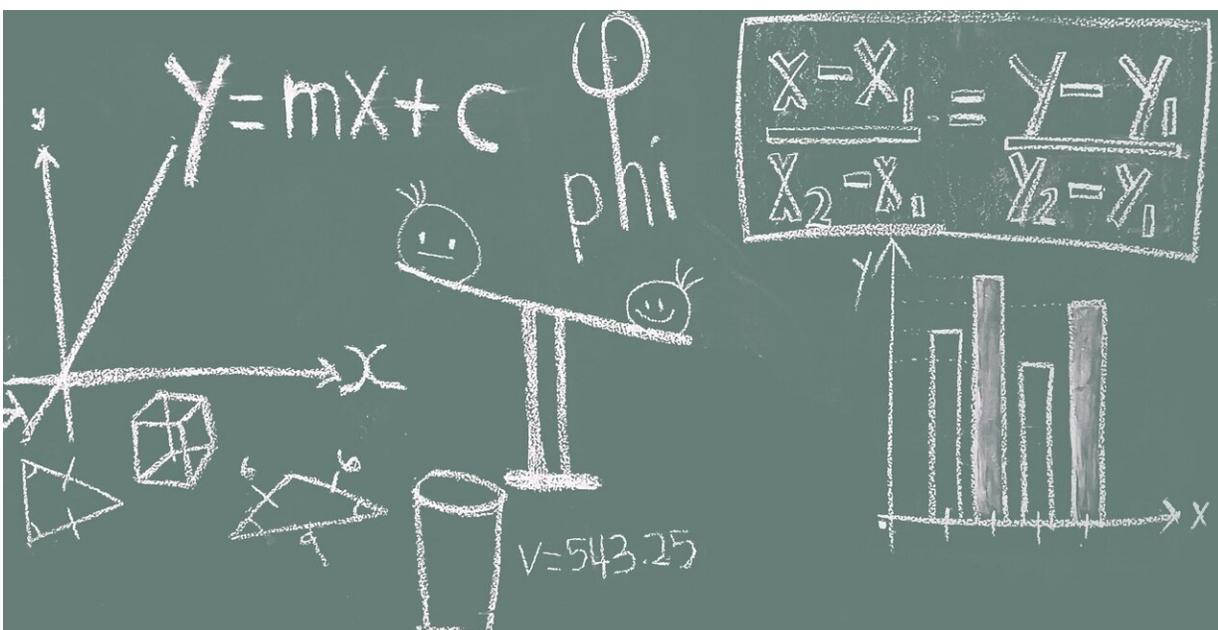


Are US teenagers more likely than others to exaggerate their math abilities? Study says yes

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A major new study has revealed that American teenagers are more likely than any other nationality to brag about their math ability.

Research using data from 40,000 15-year-olds from nine English-speaking nations internationally found those in North America were the

most likely to exaggerate their mathematical knowledge, while those in Ireland and Scotland were least likely to do so.

The study, published in [*Assessment in Education: Principles, Policy & Practice*](#), used responses from the OECD Programme for International Student Assessment (PISA), in which participants took a two-hour math test alongside a 30-minute background questionnaire.

They were asked how familiar they were with each of 16 mathematical terms—but three of the terms were fake.

Further questions revealed those who claimed familiarity with non-existent mathematical concepts were also more likely to display overconfidence in their academic prowess, problem-solving skills and perseverance.

For instance, they claimed higher levels of competence in calculating a discount on a television and in finding their way to a destination. Two thirds of those most likely to overestimate their mathematical ability were confident they could work out the petrol consumption of a car, compared to just 40% of those least likely to do so.

Those likely to over-claim were also more likely to say if their [mobile phone](#) stopped sending texts they would consult a manual (41% versus 30%) while those less likely to do so tended to say they would react by pressing all the buttons (56% versus 49%).

Over-claimers were also more likely to say they were popular with their peers at school, although the evidence was less strong on this topic.

Overall, boys were more likely to overclaim than girls, and those from advantaged backgrounds were more likely to do so than those from less advantaged groups. In most countries, immigrants were more likely to do

this than the native-born, particularly in Northern Ireland and New Zealand although not in the United States.

Three broad clusters of countries emerged, with the United States and Canada at the top of the rankings when it came to excessive claims on math knowledge, and with Ireland, Northern Ireland and Scotland at the bottom. In the middle were Australia, New Zealand, England and Wales.

The report's lead author is John Jerrim, Professor of Education and Social Statistics at the UCL Institute of Education. "Our research provides important new insight into how those who over-claim about their [math ability](#) also exhibit high levels of over-confidence in other areas," he said.

"Although 'overclaiming' may at first seem to be a negative social trait, we have previously found that overconfident individuals are more likely to land top-jobs. The fact that young men tend to overclaim their knowledge more than [young women](#), and the rich are more likely to overclaim than the poor, could be related to the different labor market outcomes of these groups."

Students were shown a list of 16 items and asked to indicate their knowledge of each on a five-point scale ranging from "never heard of it" to "know it well, understand the concept." They were:

1. Exponential function
2. Divisor
3. Quadratic function
4. Proper number
5. Linear equation
6. Vectors
7. Complex number
8. Rational number

9. Radicals
10. Subjunctive scaling
11. Polygon
12. Declarative fraction
13. Congruent figure
14. Cosine
15. Arithmetic mean
16. Probability

Numbers 4, 10 and 12 were fake terms.

More information: John Jerrim et al, Overclaiming. An international investigation using PISA data, *Assessment in Education Principles Policy and Practice* (2023). [DOI: 10.1080/0969594X.2023.2238248](https://doi.org/10.1080/0969594X.2023.2238248)

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