Preliminary Results from the 2016 American Community Survey Content Test

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

This presentation is released to inform interested parties of ongoing research and to encourage discussion of work in progress. Any views expressed on statistical, methodological, operational, or technical issues are those of the authors and not necessarily those of the U.S. Census Bureau.
Objective

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

<table>
<thead>
<tr>
<th>Propose Revisions</th>
<th>Cognitive Testing</th>
<th>Field Testing</th>
<th>Analysis and Results</th>
</tr>
</thead>
</table>

- 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 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

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

- 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

Edward Berchick
Social, Economic, and Housing Statistics Division
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

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.

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.

#### Test Version

<table>
<thead>
<tr>
<th>1. Yes</th>
<th>2. No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Ins - Introduction</td>
<td>2</td>
</tr>
<tr>
<td>Health Ins - Premium</td>
<td>2</td>
</tr>
<tr>
<td>Health Ins - Employer</td>
<td>2</td>
</tr>
<tr>
<td>Health Ins - Medicaid</td>
<td>2</td>
</tr>
<tr>
<td>Health Ins - Medical</td>
<td>2</td>
</tr>
<tr>
<td>Health Ins - Direct</td>
<td>2</td>
</tr>
<tr>
<td>Health Ins - Military</td>
<td>2</td>
</tr>
<tr>
<td>Health Ins - Veteran's Administration</td>
<td>2</td>
</tr>
<tr>
<td>Health Ins - Indian</td>
<td>2</td>
</tr>
<tr>
<td>Health Ins - Other</td>
<td>2</td>
</tr>
<tr>
<td>Other health ins</td>
<td>1</td>
</tr>
<tr>
<td>Health Ins - Other</td>
<td>1</td>
</tr>
</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>Category</th>
<th>Test Percent</th>
<th>Control Percent</th>
<th>Test - Control</th>
<th>Adjusted p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>✧ Employer-based</td>
<td>51.3</td>
<td>55.0</td>
<td>-3.7*</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>✔ Direct purchase</td>
<td>11.3</td>
<td>13.0</td>
<td>-1.7*</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>TRICARE</td>
<td>2.6</td>
<td>2.8</td>
<td>-0.2*</td>
<td>0.49</td>
</tr>
<tr>
<td>Public</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>⚠ Medicare</td>
<td>16.7</td>
<td>15.7</td>
<td>1.0*</td>
<td>0.07</td>
</tr>
<tr>
<td>✧ Medicaid</td>
<td>17.2</td>
<td>17.8</td>
<td>-0.7</td>
<td>0.54</td>
</tr>
<tr>
<td>VA</td>
<td>1.9</td>
<td>2.0</td>
<td>-0.2*</td>
<td>0.54</td>
</tr>
</tbody>
</table>
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.
Health Insurance Premium/Subsidy Questions

Control* Version

17. 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.

- Yes
- No → SKIP to question 18a

17b. Does this person or another family member receive a tax credit or subsidy based on family income to help pay the premium?

- Yes
- No

Test* Version

16. 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 17a

16b. 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?

- 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

David Howard
Social, Economic, and Housing Statistics Division
Question Text History

- 2005 – 2007 Version

![Image of question text for 2005–2007 version]

- Current Production Version

![Image of question text for current production version]
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

Control Version

Test Version

a. During the PAST 12 MONTHS (52 weeks), did 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
## 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**

<table>
<thead>
<tr>
<th>Category</th>
<th>Test Percent (n=18,851)</th>
<th>Control Percent (n=19,232)</th>
<th>Test minus Control</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time, year-round</td>
<td>67.1 (0.6)</td>
<td>65.9 (0.6)</td>
<td>1.2 (0.8)*</td>
<td>0.06</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Category</th>
<th>Test Percent (n=18,851)</th>
<th>Control Percent (n=19,232)</th>
<th>2016 CPS Percent (n=91,008)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time, year-round</td>
<td>67.1 (0.6)*</td>
<td>65.9 (0.6)</td>
<td>68.6 (1.3)</td>
</tr>
</tbody>
</table>

"*" 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

<table>
<thead>
<tr>
<th>Category</th>
<th>Test Sample Size</th>
<th>Test Percent</th>
<th>Test Sample Size</th>
<th>Control Percent</th>
<th>Test minus Control</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part A</td>
<td>21,120</td>
<td>2.5 (0.1)</td>
<td>21,524</td>
<td>2.4 (0.2)</td>
<td>&lt;0.1 (0.23)</td>
<td>0.42</td>
</tr>
<tr>
<td>Part B</td>
<td>6,151</td>
<td>4.3 (0.4)</td>
<td>6,760</td>
<td>3.3 (0.4)</td>
<td>1.0 (0.6)*</td>
<td>0.04</td>
</tr>
</tbody>
</table>
Findings: ACS Earnings
(Decision Criterion 3)

- No significant differences in ACS-reported earnings

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

(Decision Criterion 3 continued…)

- Median LEHD earnings only higher for “0 to 13 weeks”

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

<table>
<thead>
<tr>
<th>Category</th>
<th>Test Percent (n=19,233)</th>
<th>Control Percent (n=19,676)</th>
<th>Test minus Control</th>
<th>Adjusted P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 to 52 weeks</td>
<td>78.8 (0.5)</td>
<td>77.0 (0.5)</td>
<td>1.9 (0.7)*</td>
<td>0.02</td>
</tr>
<tr>
<td>48 to 49 weeks</td>
<td>1.6 (0.1)</td>
<td>2.4 (0.2)</td>
<td>-0.8 (0.2)*</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>40 to 47 weeks</td>
<td>5.3 (0.2)</td>
<td>5.5 (0.2)</td>
<td>-0.2 (0.3)</td>
<td>0.94</td>
</tr>
<tr>
<td>27 to 39 weeks</td>
<td>4.1 (0.2)</td>
<td>5.6 (0.2)</td>
<td>-1.5 (0.3)*</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>14 to 26 weeks</td>
<td>5.0 (0.3)</td>
<td>4.2 (0.2)</td>
<td>0.8 (0.3)*</td>
<td>0.03</td>
</tr>
<tr>
<td>0 to 13 weeks</td>
<td>5.3 (0.2)</td>
<td>5.3 (0.2)</td>
<td>-0.1 (0.3)</td>
<td>0.94</td>
</tr>
</tbody>
</table>
Findings: Benchmarking to CPS ASEC
(Decision Criterion 4 continued…)

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

<table>
<thead>
<tr>
<th>Category</th>
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<tr>
<td>48 to 49 weeks</td>
<td>1.6 (0.1)*</td>
<td>2.4 (0.2)*</td>
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<tr>
<td>40 to 47 weeks</td>
<td>5.3 (0.2)*</td>
<td>5.5 (0.2)*</td>
<td>5.1 (0.6)</td>
</tr>
<tr>
<td>27 to 39 weeks</td>
<td>4.1 (0.2)*</td>
<td>5.6 (0.2)</td>
<td>4.1 (0.6)</td>
</tr>
<tr>
<td>14 to 26 weeks</td>
<td>5.0 (0.3)*</td>
<td>4.2 (0.2)</td>
<td>5.5 (0.6)</td>
</tr>
<tr>
<td>0 to 13 weeks</td>
<td>5.3 (0.2)</td>
<td>5.3 (0.2)</td>
<td>4.3 (0.6)</td>
</tr>
</tbody>
</table>

“*” and bolding indicate the estimate is within CPS ASEC's 90 percent confidence interval
## Summary

<table>
<thead>
<tr>
<th></th>
<th>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.</th>
<th>✓</th>
</tr>
</thead>
</table>
| 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

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.

a. Desktop, laptop, netbook, or notebook computer
   - Yes
   - No

b. Handheld computer, smart mobile phone, or other handheld wireless computer
   - Yes
   - No

c. Some other type of computer
   - Yes
   - No
   Specify

Test Version

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

- Desktop or laptop
- Smartphone
- Tablet or other portable wireless computer
- Some other type of computer
   Specify

Yes
No
Computer and Internet Use: Questions Tested

Internet Access

**Control Version**

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

**Test Version**

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 12
- No access to the Internet at this house, apartment, or mobile home → SKIP to question 12
Computer and Internet Use: Questions Tested

Internet Subscription

**Control Version**

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

- a. Dial-up service?
- b. DSL service?
- c. Cable modem service?
- d. Fiber-optic service?
- e. Mobile broadband plan for a computer or a cell phone?
- f. Satellite Internet service?
- g. Some other service? Specify service

**Test Version**

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

- a. Cellular data plan for a smartphone or other mobile device?
- b. Broadband (high speed) Internet service such as cable, fiber optic, or DSL service installed in this household?
- c. Satellite Internet service installed in this household?
- d. Dial-up Internet service installed in this household?
- e. Some other service? Specify service

---
Computer and Internet Use: Findings

*Types of Computers 1*

- Significant change in the distribution.

<table>
<thead>
<tr>
<th>Category</th>
<th>Test Percent</th>
<th>Control Percent</th>
<th>Test minus Control</th>
<th>Adjusted P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>✗ Desktop or laptop</td>
<td>78.6</td>
<td>80.7</td>
<td>-2.1 *</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>✓ Smartphone/tablet vs. Handheld</td>
<td>82.4</td>
<td>79.8</td>
<td>2.6 *</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>✓ Other computer</td>
<td>4.6</td>
<td>7.9</td>
<td>-3.3 *</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>
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**

<table>
<thead>
<tr>
<th>Category</th>
<th>Test Percent</th>
<th>Control Percent</th>
<th>Test minus Control</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access with subscription</td>
<td>83.8</td>
<td>82.3</td>
<td>1.5 *</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>No subscription</td>
<td>16.2</td>
<td>17.7</td>
<td>-1.5*</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>

- **Proportions, households with smartphone/tablet or handheld**

<table>
<thead>
<tr>
<th>Category</th>
<th>Test Percent</th>
<th>Control Percent</th>
<th>Test minus Control</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access with subscription</td>
<td>92.4</td>
<td>90.5</td>
<td>1.9 *</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Category</th>
<th>Test Percent</th>
<th>Control Percent</th>
<th>Test minus Control</th>
<th>Adjusted P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>High speed vs. DSL/Cable/Fiber-optic</td>
<td>81.4</td>
<td>85.0</td>
<td>-3.6 *</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Cellular data plan vs. Mobile broadband</td>
<td>79.9</td>
<td>39.7</td>
<td>40.2 *</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>

Proportions, households with smartphone/tablet or

<table>
<thead>
<tr>
<th>Category</th>
<th>Test Percent</th>
<th>Control Percent</th>
<th>Test minus Control</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cellular data plan vs. Mobile broadband</td>
<td>85.4</td>
<td>43.3</td>
<td>42.2 *</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>
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

Brian McKenzie
Social, Economic, and Housing Statistics Division
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

Control Version

32. How did this person usually get to work LAST WEEK? If this person usually used more than one method of transportation during the trip, mark (X) the box of the one used for most of the distance.

- Car, truck, or van
- Bus or trolley bus
- Streetcar or trolley car
- Subway or elevated
- Railroad
- Ferryboat
- Taxicab
- Motorcycle
- Bicycle
- Walked
- Worked at home → SKIP to question 40a
- Other method

Test Version

31. How did this person usually get to work LAST WEEK? Mark ONE box for the method of transportation used for most of the distance.

- Car, truck, or van
- Bus
- Taxicab
- Motorcycle
- Bicycle
- Walked
- Worked at home → SKIP to question 39a
- Other method
- Subway or elevated rail
- Long-distance train or commuter rail
- Light rail, streetcar, or trolley
- Ferryboat
- Worked from home → SKIP to question 39a
- Other method
Journey to Work: Questions Tested

Time of Departure

**Control Version**

34 What time did this person usually leave home to go to work LAST WEEK?

- Hour
- Minute
- a.m.
- p.m.

**Test Version**

33 LAST WEEK, what time did this person’s trip to work usually begin?

- Hour
- Minute
- a.m.
- p.m.
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

Source: http://www.whitehouse.gov/omb/fedreg_1997standards
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
Control (Separate Questions)

Test (Combined Question)

New

Jamaican

New

Algerian
### Internet Control (Separate Questions)

**What is TL MMM'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)

**Which categories describe rrr?** Select all boxes that apply. Note, you may report more than one group. *(Help)*

- [ ] **White** - For example, German, Irish, 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, Viennamese, 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

<table>
<thead>
<tr>
<th>Race</th>
<th>Test</th>
<th>Control</th>
<th>Test-Control</th>
<th>Adjusted P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>67.7</td>
<td>74.0</td>
<td>-6.3*</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Hispanic</td>
<td>17.7</td>
<td>17.1</td>
<td>0.5</td>
<td>0.92</td>
</tr>
<tr>
<td>Black</td>
<td>12.0</td>
<td>12.8</td>
<td>-0.8</td>
<td>0.71</td>
</tr>
<tr>
<td>Asian</td>
<td>6.6</td>
<td>6.9</td>
<td>-0.3</td>
<td>0.92</td>
</tr>
<tr>
<td>AIAN</td>
<td>3.1</td>
<td>4.1</td>
<td>-1.0*</td>
<td>0.03</td>
</tr>
<tr>
<td>MENA</td>
<td>1.4</td>
<td>1.1</td>
<td>0.30</td>
<td>0.71</td>
</tr>
<tr>
<td>NHPI</td>
<td>0.3</td>
<td>0.4</td>
<td>-0.2</td>
<td>0.72</td>
</tr>
<tr>
<td>SOR</td>
<td>2.3</td>
<td>8.2</td>
<td>-5.9*</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>

Source: 2016 ACS Content Test. Note: Boldface and * indicates significance at the $\alpha=0.1$ 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

Control Version

Test Version

1.

2.

3.

4.
Class of Worker – Higher Item Missing Data Rates in Mail Mode

<table>
<thead>
<tr>
<th>Category</th>
<th>Test Percent (n=22,712)</th>
<th>Control Percent (n=22,973)</th>
<th>Test minus Control</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>5.3</td>
<td>4.9</td>
<td>0.3</td>
<td>0.32</td>
</tr>
<tr>
<td>Mail</td>
<td>14.0</td>
<td>10.4</td>
<td>3.6*</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>

- Multiple marks on the mail form for Class of Worker are considered missing data
Eligible Respondents Marking Multiple Boxes (applicable to MAIL mode only)

<table>
<thead>
<tr>
<th>Category</th>
<th>Test Percent (n=4,811)</th>
<th>Control Percent (n=5,126)</th>
<th>Test minus Control</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>✗ Mail</td>
<td>4.4</td>
<td>0.6</td>
<td>3.8*</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>

- 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**

<table>
<thead>
<tr>
<th>Class of Worker</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-employed incorporated</td>
<td>30.8 (4.9)</td>
</tr>
<tr>
<td>Self-employed not incorporated</td>
<td>29.4 (5.1)</td>
</tr>
<tr>
<td>Local government</td>
<td>16.8 (3.4)</td>
</tr>
<tr>
<td>Private not-for profit</td>
<td>7.1 (2.3)</td>
</tr>
<tr>
<td>State government</td>
<td>6.7 (2.5)</td>
</tr>
<tr>
<td>Federal government</td>
<td>6.4 (2.5)</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Category</th>
<th>Test Percent (n=76)</th>
<th>Control Percent (n=135)</th>
<th>Test minus Control</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>63.6</td>
<td>39.9</td>
<td>23.7*</td>
<td>0.02</td>
</tr>
</tbody>
</table>

- 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

43. For whom did this person work?
If now on active duty in the Armed Forces, mark (X) this box and print the branch of the Armed Forces.
Name of company, business, or other employer

44. 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)

45. Is this mainly – Mark (X) ONE box.
☐ manufacturing?
☐ wholesale trade?
☐ retail trade?
☐ other (agriculture, construction, service, government, etc.)?

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

47. 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

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

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)

d. Was this mainly – Mark (X) ONE box.
☐ manufacturing?
☐ wholesale trade?
☐ retail trade?
☐ other (agriculture, construction, service, government, etc.)?

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

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)
I&O: Questions Tested cont.

Control Version:

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.

41 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
I&O: Questions Tested cont.

Control Version:

Test Version:

• Active Duty check box dropped from employer name question
I&O: Questions Tested cont.

Control Version:

Test Version:

- Modified text and business/industry examples to get more specificity
Control Version:

Test Version:

• Verb tense consistency
I&O: Questions Tested cont.

Control Version:

Test Version:

• Text and examples modified
• Examples selected based on cognitive testing, and input from stakeholders
I&O: Questions Tested cont.

Control Version:

Test Version:

• Text and examples modified
• Expanded write-in space to capture more characters
I&O – Overall, no difference in the Item Missing Data Rates

**Industry:**

<table>
<thead>
<tr>
<th>Category</th>
<th>Test Percent (n=22,712)</th>
<th>Control Percent (n=22,973)</th>
<th>Test minus Control</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall</strong></td>
<td>5.4</td>
<td>5.2</td>
<td>0.2</td>
<td>0.58</td>
</tr>
<tr>
<td><strong>Internet</strong></td>
<td>5.3</td>
<td>4.6</td>
<td><strong>0.6</strong>*</td>
<td><strong>0.08</strong></td>
</tr>
</tbody>
</table>

**Occupation:**

<table>
<thead>
<tr>
<th>Category</th>
<th>Test Percent (n=22,712)</th>
<th>Control Percent (n=22,973)</th>
<th>Test minus Control</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall</strong></td>
<td>5.4</td>
<td>5.2</td>
<td>0.2</td>
<td>0.51</td>
</tr>
</tbody>
</table>
## I&O – Codeable Data Rates

### Industry:

<table>
<thead>
<tr>
<th>Category</th>
<th>Test Percent (n=21,446)</th>
<th>Control Percent (n=21,694)</th>
<th>Test minus Control</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>✔ Overall</td>
<td>99.1</td>
<td>99.2</td>
<td>-0.1</td>
<td>0.25</td>
</tr>
<tr>
<td>✗ Mail</td>
<td>98.3</td>
<td>98.8</td>
<td>-0.5*</td>
<td>0.07</td>
</tr>
</tbody>
</table>

### Occupation:

<table>
<thead>
<tr>
<th>Category</th>
<th>Test Percent (n=21,446)</th>
<th>Control Percent (n=21,694)</th>
<th>Test minus Control</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>✗ Overall</td>
<td>98.3</td>
<td>98.7</td>
<td>-0.4*</td>
<td>0.02</td>
</tr>
<tr>
<td>✗ Mail</td>
<td>97.7</td>
<td>98.5</td>
<td>-0.8*</td>
<td>0.06</td>
</tr>
</tbody>
</table>
## I&O – Increase in Mean Character and Mean Word counts for Job Duties

### Mean Character Count:

<table>
<thead>
<tr>
<th>Mode</th>
<th>Test Mean (n=19,964)</th>
<th>Control Mean (n=20,834)</th>
<th>Test minus Control</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>31.3</td>
<td>21.0</td>
<td>10.3*</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>

### Mean Word Count:

<table>
<thead>
<tr>
<th>Mode</th>
<th>Test Mean (n=19,964)</th>
<th>Control Mean (n=20,834)</th>
<th>Test minus Control</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>4.5</td>
<td>2.9</td>
<td>1.6*</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>
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: 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

7. Does this house, apartment, or mobile home have—
   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*

8. 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

8. 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.

☐ Yes → $[redacted] .00

☐ No

TOTAL AMOUNT for past 12 months

Test Version

q. Retirement income, pensions, survivor or
disability income. Include income from a previous 
employer or union, or any regular withdrawals or 
distributions from IRA, Roth IRA, 401(k), 403(b) or 
other accounts specifically designed for retirement. 
Do not include Social Security.

☐ Yes → $[redacted] .00

☐ No

TOTAL AMOUNT for past 12 months
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.

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

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

**Control Version**

- Husband or wife
- Biological son or daughter
- Adopted son or daughter
- Stepson or stepdaughter
- Brother or sister
- Father or mother
- Grandchild
- Parent-in-law
- Son-in-law or daughter-in-law
- Other relative
- Roomer or boarder
- Housemate or roommate
- Other nonrelative

**Test Version**

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

<table>
<thead>
<tr>
<th>Topic</th>
<th>Control</th>
<th>Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telephone Service</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Computer and Internet Use</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td><em>Test was implemented in 2016 Production ACS</em></td>
<td></td>
</tr>
<tr>
<td>Health Insurance*</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td><em>Includes premiums and subsidies</em></td>
<td></td>
</tr>
<tr>
<td>Journey to Work</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Weeks Worked</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Class of Worker</td>
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<td>X</td>
</tr>
<tr>
<td>Industry and Occupation</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Retirement Income</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

*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.
# Contact Information

<table>
<thead>
<tr>
<th>Topic</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methodology</td>
<td><a href="mailto:Broderick.E.Oliver@census.gov">Broderick.E.Oliver@census.gov</a></td>
</tr>
<tr>
<td>Health Insurance</td>
<td><a href="mailto:Edward.Berchick@census.gov">Edward.Berchick@census.gov</a></td>
</tr>
<tr>
<td>Weeks Worked</td>
<td><a href="mailto:David.J.Howard@census.gov">David.J.Howard@census.gov</a></td>
</tr>
<tr>
<td>Computer &amp; Internet Use</td>
<td><a href="mailto:Camille.L.Ryan@census.gov">Camille.L.Ryan@census.gov</a></td>
</tr>
<tr>
<td>Journey-to-Work Commuting</td>
<td><a href="mailto:Brian.Mckenzie@census.gov">Brian.Mckenzie@census.gov</a></td>
</tr>
<tr>
<td>Race &amp; Hispanic Origin</td>
<td><a href="mailto:Angela.Brittingha.Buchanan@census.gov">Angela.Brittingha.Buchanan@census.gov</a></td>
</tr>
<tr>
<td>Industry &amp; Occupation Class of Worker</td>
<td><a href="mailto:Anthony.Martinez@census.gov">Anthony.Martinez@census.gov</a></td>
</tr>
<tr>
<td>Telephone Service</td>
<td><a href="mailto:Christopher.R.Mazur@census.gov">Christopher.R.Mazur@census.gov</a></td>
</tr>
<tr>
<td>Retirement Income</td>
<td><a href="mailto:Jonathan.L.Rothbaum@census.gov">Jonathan.L.Rothbaum@census.gov</a></td>
</tr>
<tr>
<td>Relationship</td>
<td><a href="mailto:Rose.Kreider@census.gov">Rose.Kreider@census.gov</a></td>
</tr>
<tr>
<td>ACS and/or Content Test</td>
<td><a href="mailto:Jennifer.M.Ortman@census.gov">Jennifer.M.Ortman@census.gov</a></td>
</tr>
</tbody>
</table>