Moving Forward:

Closing the Computer Science Learning Gap

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HISPANIC STUDENTS

Computer science (CS) education enables students to gain widely applicable analytical and problem-solving skills and fosters innovative thinking. This summary highlights the state of computer science education in 2020 for Hispanic students in grades 7 through 12 and Hispanic parents and guardians of students in these grade levels. Hispanic students make up 27% of the U.S. K-12 school population.[1] Hispanics have made some gains in representation in the computer science field in the past two decades, moving from 5.5% to 6.8% of workers in the sector between 2002 and 2016.[2]

Findings

Hispanic students in 2020 are as likely as white students to have access to computer science at school and in the community and are equally as interested in learning computer science. Hispanic students are about as likely as white students or Black students to get encouragement at home to learn CS but are less likely than Black students to get this encouragement at school. Hispanic students are more likely (54%) than white students (40%) to say someone at home has encouraged them to pursue a CS career. Hispanic parents' enthusiasm about CS was evident in findings reported in the 2016 report ***Computer Science Learning: Closing the Gap: Hispanic Students***.[3]

Computer Science Perceptions

Results show that Hispanic students in grades 7 through 12:

- **Are as likely to express interest in CS and see it as important for them to learn.** Forty-one percent of Hispanic students, 36% of white students and 42% of Black students say they are interested in learning CS. Similar percentages of Hispanic (39%), Black (42%) and white (39%) students think CS is important for them to learn.
- **Express confidence that they can successfully learn CS.** About six in 10 Hispanic students (63%), three in four Black students (74%) and two-thirds of white students (66%) are confident they could successfully learn CS.
- **Two-thirds of Hispanic parents and guardians think it is important for their child to learn CS.** About two-thirds of Hispanic (67%) and white parents and guardians (68%) and about three in four Black parents and guardians (78%) say CS is important for their child to learn.

Aspiration

Results show that Hispanic students in grades 7 through 12:

- **Are likely to say an adult in their lives has encouraged them to learn about CS.** Somewhat more Hispanic (70%) and Black students (75%) than white students (63%) say an adult has encouraged them to learn about CS.
- **Are about as likely as white students to say they will pursue a job in CS someday.** About one in four Hispanic students (23%), 27% of Black students and 21% of white students say they are likely to pursue a CS job someday.

Availability and Access

Results show that Hispanic students in grades 7 through 12:

- **Spend as many hours on smartphones, tablets and computers at home.** Nearly all Hispanic (95%) and Black students (97%) spend at least one hour on a smartphone at home each day; 88% of white students spend this amount of time on a smartphone. Reported technology use at school is similar among Black, Hispanic and white students.
- **Are about as likely to spend at least one hour each week studying computer science at school.** About half of Hispanic (52%) and Black students (50%) say they typically spend an hour or more, on average, each week learning computer science at school. Four in 10 white students (42%) say they spend one or more hours each week learning CS at school.

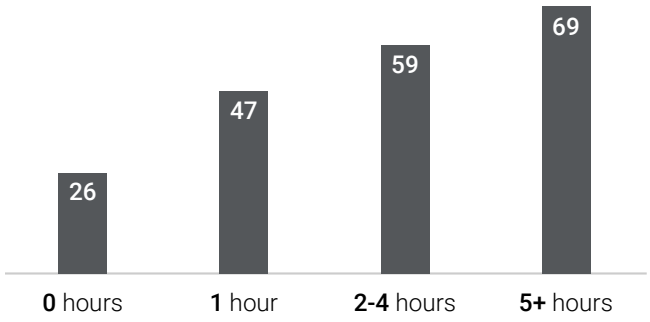
Availability and Access

Results show that Hispanic students in grades 7 through 12:

- **Have similar access to computer science classes at school and in the community.** Nearly half of Hispanic and Black students (46% each) and 52% of white students say their schools offer dedicated CS courses. About one in four Hispanic students (24%) and nearly three in 10 Black (27%) and white (29%) students say they learned computer science outside of school in the past year.
- **Regardless of race and ethnicity, students are more likely to express interest in learning computer science if they spend time learning it.** Among all students who report spending no time in a typical week learning CS, 27% are interested in learning it, whereas among those who report spending at least five hours, 74% are interested. Additional research is warranted to better understand the effects of exposure on students' CS interest and aspiration.

HOW LIKELY ARE YOU TO PURSUE A JOB IN COMPUTER SCIENCE SOMEDAY?

by average hours that student spent learning computer science each week at school (% very likely/likely)



About the Survey

Google commissioned Gallup to conduct a multiyear study of perspectives and access to computer science education in U.S. K-12 schools. Gallup surveyed students, parents and guardians, and teachers in public and private schools via the Gallup Panel and principals and superintendents from U.S. public schools and districts using a purchased sample.

The nationally representative student and parent data were collected between Jan. 29 and Feb. 17, 2020. Results include responses for 1,402 students in grades 7 through 12, including 148 Hispanic students, and 2,092 parents and guardians, including 162 Hispanic parents and guardians. Sample sizes vary by question. See **g.co/cseduresearch** for the methodology in the ***Current Perspectives and Continuing Challenges in Computer Science Education in U.S. K-12 Schools*** report.

RECOMMENDATIONS

1. **Collaborate to build CS interest and career literacy.** Find ways for enthusiastic parents and guardians to partner with teachers to spark and nurture interest.
2. **Increase exposure.** Study results suggest all students are more likely to embrace CS if they spend more time learning it. Create and implement communications campaigns for students, parents and guardians, and educators when new CS opportunities are offered in or out of school.
3. **Capitalize on out-of-school time.** Offer mobile-friendly, remote learning opportunities that put CS education in the hands of students outside the classroom.

Computer Science Perceptions	Hispanic	White	Black
How interested are you in learning computer science? (% Very interested/% Interested)	12/29	15/21	18/24
How important is it for YOU to learn computer science? (% Very important/% Important)	16/24	15/24	16/26
How confident are you that you could be successful in learning computer science if you wanted to? (% Very confident/% Confident)	35/28	34/32	42/32
(Parents and guardians) How likely is your child to need to know computer science for their career someday? (% Very likely/% Likely)	35/28	30/30	41/30
(Parents and guardians) How important is it for your child to learn computer science? (% Very important/% Important)	37/30	32/36	52/26

Availability and Access			
About how many hours per DAY do you use each of these devices at home? (% 1 or more hours)			
• Smartphone	95	88	97
• Tablet	38	31	44
• Desktop or laptop computer	83	84	94
In a typical week, about how many hours, on average, do you spend learning computer science at school?			
• % 0 hours	48	58	50
• % 1 or more hours	52	42	50
Are there classes where ONLY computer science is taught in your school? (% Yes)	46	52	46
Did you learn ANY computer science outside of school in the past year? (% Yes)	24	29	27

Aspiration			
Has an adult in your life ever encouraged you to learn about computer science? (% Yes)	70	63	75
Has an adult in your life ever encouraged you to pursue a career in computer science? (% Yes)	54	40	49
How likely are you to pursue a job in computer science someday? (% Very likely/% Likely)	11/12	9/12	10/17
(Parents and guardians) How likely is your child to pursue a career in computer science someday? (% Very likely/% Likely)	10/19	8/17	12/15

Note: The sum of percentages included in this report may differ from table results due to rounding.

Endnotes

1 National Center for Education Statistics. (2020). The Condition of Education. Accessed June 4, 2020, from **https://nces.ed.gov/programs/coe/indicator_cge.asp**

2 Muro, M., Berube, A., & Whiton, J. (2018, March 28). Black and Hispanic underrepresentation in tech: It's time to change the equation. Brookings Institution. Accessed from **https://www.brookings.edu/research/black-and-hispanic-underrepresentation-in-tech-its-time-to-change-the-equation/**

3 Google LLC and Gallup, Inc. (2016). Computer Science Learning: Closing the Gap: Hispanic Students. Accessed from **http://services.google.com/fh/files/misc/computer-science-learning-closing-the-gap-hispanic-brief.pdf**