receive encouragement** in Computing than girls. (Google 2016). Stereotypes influence perceptions of Computing.

**Female teachers' Math anxiety impacts girls' math achievement and self-confidence** (Beilock et al 2010).

Created by Rebecca Vivian, CSER Group Adelaide

# Participation in ICT



# Moving forward ...

- Barriers to participation
  - Lack of expertise in schools
  - Lack of understanding by career teachers and parents
  - Negative media publicity
  - ...
- Facilitators of participation
  - Interventions (Tech Girls are Superheroes)
  - Positive media publicity (ACS advertising campaign)
  - Education
    - Parents, teachers ...
    - Support for ICT curriculum in schools (eg DLSG)
  - ...