

USER NOTE FOR COMPARING 2016 COMPUTER AND INTERNET USE DATA TO PREVIOUS YEARS

The questions and answer categories used to collect data on computer and Internet use were revised in 2016. Two primary reasons for making these changes were: 1) to keep up with changing technology and terminology for types of computing devices and 2) to improve measurement of overall Internet subscriptions and cellular data plans among households with a handheld device such as a smartphone. Figure 1 shows the 2015 and 2016 questions as they appear in the paper questionnaire.

Figure 1. Computer and Internet Use questions

2015 American Community Survey

9 At this house, apartment, or mobile home – do you or any member of this household own or use any of the following computers?

• EXCLUDE GPS devices, digital music players, and devices with only limited computing capabilities, for example: household appliances.

	Yes	No
a. Desktop, laptop, netbook, or notebook computer	<input type="checkbox"/>	<input type="checkbox"/>
b. Handheld computer, smart mobile phone, or other handheld wireless computer	<input type="checkbox"/>	<input type="checkbox"/>
c. Some other type of computer Specify <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>

10 At this house, apartment, or mobile home – do you or any member of this household access the Internet?

Yes, with a subscription to an Internet service

Yes, without a subscription to an Internet service → SKIP to question 12

No Internet access at this house, apartment, or mobile home → SKIP to question 12

11 At this house, apartment, or mobile home – do you or any member of this household subscribe to the Internet using –

	Yes	No
a. Dial-up service?	<input type="checkbox"/>	<input type="checkbox"/>
b. DSL service?	<input type="checkbox"/>	<input type="checkbox"/>
c. Cable modem service?	<input type="checkbox"/>	<input type="checkbox"/>
d. Fiber-optic service?	<input type="checkbox"/>	<input type="checkbox"/>
e. Mobile broadband plan for a computer or a cell phone?	<input type="checkbox"/>	<input type="checkbox"/>
f. Satellite Internet service?	<input type="checkbox"/>	<input type="checkbox"/>
g. Some other service? Specify service <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>

2016 American Community Survey

8 At this house, apartment, or mobile home – do you or any member of this household own or use any of the following types of computer?

	Yes	No
a. Desktop or laptop	<input type="checkbox"/>	<input type="checkbox"/>
b. Smartphone	<input type="checkbox"/>	<input type="checkbox"/>
c. Tablet or other portable wireless computer	<input type="checkbox"/>	<input type="checkbox"/>
d. Some other type of computer Specify <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>

9 At this house, apartment, or mobile home – do you or any member of this household have access to the Internet?

Yes, by paying a cell phone company or Internet service provider

Yes, without paying a cell phone company or Internet service provider → SKIP to question 11

No access to the Internet at this house, apartment, or mobile home → SKIP to question 11

10 Do you or any member of this household have access to the Internet using a –

	Yes	No
a. cellular data plan for a smartphone or other mobile device?	<input type="checkbox"/>	<input type="checkbox"/>
b. broadband (high speed) Internet service such as cable, fiber optic, or DSL service installed in this household?	<input type="checkbox"/>	<input type="checkbox"/>
c. satellite Internet service installed in this household?	<input type="checkbox"/>	<input type="checkbox"/>
d. dial-up Internet service installed in this household?	<input type="checkbox"/>	<input type="checkbox"/>
e. some other service? Specify service <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>

Users should use caution when comparing estimates across years since many changes may be due to the revised wording and improved measurement rather than a result of changes in computer and Internet use. Data users may notice several major changes in 2016 compared to 2015 and previous years.

1. There was an increase in the overall percentage of households with a computer (Question 8). The addition of a new category for tablets contributed to this increase.
2. Data show an increase in the percentage of households that access the Internet with a subscription (Question 9). Cognitive testing suggested that using the term “payment” to capture the concept of a subscription was clearer to the respondents than the specific word “subscription.” In addition, adding the phrase about payment to a “cell phone company” also helped ensure respondents included cellular data plans as subscriptions in addition to other home-based Internet.
3. There was an increase in the percentage of households reporting a cellular data plan among households with a smartphone or other handheld device.
4. The proportion of households reporting a satellite Internet subscription was higher in 2016 than in 2015. Cognitive testing of the revised question indicated that some respondents were confused about what type of Internet subscription they had, which may have contributed to the change observed here.

Tables 1-3 illustrate basic distributions at the national level for 2015 and 2016. However, differences between 2016 and previous years may be especially prominent in geographies with smaller populations.

Table 1. Types of Computers

	2015		2016	
	Estimate	Margin of Error	Estimate	Margin of Error
Total households	118,208,250	+/-155,130	Total households	118,860,065 +/-154,606
Desktop, laptop, netbook, or notebook computer	78.2%	+/-0.1	Desktop or laptop	77.4% +/-0.1
Handheld computer, smart mobile phone, or other handheld wireless computer	74.8%	+/-0.1	Smartphone	76.5% +/-0.1
Some other type of computer	6.7%	+/-0.1	Tablet or other portable wireless computer	57.8% +/-0.1
			Some other type of computer	3.0% +/-0.1
Has one or more computers	86.8%	+/-0.1	Has one or more computers	89.3% +/-0.1
No computer	13.2%	+/-0.1	No computer	10.7% +/-0.1

Source: U.S. Census Bureau, 2015 American Community Survey 1-Year Estimates and 2016 American Community Survey 1-Year Estimates

Table 2. Access to the Internet

	2015		2016	
	Estimate	Margin of Error	Estimate	Margin of Error
Total households	118,208,250	+/-155,130	Total households	118,860,065 +/-155,130
With an Internet subscription	77.2%	+/-0.1	With an Internet subscription	81.9% +/-0.1
Without an Internet subscription	22.8%	+/-0.1	Without an Internet subscription	18.1% +/-0.1

Note: The category "Without an Internet subscription" includes those who accessed the Internet without a subscription and those with no Internet access at all.

Source: U.S. Census Bureau, 2015 American Community Survey 1-Year Estimates and 2016 American Community Survey 1-Year Estimates

Table 3. Types of Internet Subscriptions

	2015		2016	
	Estimate	Margin of Error	Estimate	Margin of Error
Total households with an Internet subscription	91,313,308	+/-190,613	Total households with an Internet subscription	97,307,412 +/-217,695
Dial-up	2.6%	+/-0.0	Dial-up	2.8% +/-0.0
DSL	21.8%	+/-0.1	Broadband (high speed)	82.2% +/-0.1
Cable	60.8%	+/-0.1	Cellular data plan	83.3% +/-0.1
Fiber optic	12.1%	+/-0.0	Satellite	7.7% +/-0.0
Mobile broadband	49.3%	+/-0.1	Some other service	1.4% +/-0.0
Satellite	6.2%	+/-0.0		
Some other service	1.7%	+/-0.0		

Source: U.S. Census Bureau, 2015 American Community Survey 1-Year Estimates and 2016 American Community Survey 1-Year Estimates

Revised wording to the questions and answer categories was also evaluated in the <[2016 ACS Content test](#)>. The control version of the questions used the wording in the 2015 questionnaire and the test version used wording in the 2016 questionnaire. Results from the contest test served as further validation to change the questions. One of the most striking improvements was a larger percentage of households reporting a mobile broadband subscription among households with a smartphone or tablet in the test version compared to the control.

Table 4 shows the proportion of households with a smartphone or tablet reporting a mobile broadband from the 2016 ACS content test.

Table 4. Proportion of Households with a Smartphone or Tablet Reporting Mobile Broadband

2016 Content Test Control		2016 Content Test Test	
Estimate	Margin of Error	Estimate	Margin of Error
43.3%	+/-1.2	85.4%	+/-0.7

Source: U.S. Census Bureau, 2016 American Community Survey Content Test

Tables 5-7 illustrate other basic distributions using data from the 2016 ACS content test for the control questions compared to the test.

Table 5. Types of Computers Among Total Households

	2016 Content Test Control			2016 Content Test Test	
	Estimate	Margin of Error		Estimate	Margin of Error
Desktop, laptop, netbook, or notebook computer	80.7%	+/-0.7	Desktop or laptop	78.6%	+/-0.7
Handheld computer, smart mobile phone, or other handheld wireless computer	79.8%	+/-0.7	Smartphone	78.0%	+/-0.7
Some other type of computer	7.9%	+/-0.6	Tablet or other portable wireless computer	60.4%	+/-0.8
			Some other type of computer	4.6%	+/-0.4

Source: U.S. Census Bureau, 2016 American Community Survey Content Test

Table 6. Access to the Internet Among Total Households

	2016 Content Test Control			2016 Content Test Test	
	Estimate	Margin of Error		Estimate	Margin of Error
With an Internet subscription	82.3%	+/-0.7	With an Internet subscription	83.8%	+/-0.7
Without an Internet subscription	17.7%	+/-0.7	Without an Internet subscription	16.2%	+/-0.7

Note: The category "Without an Internet subscription" includes those who accessed the Internet without a subscription and those with no Internet access at all.

Source: U.S. Census Bureau, 2016 American Community Survey Content Test

Table 7. Types of Internet Subscriptions Among Households With an Internet Subscription

	2016 Content Test Control			2016 Content Test Test	
	Estimate	Margin of Error		Estimate	Margin of Error
Dial-up	2.7%	+/-0.3	Dial-up	2.3%	+/-0.3
DSL	19.5%	+/-0.8	Broadband (high speed)	81.4%	+/-0.8
Cable	61.1%	+/-1.1	Cellular data plan	79.9%	+/-0.7
Fiber optic	12.6%	+/-0.6	Satellite	6.5%	+/-0.4
Mobile broadband	39.7%	+/-1.0	Some other service	1.7%	+/-0.3
Satellite	6.0%	+/-0.5			
Some other service	1.6%	+/-0.2			

Source: U.S. Census Bureau, 2016 American Community Survey Content Test

Data from the content test helped to provide insight about what to expect from production data, but should NOT be compared directly to production data for several reasons.

1. Production data were collected over the course of a year and includes all states; content test data were only collected from March through May and do not include Alaska or Hawaii.
2. Content test data were not edited and adjusted weights were not used.
3. Write-in answers for "some other type of computer" and "some other type of Internet service" in the content test were not coded into corresponding categories, unlike production data.
4. Estimates for the production tables (Tables 1-3) compare data from year to year. Estimates for the content test tables (Tables 4-7) compare data that were collected at the same point in time.