Why aren't girls choosing Computer Science across Europe?

As part of Google's commitment to closing equity gaps in Computer Science across Europe, we conducted research - in partnership with cultural insights agency Canvas8 - to find out what prevents girls across the educational pipeline from choosing Computer Science in Europe.

Why does this matter?

Closing equity gaps in Computer Science education requires collective and long-term efforts at every stage of a student's educational journey. Each market across Europe presents unique challenges but commonalities exist. Understanding the factors that influence girls' attitudes and decisions around Computer Science is critical in providing tools and knowledge for all young people to make informed decisions on what to study.
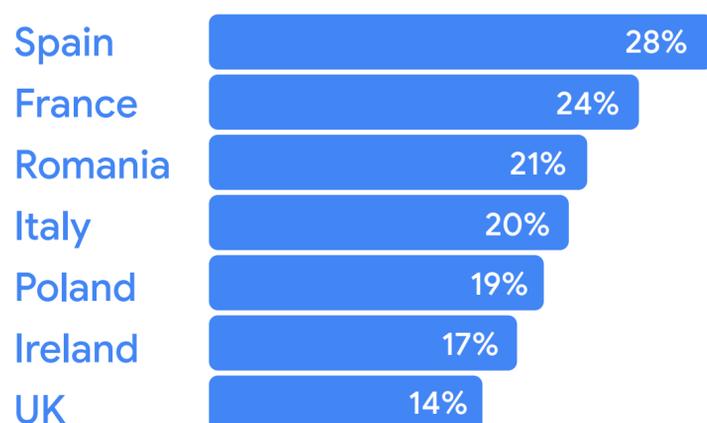
What did we find out?

We identified six critical barriers, that have a direct, or indirect, impact on the participation of girls in Computer Science. You can explore each barrier throughout this infographic.

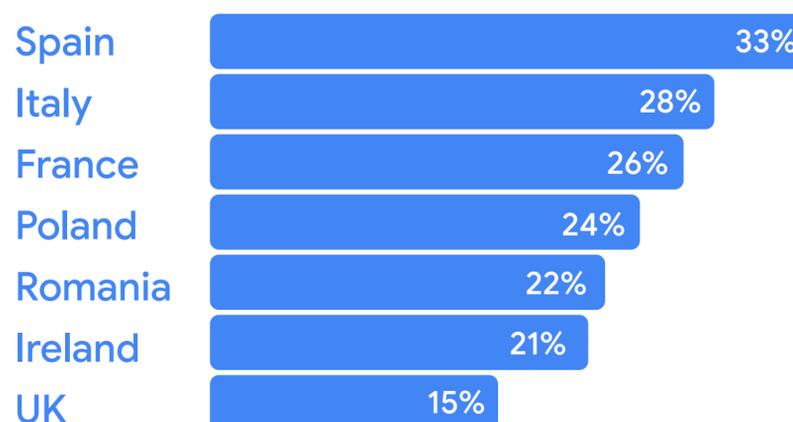**Dive deeper into the research with the full report here**

Participation in Computer Science is low across Europe with the UK having the lowest percentage and Spain the highest.[1]

Building interest is the biggest hurdle with markets leading and lagging in Computer Science participation correlating with interest.[2]

Girls who have studied Computer Science

Country	Percentage
Spain	28%
France	24%
Romania	21%
Italy	20%
Poland	19%
Ireland	17%
UK	14%

Girls interested in Computer Science

| Country	Percentage
Spain	33%
Italy	28%
France	26%
Poland	24%
Romania	22%
Ireland	21%
UK	15%

# Gender disparity exists, especially in feelings of belonging and understanding Computer Science.

80%

of girls across markets studied state either that they have never studied or that they no longer study Computer Science-related subjects.[1]

2x

Boys are 2x more likely to study/have studied Computer Science in school than girls.[1]

Girls	24%
Boys	42%
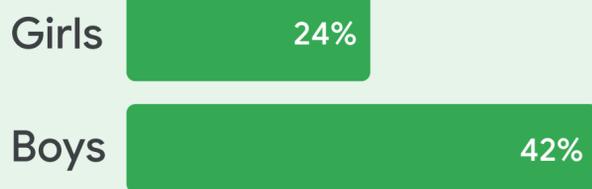
% of girls vs boys who express an interest in studying Computer Science/Informatics.[2]

Girls	19%
Boys	26%
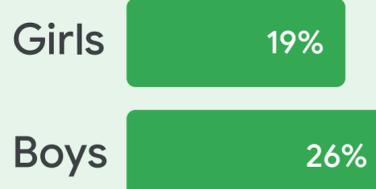
% of girls vs boys who feel they understand Computer Science.[3]

Girls	28%
Boys	36%

% of girls vs boys who can personally identify with Computer Science.[3]

Career ambitions is another important hurdle...

Among boys and girls interested, and compared to those currently studying Computer Science
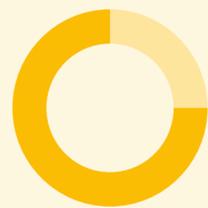
Only

24%

of girls want to pursue a career in the field...

compared to

38%

of boys[4]

Let's explore six critical barriers impacting participation of girls in Computer Science or Informatics studies...

01 Computer Science is often perceived as an isolated subject - rather than a skill to develop.

However, when integrated with other subjects,

41%

of girls are interested in studying Computer Science.[5]

Recommendation: Connecting technical curricula to tangible real-world problems across other interests has the potential to engage and broaden students' understanding of Computer Science.

02 There aren't enough relatable role models, leaving girls to rely on stereotypes in the media to form perceptions of Computer Science.

"I can think of a man as a Computer Scientist. It sounds more like serious work and I would see a man in it better. He works alone."

Girl aged 13-16 from Italy

03 The lack of support for Computer Science teachers directly impacts learner engagement with Computer Science.

34%

of girls feel having more learning resources available would increase their confidence in their ability to learn Computer Science/Informatics.[6]

04 There's a disconnect between what students learn in school and what Computer Science looks like in their daily lives.

"I don't think that putting an emoji in Excel is helpful, which is what we do in Computer Science classes now."

Girl aged 13-16 from Romania

Recommendation: Providing content at the intersection of Computer Science, art, and the humanities can help appeal to students who are less engaged with the technical aspects of Computer Science.

05 Parents are disconnected from Computer Science learning.

Many parents don't understand Computer Science and the related opportunities for their children. Only

9%

of girls say that doing Informatics/Computer Science would make their family proud.[3]

06 Peer networks are limited.

Recommendation: Provide ways for students to support each other through collaborative projects to strengthen peer networks and challenge gendered perceptions of Computer Science.

"When I'm in a class full of boys who understand and use complex software, I feel inferior. If I'm with girls I can let myself be vulnerable and I am less scared."

Girl aged 17-21 from France

References:
1. Q12 - What academic subjects have you studied in school? Base: All interested in subject split by gender and market
2. Q10 - What academic subjects are you interested in (even if you haven't been learning about them in school)? Base: All respondents split by gender and market
3. Q34 - Which of the following do you think applies to Informatics/Computer Science? Please select all that apply, Base: All Responses split by gender
4. Q27 - Do you like learning about Informatics or Computer Science?, Base: All interested in Computer Science split by gender
5. Q33 - Do you think you will study Informatics or Computer Science in higher education? Base: Girls
6. Q29 - What would make you feel more confident about your ability to learn Computer Sciences or Informatics? Base: Girls and Boys Interested in Computer Science

What have we done?
The research combines learnings from: a review of recent academic literature and desktop materials, interviews with five leading academics and education innovators in the field, conversations with 36 young girls across Europe, and a 3,000 person quantitative survey with young men and women aged 16-21 across France, United Kingdom, Ireland, Italy, Spain, Poland, Romania.

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