Preliminary Results from the 2016 American Community Survey Content Test

Presentation for the ACS Data Users Conference, Alexandria, VA: May 11-12, 2017



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Objective

 Test whether changes to question wording, response categories, and definitions of underlying constructs improve the quality of data collected.



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The Process

Propose Revisions

May – November 2013

- Agencies submitted requests for proposed changes or additions
- Interagency Council on Statistical Policy (ICSP) Subcommittee for the ACS reviewed proposals
- Topical subcommittees formed for approved proposals
- Topical subcommittees submitted proposed wording for cognitive testing

Cognitive Testing

January 2014 – February 2015

- Cognitive testing was conducted
- Final recommendations for question wording for field testing were provided by the Topical subcommittees and OMB Interagency Subcommittees
- Final wording for field testing was approved by OMB, in consultation with the Census Bureau and the ICSP Subcommittee for the ACS

Field Testing

March – June 2016

- Data collected for the field test via Internet, mail, CATI, and CAPI (March-May)
- Content Follow-Up Reinterview continued into June

Analysis and Results

July 2016 – May 2017

- Data analyzed and results compiled into reports
- Stakeholder briefings are underway to solicit feedback on results
- Final recommendations to be submitted for OMB approval
- Implementation of approved changes is planned for the 2019 ACS



Topics Tested

- Health Insurance
- Weeks Worked
- Computer and Internet
 Use
- Journey to Work
- Race and Hispanic
 Origin*

- Industry and Occupation
- Class of Worker
- Telephone Service
- Retirement Income
- Relationship*

* The final decisions for Relationship, Race, and Hispanic origin will be based on the results of the decennial tests and made in consultation with OMB.



Overview of the Methodology of the 2016 ACS Content Test

Broderick Oliver Decennial Statistical Studies Division



Outline

- Test Design
- Data Collection
- Analysis Metrics
- Limitations
- Format for Topic-Specific Results



Test Design: Experimental Design

- Split-sample experiment
 - Production version of the question (Control)
 - New version of the question (Test)
- Control differs from production version:
 - Race and Hispanic Origin
 - Telephone Service
 - Health Insurance Premiums and Subsidies



Test Design: Sample Design

- Separate sample from production ACS
- Nationally representative sample of 70,000 addresses (excluding Group Quarters, Alaska, Hawaii, and Puerto Rico)
- Oversampled low self-response areas
- Half of the sample was assigned to the control questionnaire and the other half to the test questionnaire



Data Collection

- Same data collection protocol as production
 - Self-Response via Internet and Mail (mid-Feb. Mar.)
 - Computer-Assisted Telephone Interview (CATI)(Apr.)
 - Computer-Assisted Personal Interview (CAPI) (May)
- English and Spanish only
- Unit response rate was 93.5% for both Test and Control



Data Collection: Content Follow-Up (CFU)

- Telephone reinterview to measure response reliability
 - Universe: all cases that completed the original Content Test interview and met eligibility criteria
 - Subset of questions, including all tested topics except
 Telephone, and some additional questions for context
 - Conducted over 90% of the time with the same respondent as the original interview
 - Unit response rate was 45.7% for Control and 44.8% for Test (not statistically significant)



Analysis Metrics

- Item Missing Data Rates
- Distributions of Response Categories
- Benchmark Comparisons
- Response Reliability
- Topic-Specific Metrics



Analysis Metrics: 1. Item Missing Data Rate

- Measures question clarity, respondent sensitivity, and respondent knowledge of the data needed to answer the question
- Proportion of eligible units (housing or persons) for which are required response is missing



Analysis Metrics: 2. Distribution of Response Categories

- Assesses whether question changes affected the resulting estimates
- Rao-Scott Chi-squared test for distribution
 - If significant, then conducted t-tests for each category



Analysis Metrics: 3. Benchmark Comparisons

- Measure differences from other reliable sources
- No statistical testing conducted to compare content test and benchmark estimates
 - Checked if estimate falls within the benchmark estimate's confidence interval



Analysis Metrics: 4. Response Reliability

- Measures the consistency of the answers provided in the original interview as determined by answers provided in the CFU telephone reinterview
- The larger the difference between the answers, the greater the inconsistency



Limitations

- English and Spanish only
- Not conducted in Group Quarters, Alaska, Hawaii, or Puerto Rico
- No weighting adjustments, no imputation, minimal editing
- Content Followup: telephone only, different respondent in some cases



Topic-Specific Results

- Justification for Testing
- Questions Tested
- Findings
 - Mode differences not presented unless they impact findings
- Symbols Used in Presentations
 - * Statistical results are significant
 - ✓ Finding supports the test version
 - Finding does not support the test version
 - ▲ Results are mixed



Health Insurance

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Health Insurance: Objective

- Increase the report of Medicaid and other means-tested programs
 - Research suggests Medicaid is underreported
- Decrease the overreport of direct-purchase coverage
- Capture changes introduced by the Affordable Care Act
 - e.g. HealthCare.gov, Subsidized Marketplace coverage



Health Insurance Coverage Questions Tested

Control Version

Test Version

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	 	N 84 34	

I am now going to ask you some questions about Person Two's health insurance and health coverage. Do NOT include plans that cover only one type of service, such as dental, drug or vision plans. ? [F1]

Earlier I recorded that Person One is currently covered by health insurance through an employer or union. Does Person Two have this same type of health insurance or health coverage?

* If the respondent says this person has health coverage through the military, mark '2' and tell them that military health insurance/coverage will be discussed later.

C 1. Yes		
C 2. No		
Health Ins - Introduction	2 Health Ins - Premium	
Health Ins - Employer	Health Ins - Subsidy	
Health Ins - Medicare	2	
Health Ins - Medicaid	2	
Health Ins - Direct	2	
Health Ins - Military	2	
Health Ins - Veteran's Administration	2	

- United States	U.S. De

Health Ins - Indian

Health Ins - Other Other health ins Health Ins - Other

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Health Insurance: Findings Health Insurance Coverage 1

- Overall rate of persons with health insurance was higher in the control version (91.4%) than in the test (89.1%).
- Significant change in the distribution.

		Test	Control	Test -	Adjusted p-
	Category	Percent	Percent	Control	value
	Private				
x	Employer-based	51.3	55.0	-3.7*	<0.01
\checkmark	Direct purchase	11.3	13.0	-1.7*	<0.01
	TRICARE	2.6	2.8	-0.2*	0.49
	Public				
⚠	Medicare	16.7	15.7	1.0*	0.07
×	Medicaid	17.2	17.8	-0.7	0.54
	VA	1.9	2.0	-0.2*	0.54



Health Insurance: Findings Health Insurance Coverage 2

- Test version (3.0%) had a lower proportion of write-in responses than the control version (4.5%).
- Test version (10.6%) also had a lower proportion of persons with multiple types of insurance coverage than the control version (13.6%).
- Neither item missing data rates nor response reliability metrics differed between versions.

Findings support the Control Version



Health Insurance Premium/Subsidy Questions

Test* Version

Control* Version

a Is there a premium for this plan? A premium is a fixed amount of money paid on a regular basis for health coverage. It does not include copays, deductibles, or other expenses such as prescription costs.	a. Does this person or another family member pay a premium for this health insurance plan? A premium is a fixed amount of money paid on a regular basis for health coverage. It does not include copays, deductibles, or other expenses such as prescription costs.
 Yes No → SKIP to question 18a 	 Yes No → SKIP to question 17a
b. Does this person or another family member receive a tax credit or subsidy based on family income to help pay the premium?	b. Based on family income, does this person or another family member receive financial assistance through a subsidy or tax credit to help pay part or all of the cost of the premium for this plan?
Ves No	□ Yes □ No

* Neither version currently appears on the ACS



Health Insurance: Findings Health Insurance Premiums and Subsidies

- Rates of subsidized Marketplace coverage did not differ between versions, but the control version was shorter.
- ✓ The test version (2.6%) had a lower item missing data rate than the control version (3.6%) for premiums.
 - No difference for subsidies.
- Response reliability metrics did not differ between versions.

Findings support the Control Version



Weeks Worked

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Question Text History

2005 – 2007 Version



During the PAST 12 MONTHS, how many WEEKS did this person work? Count paid vacation, paid sick leave, and military service. Weeks

Current Production Version

) a.	Dur this paic	ing the PAST 12 MONTHS (52 weeks), did person work 50 or more weeks? Count I time off as work.
		Yes → SKIP to question 40
		No
b.	Hov for a sick	v many weeks DID this person work, even a few hours, <u>including</u> paid vacation, paid a leave, and military service?
		50 to 52 weeks
		48 to 49 weeks
		40 to 47 weeks
		27 to 39 weeks
		14 to 26 weeks
		13 weeks or less



Justification for Testing

- Lost the ability to provide continuous measures for the number of weeks worked, such as means, medians, and aggregates
- Stakeholders have expressed the need for these types of estimates, as well as additional specificity for weeks worked, particularly for use with hours worked, income, and occupation



Question Tested

Test Version

Control Version

 this person work 50 or more weeks? Count paid time off as work. Yes → SKIP to question 40 No b. How many weeks DID this person work, even for a few hours, including paid vacation, paid sick leave, and military service? 50 to 52 weeks 48 to 49 weeks 40 to 47 weeks 27 to 39 weeks 14 to 26 weeks 13 weeks or less 	 a. During the PAST 12 MONTHS (52 weeks), did this person work EVERY week? Count paid vacation, paid sick leave, and military service as work. Yes → SKIP to question 40 No b. During the PAST 12 MONTHS (52 weeks), how many WEEKS did this person work? Include paid time off and include weeks when the person only worked for a few hours. Weeks
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Decision Criteria

1	The estimate of full-time year-round workers in the test version should remain consistent with that in the control version. Compare to benchmarks if inconsistent.
2	The test version should not adversely impact item missing data rates (more concerning for part A than part B).
3	The test version should not significantly impact earnings estimates.
4	The test version should not adversely impact response reliability or the distribution of weeks worked. Compare distributions to benchmarks if inconsistent.



Findings: Full-Time, Year-Round Rates

(Decision Criterion 1)

Full-time, year-round rate higher in the test version

Category	Test Percent (n=18,851)	Control Percent (n=19,232)	Test minus Control	P-Value
Full-time, year-round	67.1 (0.6)	65.9 (0.6)	1.2 (0.8)*	0.06

 Test rate within 90% confidence interval of CPS Annual Social and Economic Supplement (ASEC)

			2016 CPS
	Test Percent	Control Percent	Percent
Category	(n=18,851)	(n=19,232)	(n=91,008)
Full-time, year-round	67.1 (0.6)*	65.9 (0.6)	68.6 (1.3)

"*" and bolding indicate the estimate is within CPS ASEC's 90 percent confidence interval



Findings: Item Missing Data Rates (Decision Criterion 2)

- Part A item missing data rates not significantly different
- Part B item missing data rate one percentage point higher

Category	Test Sample Size	Test Percent	Control Sample Size	Control Percent	Test minus Control	P-Value
Part A	21,120	2.5 (0.1)	21,524	2.4 (0.2)	<0.1 (0.23)	0.42
Part B	6,151	4.3 (0.4)	6,760	3.3 (0.4)	1.0 (0.6)*	0.04



Findings: ACS Earnings

(Decision Criterion 3)

No significant differences in ACS-reported earnings

Category	Test Median (\$) (n=16,409)	Control Median (\$) (n=16,846)	Test minus Control (\$)	P-Value
50 to 52 weeks	43,713 (1,160)	45,064 (811)	-1,352 (1,265)	0.29
48 to 49 weeks	27,246 (3,436)	27,067 (2,192)	178 (3,894)	0.96
40 to 47 weeks	21,789(1,148)	22,459 (1,340)	-670 (1,827)	0.71
27 to 39 weeks	13,717 (1,389)	12,653 (785)	1,063 (1,478)	0.47
14 to 26 weeks	7,155 (510)	7,184 (372)	-29 (685)	0.97
0 to 13 weeks	2,295 (109)	2,128 (88)	167 (145)	0.25



Findings: LEHD Earnings

(Decision Criterion 3 continued...)

Median LEHD earnings only higher for "0 to 13 weeks"

Category	Test Median (\$) (n=15,115)	Control Median (\$) (n=15,309)	Test minus Control (\$)	P-Value
50 to 52 weeks	42,512 (546)	42,413 (583)	100 (798)	0.90
48 to 49 weeks	19,254 (2,625)	25,198 (2,625)	-5,944 (3,712)	0.11
40 to 47 weeks	18,521 (1,272)	21,889 (2,321)	-3,368 (2,646)	0.20
27 to 39 weeks	13,296 (1,473)	11,371 (656)	1,926 (1,613)	0.23
14 to 26 weeks	8,956 (905)	8,675 (969)	281 (1,326)	0.83
0 to 13 weeks	4,939 (492)	3,651 (352)	1,288 (605)*	0.03



Findings: Response Reliability (Decision Criterion 4)

- Response reliability either improved for the test version or was not significantly different between versions
- Analysis also showed the test version to be more consistent overall



Findings: Distributions

(Decision Criterion 4 continued...)

Full-year rate ("50 to 52 weeks") higher in test version

Category	Test Percent (n=19,233)	Control Percent (n=19,676)	Test minus Control	Adjusted P-Value
50 to 52 weeks	78.8 (0.5)	77.0 (0.5)	1.9 (0.7)*	0.02
48 to 49 weeks	1.6 (0.1)	2.4 (0.2)	-0.8 (0.2)*	<0.01
40 to 47 weeks	5.3 (0.2)	5.5 (0.2)	-0.2 (0.3)	0.94
27 to 39 weeks	4.1 (0.2)	5.6 (0.2)	-1.5 (0.3)*	<0.01
14 to 26 weeks	5.0 (0.3)	4.2 (0.2)	0.8 (0.3)*	0.03
0 to 13 weeks	5.3 (0.2)	5.3 (0.2)	-0.1 (0.3)	0.94



Findings: Benchmarking to CPS ASEC

(Decision Criterion 4 continued...)

Most test group rates fell within 90% confidence intervals of CPS ASEC

Category	Test Percent (n=19,233)	Control Percent (n=19,676)	2016 CPS Percent (n=91,008)
50 to 52 weeks	78.8 (0.5)*	77.0 (0.5)	79.2 (1.2)
48 to 49 weeks	1.6 (0.1)*	2.4 (0.2)*	1.9 (0.4)
40 to 47 weeks	5.3 (0.2)*	5.5 (0.2)*	5.1 (0.6)
27 to 39 weeks	4.1 (0.2)*	5.6 (0.2)	4.1 (0.6)
14 to 26 weeks	5.0 (0.3)*	4.2 (0.2)	5.5 (0.6)
0 to 13 weeks	5.3 (0.2)	5.3 (0.2)	4.3 (0.6)

"*" and bolding indicate the estimate is within CPS ASEC's 90 percent confidence interval


Summary

1	The estimate of full-time year-round workers in the test version should remain consistent with that in the control version. Compare to benchmarks if inconsistent.	~
2	The test version should not adversely impact item missing data rates (more concerning for part A than part B).	
3	The test version should not significantly impact earnings estimates.	
4	The test version should not adversely impact response reliability or the distribution of weeks worked. Compare distributions to benchmarks if inconsistent.	~



Summary

The Content Test results suggest that changing part B of weeks worked to an open-ended response, along with changes to the question text, will allow for greater specificity without adversely affecting data quality



Computer and Internet Use

Camille Ryan Social, Economic, and Housing Statistics Division



Computer and Internet Use: Objective

- Revise computer and Internet use questions to keep up with the rapid changes in technology and terminology
- Improve measurement of households with handheld devices reporting an Internet subscription or a mobile broadband subscription
- The test questions were implemented in 2016 ACS production, so this test serves as a validation of the early implementation decision.



Computer and Internet Use: Questions Tested Types of Computers

Control Version



Test Version





Computer and Internet Use: Questions Tested Internet Access

Control Version

0	At t do y acc	this house, apartment, or mobile home – you or any member of this household ess the Internet?	
		Yes, with a subscription to an Internet service	
		Yes, without a subscription to an Internet service \rightarrow <i>SKIP to question 12</i>	
		No Internet access at this house, apartment, or mobile home \rightarrow SKIP to question 12	

Test Version

At t do y hav	his house, apartment, or mobile home – you or any member of this household re 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 \rightarrow SKIP to question 12
	No access to the Internet at this house, apartment, or mobile home \rightarrow SKIP to question 12



Computer and Internet Use: Questions Tested Internet Subscription

Control Version

Test Version





Computer and Internet Use: Findings *Types of Computers 1*

Significant change in the distribution.

	Category	Test Percent	Control Percent	Test minus Control	Adjusted P-value
×	Desktop or laptop	78.6	80.7	-2.1 *	<0.01
~	Smartphone/tablet vs. Handheld	82.4	79.8	2.6 *	<0.01
×	Other computer	4.6	7.9	-3.3 *	<0.01



Computer and Internet Use: Findings *Types of Computers 2*

- The test version increased reliability of responses to the handheld (smartphone or tablet in test) and other type of computer categories.
- There was no difference in item missing data rates between the treatments.

Findings support proceeding with the Test Version, validating the decision to implement these changes on the 2016 ACS.



Computer and Internet Use: Findings Internet Access 1

Significant change in the distribution

Category	Test Percent	Control Percent	Test minus Control	P-value
Access with subscription	83.8	82.3	1.5 *	<0.01
No subscription	16.2	17.7	-1.5*	<0.01

Proportions, households with smartphone/tablet or handheld

Category	Test Percent	Control Percent	Test minus Control	P-value
Access with subscription	92.4	90.5	1.9 *	<0.01



Computer and Internet Use: Findings Internet Access 2

- Test version also increased reliability in responses for those with Internet access with or without a subscription.
- Test version (2.0%) had a lower missing data rate than the control (2.3%).
- There was no impact on multiple responses in mail mode.

Findings support proceeding with the Test Version, validating the decision to implement these changes on the 2016 ACS.



Computer and Internet Use: Findings Internet Subscription Type 1

Significant change in the distribution

	Category	Test Percent	Control Percent	Test minus Control	Adjusted P-value
×	High speed vs. DSL/Cable/Fiber-optic	81.4	85.0	-3.6 *	<0.01
~	Cellular data plan vs. Mobile broadband	79.9	39.7	40.2 *	<0.01

Proportions, households with smartphone/tablet or

Category	Test Percent	Control Percent	Test minus Control	P- value
Cellular data plan vs. Mobile broadband	85.4	43.3	42.2 *	<0.01
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Computer and Internet Use: Findings Internet Subscription Type 2

- Test version of the cellular data plan category had greater response reliability than the control version of the mobile broadband category.
- Test version (0.8%) of the cellular data plan category had less missing data than the control version (1.2%) of the mobile broadband category.

Findings support proceeding with the Test Version, validating the decision to implement these changes on the 2016 ACS.



Journey to Work & Commute Mode

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Journey to Work: Objective

- Commute Mode:
 - Update and clarify the terminology
- Time of Departure:
 - Address privacy concerns by phrasing the question in a less intrusive way



Journey to Work: Questions Tested Commute Mode

Test Version

Control Version

3	Hov WEI met the	w did this person usually EK? If this person usually hod of transportation durin box of the one used for me	get used ng the ost of	to work LAST more than one e trip, mark (X) the distance.	(3	Ho WE trai	w did this person usually EK? Mark ONE box for the nsportation used for most o	get meth of the	to work LAST hod of distance.
		Car, truck, or van		Motorcycle			Car, truck, or van		Taxicab
		Bus or trolley bus		Bicycle			Bus		Motorcycle
		Streetcar or trolley car		Walked			Subway or elevated rail		Bicycle
		Subway or elevated		Worked at			Long-distance train or		Walked
		Railroad		to question 40a			commuter rall		Worked from
		Ferryboat		Other method			or trolley		home → SKIP to question 39a
		Taxicab			(Ferryboat		Other method



Journey to Work: Questions Tested Time of Departure

Control Version

34	What tin to go to	ne did this p work LAST	erson WEEK	usually leave home
	Hour	Minute		
	Karan I			a.m.
				p.m.

Test Version





Journey to Work: Findings Commute Mode

- The test did not impact the overall response distribution, the item missing data rate, the response reliability, or any metrics specific to Mode of Commute.
- The test version performed well in cognitive testing, provides refined language, and shortens instructions to reduce burden.

Findings support proceeding with the Test Version



Journey to Work: Findings Time of Departure

- The test did not impact the overall response distribution, the item missing data rate, the response reliability, or how often respondents rounded their response.
- The test version performed well in cognitive testing and is believed to address some of the perceived sensitivity to the question.

Findings support proceeding with the Test Version



Race & Hispanic Origin

Angela Buchanan Population Division



Standards for Data Collection on Race and Ethnicity

- Office of Management and Budget (OMB) standards for race categories:
 - White
 - Black or African American
 - American Indian or Alaska Native (AIAN)
 - Asian
 - Native Hawaiian or Other Pacific Islander (NHPI)
- An additional category is used, Some Other Race (SOR)
- OMB standards for ethnicity categories:
 - Hispanic or Latino
 - Not Hispanic or Latino



Concerns with Current Questions

- Growing number of groups find the race and Hispanic origin questions confusing
- Increasing responses of Some Other Race
- Organizations and community advocates lobbying for changes to the race and Hispanic origin questions, including MENA
- Led to testing of alternative questions in 2015 National Content Test (2015 NCT)



2015 National Content Test (Decennial)

- Tested a combined question format (Hispanic origin and race asked together in one question)
- Tested a distinct Middle Eastern or North African (MENA) category
- Goals were to lower nonresponse, improve accuracy and reliability, and collect detailed data for all major groups
- Nationally-representative sample of 1.2 million households, including Alaska, Hawaii, and Puerto Rico
- NCT is the primary content test leading to the 2020 Census



Race and Hispanic Origin: Objective

- Opportunity to test alternative questions in the ACS environment and examine other data not available in the 2015 NCT
 - Evaluate self-administered data collection modes
 - Assess the race and ethnicity questions against demographic and socioeconomic data
 - Compare the race and ethnicity results to data from the ancestry question



Mail





Internet

Control (Separate Questions)



What is T L MMMM's race?Select all boxes that apply AND enter origins in the spaces below. Note, you may report more than one group. (Help)

White - Enter details, for example, German, Irish, English, Italian, Lebanese, Egyptian, etc.

Black or African Am. - Enter details, for example, African American, Jamaican, Haitian, Nigerian, Ethiopian, Somali, etc.

- American Indian or Alaska Native Enter details, for example, Navajo Nation, Blackfeet Tribe, Mayan, Aztec, Native Village of Barrow Inupiat Traditional Government, Nome Eskimo Community, etc.
- Chinese
- Filipino
- Asian Indian
- Vietnamese
- Korean
- Japanese
- Other Asian Enter details, for example, Pakistani, Cambodian, Hmong, etc.
- Native Hawaiian
- Samoan
- Chamorro
- Other Pacific Islander Enter details, for example, Tongan, Fijian, Marshallese, etc.

Some other race - Enter race or origin.

Test (Combined Question)

- 5 Which categories describe rrr? Select all boxes that apply. Note, you may report more than one group. (Help)
 - White For example, German, Insh, English, Italian, Polish, French, etc.
 - Hispanic, Latino, or Spanish origin For example, Mexican or Mexican American, Puerto Rican, Cuban, Salvadoran, Dominican, Colombian, etc.
 - Black or African Am. For example, African American, Jamaican, Haitian, Nigerian, Ethiopian, Somali, etc.
 - Asian For example, Chinese, Filipino, Asian Indian, Vietnamese, Korean, Japanese, etc.
 - American Indian or Alaska Native For example, Navajo Nation, Blackfeet Tribe, Mayan, Aztec, Native Village of Barrow Inupiat Traditional Government, Nome Eskimo Community, etc.
 - Middle Eastern or North African For example, Lebanese, Iranian, Egyptian, Syrian, Moroccan, Algerian, etc.
 - Native Hawaiian or Other Pacific Islander For example, Native Hawaiian, Samoan, Chamorro, Tongan, Fijian, Marshallese, etc.
 - Some other race, ethnicity, or origin

Select all boxes that apply and/or enter details in the space below. MIDDLE EASTERN OR NORTH AFRICAN (Help)

- Lebanese
 Iranian
 Egyptian
- Syrian
- Moroccan
- Algerian
- Enter, for example, Israeli, Iraqi, Tunisian, etc.



Race and Hispanic: Findings (1)

- Hispanic origin reporting was not significantly different between the versions.
- Race reporting differed only for White, AIAN, and SOR.
 Other groups were not affected.

Percentage Reporting Each Race and Ethnicity Category

Race	Test	Control	Test-Control	Adjusted P-value
White	67.7	74.0	-6.3*	<0.01
Hispanic	17.7	17.1	0.5	0.92
Black	12.0	12.8	-0.8	0.71
Asian	6.6	6.9	-0.3	0.92
AIAN	3.1	4.1	-1.0*	0.03
MENA	1.4	1.1	0.3	0.71
NHPI	0.3	0.4	-0.2	0.72
SOR	2.3	8.2	-5.9*	<0.01

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U.S. Department of Commerce Economics and Statistics Administration U.S. CENSUS BUREAU census.gov Source: 2016 ACS Content Test. Note: Boldface and * indicates significance at the α =0.1 level.

Race and Hispanic: Findings (2)

- ✓ The results for demographic and socioeconomic groups generally reflected the results for the total population (age, sex, educational attainment, and housing tenure groups).
- ✓ There was higher detailed reporting in the test treatment than in control (81% compared with 75%).
- ✓ Item missing data rates were lower for the test (0.6%) compared to control (1.4%).



Race and Hispanic: Findings (3)

- There appear to be no problems with collecting the test question in CATI and CAPI.
- In the test version, the consistency of race and ethnicity responses with ancestry was higher (74% compared with 73%).
- In the test version, ancestry missing data rates were higher than control (16% compared with 13%).
- Reporting patterns in the ACS Content Test support the findings of the 2015 National Content Test.

Final decisions will be made based on consultations with OMB.



Class of Worker and Industry & Occupation

Anthony Martínez Social, Economic, and Housing Statistics Division



Background

- The Class of Worker question has been asked in its current version since the 1970 Census
- Class of Worker question revision goals:
 - Clarify the intent
 - Improve the question layout
 - Clarify the definition of unpaid family worker
 - Improve Active Duty military definition



Class of Worker: Questions Tested

<u>Control</u> Version	M Answer questions 42 – 47 if this person worked in the past 5 years. Otherwise, SKIP to question 48.	Test Version	M Answer questions 41a – f if this person worked in the past 5 years. Otherwise, SKIP to question 42.
	42 - 47 CURRENT OR MOST RECENT JOB ACTIVITY. Describe clearly this person's chief job activity or business last week. If this person had more than one job, describe the one at which this person worked the most hours. If this person had no job or business last week, give information for his/her last job or business.	1	DESCRIPTION OF EMPLOYMENT The next series of questions is about the type of employment this person had last week. If this person had more than one job, describe the one at which the most hours were worked. If this person did not work last week, describe the most recent employment in the past five years.
	an employee of a PRIVATE FOR-PROFIT company or business, or of an individual, for wages, salary, or commissions?		a. Which one of the following best describes this person's employment last week or the most recent employment in the past 5 years? Mark (X) ONE box.
	an employee of a PRIVATE NOT-FOR-PROFIT, tax-exempt, or charitable organization?	2	PRIVATE SECTOR EMPLOYEE For-profit company or organization
	a local GOVERNMENT employee (city, county, etc.)?		Non-profit organization (including tax-exempt and charitable organizations)
	a state GOVERNMENT employee?		GOVERNMENT EMPLOYEE
	a Federal GOVERNMENT employee?		county school district)
	SELF-EMPLOYED in own NOT INCORPORATED business, professional practice, or farm?		State government (including state colleges/universities)
	SELF-EMPLOYED in own INCORPORATED business professional practice, or farm?	3	Active duty U.S. Armed Forces or Commissioned Corps
	working WITHOUT PAY in family business		SELF-EMPLOYED OR OTHER
	Encenter didate successively		Devices of a construction of a
	If now on active duty in		Owner of incorporated business, professional practice, or farm
	the Armed Forces, mark (X) this box \rightarrow and print the branch of the Armed Forces.	4	Worked without pay in a for-profit family business or farm for 15 hours or more per week
	Name or company, business, or other employer		b. What was the name of this person's employer, business, agency, or branch of the Armed Forces?
	second long by the second s		



Class of Worker – Higher Item Missing Data Rates in Mail Mode

		Test	Control	Test	
		Percent	Percent	minus	
	Category	(n=22,712)	(n=22,973)	Control	P-Value
\checkmark	Overall	5.3	4.9	0.3	0.32
×	Mail	14.0	10.4	3.6*	<0.01

Multiple marks on the mail form for Class of Worker are considered missing data



Class of Worker – Increase in Multiple Marks

Eligible Respondents Marking Multiple Boxes (applicable to MAIL mode only)

		Test Percent	Control Percent	Test minus	
	Category	(n=4,811)	(n=5,126)	Control	P-Value
x	Mail	4.4	0.6	3.8*	<0.01

Multiple marks on the mail form for Class of Worker are considered missing data



Class of Worker – Multiple Marks

Second Marked Response Among those Who Selected "Private for-profit worker" – Mail Form Only



n=168

Note: Standard errors are shown in parentheses. Chart does not add up to 100% due to suppressed categories not shown



Class of Worker – Higher Proportion of Unpaid Family Workers working 15 hours or more per week

Percent of Unpaid Family Workers Whose Usual Hours Worked per Week is 15 Hours or More

		Test	Control	Test	
		Percent	Percent	minus	
	Category	(n=76)	(n=135)	Control	P-Value
\checkmark	Overall	63.6	39.9	23.7*	0.02

 Test treatment – higher percentage of unpaid family workers also reported working at least 15 hours a week


Industry & Occupation (I&O)

Anthony Martínez Social, Economic, and Housing Statistics Division



Background

- The Industry and Occupation questions have been asked in their current versions since 1960
- Industry and Occupation question revision goals:
 - Improve Occupational specificity
 - Increase clarity of Industry and Occupation questions
 - New and consistent examples, expanded character limit for job duties write-in
 - Entire series modified



I&O: Questions Tested



Control Version:

 -		-
1.1		

Answer questions 42 – 47 if this person worked in the past 5 years. Otherwise, SKIP to question 48.

42 - 47 CURRENT OR MOST RECENT JOB ACTIVITY. Describe clearly this person's chief job activity or business last week. If this person had more than one job, describe the one at which this person worked the most hours. If this person had no job or business last week, give information for his/her last job or business.

Test Version:

Answer questions 41a – f if this person worked in the past 5 years. Otherwise, SKIP to question 42.

D DES

DESCRIPTION OF EMPLOYMENT

The next series of questions is about the type of employment this person had last week.

If this person had more than one job, describe the one at which the most hours were worked. If this person did not work last week, describe the most recent employment in the past five years.

• Renumbered the series



Control Version:



Test Version:

b. What was the name of this person's employer, business, agency, or branch of the Armed Forces?

Active Duty check box dropped from employer name question



Control Version:



What kind of business or industry was this? Describe the activity at the location where employed. (For example: hospital, newspaper publishing, mail order house, auto engine manufacturing, bank)

Test Version:

c. What kind of business or industry was this? Include the main activity, product, or service provided at the location where employed. (For example: elementary school, residential construction)

 Modified text and business/industry examples to get more specificity



Test Version:

Control Version:



• Verb tense consistency



Control Version:



46 What kind of work was this person doing? (For example: registered nurse, personnel manager, supervisor of order department, secretary, accountant)

Test Version:

e. What was this person's main occupation? (For example: 4th grade teacher, entry-level plumber)

- Text and examples modified
- Examples selected based on cognitive testing, and input from stakeholders



U.S. Department of Commerce conomics and Statistics Administration SUS BUREAU

Control Version:



What were this person's most important activities or duties? (For example: patient care, directing hiring policies, supervising order clerks, typing and filing, reconciling financial records) **Test Version:**

f. Describe this person's most important activities or duties. (For example: instruct and evaluate students and create lesson plans, assemble and install pipe sections and review building plans for work details)

- Text and examples modified
- Expanded write-in space to capture more characters



I&O – Overall, no difference in the Item Missing Data Rates

Industry:

		Test	Control	Test	
		Percent	Percent	minus	
	Category	(n=22,712)	(n=22,973)	Control	P-Value
	Overall	5.4	5.2	0.2	0.58
×	Internet	5.3	4.6	0.6*	0.08

Occupation:

		Test	Control	Test	
		Percent	Percent	minus	
	Category	(n=22,712)	(n=22,973)	Control	P-Value
✓	Overall	5.4	5.2	0.2	0.51



I&O – Codeable Data Rates

Industry:

		Test	Control	Test	
		Percent	Percent	minus	
	Category	(n=21,446)	(n=21,694)	Control	P-Value
\checkmark	Overall	99.1	99.2	-0.1	0.25
×	Mail	98.3	98.8	-0.5*	0.07

Occupation:

		Test	Control	Test	
		Percent	Percent	minus	
	Category	(n=21,446)	(n=21,694)	Control	P-Value
x	Overall	98.3	98.7	-0.4*	0.02
×	Mail	97.7	98.5	-0.8*	0.06



I&O – Increase in Mean Character and Mean Word counts for Job Duties

Mean Character Count:

			Control	Test	
		Test Mean	Mean	minus	
	Mode	(n=19,964)	(n=20,834)	Control	P-Value
\checkmark	Overall	31.3	21.0	10.3*	<0.01

Mean Word Count:

			Control	Test	
		Test Mean	Mean	minus	
	Mode	(n=19,964)	(n=20,834)	Control	P-Value
\checkmark	Overall	4.5	2.9	1.6*	<0.01



I&O – Qualitative Review

- Expert qualitative coding review
 - 39 different Occupation code categories as well as Active Duty and National Guard
 - Write-in data for all modes
- Test treatment write-ins more detailed
 - ✓ More specific types of management and teaching
 - Occupation write-ins helped inform coding for Industry



Summary

- Cognitive testing indicated respondents preferred the Class of Worker test treatment format
- The most notable improvement for Class of Worker consistency between Unpaid Family Workers and Usual Hours Worked
- The test treatment of the Industry and Occupations questions
 - Improved question clarity
 - Increased Occupational specificity
 - Higher quality write-in data assists with overall coding process and improves the overall quality of the data



Telephone Service

Jennifer Ortman American Community Survey Office



Telephone Service: Objective

- To better measure telephone service by updating the question to:
 - Reflect changes in how Americans view and use telephones in a household
 - Improve question wording and instructions so respondents (and interviewers) understand what types of telephones and equipment respondents should include when answering the question



Telephone Service

CURRENT PRODUCTION

Telephone service question among a battery of plumbing and kitchen facilities questions

home have -	Yes	No
a. hot and cold running water?		
b. a bathtub or shower?		
c. a sink with a faucet?		
d. a stove or range?		
e. a refrigerator?		
f. telephone service from which you can both make and receive calls? Include cell phones.		

CONTENT TEST Control Version* Can you or any member of this household both make and receive phone calls when at this house, apartment, or mobile home? Yes No **Test Version** Can you or any member of this household both make and receive phone calls when at this house, apartment, or mobile home? Include calls using cell phones, land lines, or other phone devices. Yes No



Telephone Service: Findings

- A larger proportion of households in the test version (98.3%) reported having telephone service than control (96.5%).
- There was no difference in item missing data rates between treatments.
- Most reliability metrics showed no difference between treatments.
- The control was less reliable in one analysis that showed more control respondents (65.0%) owned a smartphone, but reported no telephone service than the test respondents (54.9%).

Findings support proceeding with the Test Version



Retirement Income

Jennifer Ortman American Community Survey Office



Retirement Income: Objective

- To better measure retirement income data by:
 - Improving income reporting
 - Increasing item response rates
 - Reducing reporting errors
 - Updating questions on retirement income and the income generated from retirement accounts and all other assets



Retirement Income: Questions Tested

Control Version

g. Retirement, survivor, or disability pensions. Do NOT include Social Security.



Test Version





Retirement Income: Findings 1

- ✓ The proportion of people who reported receiving retirement, survivor, and disability income was higher in the test version (14.5%) than in the control (10.6%).
- The overall retirement, survivor, and disability aggregate income amount was higher in the test version (\$564.2 billion) than in the control (\$426.0 billion).
- There was no difference in item missing data rates between versions for either the recipiency question or the amount question.
- The test version results were more reliable than the control.



Retirement Income: Findings 2

✓ Significant change in the distribution.

	Test	Control	Test minus	Adjusted
Category	Percent	Percent	Control	P-value
\$1 to \$2,499	15.9	13.1	2.8	0.06
\$2,500 to \$19,999	46.3	45.5	0.8	1.00
\$20,000 to \$39,999	21.3	22.8	-1.5	0.60
\$40,000 to \$64,999	10.1	12.6	-2.5	0.03
\$65,000 or more	6.4	6.0	0.4	1.00

Findings support proceeding with the Test Version



Relationship

Jennifer Ortman American Community Survey Office



Relationship: Objective

- Improve couple household estimates, especially same-sex couple household estimates, by revising the relationship question to:
 - Provide explicit same-sex and opposite-sex spouse and same-sex and opposite-sex partner response categories
 - Implement an automated consistency check in electronic modes to verify responses when responses to relationship and sex are inconsistent



Relationship: Questions Tested

Test Version

Control Version

10	Husband or wife	Son-in-law or daughter-in-law		Opposite-sex husband/wife/spouse	Grandchild
1 1	Biological son or daughter	Other relative		Opposite-sex unmarried partner	Parent-in-law
	Adopted son or daughter	Roomer or boarder		Same-sex husband/wife/spouse	Son-in-law or daughter-in-lay
18	Stepson or stepdaughter	Housemate or roommate		Same-sex unmarried partner	Other relative
	Brother or sister	Unmarried partner		Biological son or daughter	Roomer or boarder
	Father or mother	Foster child		Adopted son or daughter	Housemate or roommate
1 10	Grandchild	Other nonrelative		Stepson or stepdaughter	Foster child
18	Parent-in-law			Brother or sister	Other nonrelative
			1	Eather or mother	



Relationship: Findings

- ✓ Overall, there was no impact to the distribution or item missing data rates.
- The test version decreased response reliability for the Unmarried Partner category.
- Results were similar to the 2015 National Content Test (NCT).

Final decisions will be based on the results of the decennial tests.



Summary of Findings

Based on the decision criteria defined for each topic, the findings support the implementation of the Test version in all instances except Health Insurance.

Торіс	Control	Test
Telephone Service		Х
Computer and Internet Use Test was implemented in 2016 Production ACS		Х
Health Insurance* Includes premiums and subsidies	Х	
Journey to Work		Х
Weeks Worked		Х
Class of Worker		Х
Industry and Occupation		Х
Retirement Income		Х

*The control version of the Health Insurance differs from current production as it included questions on premiums and subsidies, which are not included in production.

Note: Decisions on relationship, race, and Hispanic origin will be based on results of the decennial tests and made in consultation with OMB.



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