The Digital Lives of African American Tweens, Teens, and Parents: Innovating and Learning with Technology

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Trained as a sociologist of education and childhoods, Scott's interdisciplinary work examines girls' of color (African American, Native American, Latina) social and academic development in informal spaces and their technosocial innovations. Recently, she published Women Education Scholars and Their Children's Schooling (Routledge) and is completing COMPUGIRLS: Becoming Ourselves in This Digital Age (University of Illinois Press).

Dr. Scott earned her B.A. from Smith College in Art History and French Literature, an M.S. from Long Island University in Curriculum and Instruction/Elementary Education and her Ed.D. from Rutgers University in Social and Philosophical Foundations of Education, and completed at Harvard's Business School the High Potentials Leadership Program.

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Introduction

Technology, as an innovative tool, has the potential to play a critical role in empowering minority communities to create rich learning environments and improve their socio-economic conditions. Young people can use digital media tools to enhance their education, follow their passions, and deepen their skill sets. And with greater digital skills, educational, career, and economic opportunities expand as well.

Today, African Americans[1] are under-represented in STEM occupations, holding just 6.9% of jobs in computer and mathematical occupations.[2] This loss of technological potential not only deprives young people of their personal potential, but it also inhibits our country's ability to create and deliver products that will benefit society as a whole. Without a more diverse workforce that includes underrepresented groups, our ability to innovate will remain limited to the imaginations of a select few.

This report provides the results of a national study of digital technology use among African American teens and their parents, including use of computers, smartphones, and tablets. Until now, most data we've had about digital media use among African American youth have come from relatively small samples that have been part of broader studies comparing behaviors among young people from different racial and ethnic groups.

The data presented here are from a large scale, nationally-representative survey of African American youth (ages 11 to 17) and their parents, supplemented and informed by a series of ten focus groups with African American parents and youth across the country (for more information on the demographics of the survey and focus group samples, please see the Methodology). The survey included 1,041 parent-teen dyads, for a total sample size of 2,082. Because the survey was administered online, using a combination of probability and convenience samples, the results are best interpreted as offering an in-depth perspective of the perceptions and behaviors of online African Americans. With this exclusive focus on African American families, our relatively large sample size, and the use of a multi-modal methodological design, we are able to explore variations in attitudes toward and use of digital media within the African American community, based on age, gender, and socio-economic status. And by interviewing teens and their parents, we have the unique opportunity to explore the perspectives of two generations within a single family.

The primary purpose of this study is to understand to what degree and in what ways African American families are using and learning with technology outside of formal learning environments such as schools. We are interested in the understudied topic of African American tweens and teens as digital learners and innovators. We focus not just on consumption of media through devices, but also on innovation and creation. Among the questions we attempt to answer are:

- **What are the attitudes of young African Americans and their parents about computers, including how much they do or don't enjoy using them, how confident they are or aren't in their computer-related skills, and their sense of the importance of computers in their lives?**
- **How frequently do African American tweens and teens use computers, and for what purposes? How does their use of computers vary by age, gender, and socio-economic status?**
- **Specifically, how are African American youth using computers and the internet for learning and for content creation?**
- **What new computer skills do African American youth most want to learn?**
- **To what degree do African American youth encounter racist or sexist content online, and what is their sense of how capable African American men and women are with technology?**

We hope the data and insights provided here will help inform the work of educators, policy makers, parents, and content creators as they seek to build a technology environment that will encourage and support the positive use of computers and other technology by African American youth.

[1] In this report, the terms African American and Black are used interchangeably to include people of African descent living in the US.
[2] U.S. Department of Labor. (2012). *The African American labor force in the recovery.* Retrieved from https://www.dol.gov/_sec/media/reports/blacklaborforce/)

Key Findings

1. **African American youth use computers frequently, enjoy using them a lot, and are confident about their computer-related skills and ability to troubleshoot problems that may come up.**

   Nearly two-thirds (63%) of 11- to 17-year-old African Americans use computers "every day," and a total of 90% use them at least once a week (only 2% say they "never" use computers). Sixty percent of those who use computers say they enjoy using them "a lot," and a total of 93% enjoy using them at least "somewhat." Tweens and teens are mostly quite confident about their ability to use computers and learn new technology: 87% of those who use computers say they are "very" confident of their basic computer skills, 84% of those who use either computers or mobile devices are "very" confident about conducting online searches, and 63% of all tweens and teens are "very" confident about learning how to use new technologies. Among those using computers, fewer are "very" confident about their skills with specific computer programs such as Word, Excel, and PowerPoint (50%), or are "very" comfortable troubleshooting computer problems (35%) – but a majority are at least "somewhat" confident or comfortable in these arenas (85% for software, and 65% for troubleshooting problems).

2. Smartphones are the favorite device of African American youth.

African American youth are far more likely to be daily users of smartphones than computers (81% v. 63%), and those who ever use each device are far more likely to say they enjoy using their phones "a lot" (91% vs. 60% for computers) and to consider their phones "very important" to their everyday lives (80% vs. 50% for computers). In focus groups, young people's passion for their phones was obvious. They associate their phones with things that are fun to do, like listening to music, texting, playing games, and taking pictures. It's their immediate connection to everyone and everything - always on, always with them, and easy to use.

3. African American tweens and teens recognize the importance of computers to their educational and career futures, and don't adhere to gender, racial, or social stereotypes about computer-users.

Young people recognize the importance of being good at using computers for their futures: nearly nine in ten say computers will be "very" important for their future career (89%) and for their educational future (88%). And most young people don't adhere to stereotypes about which types of kids are better at using computers than others: 87% say Black people are just as good at using computers as members of other racial or ethnic groups, and 85% say Black girls and Black boys are equally good at using computers. Similarly, 70% say popular kids and loners are equally likely to be good at using computers, and 62% say the same about geeks and cool kids.

4. African American youth have engaged in many different types of activities on computers, but few have written computer programs (or "coded").

For example, 80% of 11- to 17-year-olds have watched tutorials online about something they're interested in, 78% have watched tutorials for school, 67% have created a presentation on a computer, 52% have made digital art, 47% have written blogs, stories, or articles online for fun, and 45% have made digital music. But far fewer have created or modified a video game (21%), created an app (18%), built a website (17%), or coded (13%).

5. Many African American youth are interested in learning how to do new activities on the computer, and that interest is highest among tweens.

About half of 11- to 17-year-olds want to learn how to create an app (51%) or a website (48%), while 46% want to learn how to create or modify a video game. A third (33%) say they want to learn how to code and start an online business (35%, among 13-17 year-olds only), and about a quarter want to learn how to make digital art (23%) or music (25%). These data indicate a substantial appetite among African American youth for more computer-related education. In most cases, interest in learning these skills is highest among tweens and younger teens. For example, 50% of 11- to 12-year-olds who have never coded want to learn how, compared to 37% of 13- to 14-year-olds and 31% of 15- to 17-year-olds.

6. Boys are more likely than girls to say they can troubleshoot computer problems, and are more interested in learning how to code.

Overall, 40% of African American boys v. 29% of African American girls say they are "very" comfortable trouble-shooting computer problems (a total of 72% of boys are at least "somewhat" comfortable doing so, compared with 58% of girls). When it comes to writing computer programming, 15% of boys and 11% of girls say they have ever done this; among those who haven't ever done it, more boys (44%) than girls (32%) say they want to learn how. Importantly, in the younger age group (11- to 12- year-olds), girls start out much closer to boys in terms of their interest in coding (47% vs. 52%, a five percentage-point gap), but girls' interest in coding drops quickly to 29% among 13- to 14-year-olds (vs. 46% for boys). Among 15- to 17-year-olds, interest in learning how to code is lower than among younger teens, and the gap between boys and girls is now at 11 percentage points (26% of girls are still interested in learning to code, vs. 37% of boys).

7. Parents are more likely to limit girls' online activities and to encourage boys to experiment with computers and the internet.

Parents were asked whether they are more likely to *limit* their child's online activities because of concerns about the negative content or experiences they might encounter, or to *encourage* their child's experimentation with computers and the internet even though they can't protect them from everything they may see online. Parents of girls are more likely to say they limit rather than encourage their child's online use (52% limit, and 47% encourage). But parents of boys are more likely to encourage experimentation than to limit use (37% limit, 63% encourage). Parents are most likely to limit girls' online activities during their younger years, but for all age groups, parents are more likely to limit girls and encourage boys (although the difference is not statistically significant among the oldest age group). For example, among 11- to 12-year-olds, 78% of girls' parents say they limit their child's online activities, compared to 45% of boys' parents; and among 15-to 17-year-olds, 37% of girls' parents say they mainly limit their online activities, compared to 28% of boys' parents. These differences between how parents respond to their male and female children's internet use are especially pronounced among low- and middle-income families (less than $25,000 a year, and from $25-75,000 a year)[3] and among those living in the South.

8. African American youth from lower SES households are less likely to have learned about computers from informal sources such as peers.

Children from low- and high-income homes are equally likely to have learned about computers from a computer class at school (76% among all, no statistically significant differences by income), from a teacher in a non-computer class (36% among all), from a librarian (12% among all), or from a computer class or group outside of school (11% among all). But there are substantial differences by socio-economic status such that youth in high-income homes or whose parents have a college degree are more likely to have learned about computers from their friends or their fathers, and youth whose parents have a college degree are more likely to say they "taught themselves" how to use computers. For example, 26% of youth from low-income households say they learned about computers from friends, compared to 42% of those in high-income homes. Similarly, 26% of those in low-income homes learned

[3] The data were weighted to match benchmark distributions of African American parents of children aged 11-17 from the March 2015 Current Population Survey (CPS), including annual household income. Twenty-three percent of respondents in the weighted sample have incomes below $25,000 a year, 43% between $25,000 to less than $75,000, and 34% have incomes of $75,000 or above.

about computers from their fathers, compared to 56% in high-income homes. And 45% of young people whose parents have no more than a high school education say they "taught themselves" how to use computers, compared to 62% of young people whose parent has a college degree. These data may indicate that informal learning about computers, from peers and family members, is negatively associated with SES.

9. African American youth are almost as likely to use mobile devices for homework as they are to use computers, but they prefer using a computer for most school- or career-related activities.

Nearly half (46%) of all 11- to 17-year-olds use mobile devices "every day" for homework, compared to 51% who use computers that frequently for homework. (This does not refer to how much time they spend using each device for homework, just how frequently they use them for that purpose.) But when 13- to 17-year-olds are asked to choose whether they would prefer to do certain activities on a computer or a smartphone, more than eight in ten say they would prefer to use a computer to write a school essay (88%), a resume (86%), or a cover letter (86%). Seven in ten (70%) would rather use a computer to fill out a job application, but 21% say they don't have a preference between using a computer or a phone for that purpose. When it comes to researching colleges, 13- to 17-year-olds are more evenly split in their device preferences: 56% would choose a computer, while 30% say either device would be fine. And more young people in this age group prefer sending email from a phone than a computer (37% vs. 22%, with 41% saying either device would be fine).

10. African American youth experience racist and sexist content online, and for some that includes content that is directed at them personally.

About a quarter to a third of 11- to 17-year-olds say they "often" see content online that is disrespectful to Black people or women, and some have experienced such mistreatment personally. A third (33%) say they "often" see content that is disrespectful to Black people in general, 30% to Black men in particular, and 24% to women in general and Black women in particular. Nearly a quarter (23%) say they have personally been mistreated or disrespected online in the past year due to their race (7% often and 16% sometimes); 16% say they have experienced such mistreatment in the past year due to their gender (5% often and 11% sometimes). Interestingly, there are no differences between boys and girls in the likelihood or frequency with which they come across racist or sexist content online, nor is there a difference in the likelihood of boys or girls having personally experienced mistreatment of this nature in the past year. For example, 21% of boys and 27% of girls say they "often" encounter content online that is disrespectful to Black women – not a statistically significant difference. Similarly, 15% of boys and 17% of girls say they have personally been disrespected online "often" or "sometimes" in the past year due to their gender (again, not a statistically significant difference).

11. African American parents are confident about their own tech-related skills and recognize the importance of computers for their children's futures.

Most parents (68%) think they or another adult in the home have the most tech expertise in the household, compared to 32% who say one of their children does. About a third (35%) of parents who have a home computer "strongly" agree that if something goes wrong with the computer, they can usually

troubleshoot the problem themselves (a total of 77% agree at least "somewhat"). Nearly nine in ten parents say being good at computers will be "very" important for their child's future career (89%) and education (87%).

12. Young people's use of and attitudes about computers are significantly related to their parents' use of and attitudes about computers.

For example, children whose parents are frequent computer users are much more likely to use computers on a daily basis (72%) than those whose parents are "light" computer users (54%). Among 11- to 17-year-olds whose parents say being good at computers will be "very" important for their future career, 92% say the same. But among young people whose parents say being good at computers is only "somewhat" important for the child's future career, only 59% of kids say it is "very" important, while 35% say only "somewhat" important. The vast majority of African American parents believe that being good at using computers will be "very" important for their children's future career (89%), but one in ten (10%) considers computer skills only "somewhat" important, and children in those homes are less likely to value computers for their future career as well. A similar relation is observed between young people's and their parents' senses of importance of computers for their educational future. The same pattern emerges regarding how confident children feel about their skills with computers: among children whose parents have a high degree of confidence about computers, 92% say they are "very" confident about their own basic computer skills, compared to 71% of children whose parents have low confidence. Likewise, 70% of children of the most-confident parents say they are "very" confident about their ability to learn new technologies, compared to 52% of children whose parents have the least confidence when it comes to computers and technology.

Technology in the Home

Computers and mobile devices in the home

In our sample, 94% of African American youth are growing up in a household with at least one smartphone, 88% with a laptop in the home, 79% with a tablet device, and 66% with a desktop computer in the home. Overall, the young people in our sample are growing up in homes with 2.8 smartphones, 1.6 laptops, 1.6 tablets, and .8 desktop computers.

Computers. In our sample of African American families with children in the 11-17 year-old age range, the vast majority (95%) have at least one computer in the home. Ownership of computers does vary by household income, with 100% of those earning more than $75,000 a year having a home computer, compared to 88% of those earning less than $25,000 a year.

> "We have two iPads and a Kindle. The iPad was originally mine, but then when I bought the iPhone I got tired of carrying the iPad around. It was just easier, so I just gave it to the kids. And then one of the iPads, the screen broke, so my sister gave my son a Kindle. He's actually at home fixing the screen because you can buy the screen fixer now online. You can buy it online and fix it yourself."
>
> — Mother in Chicago

Tablets. Nearly eight in ten (78%) families in our survey have at least one tablet device in the home. Tablet ownership varies by socio-economic status (SES), with as much as a 33-percentage-point difference by household income (61% of low-income families have one, compared to 94% of high-income families).

Smartphones. Overall, 94% of the families in our survey have at least one smartphone in the home. Not surprisingly, smartphone ownership is the closest to universal across socio-economic groups. Even among the lowest income group (less than $25,000 a year), about nine in ten families (89%) have a smartphone in the household.

Figure 1: Average amount of technology in the home. *Among 11-17-year-old African Americans, by income:*

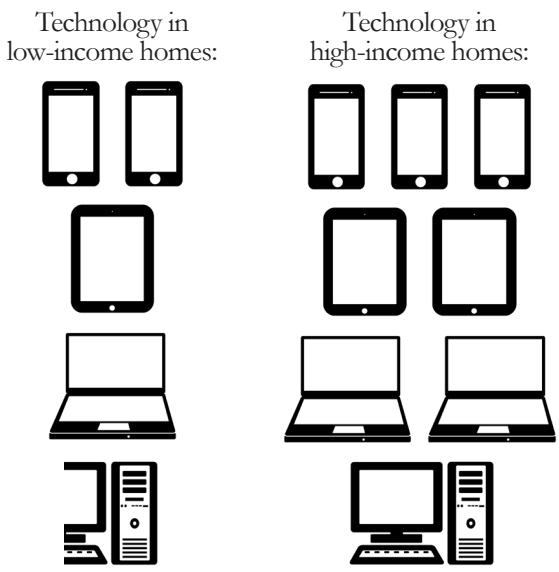


Table 1: Technology in the Home. *Among 11-17 year-old African Americans, percent with a computer, tablet, or smartphone in the home, by socio-economic status*

	Household income			Highest parent education		
Percent with a…in the home	Low (<$25,000)	Middle ($25-75,000)	High (>$75,000)	High school or less	Some college	College degree or above
Computer	88%[a]	95%[b]	100%[c]	89%[a]	97%[b]	98%[b]
Desktop	47%[a]	69%[b]	74%[b]	57%[a]	65%[b]	74%[c]
Laptop	74%[a]	88%[b]	96%[c]	75%[a]	91%[b]	96%[c]
Tablet	61%[a]	76%[b]	94%[c]	68%[a]	80%[b]	87%[c]
Smartphone	89%[a]	94%[a]	99%[b]	91%[a]	94%[b]	98%[c]

Note: Superscripts denote whether differences between columns are statistically significant. Items that share the same superscript do not differ significantly. Significance should be read separately within each column header (ie by income or parent education).

Personal ownership of computers and mobile devices among youth

Nearly eight in ten (78%) 11- to 17-year-old African Americans in the survey have their own smartphone, and just over half have their own tablet (55%) and computer (52%).

Computers. Just under half (44%) of all 11-17 year-olds in our survey have their own laptop, and 15% have their own desktop computer. A total of 52% have either a laptop of desktop computer of their own. Girls are more likely than boys to have their own computer (56% v. 48%). There is a substantial difference in personal computer ownership based on socio-economic status: children in low-income homes, and those whose parents have a lower level of educational attainment, are less likely to have a personal computer, which can be important in terms of access to the device and frequency of use. For example, 43% of low-income African American youth in our sample have their own computer, compared with 59% of high-income youth, a 16 percentage-point difference.

Tablets. Overall, just over half (55%) of all African American youth in our survey have their own tablet device, but tablet ownership varies substantially by age. Nearly three out of four tweens (11- to 12-year-olds) have their own tablet, compared to 45% of 15- to 17-year-olds. Tablet ownership also varies by household income, although not by parent education. There is a 16-percentage-point difference between the lowest and the highest economic groups (43% v. 59%) in our sample.

Smartphones. Nearly eight in ten (78%) 11- to 17-year-old African Americans in our survey have their own smartphone. Smartphone ownership varies by age, and by socio-economic status. While a majority (60%) of 11- and 12-year-olds in our sample have their own smartphone, the rate is much higher (89%) among 15- to 17-year-olds. There is a 14-percentage-point difference in smartphone ownership by family income, and a 20-percentage-point difference by parent education.

Table 2: Personal Computer Ownership. *Among 11-17 year-old African Americans in our sample, percent with their own computer, by age, gender, and socio-economic status*

Age			Gender		
11-12 years old	13-14 years old	15-17 years old	Boys	Girls	
50%	48%	56%	48%[a]	56%[b]	
Household income			**Highest parent education**		
Low (< $25,000)	Middle ($25-75,000)	High (>$75,000)	High school or less	Some college	College degree or above
43%[a]	53%[ab]	59%[b]	41%[a]	52%[b]	62%[c]

Table 3: Personal Tablet Ownership. *Among 11-17 year-old African Americans in our sample, percent with their own tablet device, by age, gender, and socio-economic status*

Age			Gender		
11-12 years old	13-14 years old	15-17 years old	Boys	Girls	
73%[a]	54%[b]	45%[c]	53%	57%	
Household income			**Highest parent education**		
Low (< $25,000)	Middle ($25-75,000)	High (>$75,000)	High school or less	Some college	College degree or above
43%[a]	60%[b]	59%[b]	55%	56%	54%

Table 4: Personal Smartphone Ownership. *Among 11-17 year-old African Americans in our sample, percent with their own smartphone, by age, gender, and socio-economic status*

Age			Gender		
11-12 years old	13-14 years old	15-17 years old	Boys	Girls	
60%[a]	77%[b]	89%[c]	76%	79%	
Household income			**Highest parent education**		
Low (< $25,000)	Middle ($25-75,000)	High (>$75,000)	High school or less	Some college	College degree or above
73%[a]	74%[a]	87%[b]	64%[a]	82%[b]	84%[b]

Computer Use Among African American Youth

Frequency of computer use

The vast majority of African American tweens and teens use computers frequently. Nearly two-thirds (63%) of 11- to 17-year-olds use computers "every day," and a total of 90% use them at least once a week or more. (The computer use could be at school, home, work, or elsewhere, and for any purpose.)

Demographic differences. There are no differences between boys and girls and no linear differences by age in the proportion of youth who are "daily" computer users. However, there are some differences in frequency of computer use based on socio-economic status, including both family income and parent education. Fifty-eight percent of African American youth from low- income families (less than $25,000 a year) use computers every day, compared with 68% of those in the high-income group (more than $75,000 a year) – however, this difference is not statistically significant. But when we look at the total proportion of youth who use computers either "every day" or "every week," the difference does become statistically significant (84% of the low-income teens vs. 94% of the high-income teens). Similarly, the percent of youth who use computers only once a month or less varies by a statistically significant degree: 16% of the low-income group, v. 6% of the high-income teens. The variation in frequency of computer use is very similar when explored through the lens of parent education.

> "...I have a lot of siblings and my little sister is in eighth grade so she's starting to use the computer more so we have to switch off [i.e. take turns]."
>
> — Teen girl in Atlanta

Table 5: Frequency of Computer Use. *Among 11-17 year-old African Americans, frequency of computer use by age, gender, and socio-economic status*

	Age			Gender	
	11-12 years old	13-14 years old	15-17 years old	Boys	Girls
Every day	63%[ab]	57%[a]	67%[b]	62%	64%
At least every week	90%	89%	91%	90%	91%
	Household income			**Highest parent education**	
	Low (< $25,000)	Middle ($25-75,000)	High (>$75,000)	High school or less	Some college	College degree or above
Every day	58%	63%	68%	56%[a]	65%[ab]	67%[b]
At least every week	84%[a]	91%[b]	94%[b]	84%[a]	93%[b]	92%[b]

Enjoyment of computer use

Most African American youth enjoy using computers. Among the 98% who use computers, 60% enjoy using them "a lot," and a total of 92% enjoy using them at least "somewhat." Relatively few kids are "anti" computers: when asked how much they enjoy using computers, only 7% say "not too much," and only one youth in our survey said he or she doesn't enjoy using them "at all." There are no differences by age, gender, or socio-economic status in the proportion of youth who enjoy using computers "a lot."

> "I feel like you can do more on your computer than you can on your phone…. You can't access Word documents or Power Points. There's a lot of school-related stuff you can do on a phone, but it's better and it comes across easier on your computer than it is on your phone."
>
> — Teen boy in Atlanta

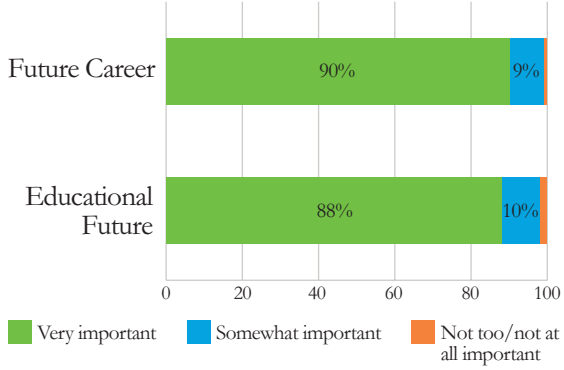
In focus groups, young people who don't enjoy using computers much explained why: unlike their smartphones, which they associate with "fun" things like social media, music and games, some young people tend to associate computers with typing and homework, neither of which they like very much. Another drawback of computers is that the user is physically tied to them (even a laptop is more physically restricting than a smartphone). Finally, a number of young people mentioned their frustration with how long it takes computers to turn on, as compared to mobile devices that are "always on." Young people also cited the convenience of mobile apps, as opposed to having to go to websites on a computer.

Attitudes about the importance of computers

About half (51%) of African American youth who use computers say computers are "very" important for their everyday lives; only 12% say computers are "not too" (11%) or "not at all" (1%) important for their everyday lives. And when it comes to their educational futures and careers, nearly nine in ten of all 11- to 17-year-olds say that being good at computers will be "very" important (88% say such skills will be "very" important for their educational future, and 89% for their future career).

> "Certain math or chemistry problems are too large to do by hand….[You] can't really compare the genetic sequences of two different animals on a smartphone."
>
> — Teen girl in Chicago

Figure 2: Importance of Computers. *Among 11-17 year-old African Americans, percent who say that being good at using computers will be important to their future*



In focus groups, some young people who weren't planning to go into explicitly tech-oriented fields struggled to see how computers would be relevant to their work. For example, one 15-year-old boy wants to be a microbiologist, but the only way he can imagine computers being important is in helping him keep in touch with others in his field; a 16-year-old boy wants to be a radiologist, but doesn't think computers are going to be important in that line of work; and a 16-year-old girl wants to be a pediatrician, but thinks computers will only be important for scheduling appointments. In general, young people in our focus groups tended to think of computers as offering a way to promote their business (through a website) and schedule appointments, but they seemed less aware of the fundamental role computing power and access to the internet could play in some of their intended careers.

Another theme that emerged from the focus groups is that some young people think technology is changing so fast that computers will soon be obsolete. For example, one 13-year-old girl in Oakland said "Computers won't be important in the future, because it'll mostly be smartphones," and a 16-year-old boy from Atlanta said "People will have a[n] iPad or a tablet, they won't be walking around with laptops."

Demographic differences. There are almost no differences by age, gender, or socio-economic status in the proportion who consider computers "very" important to their everyday lives (among those who use computers) or to their future education or career (among all youth). In fact, the only difference is in the percent who say that being good at computers will be "very" important for their future career: young people whose parents went to but did not graduate from college are more likely than those with less- highly-educated parents to say computers will be "very" important (94%, compared to 82% of those whose parents have no more than a high school education, and 88% of those whose parents graduated from college).

Teen boy in Atlanta: I want to be a radiologist.
Moderator: Radiologist? How do you see computers being important for your work in the future?
Boy: To put me through college, not for what I have to do.
Moderator: Not for being a radiologist?
Boy: I don't think so.

Moderator: What are you thinking about (doing)?
Teen girl in Atlanta: Being a pediatrician.
Moderator: And how do you think a computer might help you in the future?
Girl: With appointments.
Moderator: Appointments. Anything else?
Girl: Not really.

Computer confidence among youth

African American youth are largely confident about their computer- and technology-related skills. The vast majority (84%) of young African Americans are "very" confident about their ability to conduct online searches on a computer or mobile device. About two-thirds (63%) are "very" confident of their ability to learn how to use new technologies. Half (50%) of those who have used a computer are "very" confident of their skills at using programs such as Word, Google Docs, Excel, or PowerPoint (another 35% are "somewhat" confident of their software-related skills). And a third (35%) say they are "very" comfortable troubleshooting computer problems should they arise (another 30% are "somewhat" comfortable doing so).

The more confident a young person is about his or her computer-related skills, the more he or she enjoys using computers (or vice versa). In analyzing the survey data, we created a "computer confidence" scale based on the measures regarding degree of confidence in one's skills related to: basic computer use, online searches, using computer software programs, and comfort troubleshooting computer problems. Respondents were then divided into three groups, of high, average, and low confidence levels. Among those with the highest confidence in their computer- and tech-related skills, 73% enjoy using computers "a lot," compared with 52% of those with average confidence and 39% of the least confident.

Table 6: Trouble-Shooting Computer Problems. *Among 11-17 year-old African Americans, percent who are very or somewhat comfortable trouble-shooting computer problems, by gender and age*

	All		11-12 year-olds		13-14 year-olds		15-17 year-olds	
Percent who are:	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Very comfortable	40%[a]	29%[b]	39%	23%	34%	23%	45%	37%
Very or somewhat comfortable	72%[a]	58%[b]	61%	54%	75%[a]	55%[b]	77%[a]	61%[b]

Gender differences. There are no differences between boys and girls in terms of their overall confidence about using new technologies, or their skills at conducting online searches or using computer software programs. However, there are substantial differences between boys and girls in terms of their comfort level when it comes to trouble-shooting computer-related problems. Overall, 40% of boys v. 29% of girls say they are "very" comfortable trouble-shooting computer problems. A total of 72% of boys are "very" or "somewhat" comfortable doing so, compared with 58% of girls. The difference between boys' and girls' level of comfort in trouble-shooting computer problems is evident in each age group (although it is only statistically significant among the full sample of boys and girls), but the gap is smaller among younger tweens and teens, going from a 16-percentage-point difference among 15- to 17-year-olds to an 8-percentage-point one among 11- to 12-year-olds.

Age differences. Not surprisingly, among those who have used a computer, older teens are more confident of their skills at using computer programs and at trouble-shooting computer problems. Thirty-seven percent of 11- to 12-year-olds say they are "very" confident of their skills at using computer programs such as Word, Excel, or PowerPoint, compared to 55% of 15- to 17-year-olds. Similarly, while 31% of 11- to 12-year-olds say they are "very" comfortable trouble-shooting computer problems, that number rises to 41% among 15- to 17-year-olds.

Socio-economic differences. There are almost no differences by socio-economic status in terms of how confident African American youth are in their abilities to conduct online searches, use computer programs, or learn new technologies, or their comfort level trouble-shooting computer problems. The only measure on which there is a difference is in how confident young people are in their ability to conduct online searches: those with more highly-educated parents are more confident of their online searching skills (87% of those whose parents graduated from college and 88% of those whose parents have had some college education say they are "very" confident, compared with 76% of those whose parents have no more than a high school education).

Table 7: Computer Confidence. *Among 11-17 year-old African Americans, percent who are "very" confident or comfortable, by age*

Percent who are "very":	11-12 year-olds	13-14 year-olds	15-17 year-olds
Confident of their skills using computer programs	37%[a]	54%[b]	55%[b]
Comfortable trouble-shooting computer problems	31%[ab]	28%[a]	41%[b]

Sources of computer education

African American youth have learned about computers from a wide variety of sources, but especially from their parents and from computer classes at school; and almost all teens (96%) say they have someone they can turn to if they need help with technology. Among those who use computers, three out of four (76%) say they learned about them from a computer class at school, 36% say they learned from a teacher in some other type of class, and 11% say they learned from a computer-related class or program outside of school (respondents were allowed to pick multiple responses to indicate all of the different places they learned about technology).

> "My Dad has always worked on computers, so I just imitated him."
>
> — Teen boy in New York

> "My parents had me doing educational games on the computer since I was 3."
>
> — Teen boy in Chicago

Many teens also learn about computers from their parents and other family members: a total of 80% say they learned about them from one or both of their parents (66% say they learned from their mothers and 40% from their fathers), 18% from a sister, 18% from a brother, and 16% from another relative. And just over half (55%) say that one of the ways they've learned about computers is by teaching themselves. Twelve percent say they've learned from a librarian and 7% from some other adult (not a relative or a teacher). And teens are not without resources to turn to for help if they need it: 96% say they have someone they feel comfortable turning to for help if they run into a problem with a computer, tablet, or phone.

Table 8: Sources of Computer Education. *Among 11-17 year-old African Americans who ever use computers, percent who say they have learned about computers from each source (multiple responses accepted)*

Source:	%
Computer class at school	76%
Mother	66%
Taught themselves	55%
Father	40%
Teacher (not in computer class)	36%
Friends	36%
Sister	18%
Brother	18%
Other relative (not parent or sibling)	16%
Librarian	12%
Computer class/group outside of school	11%
Other adult (non-relative)	7%

Age and gender differences. There are a few age-based differences in the percent of youth who have learned about computers from some sources. Older teens are much more likely to say they taught themselves (61% of 15- to 17-year-olds, vs. 41% of 11- to 12-year-olds), while younger respondents are more likely to say they learned from a family member such as their mother (60% of 15- to 17-year-olds vs. 77% of 11- to 12-year-olds), their father (34% of 15- to 17-year-olds vs. 47% of 13- to 14-year-olds), and their sister (14% of 15- to 17-year-olds vs. 26% of 11- to 12-year-olds). The only gender-based difference in where young people learn about computers is a 7-percentage-point difference between boys and girls in learning from a computer class at school (79% of boys say they have done so, vs. 72% of girls). The survey does not point to any gender-based differences in learning about computers within the family: boys and girls are equally likely to have learned from a mother or a father, and from a brother or sister (for example, 17% of boys and 18% of girls have learned from a brother, and 18% of boys and 18% of girls have learned from a sister).

Table 9: Informal Learning About Computers. *Among 11-17 year-old African Americans who ever use computers, percent who say they…, by SES*

	Household income			Highest parent education		
	Low (< $25,000)	Middle ($25-75,000)	High (>$75,000)	High school or less	Some college	College degree or above
Have learned about computers from each source (multiple responses accepted):						
Father	26%[a]	37%[b]	56%[c]	30%[a]	38%[a]	50%[b]
Friends	26%[a]	39%[b]	42%[b]	26%[a]	37%[b]	45%[b]
Taught Self	51%	56%	56%	45%[a]	55%[ab]	62%[b]
Have someone to turn to if they run into a problem with a computer, tablet or smartphone:						
Yes	91%[a]	96%[ab]	99%[b]	92%[a]	97%[b]	97%[ab]

Socio-economic differences. Interestingly, children from low- and high-income homes are equally likely to say they learned about computers from various types of formal instruction, such as a computer class at school, another teacher at school, a librarian, or from a computer class or group outside of school. This could point to a public policy success in ensuring equitable access to computer-based learning, although of course this survey cannot measure the quality, extent, or effectiveness of such instruction.

> "I got my whole family into computers. But my daughter [10 years old], she's like a mini-me when it comes to technology. She's doing video editing. She's got her own YouTube channel. She's got videos and how-to-do things on YouTube."
>
> — Father in Atlanta

The survey does highlight important differences in young people's learning from informal sources. Children from low-income families are much less likely to have learned about computers from their friends or their fathers, and those in homes with less-highly-educated parents are less likely to have learned from fathers, friends, or to have taught themselves.

The difference in learning from fathers in low-income homes may be due to the high number of single-family homes at this income level (65%). Indeed, children in single-parent homes are half as likely as those in two-parent homes (24% vs. 50%) to have learned about computers from their father.

Use of computers for entertainment, information, homework, and communication

Among the 98% of 11- to 17-year-old African Americans in our sample who use computers, the most common purpose of their computer use is for entertainment. Fifty-nine percent use computers "every day" for entertainment, followed by "for your own information" (53%), for homework (51%) and for staying in touch with family and friends (48%).

Age and gender differences. There are no statistically significant differences between boys and girls in the frequency with which they use computers for each purpose. The only statistically significant difference by age in computer use for these various purposes is in frequency of use for "your own information," and the difference is non-linear (13- to 14-year-olds are less likely to do so

than those in the other age groups: 44% compared with 58% of 11- to 12-year-olds and 57% of 15- to 17-year-olds). Taking a closer look at the frequency with which 11- 17-year-old African American youth use computers for homework, there is a trend toward older teens and girls using them more often for this purpose, but the differences (10 percentage points by age and 8 by gender) are not statistically significant.

Table 10: Main Uses of Computers. *Among 11-17 year-old African Americans who ever use computers, percent who use them*

	Every day	Every week	Every month	Less often	Never
For entertainment	59%	24%	8%	6%	2%
For their own information	53%	29%	8%	6%	3%
For homework	51%	37%	6%	4%	2%
To stay in touch	48%	22%	8%	10%	12%

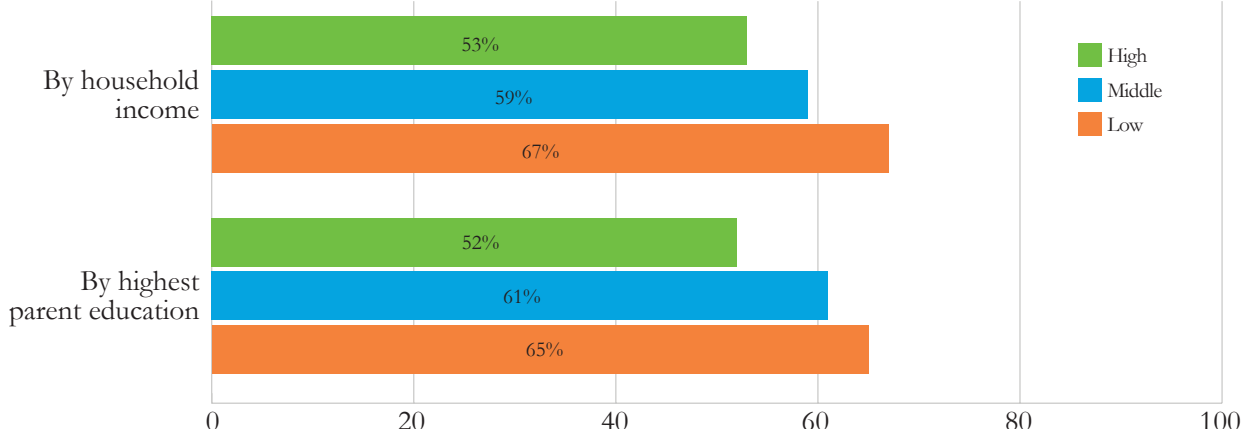
Socio-economic differences. There are no differences between young people in different socio-economic groups in terms of the frequency with which they use computers for homework, to stay in touch with family and friends, or for their own information. But young people from lower socio-economic groups are more likely to use computers for entertainment on a daily basis than their peers from wealthier families. For example, 67% of young people from families with less than $25,000 in annual income say they use computers "every day" for entertainment, compared with 53% of those in families earning more than $75,000 a year. This may be because children in the lower-income families have fewer entertainment options or opportunities for recreation outside of the home, since they are growing up in under-served and often dangerous neighborhoods. And it is interesting that differences in frequency of computer use for homework by socio-economic status are even smaller than those by age (and they are not statistically significant); this is somewhat unexpected, since those in lower-SES homes are less likely to have computers in the home.

Table 11: Use of Computers for Homework. *Among 11-17 year-old African Americans who ever use computers, percent who use them for homework "every day," by age, gender, and socio-economic status*

Age			Gender	
11-12 years old	13-14 years old	15-17 years old	Boys	Girls
44%	52%	54%	47%	55%

Household income			Highest parent education		
Low (< $25,000)	Middle ($25-75,000)	High (>$75,000)	High school or less	Some college	College degree or above
47%	53%	50%	46%	55%	49%

Figure 3: Use of Computers for Entertainment. *Among 11-17 year-old African Americans who ever use computers, percent who use them for entertainment "every day," by socio-economic status*



Device preferences for school or career-related tasks

When given the option of using a computer or a smartphone to do various specific tasks related to school or career, the vast majority of young people say they would choose a computer (these questions were asked only of 13- to 17-year-olds). More than eight in ten 13- to 17-year-olds would prefer to use a computer than a smartphone to write a school essay (88%), a resume (86%), or a cover letter (86%). Seven in ten (70%) would rather use a computer to fill out a job application, but 21% say they don't have a preference between using a computer or a phone for that purpose. But when it comes to researching colleges, teens are more evenly split in their device preferences: 56% would choose a computer, while 30% say either device would be fine. And more teens prefer sending email from a phone than a computer: 37% say a smartphone would be the first choice, compared with 22% who prefer computers for email (the largest group - 41% - say either device would be fine).

Demographic differences. Boys and girls have similar device preferences (there are no statistically significant differences), as do younger (13- to 14-year-olds) and older teens (15- to 17-year-olds), except that fewer younger teens (81%) prefer a computer for writing a resume than older teens (89%). But young people from higher-SES groups are more likely than those in the lowest group to say they would prefer a computer for writing a school essay or filling out a job application. For example, 92% of high-income youth say they'd rather write a school essay on a computer, compared to 81% of low-income youth. Among those whose parents have no more than a high school education, a total of one in five (20%) say they either have no preference or prefer to use a phone than a computer to write an essay for school.

Figure 4: Computers vs. Smartphones for Specific Tasks. *Among 13-17 year-old African Americans, percent who prefer a computer to a smartphone for each task*

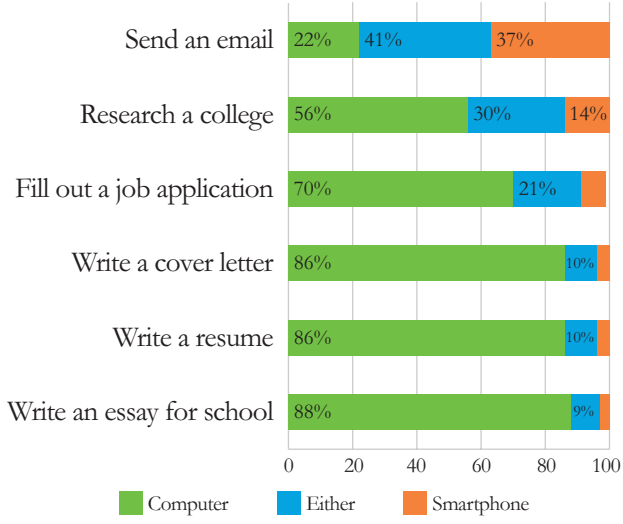


Table 12: Device Preferences for Specific Tasks by SES. *Among 13-17 year-old African Americans, percent who prefer a computer to a smartphone for each task, by socio-economic status*

	Household income			Highest parent education		
	Low (< $25,000)	Middle ($25-75,000)	High (>$75,000)	High school or less	Some college	College degree or above
Filling out a job application	64%[a]	69%[ab]	79%[b]	64%	71%	75%
Writing a resume	82%	85%	90%	77%[a]	89%[b]	89%[b]
Writing an essay for school	81%[a]	88%[ab]	92%[b]	80%[a]	92%[b]	88%[ab]

Content creation and digital learning

Many young African Americans have engaged in a wide variety of online or computer-based activities devoted to content creation or online learning, and many more want to learn how to do the activities they have not yet done.

Content creation and learning activities youth have engaged in. The majority of 11- to 17-year-olds have used a computer or mobile device to edit photos or videos (84%), create a presentation (67%), and make digital art (52%). Nearly half have written blogs, stories or articles for fun on a digital device (47%) and made digital music (45%). Fewer have engaged in content creation that involves programming-related skills, such as creating or modifying a video game (21%), or creating apps (18%) or websites (17%). Only 13% of young people have written computer programming, or "coded." Many have gone online to watch tutorials for school (78%) or for something they're interested in outside of school (80%), while one in four (26%) have taken an online class. A handful of young people (3%) have started their own online businesses.

Table 13: Digital Content Creation and Learning.
Among 11-17 year-old African Americans, percent who have done each activity on a computer or mobile device

Activity:	%
Edit pictures or videos	84%
Watch tutorials about something they're interested in outside of school	80%
Watch tutorials for school	78%
Create a presentation	67%
Make digital art	52%
Write blogs, stories, or articles for fun	47%
Make digital music	45%
Take an online class	26%
Create or modify a video game	21%
Create an app	18%
Create a website	17%
Code	13%
Start an online business	3%

Focus group participants offered many examples of the types of 'how-to' videos (tutorials) they like to watch online - everything from cooking to fixing your phone or computer, learning new hair styles, getting makeup ideas, dance videos, athletic how-to's, learning how to beat a level in a video game, workout videos, and how to do a trick on a skateboard.

> "[Y]ou call them MIDI controllers. You have a piano, then you have a little drum pad, then you have your mixers, and then everything is all mixed within the computer. So it's like, I'll play on the keyboard, I get my little melodies, and then I get my drums, then I mix it all together. Then when I want to compose it and mix it, I get on my computer, and once I'm done, I'll save it and put it on the website. That's it."
>
> — Teen boy in Atlanta

Teen boy in Atlanta: I read a lot of blogs…. IGN and stuff.
Moderator: Say that again?
Boy: IGN. It's like a gaming blog…I use it for a lot of software and games because I mod a lot on my laptop.

While only 3% of 13- to 17-year-olds nationwide said they had ever started their own online business, several focus group participants had done so. One 17-year-old boy from New York said "I have a side business taking pre-orders for shoes. I sell a lot on eBay. I use PayPal." Another teen boy, from the Atlanta area, makes beats and sells them online. "I'll make beats and I sell them a lot," he says. "So every time somebody hits me up I'll go to my email or I just go on SoundCloud, it's where I post most of my beats and everything. So I go on there to see who bought what, how much money I got and everything like that."

Age differences. Tweens (11- to 12-year-olds) are more likely to have made digital art and watched tutorials for something they're interested in outside of school: 61% have created digital art (compared to 47% among 15- to 17-year-olds) and 86% have watched interest-driven tutorials (compared to 74% of 13- to 14-year-olds). Older teens (15- to 17-year-olds) are more likely to have created a presentation (72% vs. 58% of tweens) and taken an online class (35% vs. 19% of tweens). Somewhat surprisingly, there are no statistically significant differences by age in the percent who have engaged in other computer-related activities, such as writing code, create an app or making a website.

Table 14: Digital Content Creation and Learning Activities by Age. *Among 11-17 year-old African Americans, percent who have done each activity on a computer or mobile device, by age*

	11-12 year-olds	13-14 year-olds	15-17 year-olds
Create digital art	61%[a]	53%[ab]	47%[b]
Watch tutorials – not for school	86%[a]	74%[b]	79%[ab]
Create a presentation	58%[a]	69%[ab]	72%[b]
Take an online class	18%[a]	20%[a]	36%[b]

Gender differences. Girls are more likely than boys to have edited photos or videos (89% vs. 79%) and to have created a presentation (72% vs. 63%). Boys are more likely than girls to have created or modified a video game (26% vs. 17%). Overall, 15% of boys and 11% of girls say they have ever written computer programming ("coded"), but this difference is not statistically significant when looked at across the total sample. However, among 15- to 17-year-olds, 18% of boys and 8% of girls have coded, and this difference is statistically significant.

Table 15: Digital Content Creation and Learning Activities by Gender. *Among 11-17 year-old African Americans, percent who have done each activity on a computer or mobile device, by gender*

	Gender	
	Boys	Girls
Edit photos/videos	79%[a]	89%[b]
Create or modify video game	26%[a]	17%[b]
Create a presentation	63%[a]	72%[b]
Write computer code	15%	11%
Write computer code (among 15-17 year-olds)	18%[a]	8%[b]

Socio-economic differences. Young people from low- and high-SES homes are equally likely to have engaged in almost all of these digital activities, with just a couple of exceptions. Interestingly, young people from low-SES homes are more likely to have created an app than those in high-SES homes. For example, 24% of young people in households earning less than $25,000 a year have created an app, compared with 13% in households with incomes over $75,000. The reverse correlation occurs with regard to creating a presentation, with high-SES youth more likely to have done this. For example, 79% of youth whose parents have a college degree have created a digital presentation, compared with 54% of those whose parents have no more than a high school education (there are similar differences by income).

Table 16: Digital Content Creation and Learning Activities by Socio-Economic Status. *Among 11-17 year-old African Americans, percent who have done each activity on a computer or mobile device, by SES*

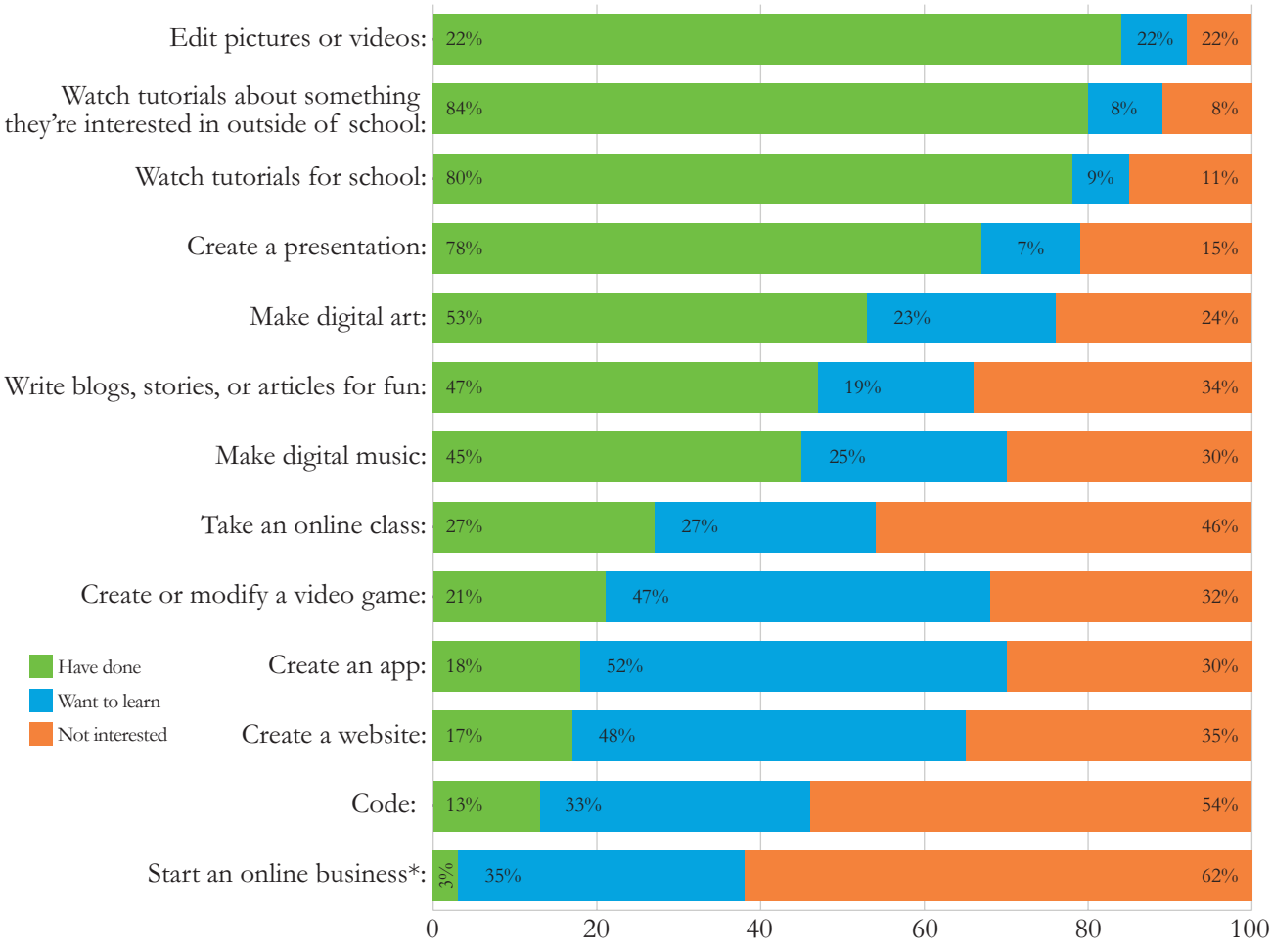
	Household income			Highest parent education		
	Low (< $25,000)	Middle ($25-75,000)	High (>$75,000)	High school or less	Some college	College degree or above
Create an app	24%[a]	17%[ab]	13%[b]	26%[a]	14%[b]	15%[b]
Watch tutorials for school	74%	78%	81%	71%[a]	81%[b]	79%[ab]
Watch tutorials not for school	73%[a]	84%[b]	80%[ab]	72%[a]	84%[b]	81%[ab]
Create a presentation	54%[a]	69%[b]	77%[b]	54%[a]	66%[b]	79%[c]

Computer skills youth want to learn

While many African American youth have engaged in a wide range of digital content creation or online learning activities, there are many others who haven't yet done these things but want to learn how. For example, in addition to the 18% of young people who say they have created an app, another 52% want to learn how to do so. Similarly, nearly half of all 11- to 17-year-olds say they want to learn how to build a website (48%) or create or modify a video game (47%). A third (33%) say they want to learn how to code. And about a quarter want to learn how to make digital art (23%) or music (25%). Among 13- to 17-year-olds, 36% want to learn how to start an online business. These gaps between the percent who have already learned each of these computer skills and the percent who want to learn them are critical, and must be addressed.

Age differences. For most of the computer-related activities asked about in this survey, interest in learning how to do each activity is negatively associated with age (among those who have not yet done each activity). For example, among those young people who haven't ever written computer programs (or "coded"), 50% of 11- to 12-year-olds want to learn how, compared to 31% of 15- to 17-year-olds. The only activities where interest is not lower among older teens are starting an online business (which was only asked of 13- to 17-year-olds), creating a presentation, and taking an online class. For all the other activities – creating digital art or music, building an app or website, writing blogs, and making or modifying a video game – interest is highest among tweens.

Figure 5: Digital Skills Youth Want to Learn. *Among 11-17 year-old African Americans, percent who have done or want to learn how to do each activity on a computer or mobile device*



*Among 13-17 year-olds only.

Table 17: Interest in Learning Digital Skills by Age. *Among 11-17 year-old African Americans who have never done each activity, percent who want to learn how to, by age*

	11-12 year-olds	13-14 year-olds	15-17 year-olds
Make digital music	55%[a]	52%[a]	34%[b]
Make digital art	59%[a]	56%[a]	39%[b]
Write blogs, stories or articles for fun	45%[a]	37%[ab]	27%[b]
Create an app	69%[a]	69%[a]	56%[b]
Create or modify a video game	71%[a]	59%[ab]	52%[b]
Create a website	60%[ab]	65%[a]	52%[b]
Code	50%[a]	37%[b]	31%[b]
Start an online business*	NA	40%	34%
Create a presentation	38%	35%	32%
Take an online class	36%	37%	37%

Note: The base of respondents who had not already done certain activities was too small to include in this table: editing pictures or videos, and watching tutorials for school or for something outside of school. *Only asked of 13-17 year-olds.

Gender differences. There are some substantial differences between boys and girls in terms of what they want to learn how to do on a computer or mobile device. The largest difference is that boys are much more likely to want to learn how to create or modify a video game (76% vs. 45% among those who have never done this; 26% of boys and 16% of girls have already created or modified a video game). Boys are also more likely than girls to want to learn how to code (44% vs. 32% among those who haven't already done so). This difference is most evident in older teens who have never coded before. In the younger age group (11- to 12- year-olds), girls are much closer to boys in terms of their interest in coding (47% vs. 53%, a 6-percentage-point gap), but girls' interest in coding is much lower among 13- to 14-year-olds (29% vs. 45% for boys), and among 15- to 17-year-olds both boys and girls have less interest in coding, with the gap between the two at 11 percentage points (26% vs. 37%). On the other hand, girls are more likely than boys to want to learn how to write blogs, online stories or articles (44% vs. 27% among those who have never done that) and to take an online class (41% vs. 31%).

> "I wanted to see if I could make something like Flappy Bird."
>
> — Teen boy in Atlanta

Table 18: Interest in Learning Digital Skills by Gender. *Among 11-17 year-old African Americans who have never done each activity, percent who want to learn how to, by gender*

	Gender	
	Boys	Girls
Write blogs, stories and articles online	27%[a]	44%[b]
Create or modify video game	76%[a]	45%[b]
Take an online class	31%[a]	41%[b]
Code	44%[a]	32%[b]

Table 19: Interest in Learning to Code. *Among 11-17 year-old African Americans who have never coded, percent who are interested in learning to do so, by age and gender*

Gender	11-12 year-olds	13-14 year-olds	15-17 year-olds
Girls	47%[a]	29%[bx]	26%[b]
Boys	53%	45%[y]	37%

Note: The superscripts a and b denote difference by age group within that gender; x and y denote statistically significant differences between girls and boys within each age group.

Socio-economic differences. Young people's interest in learning how to do more things on their computers does not vary based on whether they are from low- or high-income homes or whether their parents have a college degree or a high school diploma, with two exceptions: those from high-SES homes are more interested in taking an online class (45% of those whose parents have a college degree would like to do this, compared with 24% of those whose parents have no more than a high school diploma and 39% of those whose parents have some college education); and more of them would like to learn how to create an app (67% among the high-education group, compared to 50% among the lower group and 68% among the mid-education group).

Sexist and racist content online

About a quarter to a third of 11- to 17-year-old African Americans say they "often" see content online that is disrespectful to Black people or women, and some have experienced such mistreatment personally. A third (33%) say they "often" see content that is disrespectful to Black people in general, 30% to Black men in particular, and 24% to women in general and Black women in particular. Nearly a quarter (23%) of young people say they have personally been mistreated or disrespected online in the past year due to their race (7% say this has happened "often" in the past year, and 16% say "sometimes"); 16% say they have experienced such mistreatment in the past year due to their gender (5% "often" and 11% "sometimes").

Demographic differences. Overall, there are no differences between boys and girls in the likelihood or frequency with which they come across racist or sexist content online, nor is there a difference in the likelihood of boys or girls having personally experienced mistreatment of this nature in the past year. Older teens are more likely than younger ones or tweens to see such content, probably related to their increasing use of digital devices and their exposure to more adult online content in general. Fifteen- to seventeen-year-old girls are the most likely to see online content they consider "disrespectful" to women in general – 35% say they "often" do so, compared with 23% of boys that age. This is the one age group where there is a statistically significant difference by gender. We did not observe any socio-economic differences in young people's exposure to or experience of racist or sexist content online.

> "The comments section is a cesspit on news stories about race, women's rights, the Middle East."
>
> — Teen girl in Oakland

> "It's a full on war about light-skinned versus dark-skinned."
>
> — Teen girl in Atlanta

Although many young people say they do come across negative content online, most of our focus group participants indicated that it wasn't a big deal to them. Many indicated that the type of disrespectful content they see online is not anything that is exclusive to the internet, nor is it content they're unfamiliar with. For the most part, it's not a reason they would refrain from going online – although one or two teens had stopped using certain sites where that type of content proliferated.

Table 20: Exposure to Sexist or Racist Content Online. *Among 11-17 year-old African Americans, percent who see disrespectful content online*

	Among all	By gender		Among 15-17 year-olds	
Percent who "often" see content online that is disrespectful to:		**Boys**	**Girls**	**Boys**	**Girls**
Black people in general	33%	35%	31%	38%	39%
Black men in particular	30%	30%	30%	34%	36%
Women in general	24%	21%	28%	23%[a]	35%[b]
Black women in particular	24%	21%	27%	22%	31%
Percent who have personally been disrespected online "often" or "sometimes" during the past year due to their:					
Race or ethnicity	22%	24%	20%	25%	20%
Gender	16%	15%	17%	14%	18%

Stereotypes about computer users

While most African American youth don't adhere to stereotypes about which types of kids are good at computers, some do. A third say "geeks" are better at computers than "cool kids," and 19% say "loners" are better at computers than "popular kids." On the other hand, 70% say that popular kids and loners are equally likely to be good at using computers and technology, and 62% say the same about geeks and cool kids.

Demographic differences. There are no differences by age or gender in adherence to the computer-related stereotypes asked about in our survey. However, there are differences based on socio-economic status, with higher-income youth more likely than others to adhere to such stereotypes.

For example, 42% of higher-income youth agree that geeks are better than cool kids at using computers, compared with 29% of middle-income youth. Similarly, 25% of higher-income teens say that loners are better than popular kids at using computers, compared with 14% of low-income youth.

In focus groups, most participants seemed a little baffled by the question when we asked what types of kids are good at using computers, saying "it's everyone." When probed, some of the types of kids that were described as being good at computers were smart kids, young people, cool kids, popular kids, patient kids, and straight-A kids. One respondent said the only kids who aren't good at computers are "Kids without access," indicating an understanding that skills are closely related to opportunities for engagement. But focus group participants in the Atlanta area were more prone than those in other focus group locations to offering stereotypes when asked which types of kids are good at computers: respondents there mentioned introverted kids, loners, kids who stay to themselves, and kids who do a lot of homework or go to the library "like, every day."

Table 21: Computer Stereotypes. *Among 11-17 year-old African Americans, percent who say each type of kid tends to be better than the other at using computers and technology, by household income*

	Low (<$25,000)	Middle ($25-75,000)	High (>$75,000)
Geeks (v. cool kids)	31%[ab]	29%[a]	42%[b]
Loners (v. popular kids)	14%[a]	18%[ab]	25%[b]

Tech-related race- and gender-esteem

Nearly four-fifths of youth consider being an African American an important part of their self-image. The vast majority of African American youth say they strongly believe that Black people are just as good at using computers and just as successful in computer-related jobs as are members of other racial groups; and similar numbers strongly believe the same about Black women as compared to Black men. Nearly nine in ten "strongly" agree that Black people are just as good at using computers as other races (87%) and that Black girls are just as good as Black boys (85%). Similarly, 82% believe that Black people are just as successful at computer jobs as people from other races, and that Black women are just as successful as Black men.

Demographic differences. While the large majority of both younger and older youth, boys and girls, and young people from lower- and higher-SES groups agree about this racial and gender parity, there are some differences. For example, boys are less likely than girls to "strongly" agree with the positive statements about women: 82% of boys vs. 89% of girls "strongly" agree that Black girls are just as good at using computers as Black boys, and 78% of boys vs. 85% of girls strongly agree that Black women are just as successful at computer-related jobs as Black men. And although there are no differences in how strongly children from lower- vs. upper-income families feel about these issues, there are some differences based on their parents' education: children whose parents have no more than a high school education are less likely than those whose parents graduated from college to "strongly" agree with several of these statements.

Table 22: Tech-Related Race and Gender Esteem. *Among 11-17 year-old African Americans, percent who "strongly" agree with each statement*

	Percent who "strongly" agree
Black people are just as good as people from other races at using computers	87%
Black girls are just as good as Black boys at using computers	85%
Black people are just as successful as people from other races at computer-related jobs	82%
Black women are just as successful as Black men at computer-related jobs	82%
Being an African American is an important part of my self-image	79%

Table 23: Tech-Related Race and Gender Esteem, by Parent Education. *Among 11-17 year-old African Americans, percent who "strongly" agree with each statement, by parent education*

	High school or less	Some college	College degree or above
Black people are just as good as people from other races at using computers	81%[a]	90%[b]	90%[b]
Black girls are just as good as Black boys at using computers	80%	87%	88%
Black people are just as successful as people from other races at computer-related jobs	76%[a]	83%[ab]	86%[b]
Black women are just as successful as Black men at computer-related jobs	77%[a]	81%[ab]	86%[b]
Being an African American is an important part of my self-image	77%	81%	80%

Public vs. private or charter school students

The vast majority of our youth respondents (83%) attend non-charter public schools. Eight percent attend charter schools, 6% private schools, and 2% are home-schooled. As part of our analyses, we compared certain key findings among young people who attend non-charter public schools, and those who attend private or charter schools (those who are home-schooled and those who are not currently attending school were not included in these analyses). Overall, there are few differences in the findings.

For instance, there are no differences in terms of how confident youth are in their computer skills, in how important they think computers will be for their future education or career, or in whether they have learned about computers from a computer class at school, a librarian, another teacher at school, or a computer class or group outside of school.

The private and charter school students were more likely to use a computer for homework at least weekly (94% v. 87%; there was no difference in the percent using a computer on a daily basis). Private and charter school students were also more likely to use a computer daily to look up things for their own information (63% vs. 52%), but the percent who do so at least weekly was equal between the two groups.

The only differences in terms of which activities students had done on the computer were that private school students were more likely to have created digital art (66% vs. 51%) and to have written blogs or articles to post online for fun (57% vs. 45%). For all other activities asked about in this survey, including creating apps, building websites, making a video game, taking an online class, and so on, students attending public schools were just as likely to have engaged in these activities as those attending private or charter schools.

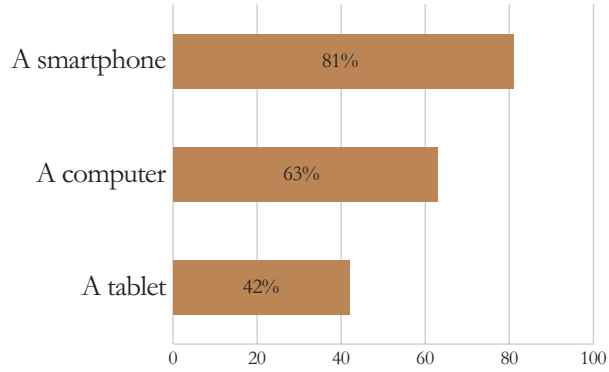
Use of Mobile Devices Among African American Youth

Frequency of mobile device use

The digital device African American youth use most frequently is, not surprisingly, the smartphone. Eight in ten (81%) use smartphones daily, followed by computers (63% are daily users) and then tablets (42%).

Demographic differences. Tablet use is lower among teens than tweens, while smartphone use is higher. More than half (56%) of 11- to 12-year-olds use tablets "every day," compared with 41% of young teens (13-14 years old) and 35% of older teens (15-17 years old). Even tweens are more likely to use smartphones than tablets every day (two-thirds are daily smartphone users), and that rate is substantially higher among older age groups – 90% of 15- to 17-year-olds use smartphones "every day." Boys and girls are equally likely to be daily users of smartphones and tablets. Children from low- and high-income homes are just as likely to be daily tablet users, but high-income youth use smartphones more often than low- and middle-income youth do (88% are daily users, compared to 77% of low-income and 79% of middle-income youth).

Figure 6: Daily Device Use. *Among 11-17 year-old African Americans, percent who use each device "every day"*



Enjoyment of mobile devices

The majority of young African Americans enjoy using each type of digital device (smartphones, computers, and tablets) "a lot," but smartphones are by far the most popular. Among those who use each type of device, 91% enjoy using smartphones "a lot," compared with 64% for tablets and 60% for computers. Both boys and girls and young people from lower- and higher-SES homes are equally likely to enjoy using each type of digital device. The only variation by age is that tweens and younger teens enjoy using tablets more than older teens do: 73% of 11- to 12-year-olds and 68% of 13-14 year-olds enjoy using tablets "a lot" compared with 54% of 15-17 year-olds.

Echoing the survey findings, most youth in our focus groups considered their phones their favorite devices. They associate their phones with things that are fun to do, like listening to music, texting, playing games, and taking pictures. Most of what they do on a computer they can do on their phone, except they can do it on the go; and many feel they can do much more on their phone, thanks to apps.

> "I looooove my phone. Ninety percent of the time I'm on my phone."
>
> — Teen girl in Chicago

> "My phone is my world. I'd be lost without it."
>
> — Teen girl in Atlanta

Most teens in our focus groups didn't seem to have the devotion to their tablets that they have to their phones; some said they use their tablets only when their phone is charging. On the plus side, they see tablets as a "faster way to get on the internet" as compared to a laptop; the tablet offers many of the same tools as a computer, but unlike a laptop "you don't have a big old keyboard and it doesn't take forever to power up."

Some focus group participants did prefer a tablet over a phone for looking at photos, and a few mentioned that they like reading on a tablet because of the convenience. Others said they play video games, watch Netflix or YouTube, and use FaceTime on their tablets. The sense

was that if they want a bigger screen and a better-looking image, but don't want to bother with a laptop, they'll use a tablet. One teen girl from the Chicago area uses an app on her tablet to design and order clothes online, which are then sent to her through the mail.

> "A smartphone can do everything a tablet and laptop can do but it's more portable."
>
> — Teen girl in Atlanta

Most of the focus group participants see computers as more limiting than either phones or tablets, mainly because mobile devices have texting, apps, and can go everywhere with you. In contrast, the computer is something some youth feel stuck to physically, because they have to sit and use it in one place (even laptops, which they called heavy). On the other hand, a few focus group participants were more into computers than other devices. These youth were the ones who had specific tasks they wanted to do – whether making beats or running scientific equations - and computers provided them with the power to do those tasks. And as described earlier, the survey indicated that the vast majority of teens prefer to use a computer over a smartphone for certain important tasks such as preparing a paper for school, writing a resume or cover letter, and applying for a job (these questions were only asked of 13- to 17-year-olds).

Attitudes about the importance of mobile devices

The vast majority (81%) of young people who use smartphones consider them "very" important for their everyday lives, as compared with computers (51% say they are "very" important for their everyday lives) or tablets (45%). This is not surprising, given the use of smartphones for texting, calling, taking pictures, looking things up, and connecting to social media. Some youth are even more likely than others to say their phones are "very" important – girls, older teens, and those from high-SES homes. Tweens are more likely than teens to consider tablets "very" important to their everyday lives (57%, v. 44% for 13-14 year-olds and 37% for older teens).

Table 24: Importance of Smartphones to Everyday Life. *Among 11-17 year-old African Americans who use smartphones, percent who say they are "very" important to their everyday lives, by age, gender, and SES*

Age			Gender		
11-12 years old	13-14 years old	15-17 years old	Boys	Girls	
74%[a]	79%[ab]	86%[b]	77%[a]	85%[b]	
Household income			**Highest parent education**		
Low (< $25,000)	Middle ($25-75,000)	High (>$75,000)	High school or less	Some college	College degree or above
79%[ab]	78%[a]	87%[b]	74%[a]	83%[b]	84%[b]

Use of mobile devices for entertainment, communication, homework, and personal information

Among tweens and teens who use mobile devices (smartphones or tablets), the most frequent purpose is for "entertainment" (82% do so daily), followed by staying in touch with friends and family (72%), for their own information (69%), and finally, for homework (46%). There are no differences between boys and girls in the frequency with which they do each activity on a mobile device, nor are there any differences between young people in lower- or higher-SES families. The only difference by age is that older teens use their mobile devices more frequently for staying in touch than younger respondents do (81% of 15- to 17-year-olds do so daily, compared to 61% of tweens and 70% of younger teens).

> "Everything I need is on my phone. I do my homework on my phone."
>
> — Teen girl in Chicago

> "It's mostly on the smartphone she does her homework."
>
> — Mother in New York

It is interesting that young people are almost as likely to use mobile devices for homework as they are to use computers (this does not refer to how much time they spend using each device, but to how frequently they use them for this purpose). Nearly half of 11- to 17-year-olds (46%) use mobile devices "every day" for homework, compared to just over half (51%) who use computers that frequently for homework. A total of 70% of teens use mobile devices for homework at least weekly. Only 22% do so less than once a month (10%) or never (12%). There are no statistically significant differences between boys and girls, tweens and teens, or richer or poorer youth in the frequency with which they use mobile devices for homework.

Echoing the survey findings, many teens in our focus groups use their phones to help with their homework. Among the ways they do homework on their phones are: using the calculator on the phone, doing online research, looking up the assignment online if they forget it, completing online worksheets through their phones, accessing Google Docs, and typing their papers on their phones. Several mentioned apps that help them with their schoolwork, such as School Notebook and Quizlet. Some also use their phones to watch online videos that explain math and chemistry; others text friends and ask them if they "get it."

Table 25: Use of Computers and Mobile Devices for Homework. *Among 11-17 year-old African Americans who use each type of device, percent who use them for each purpose "every day."*

	Mobile device	Computer
Entertainment	82%[a]	59%[b]
Homework	46%[a]	51%[b]
Staying in touch	72%[a]	48%[b]
For your own information	69%[a]	53%[b]

African American Parents' Use of Computers

Parents create the media environment children inhabit at home. They decide which devices and services to purchase; they determine if the family needs or can afford a computer and home internet access; they decide whether and when to get their child a smartphone or a laptop; they model media-related behaviors, and establish the reigning attitudes about the importance of technology in the family's life. Therefore this project also surveyed the parents of our teen respondents, to get a sense for how often they use computers and other technology, for what purposes, and how they view their children's relationship with technology. The study also explored the relationship between parents' technology use and attitudes and those of their children.

Frequency of computer use among parents

More than two-thirds (67%) of the parents in our survey use computers for something besides their work on a "daily" basis. Very few parents don't use computers outside of work at all (3%). While this pattern is consistent between mothers and fathers, computer use among parents does vary by income: 55% of low-income parents use computers for something besides work "every day," compared to 76% of high-income parents.

Not surprisingly, parents in our focus groups had widely differing perspectives on computers. Some consider computers as necessary as the air they breathe; others don't need them and don't particularly like them either. One father from Atlanta said that "Every area, every aspect of my life that I can think of is absolutely based around computers," while a mother from Atlanta said "I don't use the computer. I use my smartphone." When asked why she doesn't use the computer, this mother said "Because it's boring. You're just sitting there. (Laughter) I've got other stuff I could be doing. If I'm in the kitchen cooking dinner I can still watch what I want to watch if I'm on my phone, or [if I'm] …folding laundry, I can listen to music." Some parents who didn't grow up using computers and still don't use them extensively at work are learning more about using them. One Chicago mother said "[I]t's interesting, it's challenging, and I'm learning a lot of stuff about it…[A]t first I didn't ever want to know anything about computers."

Relationship between the frequency of parents' and children's computer use. Children whose parents are frequent computer users are much more likely to use computers on a daily basis (72%) than those whose parents are "light" computer users (54%).

Table 26: Frequency of Digital Device Use by Parents. *Among African American parents of 11- to 17-year-olds, percent who use each device "every day"*

	Low income (<$25,000)	Middle income ($25-75,000)	High income (>$75,000)
Computer+	55%[a]	66%[ab]	76%[b]
Tablet	31%[a]	43%[b]	45%[b]
Smartphone++	77%	81%	85%

\+ For something besides work ++ For something besides texting or talking

Table 27: Relationship Between Frequency of Parent and Youth Computer Use. *Among African American 11- to 17-year-olds and their parents*

Percent of 11-17 year-olds who use computers…	Among those whose parent's computer use is:		
	Frequent (n=417)	Moderate (n=359)	Light (n=265)
Every day	72%[a]	61%[b]	54%[b]
Once a month or less	5%[a]	8%[a]	17%[b]

Frequency of parental computer use was calculated from a scale composed of survey questions about use of computers for entertainment, personal education/information, and taking care of the business of everyday life.

> "I'm a stockbroker, so everything I do is on the computer. Trades, clients, information, research, their accounts, everything."
>
> — Father in New York

> "Honestly, my computer's sitting in my room and I usually don't use it."
>
> — Mother in Chicago

Table 28: Purpose of Computer Use by Parents. *Among African American parents of 11- to 17-year-olds who have a home computer, percent who use it "every day" for each purpose, by SES*

	Household income			Highest parent education		
N=989	Low (< $25,000)	Middle ($25-75,000)	High (>$75,000)	High school or less	Some college	College degree or above
Entertainment	59%[a]	47%[ab]	41%[b]	53%[a]	49%[ab]	39%[b]
Personal education or information	41%	39%	33%	37%	40%	34%
Taking care of the business of everyday life	39%	43%	43%	36%	43%	48%

Purpose of computer use among parents

Parents who have computers use them frequently for a range of purposes, including entertainment, taking care of daily chores, and looking up information. Outside of work, parents with desktop or laptop computers at home use them most frequently for entertainment (47%), followed by taking care of the business of everyday life (42%), and finally, for educational or informational purposes (37%). Women are more likely than men to use computers on a daily basis to take care of the business of everyday life (47% vs. 32%). Low-income and less-highly-educated parents are more likely to use computers for entertainment on a daily basis than higher-SES parents are. There are no differences by gender or SES in daily use of computers for other purposes.

Moderator: Why do you like using computers?
Father in Chicago: They're fun. You can sit down and not have a problem in the world and just start browsing, looking up stuff. You could research cars, or maybe athletes,….a sports website. I get the convenience of paying bills without going anywhere, and shopping. Probably one of the best reasons right there.

Parental confidence regarding computers

Most parents who have a home computer feel confident about their technical skills, and think they have more tech expertise than their teenagers do. About three-quarters (74%) of parents "strongly agree" that they are "comfortable using computers," more than half (57%) strongly agree that they enjoy learning about new technologies, and more than a third (35%) "strongly" agree that if something goes wrong with the computer, they can usually troubleshoot the problem themselves. Adding in those who at least "somewhat" agree with each statement, a total of 98% say they are comfortable using computers, 91% enjoy learning about new technologies, and 77% can usually troubleshoot computer problems. In addition, 68% of parents say they or another adult in the home have the most tech expertise, compared to 32% who say one of their children does.

Demographic differences. Low-income parents are just as likely as high-income ones to strongly agree with each statement: that they feel comfortable using computers, enjoy learning new technologies, and can usually troubleshoot computer problems. Mothers and fathers are also equally likely to agree with each statement. However, parents with a higher level of educational attainment are more likely to "strongly" agree that they are comfortable using computers (83% of college graduates, compared to 65% of those with no more than a high school diploma). There are no differences by socio-economic status in the percent of parents who say an adult vs. a child has the most tech expertise in the home.

> "I'm comfortable with technology. I actually love it. I think I learn something new every day, messing around on the computer. I'm eager to learn something else every day."
>
> — Father in New York

> "I'm very comfortable with it. Like he said, I can do many different things with it. I can take memory out, put memory in, troubleshoot it. I can do a whole bunch of things with a computer."
>
> — Father in New York

Table 29: Computer Confidence Among Parents. *Among African American parents of 11-17 year-olds, percent who "strongly agree" that they…, by SES*

	Household income			Highest parent education		
	Low (< $25,000)	Middle ($25-75,000)	High (>$75,000)	High school or less	Some college	College degree or above
Can trouble-shoot computer problems	38%	32%	38%	32%	33%	42%
Are comfortable using computers	70%	72%	79%	65%[a]	77%[b]	83%[b]
Enjoy learning about new technology	55%	54%	61%	54%	59%	57%

Gender differences. Men are more likely than women to self-identify as having the most tech expertise in the home (46% of women v. 68% of men say they have the most tech expertise in their household). Even among survey respondents who have the same level of educational attainment as one another, fathers are far more likely than mothers to say they have the most tech expertise in the home: among parents with a college or advanced degree, in two-parent families, 73% of fathers say they have the most tech expertise, compared with 39% of mothers. Mothers are also more likely than fathers to say their child has the most tech expertise in the home (37% v. 21%).

Relationship between parent and youth computer confidence. Children's confidence in their tech skills tends to mirror that of their parents. Half (51%) of children whose parents have a high level of computer-related self-confidence have a high degree of confidence in their own tech skills, compared to 33% of young people whose parents have a low level of self-confidence. Likewise, only 5% of young people whose parents have a lot of self-confidence about computers have a low level of confidence in their own skills, compared with 22% of those whose parents have a low level of computer self-confidence.

Table 30: Relationship Between Parent and Youth Tech Confidence. *Proportion of 11-17 year-old African Americans with high, moderate, and low levels of tech confidence, by parent tech confidence level*

Percent of 11-17 year-olds whose level of tech confidence is:	Among those whose parent's confidence level is:			
	Among all	High (n=241)	Moderate (n=441)	Low (n=359)
High	47%	51%[a]	44%[ab]	33%[b]
Moderate	43%	44%	41%	45%
Low	10%	5%[a]	15%[b]	22%[b]

Note: High, moderate, and low tech confidence levels among parents are based on a scale created from several different survey questions. See Methodology section for details.

More specifically, among children whose parent has a high degree of confidence about computers, 92% say they are "very" confident about their basic computer skills, compared to 71% of children whose parent has the lowest level of confidence. Likewise, 70% of children of the most-confident parents say they are "very" confident about their ability to learn new technologies, compared to 52% of children whose parents have the least confidence when it comes to computers and technology.

> "She'll come to me for help for Microsoft PowerPoint or stuff like that, but as far as the internet, she knows more. That's why I take classes, so I can be on her level."
>
> — Mother in Chicago

Table 31: Relationship Between Parent and Youth Tech Confidence. *Proportion of 11-17 year-old African Americans who are "very" confident about specific computer and tech skills, by parent tech confidence level*

Percent of 11-17 year-olds who are "very" confident of their:	Among those whose parent's tech confidence level is:		
	High (n=241)	Moderate (n=441)	Low (n=359)
Basic computer skills+	92%[a]	85%[b]	71%[c]
Ability to conduct online searches+	89%[a]	83%[a]	70%[b]
Ability to use software such as Word, Excel, and PowerPoint++	55%[a]	44%[b]	47%[ab]
Ability to learn how to use new technology	70%[a]	56%[b]	52%[b]

Note: Parent tech confidence levels are calculated from a scale composed of several survey questions. + Among those who ever use computers. ++ Among those who ever use a computer or mobile device.

Parental attitudes about the importance of computers in their children's lives

Importance to child's future. Nearly nine in ten parents say being good at computers will be "very" important for their child's career (89%) and educational future (87%). Low- and high-income parents, and those with lower and higher degrees of educational attainment, are equally likely to consider computers "very" important for their child's future. Mothers and fathers have similar views about how important it is for their children to be good at using computers. Parents' views about the importance of computers for their child's education and career do not vary by the child's gender.

Information vs. self-expression. Parents are more likely to see technology as a tool for their child to access information than as a means of self-expression. Sixty percent of parents "strongly" agree that the internet exposes their child to new ideas and information, while 49% "strongly" agree that computers offer their children new and interesting ways to express themselves. There are no differences between high- and low-SES parents in this regard, nor between mothers and fathers. Parents who use computers most often, and those who are most confident about their computer skills, are more likely to "strongly agree" with those statements.

> "I look at the cell phone because she's 13 as more of a distraction. When she asks me for my phone, it's not because she wants to Google where this place is on the map. (Laughter) She wants to play a game or talk to somebody."
>
> — Mother in Atlanta

> [I]f you're not a tech person you are going to get left behind, because everything's changing over right now. If you don't like it you're going to have to buck up to it, because it's going to happen."
>
> — Father in Chicago

Encouraging vs. limiting online exploration. Parents are more likely to encourage than restrict their child's use of the internet despite some risks. When asked whether they mainly encourage or mainly restrict their child's use of the internet, 55% of parents say they mainly encourage their child, "even though I know I can't protect them from everything they might see online," compared to 44% who say they mainly limit their child's online activities "because of my concerns about the negative content or experiences they may encounter." Again, there are no differences between mothers and fathers, or between high- and low-SES parents in their overall attitude about their child's use of the internet.

Gender differences. However, there were substantial differences based on whether the parent's child was a girl or a boy. Parents of girls are more likely to say they limit rather than encourage their child's online use (52% limit, and 47% encourage). But parents of boys are more likely to encourage experimentation than to limit use (63% encourage, 37% limit). Parents are most likely to limit girls' online activities during their younger years, but for all age groups, parents are more likely to limit girls and encourage boys (although the difference is not statistically significant among the oldest age group). For example, among 11- to 12-year-olds, 78% of girls' parents say they limit their child's online activities, compared to 45% of boys' parents; among 13- to 15-year-olds, 55% of girls' parents say they mainly limit their child's online activities, compared to 44% of boys' parents; and among 15-to 17-year-olds, 37% of girls' parents say they mainly limit their online activities, compared to 28% of boys' parents.

These differences vary by socio-economic status and region of the country such that they are especially pronounced among low- and middle-income families and among those living in the South. For example, among low-income parents, 55% of those with girls compared to 33% of those with boys say they mainly limit their child's online activities, but among high-income parents the split is 41% v. 38% (not statistically significant). And among families in the South, 60% of girls' parents limit their child's online activities while 33% of boys' parents do; but among families outside the South, the split is even (42% of both girls' and boys' parents). Interestingly, parents tend to limit girls (23%) less than boys (41%) in the North East, a reversed pattern.

> My kid, there is no doubt in my mind that he has seen some things that could be considered negative. He's been online communicating with people since five, six. But as parents, me and my wife live in a world that has always since the beginning of time had negativity…We teach our kids to handle and cope with it because it's going to happen… You're going to see it. You just have to learn how to deal with it."
>
> — Father in Atlanta

Relationship between parent and youth computer attitudes. Parents' sense of how important computers are to their child's future is related to how important the child thinks they are as well. Among young people whose parent says computers are "very" important for their future, 90% say the same. Among those whose parents say they are only "somewhat" important for the child's future, 61% of young people say they are very important, while 39% say they are only "somewhat" important.

Table 32: Parental Approach to Limiting or Encouraging Computer and Internet Use. *Among African American parents of 11-17 year-olds, percent who say they mainly limit or encourage their child's online use, by child gender, income, age, and region*

Percent of parents who say they are more likely to:	Among all parents of:		Among low income parents of:		Among middle income parents of:		Among high income parents of:	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Limit online use	37%[a]	52%[b]	33%[a]	55%[b]	39%[a]	60%[b]	38%	41%
Encourage online use	63%[a]	47%[b]	67%[a]	45%[b]	61%[a]	40%[b]	62%	56%

	Among Southern parents of:		Among non-Southern parents of:	
	Boys	Girls	Boys	Girls
Limit online use	33%[a]	60%[b]	42%	42%
Encourage online use	67%[a]	40%[b]	58%	58%

	Among 11-12 year-olds:		Among 13-14 year-olds:		Among 15-17 year-olds:	
	Boys	Girls	Boys	Girls	Boys	Girls
Limit online use	45%[a]	78%[b]	44%[a]	55%[b]	28%	37%
Encourage online use	56%[a]	22%[b]	56%[a]	46%[b]	72%	63%

Table 33: Relationship Between Parent and Youth Attitudes About Computer Importance. *Proportion of 11-17 year-old African Americans who consider computers very/somewhat important to their future, by parental sense of computer importance*

Percent of youth who say computers are…important for their education and career	Among those whose parent's say computers are…important for their child's education and career	
	Very important (n=873)	Somewhat important (or less) (n=168)
Very important	90%[a]	61%[b]
Somewhat important (or less)	10%[a]	39%[b]

Parents' exposure to racist or sexist content online

The vast majority of parents (more than three-quarters) say they are exposed at least "sometimes" to content online that is disrespectful to women and Black people, including about a third who say they see such content "often." For example, 34% say they "often" see content that is disrespectful to Black people in general and 34% "often" see content that is disrespectful to Black men in particular; 31% say the same about content concerning women in general, and 30% about content concerning Black women in particular. The proportion that sees such content at least "sometimes" ranges from 75-80%. Mothers are more likely than fathers to say they "often" see content online that is disrespectful to Blacks, women, Black women, and Black men. (Since mothers do not report spending more time online than fathers do, these differences may be an indication that they go to sites with a greater amount of disrespectful content, or they are more likely to consider certain content disrespectful than men are.

Table 34: Parents' Exposure to Racist or Sexist Content Online. *Among African American parents of 11-17 year-olds, percent who "often" see content online that is disrespectful to each group, by parent gender*

	Among mothers	Among fathers
Black people in general	38%[a]	25%[b]
Women in general	36%[a]	22%[b]
Black women	33%	24%
Black men	38%[a]	25%[b]

Note: The sample included 819 mothers and 222 fathers.

Conclusion

The results of this study point us to one over-arching conclusion: that the shortage of young African Americans going into tech or STEM fields does not appear to be due to a lack of interest in, enjoyment of, or confidence about using computers. African American youth enjoy learning about new technology, they enjoy using computers, and they have done a lot with computers. But they have a great unmet interest in learning more about computers. There is no lack of aspiration on young people's parts – but the adults, educators, and policymakers in their lives now need to do their part to build the environments that will catalyze those aspirations. The findings from this survey point us toward several key recommendations about how we can best accomplish that goal:

1. **Do far more to address the unmet need for advanced computer education among African American youth.**

   There are far too many African American young people who haven't yet learned how to do certain things on computers, despite having a desire to – from creating digital music to starting an online business. As many as half of African American youth feel no more than "somewhat" confident about their abilities with essential software programs such as Word, Excel and Power Point. And perhaps most important, the types of skills young African Americans are most interested

in gaining are the most complex: a third want to learn how to code, and half want to learn how to create an app, build a website, or program a video game. We should nurture and respond to this healthy desire, instead of letting it wither on the vine.

2. It is especially important for digital education to foster an understanding of the unique capabilities and affordances of computing power, as compared to mobile devices.

Too many young African Americans think a tablet and some apps can do whatever a computer can do, or that the main relevance of computers to their future careers is for scheduling appointments or website marketing. By meeting young people's desires for more tech skills, educators will also be enhancing students' understanding of the essential role computing power and advanced software can play in helping them achieve their dreams.

3. Computer education needs to start young, especially for girls.

African American tweens are interested in learning computer skills, but for many, that interest level goes down rather than up as competing forces come into play during the teen years. Among all African American youth, interest in coding is highest among 11- to 12-year olds, and that is also the time when the interest level between boys and girls is the most equal. Capturing the imaginations of African American tween girls is critical – we can't afford to neglect this critical window of opportunity. And for both boys and girls, the tween years are when interest in learning the more advanced "power skills" is highest (creating apps, building websites, making video games). We need to reach all African American youth as early as possible to capture and build on this excitement about learning.

4. We need to include parents and care-givers in digital learning opportunities too.

Children's informal learning ecologies are critical. The survey documents that African American children's confidence in their computer skills, their sense of self-efficacy when it comes to learning about new technology, their attitudes about the importance of computers to their future education and career, and the frequency with which they use computers are all related to their parents' attitudes and behaviors. The survey also documents that informal learning from peers and family is negatively associated with socio-economic status. These finding highlight the importance of policymakers figuring out how to help enrich the informal learning environment of disadvantaged youth, including supporting mothers and fathers, and inspiring young people to continue to educate and share with each other. Policymakers, educators, community leaders, and industry all need to work together to support parents' own tech skills, and encourage parents to share their knowledge. While the vast majority of African American parents use computers extensively and feel confident of their tech-related skills, there is still an unmet need for more training among a subset of the population. It's not that parents who aren't skilled at computers lack the interest or drive; there is a palpable desire for continued learning. In addition, the survey indicates that parent education initiatives should include efforts to enhance parental awareness of the possibly different ways they respond to their children's online activities, based on their child's gender.

5. Expand access to computer hardware as well as high-speed internet service at home.

As we work to expand high-speed home internet access among all families, regardless of income, we need to acknowledge the difference it makes to young people whether their home access is mobile-only or not. Those who have a laptop or desktop computer at home are in a much better position when it comes to researching and writing papers, doing other homework assignments, and honing their computer

skills. With the affordability of smartphones and tablets, and the comparatively high price of good-quality laptop or desktop computers (not to mention software and home internet service), many families are forced to settle for mobile-only devices at home. Yet our survey indicates that most youth prefer to use computers for tasks such as writing school papers, conducting job searches, and preparing a resume. Programs that provide affordable, well-functioning computers to low-income families should be strongly supported. High-speed internet access is one part of the equation; computers are the other. Having a computer in the home is an important key to spurring more frequent use, innovation, and content creation.

Our survey and focus group findings make it clear that young people are growing up in a digital learning ecosystem: their experiences with technology aren't based solely on access, or even on the quality of their access to devices and internet connections, as important as those are. High quality home access is vital, but young people's relationship with technology is developed in the context of a broader ecology that includes the attitudes and experiences of their parents, siblings, and friends; the robustness of their engagement with tech-related experiences; the complexity of the tech-related skills they are enabled to develop; and their understanding of the ways those skills and experiences can have practical applications for their futures. Parents, educators, industry, and community leaders can all help enrich the contexts in which youth are engaged with technology, creating higher quality learning experiences.

We hope the findings from this study will inform efforts to develop and disseminate educational technology aimed at African American youth, and help spur the implementation of large-scale technology inclusion policies, including encouraging funders to develop new criteria for RFPs. To this end, we hope that these groups and the general public will acquire a more complete picture of intragroup differences among African Americans and their technology use; deepen understanding of how to better engage African American youth in effectively obtaining 21st century technical skills; identify new recruitment and retention strategies to attract and retain African American technology innovators; and consider different methods of collaborating with community partners.

The good news uncovered through this study is that enhancing young African Americans' technical abilities is not a matter of having to stimulate interest; rather, it's a matter of providing the education and opportunities these young people already seek. The worrisome news is that in the meantime, a lot of young peoples' potential is being unrealized, through no fault of their own. We can and must change that – and soon.

Methodology

This report is based on a nationally representative survey of 1,041 pairs of African American 11- to 17-year-olds and their parents (total sample size = 2,082), and a series of 10 focus groups conducted across the country. Unless otherwise noted, all statistics in the report are based on the nationally representative survey, and all quotes are from the focus groups. All findings in this report concern either 11- to 17-year-old African Americans or African American parents of African American youth in that age group.

The research was directed by Victoria Rideout of VJR Consulting, under the guidance of the project's principal investigators, Professor Kimberly A. Scott of Arizona State University and Professor Kevin Clark of George Mason University. Our work was informed by the participation of an expert advisory group: Professor Jerlando F. L. Jackson at the University of Wisconsin-Madison; David J. Johns, executive director of the White House Initiative on Educational Excellence for African Americans; Professor Vikki Katz of Rutgers University; Dr. Allison Scott, who was at that time at the National Institutes of Health and is currently with the Level Playing Field Institute; Aaron Smith of the Pew Research Center; and Professor S. Craig Watkins of the University of Texas at Austin. Funding for the project was provided by the Bill & Melinda Gates Foundation.

Survey

The national survey was conducted online from October 30-December 2, 2015 by the research firm GfK. For each parent-child dyad included in the survey, the parent was interviewed first and parental consent was obtained for the child's participation. Parents responded to 15 questions and teens to 24. The median length of the survey among all respondents was 23 minutes. Because the survey was conducted online, all of the respondents are people who currently use the internet in some manner. Therefore, the findings are best understood as representing online African American parents and their children.

Sampling. The sampling procedures were designed to efficiently reach the low-incidence target population, while still maintaining population representativeness. To generate a sufficiently large sample of African American respondents, GfK first sampled households from its KnowledgePanel, a probability-based web panel designed to be representative of the United States. KnowledgePanel members are randomly recruited through probability-based sampling, and households are provided with access to the internet and hardware if needed. GfK recruits panel members by using address-based sampling methods (previously GfK relied on random-digit dialing methods). In addition to the KnowledgePanel, GfK then screened respondents from nonprobability, opt-in survey samples in the field for African American parents of 11- to 17-year-olds.

Weighting and calibration. The data set was weighted to match benchmark distributions of African American parents and African American children aged 11-17 from the March 2015 data from the Current Population Survey (CPS). The data were weighted along a variety of geodemographic characteristics, including gender within specific age groups, census region, metropolitan status, parent education, and household income.

Because a portion of the sample was drawn from opt-in panels, and because participants in nonprobability surveys have been shown to have a higher propensity to be early adopters of technology, a calibration weighting adjustment was used to correct for this possible bias in a portion of our survey sample. Calibration is an extension of weighting adjustments that aims to improve representation of survey respondents beyond geodemographic indices. By incorporating adjustments with respect to attitudinal and behavioral measures as well, calibration is becoming a particularly important refinement in survey research applications as more nonprobability samples are used for cost and feasibility reasons. By using a combined sample drawn from both probability and opt-in panels, and calibrating the findings based on a variety of attitudinal and consumer-based measures, we believe our findings are highly representative of African American parents and youth nationwide.

Margin of error. The design effect for the survey was 2.64 among parents and 1.96 among youth. Accounting for sample size and design effect, the margin of sampling error for this study was +/-4.9% for the parent sample and +/- 4.3% for the youth sample.

Statistical significance. Where relevant, differences among demographic groups have been tested for statistical significance. Findings are referred to in the text in a comparative manner (e.g., "more than," "less than") only if the differences are statistically significant at the level of $p < .05$ (i.e., differences as great as those noted would occur by chance no more than five times in 100). In tables where statistical significance has been tested, superscripts indicate whether results differ at $p < .05$. Items that share a common superscript, or that have no superscript, do not differ significantly.

For example, in Row 1 below, none of the items differ in a statistically reliable way. In Row 2, each item differs from the others significantly. In Row 3, the items in the first and third columns differ from the item in the second column, but not from each other. And in Row 4, items in Columns 1 and 3 differ from each other, but not from Column 2.

	Column 1	Column 2	Column 2
Row 1	93%	97%	95%
Row 2	22%[a]	36%[b]	55%[c]
Row 3	15%[a]	50%[b]	20%[a]
Row 4	13%[a]	17% [ab]	23%[b]

Scales. The report uses scales created from multiple survey questions to classify parents and youth based on their levels of computer use and confidence about technology. The descriptions of each scale follow:

Frequency of computer use among parents. The parental computer frequency scale is based on how often parents report using computers for entertainment, personal education or information, or for taking care of the business of everyday life (Q6 on the parental questionnaire). The scale assigned points for frequency of use for each task: four points for "every day," three for "every week," two for "every month," one for "less than monthly," and zero for "never." Based on where the natural breaks occurred in the data, an average score of 3.67-4 is classified as "frequent," 2.67-3.33 is considered "moderate," and 0-2.33 is considered "light." A total of 40% of parents are in the frequent group, 34% in the moderate group, and 26% in the light group.

Frequency of computer use among youth. The child computer frequency scale is based on how often respondents report using computers for fun, staying in touch with friends and family, homework, or "for your own information" (Q8 on the youth survey). The scale assigned points for frequency of use for each task: four points for "every day," three for "every week," two for "every month," one for "less than monthly," and zero for "never." Based on where the natural breaks occurred in the data, an average score of 3.5-4 is classified as "frequent," 2.5-3.25 is considered "moderate," and 0-2.33 is considered "light." A total of 55% of youth are in the frequent user group, 30% in the moderate group, and 16% in the light group.

Parent tech confidence. The parental tech confidence scale is based on whether parents agree/disagree with three items: "If something goes wrong with my computer, I can usually troubleshoot the problem myself"; "I am comfortable using computers"; and "I enjoy learning about new technologies" (Q5 on the parental questionnaire). The scale assigned points for each response: four for "strongly agree," three for "somewhat agree," two for "somewhat disagree" and one for "strongly disagree." Based on where the natural breaks occurred in the data, an average score of 3.67-4 is considered "high confidence," a score of 3-3.5 is considered "moderate" and 0-2.67 is considered "low." A total of 59% of parents are in the high confidence group, 29% are in the "moderate" group, and 12% are in the "low confidence" group.

Youth tech confidence. The youth tech confidence scale is based on four items: how comfortable respondents are troubleshooting computer problems, and how confident they are of their basic computer skills, online search skills, and skills at using computer programs such as Word, Excel, and PowerPoint (Q6 and 7 on the youth questionnaire). The scale assigned points for each response: four for "very confident," three for "somewhat confident," two for "not too confident" and one for "not at all confident." Based on where the natural breaks occurred in the data, an average score of 3.75-4 is considered "high confidence," a score of 3-3.5 is considered "moderate" and 0-2.75 is considered "low." A total of 47% of youth are in the high confidence group, 43% are in the "moderate" group, and 10% are in the "low confidence" group.

Focus groups

In order to assist with questionnaire design and provide additional insights, a series of ten focus groups were held with African American parents and youth across the country in Spring 2015. The focus groups were moderated and coordinated by Delphyne Lomax of V&L Research and Consulting, Inc., in Atlanta, Georgia. Focus groups were held in Oakland, California; Chicago, Illinois; New York City, New York; Atlanta, Georgia; and Shaw, Mississippi (a rural community 115 miles north of Jackson). Focus groups were held with young males (12-14), young females, older males (15-17), older females, older teens of both genders (two groups), low-income parents of teens, high-income parents of teens, and mixed income parents of teens (two groups). Findings from the focus groups helped shape development of the questionnaire for the national survey. Quotes from the groups have been included throughout this report, and impressions from the focus groups are referenced where relevant. Beyond the quotes and specific references to the focus groups, all findings and data in this report are from the full national survey.

Definitions of terms

The sample for this study includes parents and teens who self-identify as either Black or African American. In the report, we use the terms Black or African American interchangeably, to include people of African descent living in the US. For the purposes of this report, we use the terms "technology," "digital technology," and "digital media" interchangeably, to refer to computers, smartphones and tablet devices. A "computer" is defined as either a desktop or laptop computer. "Mobile devices" include smartphones and tablets. For short-hand, the report occasionally uses the terms "young people" or "youth," which refers to African Americans ages 11 to 17. We occasionally use the word "tweens" to refer to 11- to 12-year-olds, "younger teens" to refer to 13- to 14-year-olds, and "older teens" to refer to 15- to 17-year-olds (all African American). "Parents" refers to African American parents of children in this age group, and "families" means African American parents and their children in the 11- to 17-year-old age range.

Digital stories

Several parents and youth who participated in focus groups as part of this research project also created digital stories about technology in their lives.

These stories can be accessed at: cgest.asu.edu/DigitalLives/Videos

Demographic profile of survey respondents:

		Unweighted		Weighted	
Parents		N	%	N	%
Gender	Female	819	79%	698	67%
	Male	222	21%	343	33%
Income	<$25,000/yr	286	28%	238	23%
	$25-75,000/yr	531	51%	448	43%
	>$75,000/yr	224	21%	355	34%
Education	HS or less	224	22%	397	39%
	Some college	504	48%	363	34%
	College degree	313	30%	281	27%
Marital status	Married+	577	55%	653	63%
	Single	464	45%	388	37%
Youth					
Gender	Girls	532	51%	519	50%
	Boys	509	49%	522	50%
Age	11-12	275	26%	280	27%
	13-14	319	31%	300	29%
	15-17	447	43%	461	44%
Region	Northeast	142	14%	185	18%
	Midwest	189	18%	179	17%
	South	589	57%	585	56%
	West	121	12%	92	9%
Metro status	Urban	504	48%	471	45%
	Suburban	447	43%	455	44%
	Rural	90	9%	115	11%

+ Includes those living with partner as married.

Toplines

Parent Questionnaire

Technology in the home:

Question 1: This next question is about whether you have certain items in your home, and if so, how many. For each item, please mark the number in your home. Please enter 0 if you do not have this item in your home:
Among total sample (n = 1041)

	0	1	2	3	4	5+	Mean
Desktop Computer	34%	55%	9%	1%	1%	0%	0.81
Laptop computer	12%	48%	21%	10%	5%	3%	1.60
Tablet device	22%	34%	19%	15%	7%	3%	1.62
Smartphone	6%	18%	23%	24%	18%	11%	2.74

Question 2: Do you have internet service at home for your laptop or desktop computer?
Among those with a desktop or laptop computer (n = 989)
[IF Q1a or Q1b=yes]

Yes	No
96%	4%

Question 2a: Which types or type of internet service do you have at your home?
Among those with home internet (n = 946). Totals more than 100% due to multiple responses.

Type of Internet Service	%
Dial-up service	1%
DSL	19%
Cable modem service	56%
Fiber-optic service	15%
Satellite internet service	5%
Mobile broadband plan for a computer or cell phone	12%
Other	1%
Don't know	2%

Question 3: Thinking back, about how long ago did you start using the internet? Was it:
Among total sample (n = 1041)

1-4 years ago	8%
5-9 years ago	16%
10-14 years ago	30%
15-20 years ago	29%
More than 20 years ago	17%

* = less than .5% but greater than zero

Question 4: How often do you do each of the following:
(n = varies; see table)

	Every day	Every week	Every month	Less than once a month	Never
Use a computer or tablet for work *Among parents who work (n = 740)*	70%	8%	3%	6%	13%
Use a computer [if parent works: for something besides your job] *Among total sample (n = 1041)*	67%	19%	4%	6%	3%
Use a tablet [if parent works: for something besides your job] *Among total sample (n = 1041)*	41%	21%	7%	12%	18%
Use a smartphone for something besides talking or texting (such as playing games, going online, or using apps) *Among total sample (n = 1041)*	81%	8%	2%	2%	6%

Parent comfort level with technology:

Question 5: Do you agree or disagree with each of the following statements: [RANDOMIZE]
(n = varies; see table)

	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree
If something goes wrong with my computer, I can usually trouble-shoot the problem myself [IF Q1a or Q1b=yes] *Among those with a computer (n = 989)*	35%	42%	18%	5%
I am comfortable using computers *Among total sample (n = 1041)*	74%	23%	2%	*
I enjoy learning about new technologies *Among total sample (n = 1041)*	57%	35%	7%	1%

Parent use of technology – types of uses:

Question 6: [IF Q1a or Q1b=yes] How often do you use **computers** for each of the following purposes: [RANDOMIZE – HOLD ORDER FOR Q7]
Among those who have a **computer** *(n = 989)*

	Every day	Every week	Every month	Less than once a month	Never
For **entertainment:** Such as playing games; watching TV/ videos/movies; listening to music; reading for pleasure	47%	29%	8%	11%	4%
For your personal **education/information:** Such as researching information; taking online classes; watching "how to" videos	37%	33%	10%	11%	8%
For taking care of the **business of everyday life:** Such as paying bills, shopping, getting directions, checking weather	42%	29%	18%	6%	5%

Question 7: [IF Q1c or Q1d=yes] How often do you use **mobile devices** such as smartphones or tablets for each of the following purposes:
Among those who have a **mobile device** *(n = 1012)*

	Every day	Every week	Every month	Less than once a month	Never
For **entertainment:** Such as playing games; watching TV/ videos/movies; listening to music; reading for pleasure	70%	17%	4%	4%	5%
For your personal **education/information:** Such as researching information; taking online classes; watching "how to" videos	45%	23%	8%	10%	12%
For taking care of the **business of everyday life:** Such as paying bills, shopping, getting directions, checking weather	47%	24%	12%	7%	8%

Parent attitudes about importance of computers/mobile tech for child's education and career:

The next section of the survey concerns your ___-year-old [male/female] child.

Question 8: When it comes to [CHILD'S] **educational future,** how important is it that [HE/SHE] is good at using: (Very important, somewhat important, not too important, not important at all) [ROTATE – HOLD ORDER FOR Q9]
Among total sample (n = 1041)

	Very important	Somewhat important	Not too important	Not important at all
Computers	87%	11%	2%	*
Mobile devices such as smartphones and tablets	64%	31%	5%	*

Question 9: When it comes to [CHILD'S] **future career,** how important will it be that [HE/SHE] is good at using: (Very important, somewhat important, not too important, not important at all)
Among total sample (n = 1041)

	Very important	Somewhat important	Not too important	Not important at all
Computers	89%	10%	1%	*
Mobile devices such as smartphones and tablets	69%	28%	3%	*

Parent attitudes about risks/opportunities of computers/tech:

Question 10: Do you agree or disagree with each of the following statements: [RANDOMIZE]
(n = varies; see table)

	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree
The internet exposes my child to important new ideas and information *Among total sample (n = 1041)*	60%	36%	3%	*
Computers offer my child new and interesting ways to express him/herself *Among total sample (n = 1041)*	49%	42%	7%	1%
Mobile devices such as smartphones and tablets offer my child new and interesting ways to express him/herself [IF Q1c or Q1d=yes] *Among those who have a mobile device (n = 1012)*	45%	45%	8%	2%
Mobile devices such as smartphones and tablets would offer my child new and interesting ways to express him/herself [IF Q1c and Q1d=no] *Among those who don't have a mobile device (n = 29)*	Note: Sample size too small for reliable results			

Parent exposure to racist/sexist content:

Question 11: How often if ever, do you see content online that is disrespectful to each of the following groups:
Among total sample (n = 1041)

	Often	Sometimes	Hardly ever	Never
Black people in general	34%	46%	13%	6%
Women in general	31%	47%	15%	6%
Black women in particular	30%	45%	16%	8%
Black men in particular	34%	44%	15%	7%

Parental monitoring of child's computer/mobile device use:

Question 12: Which is closer to your view? [ROTATE]
Among total sample (n = 1041)

I limit my child's online activities because of my concerns about the negative content or experiences they may encounter	44%
I encourage my child to experiment with computers and the internet, even though I know I can't protect them from everything they might see online.	55%

Tech expertise:

Question 12: Who has the most technology expertise in your home?
Among total sample (n = 1041)

You	54%
Another adult in your home	15%
One of your children	31%

Question 13: Is the other adult with the most tech expertise in your home a male or female? [IF Q13=b]
Among those who say some other adult has the most tech expertise (n = 135)

Male	65%
Female	35%

Question 14: Is the child in your home who has the most tech expertise a boy or a girl? [IF Q13=c]
Among those who say a child has the most tech expertise (n = 325)

Boy	57%
Female	43%

This concludes your section of the survey. Thank you very much for completing it. Is _____currently available to take [his/her] portion of the survey? Please have come to the computer now to take the survey. Please allow _____ to complete the remainder of the survey [himself/ herself]. Thank you again for allowing _____ to complete this survey. OR Please have _____ take the survey as soon as possible. [He/she] can access the survey….

Youth Questionnaire

Thank you for participating in this survey, which is about how young people use computers, tablets, and smartphones. First we have some background questions.

Question 1: Which statement describes you best:
Among total sample (n = 1041)

I go to a public school	83%
I go to a private school	6%
I go to a public charter school	8%
I am home-schooled	2%
I am not currently enrolled in school	*

Overall technology use.

Question 2: How often do you use each of the following, for any purpose: [RANDOMIZE – HOLD ORDER FOR Qs 4-6] *Among total sample (n = 1041)*

	Every day	Every week	Every month	Less than once a month	Never
A computer (either desktop or laptop)	63%	27%	4%	4%	2%
A tablet	42%	24%	8%	12%	15%
A smartphone	81%	7%	2%	4%	6%

Question 3: Which of the following, if any, do you have:
Among total sample (n = 1041)

Your own smartphone	78%
Your own tablet	55%
Your own laptop computer	44%
Your own desktop computer	15%

Question 4: How much do you **enjoy** using each of the following: [HOLD ORDER FROM Q2]
(n = varies; see table)

	A lot	Somewhat	Not too much	Not at all
A computer (either desktop or laptop) [IFQ2a=>never] *Among those who ever use a computer (n = 1026)*	60%	33%	7%	*
A tablet [IF Q2b=>never] *Among those who ever use a tablet (n = 884)*	64%	27%	8%	1%
A smartphone [IF Q2c=>never] *Among those who ever use a smartphone (n = 981)*	91%	6%	2%	*

Question 5: How important is each device to your everyday life: [HOLD ORDER FROM Q2]
(n = varies; see table)

	Very	Somewhat	Not too	Not at all
A computer (either desktop or laptop) [IFQ2a=>never] *Among those who ever use a computer (n = 1026)*	51%	36%	11%	1%
A tablet [IF Q2b=>never] *Among those who ever use a tablet (n = 884)*	45%	35%	16%	3%
A smartphone [IF Q2c=>never] *Among those who ever use a smartphone (n = 981)*	81%	12%	6%	1%

Confidence/comfort level with technology:

Question 6: How comfortable are you trouble-shooting problems with: [HOLD ORDER FROM Q2]
(n = varies; see table)

	Very	Somewhat	Not too	Not at all
A computer (either desktop or laptop) [IFQ2a=>never] *Among those who ever use a computer (n = 1026)*	35%	30%	24%	10%
A tablet [IF Q2b=>never] *Among those who ever use a tablet (n = 884)*	34%	35%	21%	9%
A smartphone [IF Q2c=>never] *Among those who ever use a smartphone (n = 981)*	50%	30%	12%	6%

Question 7: How confident are you of your skills when it comes to: [RANDOMIZE]
(n = varies; see table)

	Very confident	Somewhat confident	Not too confident	Not at all confident
Basic computer skills such as how to use a mouse and keyboard, or how to print [IF Q2a=>never] *Among those who ever use a computer (n = 1026)*	87%	11%	2%	*
Doing online searches using sites like Google or Yahoo [IF Q2a, b, or c=>never] *Among those who ever use a computer or mobile devices (n = 1041)*	84%	13%	1%	1%
Using computer programs such as Word, Google Docs, Excel, PowerPoint, or similar programs [IF Q2a=>never] *Among those who ever use a computer (n = 1026)*	50%	35%	12%	2%
Learning how to use new technologies *Among total sample (n = 1041)*	81%	81%	81%	81%

Question 8: [IF Q2a=>never] How often do you use **computers** for each of the following purposes:
Among those who ever use a computer (n = 1026)

	Every day	Every week	Every month	Less than once a month	Never
For **fun** (such as playing games, watching videos, going online, listening to music)	59%	24%	8%	6%	2%
For **homework** (such as researching things online, typing papers, filling out workbooks, making presentations)	51%	37%	6%	4%	2%
For **staying in touch with friends** and family (such as social media, email, IM'ing, video chatting)	48%	22%	8%	10%	12%
For **your own information,** such as looking up things you are interested in, watching tutorials about stuff you want to do	53%	29%	8%	6%	3%

Question 9: How often do you use **mobile devices** such as smartphones or tablets for each of the following purposes:
[IF Q2b or c=>never] *Among those who ever use a mobile device (n = 1020)*

	Every day	Every week	Every month	Less than once a month	Never
For **fun** (such as playing games, watching videos, going online, listening to music)	82%	12%	2%	3%	2%
For **homework** (such as researching things online, typing papers, filling out workbooks, making presentations)	46%	24%	7%	10%	12%
For **staying in touch with friends** and family (such as social media, email, IM'ing, video chatting)	72%	16%	3%	4%	5%
For **your own information,** such as looking up things you are interested in, watching tutorials about stuff you want to do	69%	19%	5%	2%	4%

Mentors:

Question 10: [IF Q2a=>never] Which of the following ways have you learned about computers? [Mark all that apply] [HOLD ORDER BUT ROTATE a & b; rotate c & d; rotate k & l]
Among those who ever use a computer (n = 1026)

From your mother	66%
From your father	40%
From a brother	18%
From a sister	18%
From another relative	16%
In a computer class at school	76%
From a teacher in a class besides computer class	36%
From a computer class or group outside of school	11%
From a librarian	12%
From another adult (not a relative)	7%
From friends	36%
Taught yourself	55%

Question 11: Did you learn about computers from an older brother, younger brother, or both? IF 10c=yes]
Among those who learned about computers from a brother (n = 172)

From *older* brother	84%
From *younger* brother	8%
From both older and younger brothers	7%

Question 12: Did you learn about computers from an older sister, younger sister, or both? [IF 10d=yes]
Among those who learned about computers from a sister (n = 173)

From *older* sister	80%
From *younger* sister	11%
From both older and younger sisters	8%

Question 13: When you run into a problem with a computer, tablet, or phone, do you have someone you feel comfortable turning to for help?
Among those who ever use a computer or mobile device (n = 1041)

Yes	96%
No	4%

Centrality of computers, internet, digital technology:

Question 14: How important do you think it will be to your **educational future** for you to be good at using: [ROTATE – HOLD ORDER FOR Q15]
Among total sample (n = 1041)

	Very	Somewhat	Not too	Not at all
A computer (either desktop or laptop)	88%	10%	2%	*
A smartphone	69%	23%	6%	1%

Question 15: How important do you think it will be for your **future career** for you to be good at using: [HOLD ORDER FROM Q14]
Among total sample (n = 1041)

	Very	Somewhat	Not too	Not at all
A computer (either desktop or laptop)	89%	9%	1%	*
A smartphone	69%	23%	6%	1%

Digital capital and innovation: Use of technology for creation, informal learning, school work:

Question 17: Please mark whether or not you have ever used a computer, tablet or smartphone to do any of the following: [IF Q2 a, b, or c =>never] [RANDOMIZE, BUT KEEP E & F TOGETHER (TUTORIALS) – HOLD ORDER FOR Q 19]

Among those who ever use a computer or mobile device (n = 1041)

	Yes, have done this
Make digital music (beats)	45%
Make digital art	52%
Edit pictures or videos	84%
Write blogs, stories, or articles for fun	47%
Watch tutorials for school	78%
Watch tutorials about something you're interested in outside of school	80%
Create a presentation	67%
Take an online class	26%
Code (write computer programs)	13%
Create an app	18%
Create or modify a video game	21%
Create a website	17%
[IF age 13-17] Start an online business *(n=761)*	3%

Question 18: [IF Q17m=yes, started an online business] You mentioned that you started an online business. What type of business was it? [OPEN END]

Question 19: [If NO to any items in Q17] Which of the following, if any, are you **interested** in learning how to do? [INSERT any items that were a "no" in Q 17 – HOLD ORDER FROM Q17]
Among those who have never done each activity (n = varies; see table)

	Yes, I'm interested in learning how to do this
Make digital music (beats) *Among those who have not made digital music (n = 572)*	45%
Make digital art *Among those who have not made digital art (n = 490)*	48%
Edit pictures or videos *Among those who have not edited pictures (n = 166)*	48%
Write blogs, stories, or articles for fun *Among those who have not written blogs (n = 550)*	35%
Watch tutorials for school *Among those who have not watched tutorials for school (n = 232)*	33%
Watch tutorials about something you're interested in outside of school *Among those who have not watched tutorial outside school (n= 209)*	45%
Create a presentation *Among those who have not created a presentation (n = 341)*	35%
Take an online class *Among those who have not taken an online class (n = 761)*	36%
Code (write computer programs) *Among those who have not written code (n = 903)*	38%
Create an app *Among those who have not created an app (n = 847)*	63%
Create or modify a video game *Among those who have not created a video game (n = 812)*	59%
Create a website *Among those who have not created a website (n = 857)*	58%
[IF age 13-17] Start an online business *Among those who have not started an online business (n = 736)*	36%

Question 20: If you needed to do the following tasks, which device would you rather use? (13-17 year-olds only) [RANDOMIZE ACTIVITIES, ROTATE DEVICES]
Among 13-17 year olds (n = 766)

	A smartphone	A computer	Either one
Write a cover letter	4%	86%	10%
Fill out a job application	8%	70%	21%
Write a resume	4%	86%	10%
Write an essay for school	3%	88%	9%
Research a college	14%	56%	30%
Send an email	37%	22%	41%

Online racism/sexism:

Question 21: [IF Q2 a, b, or c = > never] How often if ever, do you see content online that is disrespectful to each of the following groups:

Among those who ever use a computer or mobile device (n = 1041)

	Often	Sometimes	Hardly ever	Never
Black people in general	33%	42%	14%	10%
Women in general	24%	46%	17%	11%
Black women in particular	24%	44%	18%	13%
Black men in particular	30%	42%	15%	12%

Question 22: [IF Q2 a, b, or c = > never] In the past year, how often have you *personally* been mistreated or disrespected online because of:

Among those who ever use a computer or mobile device (n = 1041)

	Often	Sometimes	Hardly ever	Never
Your race or ethnicity	7%	16%	22%	54%
Your gender	5%	11%	22%	61%

Race-esteem and gender-esteem:

Question 23: Please mark whether you agree or disagree with each of the following statements:

Among total sample (n = 1041)

	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree
Black people are just as good at using computers as people of other races	87%	7%	2%	2%
Black people are just as successful at computer-related jobs as people of other races	82%	11%	4%	1%
In general, being an African American or Black person is an important part of my self-image.	79%	15%	3%	2%
Black girls are just as good as Black boys at using computers	85%	10%	3%	1%
Black women are just as successful as Black men at computer-related jobs	82%	12%	4%	1%

Computer stereotypes:

Question 24: Which of the following types of people do you think tend to be better at computers and technology?

Among total sample (n = 1041)

A. Geeks	33%	Cool kids	3%	Both equally	62%
B. Popular kids	7%	Loners	19%	Both equally	70%

Credits

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The Center for Gender Equity in Science and Technology (CGEST) explores, identifies, and creates innovative scholarship about under-represented girls in science, technology, engineering and mathematics (STEM). As a unique research unit, a diverse and interdisciplinary community of scholars, students, policy makers and practitioners unite to establish best practices for culturally responsive programs for girls of color.

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The Center for Digital Media Innovation and Diversity (CDMID) was established in 2009 to support outreach to and innovation for diverse populations by leveraging the expertise of scholars and industry professionals from across the country to conduct research, design digital media products, and provide access to quality educational media products for diverse audiences.