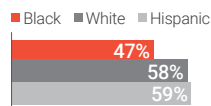


Computer Science Learning: Closing the Gap

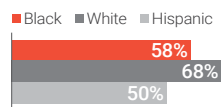
Black Students

Computer science (CS) education is critical in preparing students for the future. CS education not only gives students the skills they need across career fields, but it also fosters critical thinking, creativity, and innovation. This summary highlights the state of CS education during 2015–16 for Black students* in 7th–12th grade, a group less likely to take the AP Computer Science Exam and with a lower pass rate on it compared to other racial groups.¹

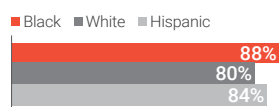
Less likely to have CS classes offered at their schools



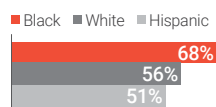
Less likely to use a computer at home at least most days



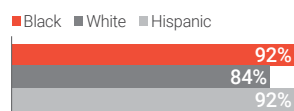
Show more interest in learning CS in the future



More confident in their ability to learn CS



Black parents want their children to learn CS in the future



Findings

Many Black students are interested in CS, but lack opportunities to learn CS at their schools and use computers less at home. Nonetheless, Black students have higher confidence that they can learn CS and are more likely to see people like them “doing CS” in the media compared to White and Hispanic students. Our study found that many Black students:

Learning CS

- **Have lower access to CS classes at school.** Black students are less likely to have CS classes at their schools compared to White and Hispanic students (47% vs. 58% of White and 59% of Hispanic students). Across racial/ethnic groups, 80% of students who learned CS did so in a class at school, which demonstrates that CS classes have the greatest potential to benefit all groups equally.
- **Learn CS outside the classroom at higher rates.** 38% who learned CS did so in a group or program outside of school (vs. 17% of White and 21% of Hispanic students).

Access and Exposure to CS and Technology

- **Have lower computer usage, but high mobile usage.** While only 58% of Black students use a computer at home at least most days (vs. 68% of White and 50% of Hispanic students), over 81% of Black students use a cellphone or tablet daily (vs. 74% of White and 72% of Hispanic students).
- **Have some CS role models in the media.** Black students are more likely to say they often see people “doing CS” in TV shows and movies, and of those who do, 26% say they see someone like themselves (vs. 16% of White and 13% of Hispanic students).

Interest and Confidence in CS

- **Show high interest in CS.** About 88% of Black students say they are interested in learning CS in the future (vs. 80% of White and 84% of Hispanic students), and 88% say they are likely to have a job requiring CS (vs. 84% of White and 87% of Hispanic students).
- **Report higher confidence to learn CS.** 68% of Black students say they are “very confident” they could learn CS (vs. 56% of White and 51% of Hispanic students).
- **Have parents who are enthusiastic about CS.** 92% of Black parents whose children haven’t learned CS want their children to learn it (vs. 84% of White and 92% of Hispanic students).

Recommendations

- **Broaden exposure.** Increase computer and CS class access for Black students.
- **Go mobile.** Offer mobile-friendly learning opportunities that put CS education in the hands of Black students.
- **Leverage interest.** Advocate for schools to provide CS coursework that taps into Black students’ and their parents’ high interest in CS.

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Black Students

Data Tables

Google commissioned Gallup to conduct a multi-year, comprehensive research effort in the United States to better understand computer science perceptions, access, and learning opportunities among underrepresented groups. The below data are nationally representative and show summaries of responses from 1,672 7th–12th grade students and 1,677 parents of 7th–12th graders in the U.S., including 228 Black students and 197 Black parents, surveyed 2015–16. Sample sizes may vary by question. See g.co/cseduresearch for methodology in the full *Diversity Gaps in Computer Science: Exploring the Underrepresentation of Girls, Blacks and Hispanics* report.

Learning CS	Black	White	Hispanic
Are there classes where ONLY CS is taught in your school? (% yes)	47	58	59
Have you ever learned computer science in ANY of the following ways? In a class at school (Asked only of students who have learned CS) (% yes)	82	81	80
Have you ever learned computer science in ANY of the following ways? In a formal group or program outside of school, such as a camp or summer program (Asked only of students who have learned CS) (% yes)	38	17	21
Access and Exposure to CS and Technology	Black	White	Hispanic
In a typical week, how often do you use a computer at HOME? (% every day/most days)	30/28	45/23	26/24
In a typical week, how often do you use a cell phone or tablet? (% every day)	81	74	72
How often do you see or read about people doing computer science in each of the following places? (In TV shows/in movies) (% often)	34/36	20/24	23/23
Thinking about all of the people you see or read about doing computer science in TV shows, in movies, or online, how often do you see people like you doing computer science? (Asked only of those who see people doing CS “often” or “sometimes” on TV, movies, and/or online) (% often)	26	16	13
Interest and Confidence in CS	Black	White	Hispanic
How interested are you in learning computer science in the future? (% very interested/somewhat interested)	31/57	21/59	35/49
How likely are you to have a job someday where you would need to know some computer science? (% very likely/somewhat likely)	30/58	26/58	38/49
How confident are you that you could learn computer science if you wanted to? (% very confident/somewhat confident)	68/28	56/38	51/39
[Parents] Would you like your child to learn computer science in the future? (Asked only of those whose child has not learned CS) (% yes)	92	84	92