

# Gender Issues in Computing



## The gender imbalance in Computing - the most severe of the STEM subjects

"At GCSE, there is a 20% uptake from girls."

"At A-level, there is only a 9% uptake from girls."

*"After the reboot: computing education in UK schools": Royal Society (2017)*

"The gender imbalance in Computing - the most severe of the STEM subjects"

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*"After the reboot: computing education in UK schools": Royal Society (2017)*

- 10% in 2017 at John Mason School at GCSE
- 20% at A-level

# Research

"Only 15% of students enrolling in Computer Science courses (in Taiwan) are female. Yet girls who enrol on these courses outperform boys."

*Fan and Lee (2005)*

"Under-representation and poor retention of women in Computing courses is due to factors other than gender bias in learning environment."

*Mileszewska, Barker, Henderson, Sztendur (2006)*

# Research

"Men and women viewed computers very differently. Women interviewees were more likely to state that they saw the computer as a tool for use within a larger societal and/or interdisciplinary context than did the men interviewed. On the other hand, men were more likely to express an interest in the computer as a machine."

*Margolis and Fisher at Carnegie Mellon University (2000)*

# Possible reasons for gender disparity

- Stereotyping computer scientists
- Cultural education (mass marketing of personal computers as gaming machines)
- Fraternity-like startup environments

# The survey

- Completed by girls in Year 8
- December (before options) and June
- 69 students completed both surveys

# Role models

- Only 14% of the students were able to suggest a female role model who works in Computing/IT.



# Gender

- 77% of students strongly disagreed with the statement "Computer Science is a subject for men".
  - *Consider the following statement, and then select whether you agree or disagree with it.*  
*"Computer Science is a subject for men."*  
*1 = Strongly disagree; 5 = Strongly agree.*
- Mean: 1.5

# Gender

- 78% of students strongly disagreed with the statement "Men are better at using computers than women".
  - *Consider the following statement, and then select whether you agree or disagree with it.*  
*"Men are better at using computers than women"*  
*1 = Strongly disagree; 5 = Strongly agree.*
- Mean: 1.3

# Gender

- 46% of students were neutral about the statement "Few women enjoy Computer Science".
  - *Consider the following statement, and then select whether you agree or disagree with it.*  
*"Few women enjoy Computer Science."*  
*1 = Strongly disagree; 5 = Strongly agree.*
- Mean: 2.5

# Gender

- 16% of students were encouraged to take a Computing subject by a member of their family.

# IAG

- Information and guidance provided during options process incorporated elements of relevance:
- Female role models promoted in SoL and through wall displays.

# IT clubs for girls

- TechFuture Girls
- Duke of York Inspiring Digital Enterprise Award (IDEA) - not exclusively for girls.

# Results

- 13% of students studying Computer Science in Year 9 are females.
- Small change from 2017.

# Potential for further study

- Impact of removing ICT (35% girls)
- How well do we sell our subject?