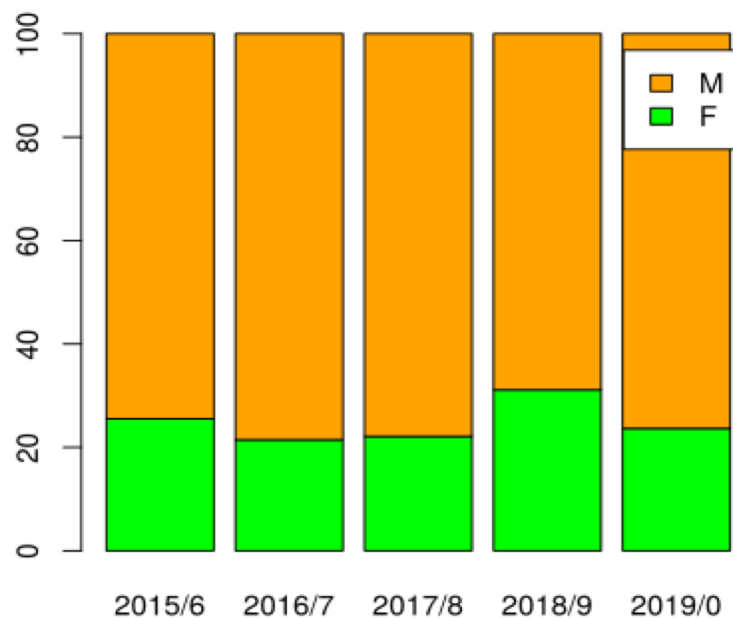# Teaching for Inclusion

What can we all do to support women students?
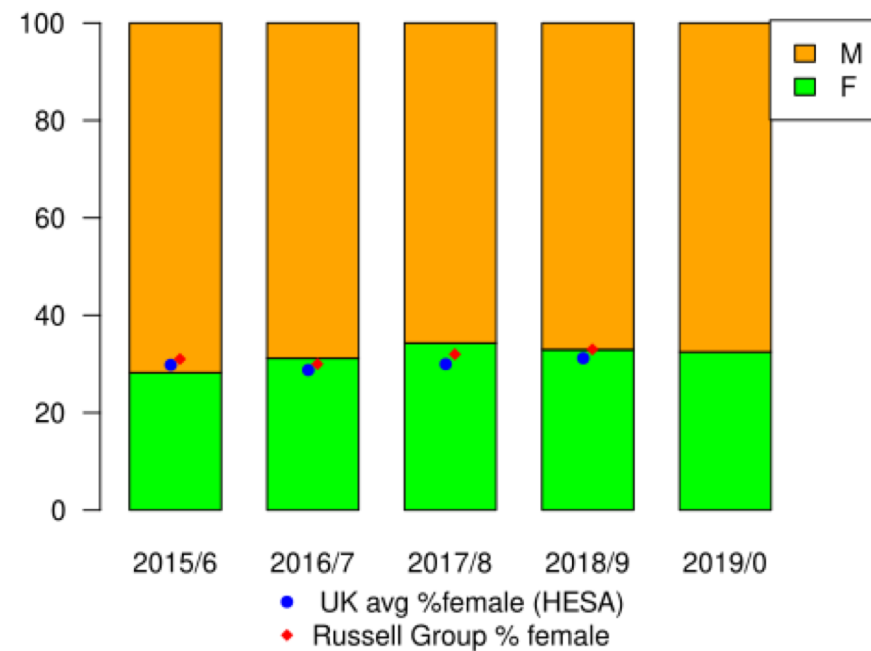
Judy Robertson and Fiona McNeill

Students in Informatics
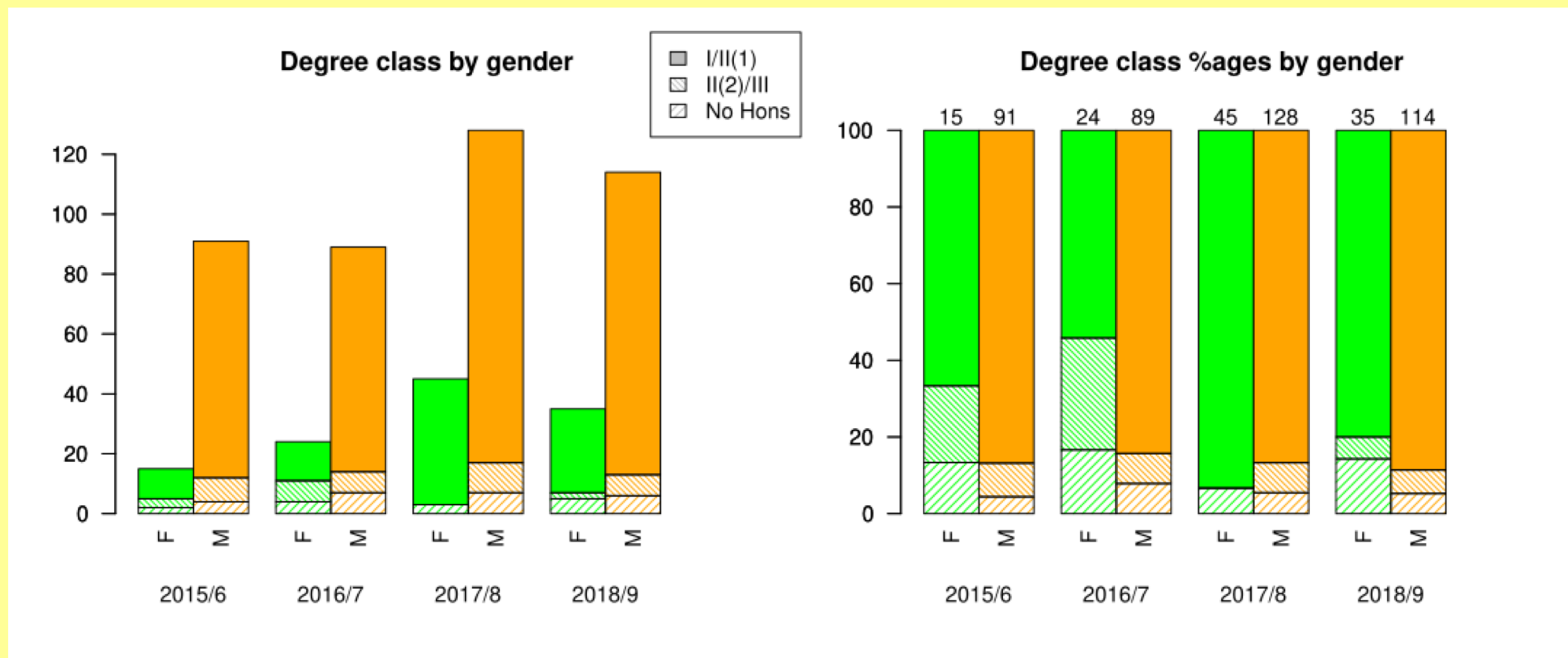

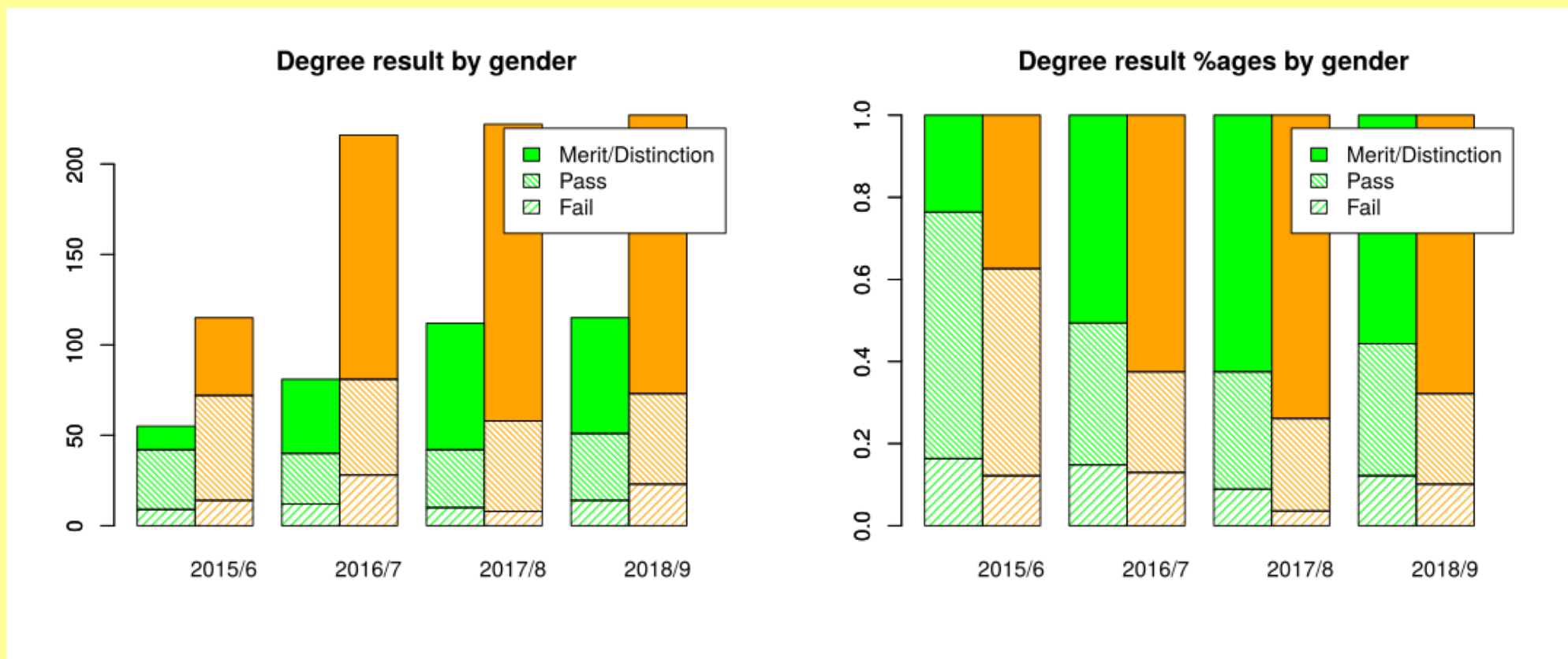UG percentage enrolments by gender

PGT %age enrolments by gender

- UK avg %female (HESA)
- Russell Group % female

Attainment in Informatics by gender - UG

Orange = Male

Attainment in Informatics by gender - PGT

Orange = Male

Teaching for inclusion – engagement principles

- Make it matter

- Build Student Confidence & Professional Identity

- Grow an inclusive community

- See tagged materials at https://www.ncwit.org/engagement-practices-framework

Underlying Principle: Make it matter

- Use meaningful and relevant content

- Make interdisciplinary connections to CS

- Address misconceptions about the field of CS (e.g. https://teachinglondoncomputing.org/celebrating-diversity-in-computing/)

- Incorporate student choice

Underlying Principle: Build Student Confidence & Professional Identity

- Give effective encouragement
  - Praise effort
  - "I have high standards and I know you can meet them if you work hard"
  - Make it OK to make mistakes
- Offer student centred assessment
  - Frequent feedback
  - Help students interpret results of assessment
  - High performing students need to understand their performance as much as struggling students
  - Encourage students to seek help and be responsive when they do
- Mitigate stereotype threat
- Provide opportunities for interaction with faculty

Underlying Principle: Grow an inclusive community

- Avoid stereotypes
- Use well structured collaborative learning
  - Paired programming
  - Peer instruction with MCQs
  - Process oriented guided inquiry learning (POGIL)
- Encourage student interaction

The University of Edinburgh

Being a male ally - tips for getting started (1)

Adapted tips from https://www.ncwit.org/resources/start-small-start-now-seven-bias-interrupters-male-allies-or-anyone-really-can-start-usi-0#Top

Interrupt "fixed mindset" talk

- Listen out for students talking in terms of "natural talent", "born leader", "either you can do this or you can't"
- Encourage students to take a step back and consider whether these comments reflect a historical bias
- When giving feedback, frame mistakes as opportunity for learning, not a sign of inadequacy
- Question whether you (or the students) might be confusing prior experience with ability

Being a male ally - tips for getting started (2)

Talk to other potential allies (male colleagues/students)

- Talk about the kinds of challenges underrepresented groups encounter in IT.

- Share a **research finding** you found interesting or a solution you or others have tried.

- If someone makes a mistake or says something problematic, always assume best intentions

- If you are afraid of making a mistake or are corrected for making a mistake, do not take it personally. Express an interest in understanding more and in improving your approach in the future.

Being a male ally - tips for getting started (3)

Facilitating more equal discussions (e.g in student groups or tutorials)

- Solicit the opinion of quieter students during the meeting or after the fact

- Implement practices that give everyone a chance to think ahead of time

- Intervene when someone is being interrupted or not getting credit. Simply commenting along the lines of, "I think _____ was trying to comment a second ago" or "Let's let _____ finish"

Further reading

- http://csteachingtips.org
- Interrupting Bias www.ncwit.org/biasacademic,
- Critical Listening Guide www.ncwit.org/criticallistening
- Male Allies Toolkit, https://www.ncwit.org/resources/male-allies-and-advocates-helping-create-inclusive-highly-productive-technology-workplac-1
- Microaggressions! game by Colleen Lewis
- https://womenandtech.indiana.edu/get-involved/faculty-affiliates/faculty-resources.html (scroll to the bottom of the page)