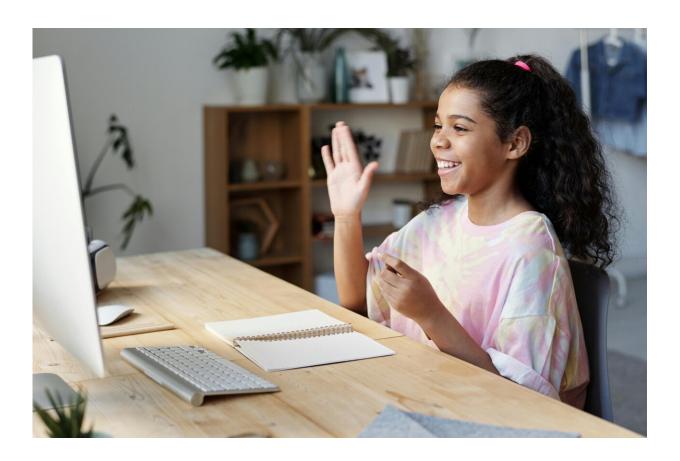# Redefining the computer whiz: Research shows diverse skills valued by youth

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Credit: Julia M Cameron from Pexels

New study reveals diverse perceptions of the "ideal" computer science student among young people.

Researchers at the University of Reading, with colleagues at King's College London, have uncovered a more nuanced view of what makes an "ideal" computer science student, challenging long-held stereotypes of geeky, clever, detail-oriented men, who lack social skills.

The research, published in *Educational Review*, analyzed around 9000 responses from over 3,000 secondary school students aged 11–16 in England. While intelligence was still seen as important, the study found that young people value a much wider range of characteristics in computer science students, including creativity and collaboration.

Professor Billy Wong, University of Reading, said, "This is good news for widening participation in computer science education. Stereotypes exist for a reason but can be a powerful deterrent to participation by some underrepresented groups.

"Our findings show that young people recognize the importance of being knowledgeable and hardworking in computer science, and they also value softer traits such as creativity and collaboration. This challenges the popular stereotype of computer scientists as simply being 'clever' but socially challenged."

Key findings include:

- Eight main clusters of characteristics were identified: Smart & Clever; Knowledgeable & Interested; Determined & Hardworking; Kind & Helpful; Creative; Independent; Confident; and Collaborative.
- Students aspiring to careers in computer science were more likely to value diverse traits beyond just intelligence.
- Girls were more likely to describe the ideal computer science student as independent, but less likely to describe them as kind and helpful.

- Students from less advantaged backgrounds were more likely to focus on intelligence as the key trait.

Professor Wong added, "These insights can help educators and policymakers promote a more inclusive image of computer science. By highlighting the diverse skills valued in the field, we can encourage more young people to see themselves as potential computer scientists."

The study is part of the SCARI computing project, a three-year study that aims to understand factors shaping participation and performance in computer science education, with a focus on addressing the underrepresentation of girls in the field.

  More information: Redefining the Computer Whiz: Research Shows Diverse Skills Valued by Youth, *Educational Review* (2024). [DOI: 10.1080/00131911.2024.2379430](https://doi.org/10.1080/00131911.2024.2379430)

Provided by University of Reading