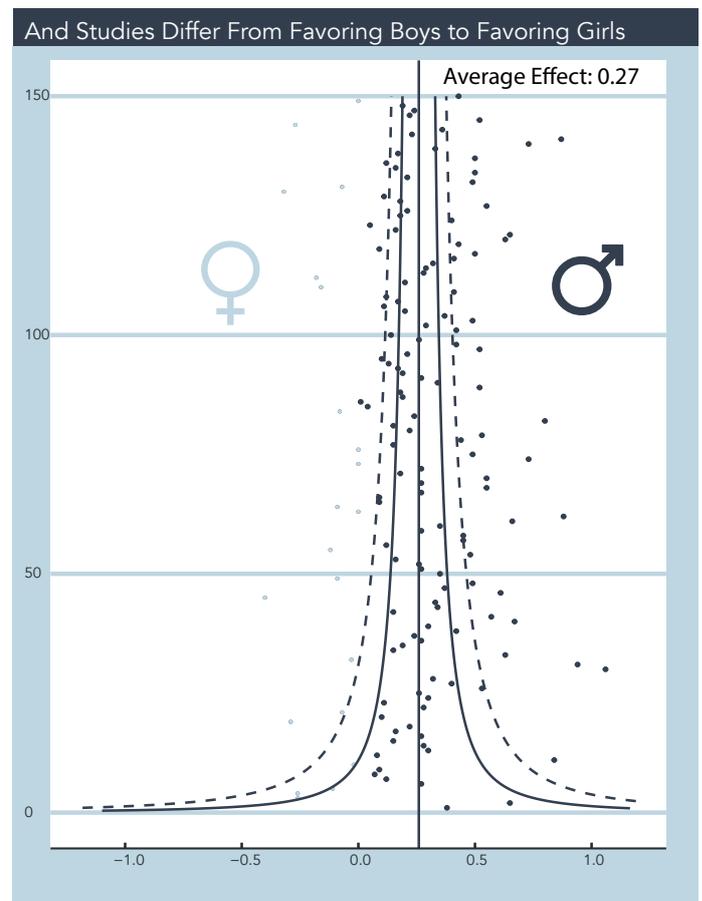
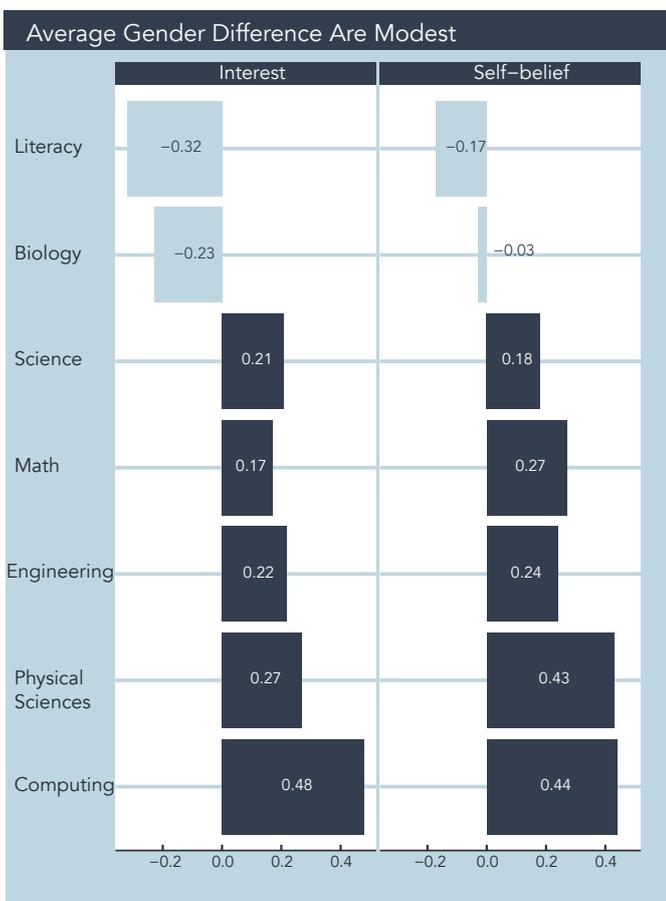


Gender Gaps in STEM? STEM Self-beliefs and Interest Are Unlikely to Be Their Cause

Gender differences in science interest, motivation, and self-beliefs have been seen as a major factor in explaining gender gap in Science, Technology, Engineering, and Mathematics (STEM) jobs. We meta-analysed 763 effect sizes from 176 published studies representing 287, 352 students. We found that most gender differences in STEM self-beliefs, interest value, task value, cost-benefit assessment, and utility value were trivial or small. Only 4 of 31 meta-analysis effect sizes were classed as moderate, and none were large. Studies generally disagreed on how big gender differences were and even whether they favoured boys or girls.

Gender differences in STEM motivation and self-beliefs are mostly small and vary alot between studies. We don't yet know why studies differ so much.



Moderators:

1. Richer students had larger gender differences than poorer.
2. Students in more gender equal countries had bigger gender differences than in less gender equal countries.

3. Despite identifying significant moderators we couldn't explain most of the differences between studies.

Implications:

1. STEM Gender differences are smaller and more variable than the media would have us believe.
2. Talk of STEM gender gaps ignore the sciences (e.g., biology, chemistry, medicine, and the social sciences) where gender differences are trivial or favour girls.
3. We need to talk more about gender and social class or gender and ethnicity when talking about STEM.

To close gender gaps in some STEM fields we need to focus on their [masculine culture and provide girls with early computer experience](#).

