

# Improving Measurement of Same-Sex Couple Households in Census Bureau Surveys

By

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This presentation is intended to inform interested parties of ongoing research and to encourage discussion. Any views expressed are those of the authors and not necessarily those of the U.S. Census Bureau.

# RELATIONSHIP QUESTION TESTING

- Increased need for estimates of same-sex married couples among federal agencies
- Since 2010, Census has participated in the OMB-led interagency group (*Measuring Relationships in Federal Household Surveys*), along with some 20 other agencies
- Census has also been in conversation with the United Kingdom, New Zealand, and Canada, who already use very similar questions

# RELATIONSHIP QUESTION

Version 1 2010 relationship response categories

Version 2 New relationship response categories

2. How is this person related to Person 1? Mark  ONE box.

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Husband or wife | <input type="checkbox"/> Parent-in-law                 |
| <input type="checkbox"/> Biological son or daughter | <input type="checkbox"/> Son-in-law or daughter-in-law |
| <input type="checkbox"/> Adopted son or daughter    | <input type="checkbox"/> Other relative                |
| <input type="checkbox"/> Stepson or stepdaughter    | <input type="checkbox"/> Roomer or boarder             |
| <input type="checkbox"/> Brother or sister          | <input type="checkbox"/> Housemate or roommate         |
| <input type="checkbox"/> Father or mother           | <input checked="" type="checkbox"/> Unmarried partner  |
| <input type="checkbox"/> Grandchild                 | <input type="checkbox"/> Other nonrelative             |

← Version 1

Source: U.S. Census Bureau, 2010 Census questionnaire.

Version 2 →

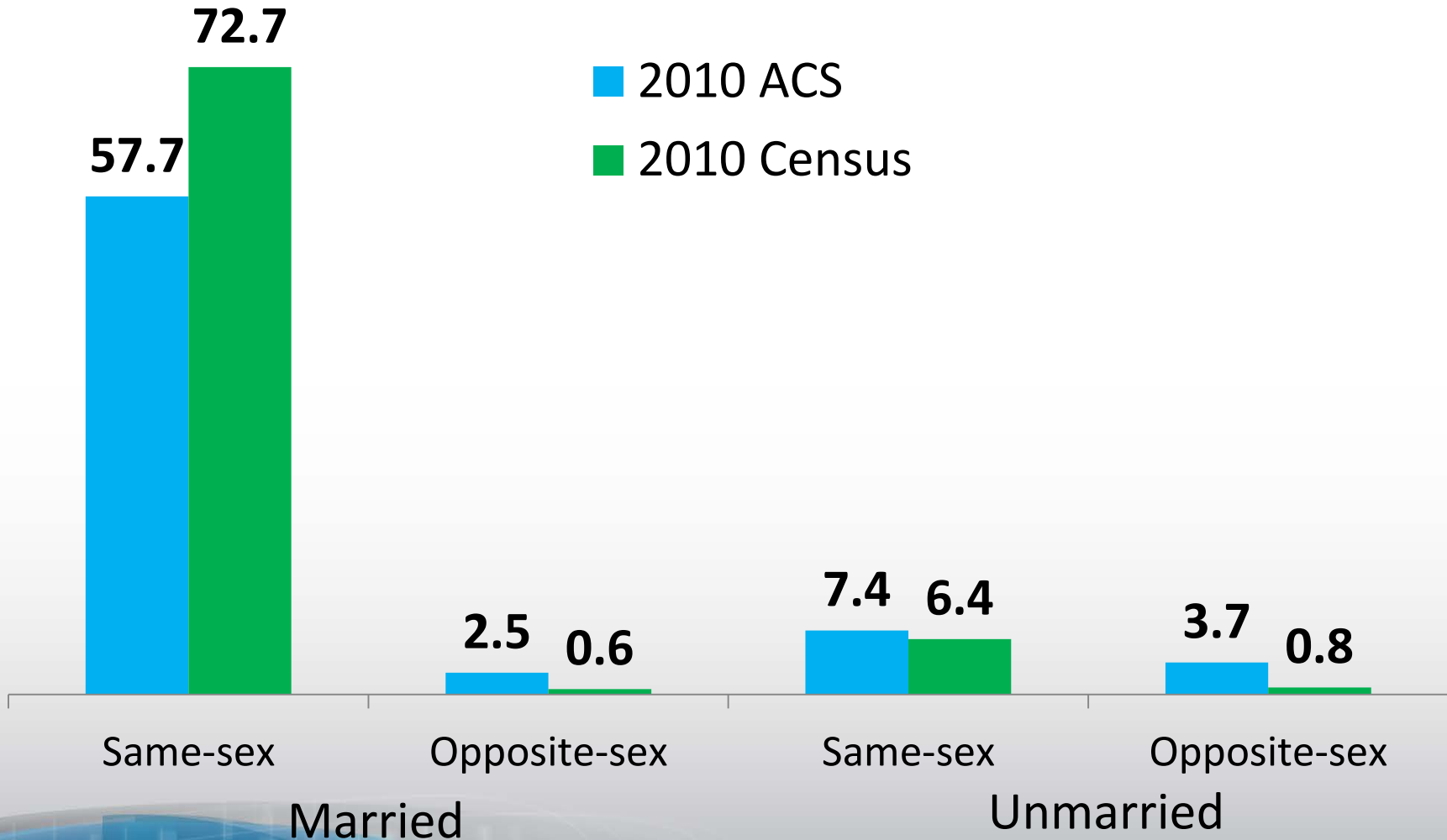
How is this person related to Person 1? Mark (X) ONE box.

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Opposite-sex husband/wife/spouse | <input type="checkbox"/> Grandchild                    |
| <input type="checkbox"/> Opposite-sex unmarried partner              | <input type="checkbox"/> Parent-in-law                 |
| <input type="checkbox"/> Same-sex husband/wife/spouse                | <input type="checkbox"/> Son-in-law or daughter-in-law |
| <input type="checkbox"/> Same-sex unmarried partner                  | <input type="checkbox"/> Other relative                |
| <input type="checkbox"/> Biological son or daughter                  | <input type="checkbox"/> Roomer or boarder             |
| <input type="checkbox"/> Adopted son or daughter                     | <input type="checkbox"/> Housemate or roommate         |
| <input type="checkbox"/> Stepson or stepdaughter                     | <input type="checkbox"/> Foster child                  |
| <input type="checkbox"/> Brother or sister                           | <input type="checkbox"/> Other nonrelative             |
| <input type="checkbox"/> Father or mother                            |  |

# DATA QUALITY

- Statistical issue
  - Small proportion of mismarks in a large group affects estimates of related small group
- Estimated percentage of those reported as same-sex married couples who were likely male/female
  - 2010 Census: 73 percent (old question)
  - ACS 2010: 58 percent (old question)

# PERCENT WHERE REPORTED SEX IS INCONSISTENT WITH SOCIAL SECURITY RECORD



Source: 2010 ACS, 2010 Census, and 2010 Social Security data file



# 2015 National Content Test

[Instructions](#)

[FAQs](#)

[Save and Log Out](#)

Please confirm that your answers are correct. Resident 2 is recorded as Householder's opposite-sex husband/wife /spouse. Is that correct?

- Yes
- No

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NOTE: This slide shows the automated check that was added to the instrument. It asks the respondent to confirm their answers if there is an inconsistency between the reported sex of the two individuals and their reported relationship.



# 2015 National Content Test

[Instructions](#)

[FAQs](#)

[Save and Log Out](#)

Householder is recorded as female. Is that correct?

- Yes
- No

[Previous](#)

[Next](#)

NOTE: This slide shows the automated check that was added to the instrument. It asks the respondent to confirm their answers if there is an inconsistency between the reported sex of the two individuals and their reported relationship.

# QUANTITATIVE TESTS

## ► Testing to date:

Survey of Income and Program Participation (2013)

American Community Survey Questionnaire Design Test (2013)

American Housing Survey (2013)

Decennial Tests:

2014 Census Test (CT)

Spring 2015 Census Tests

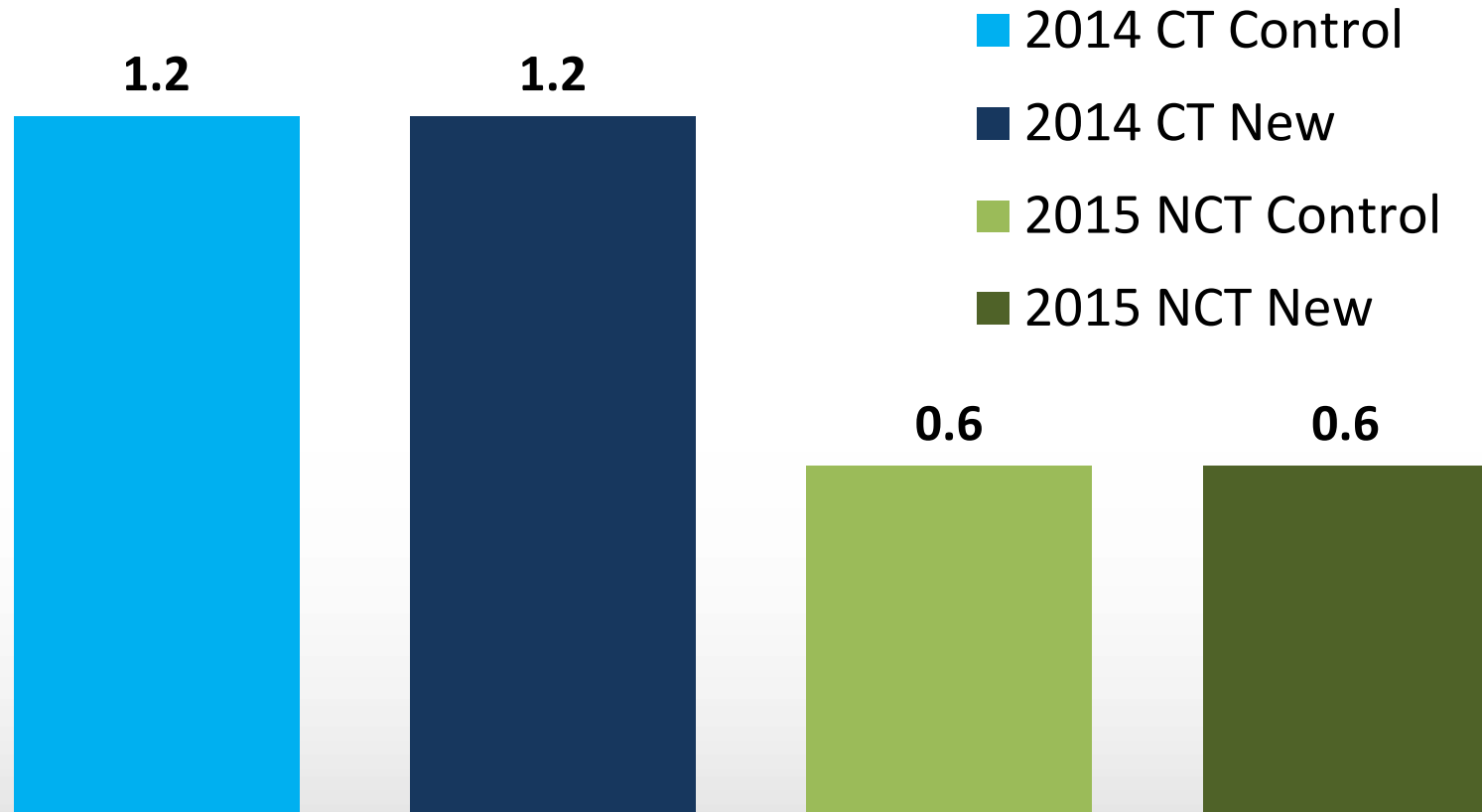
Fall 2015 National Content Test (NCT)



# EVALUATION OF QUANTITATIVE TESTS

- ▶ Item non-response is comparable between the old and new questions
- ▶ Distributions for couple categories (spouses, unmarried partners) do not differ when comparing the old question to the new question

# ITEM NON-RESPONSE DOES NOT DIFFER



Percent who did not respond to relationship question

Source: 2014 Census Test and 2015 National Content Test

# DISTRIBUTIONS DO NOT DIFFER

Percent in relationship category

40.9 40.8 41.0 41.1



19.6 19.7 21.2 21.2



2.4 2.4 2.4 2.4



35.9 35.8 34.9 34.9



Householder

Husband/wife

Unmarried partner

Other relationship

Married

Unmarried

# DATA QUALITY: LESSONS LEARNED

- Explicitly state categories on relationship item in addition to reporting of sex
- Self-response is more accurate than interviewers
- Add an automated check for cases where reported relationship and sex for couples are inconsistent

# DECENNIAL CENSUS TESTS

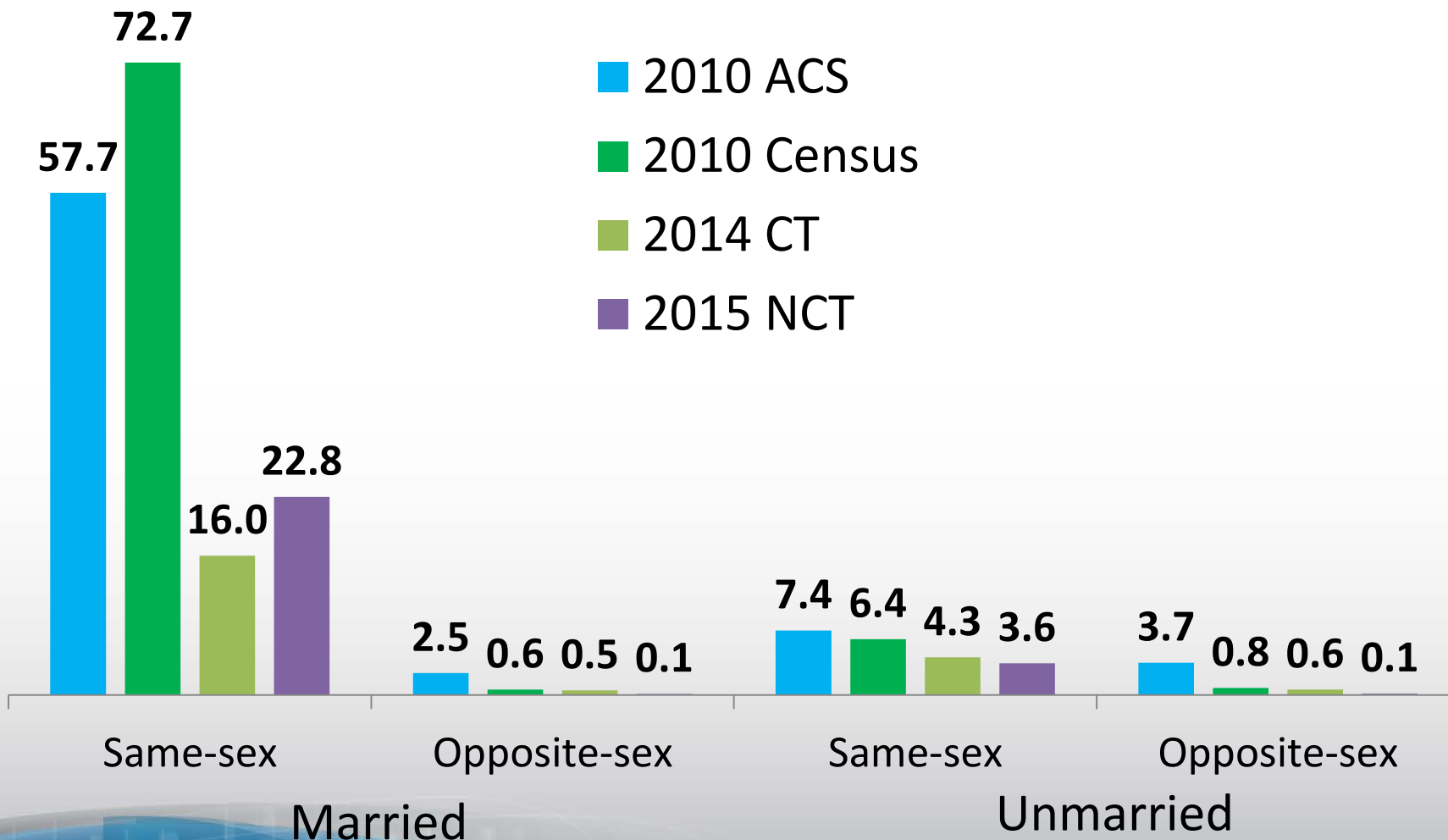
## 2014 Census Test

- Parts of DC + 1 MD county
- Internet/mail/CAPI
- Split panel in internet/mail
- n=200,000
- No automated consistency check

## 2015 National Content Test

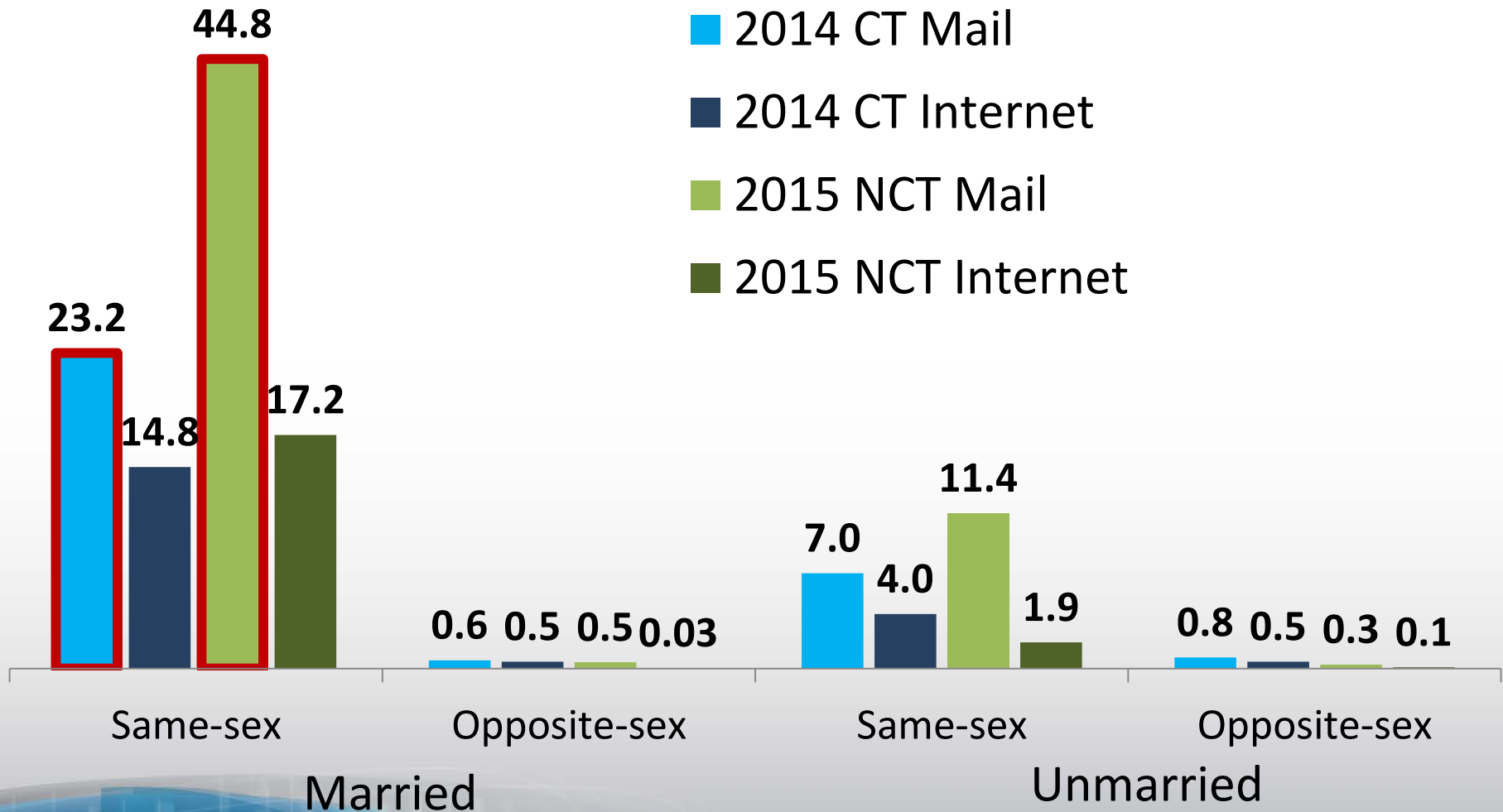
- Split panel design
- Internet/mail
- Nationally representative
- n=1.18 million
- Relationship and sex consistency check in internet

# PERCENT OF CASES WITH INCONSISTENT RELATIONSHIP AND SEX REPORTS, BY COUPLE TYPE



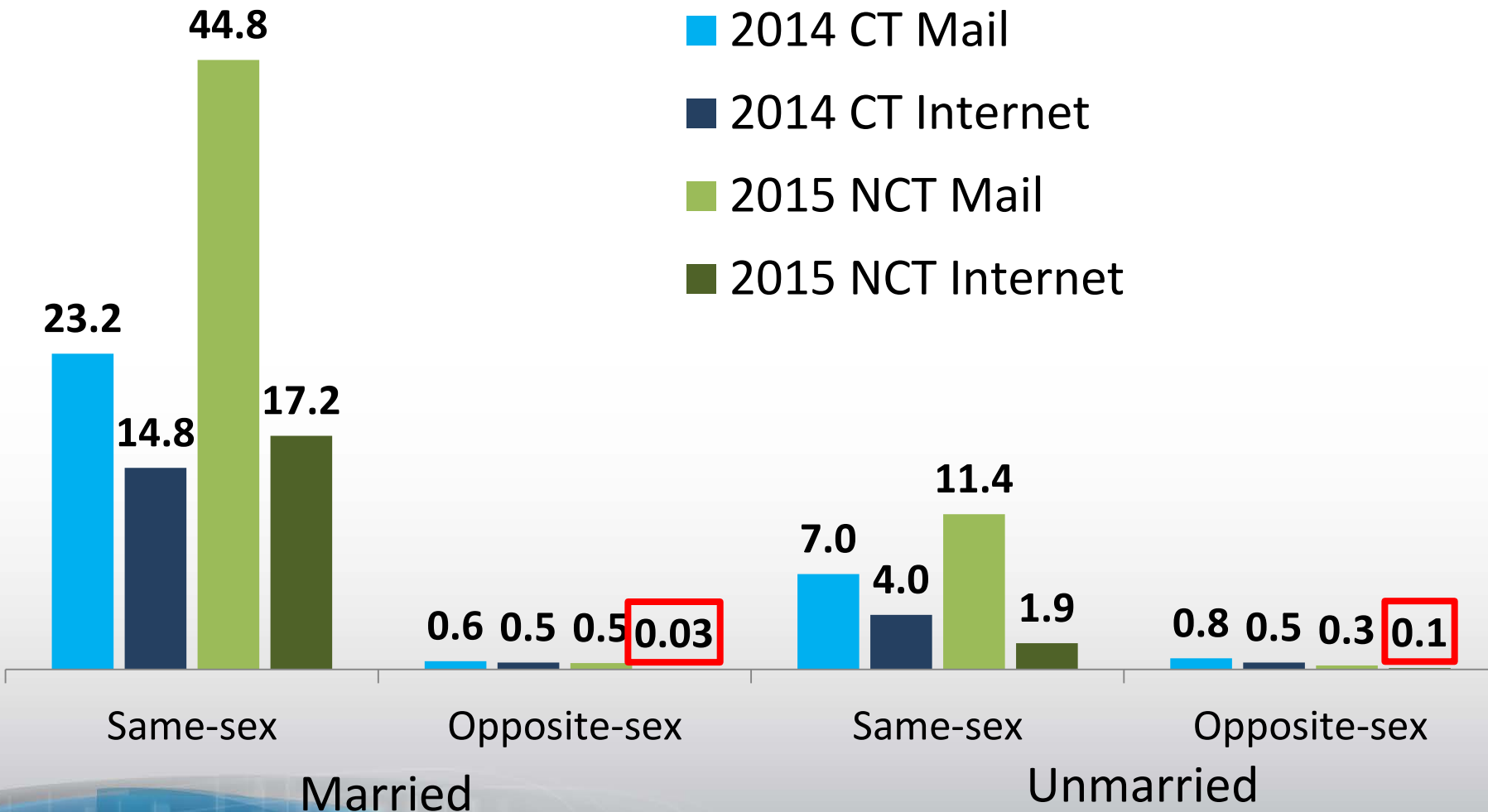
Source: 2014 Census Test and 2015 National Content Test

# PERCENT OF CASES WITH INCONSISTENT RELATIONSHIP AND SEX REPORTS, BY MODE



Source: 2014 Census Test and 2015 National Content Test

# PERCENT OF CASES WITH INCONSISTENT RELATIONSHIP AND SEX REPORTS, BY MODE



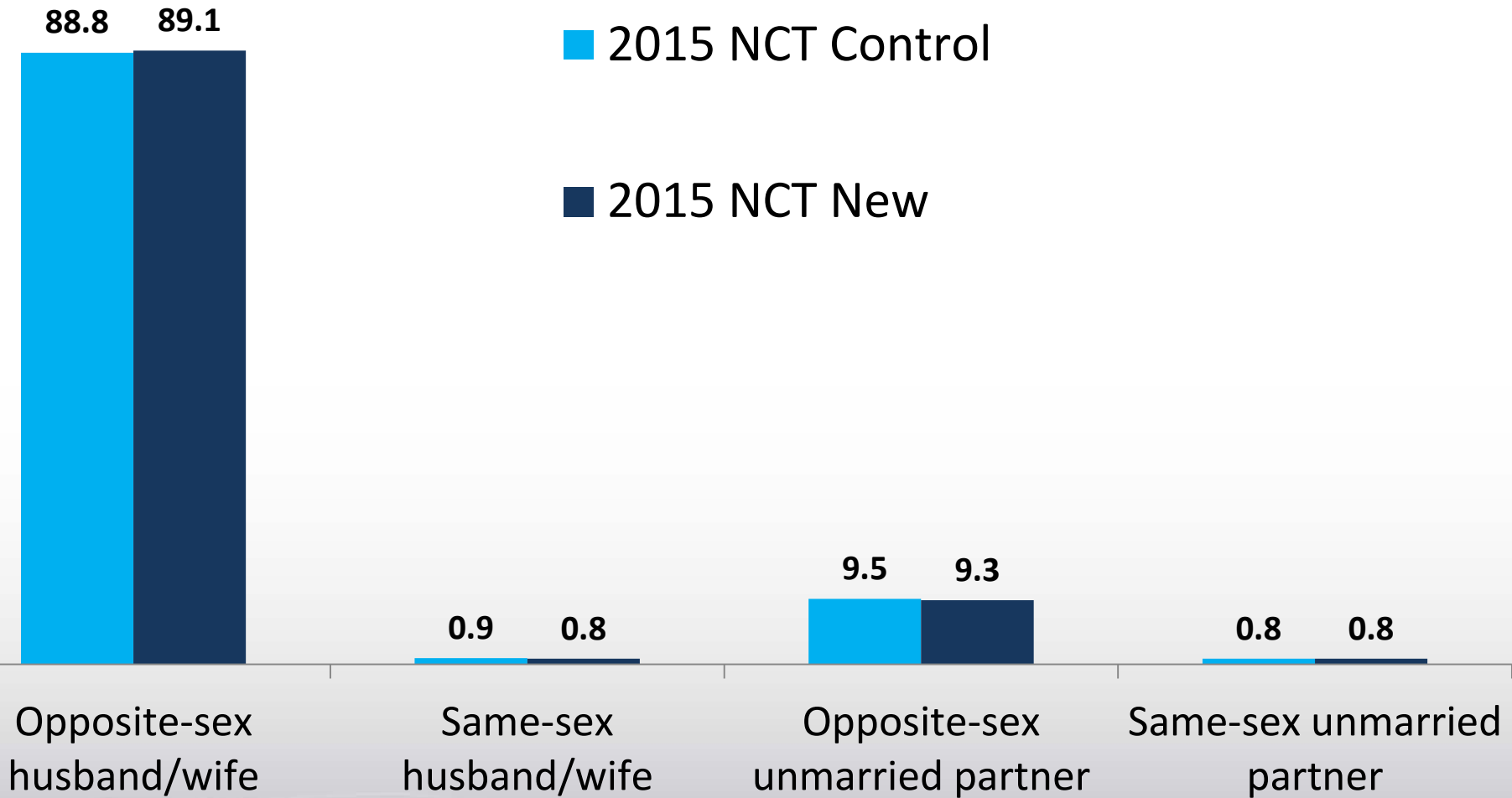
Source: 2014 Census Test and 2015 National Content Test



# CONSISTENCY CHECK IMPROVES DATA QUALITY

- Percent of opposite-sex married couples who likely misreported sex: No check: 0.5% With check: 0.03%
- How much smaller is 0.03 percent than 0.5 percent?
  - Roughly 56 million households are opposite-sex married couples
  - 0.5 percent=280,000 households
  - 0.03 percent=16,800 households
- Since we are trying to estimate a number that is <500,000, that difference of 263,200 is **SUBSTANTIAL**.

# PERCENT DISTRIBUTION OF COUPLED HOUSEHOLDS



Source: 2015 National Content Test

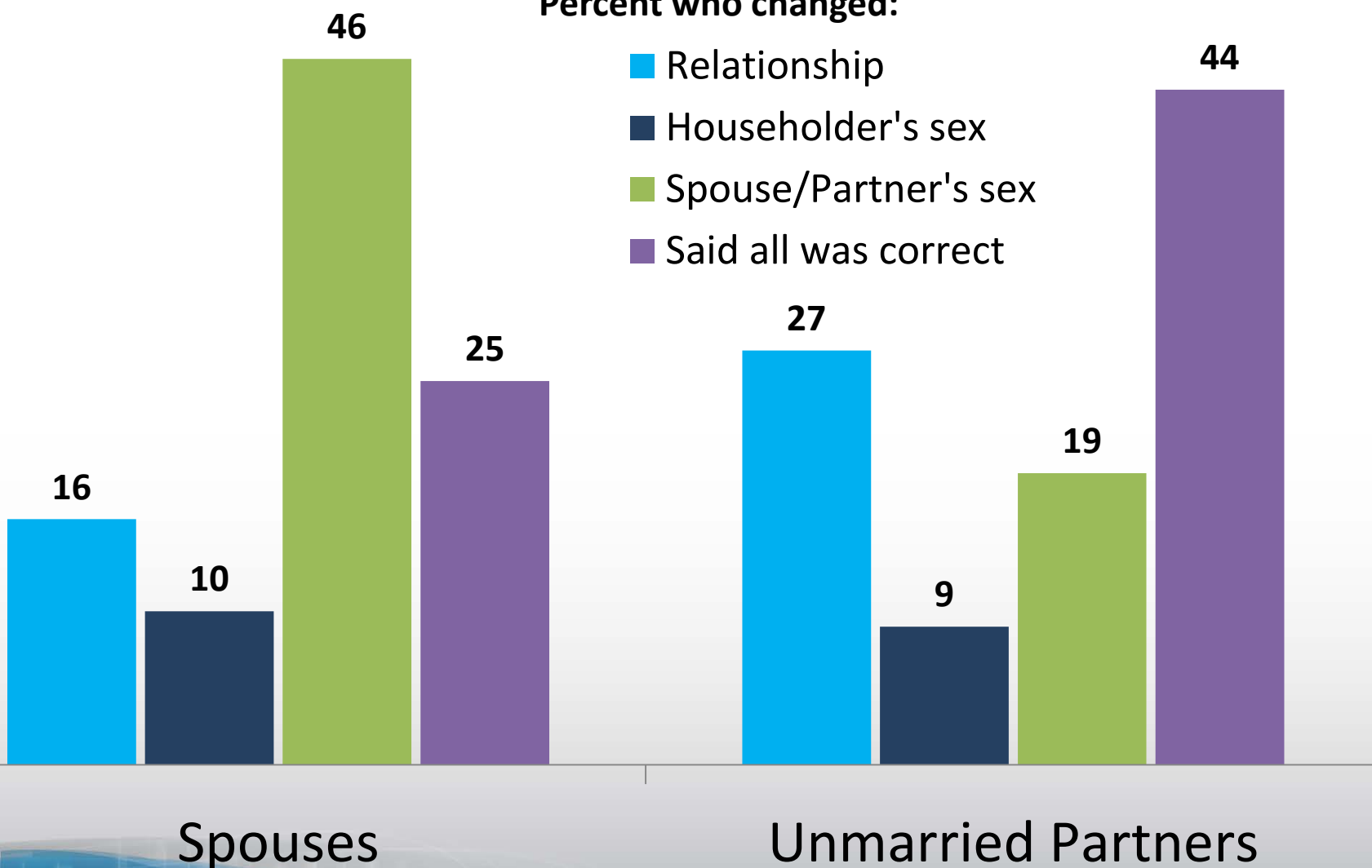
# USE OF THE CHECK IN 2015 NCT

- What percent of coupled households got the check?
  - About 0.7 percent (844 couples changed something in the automated check questions)
  - Note that this is based on those who made a change to at least one confirmation question. We couldn't distinguish DK/REF from those who were not in universe for the automated check.
- What did they change?

# WHAT RESPONDENTS CHANGED IN THE CHECK: 2015 NCT

Percent who changed:

- Relationship
- Householder's sex
- Spouse/Partner's sex
- Said all was correct



# MOVING FORWARD

- We're working to implement the automated check wherever we can.
- Editing procedures for inconsistent cases
  - First use the 95% rule with first names.
  - We will develop rules to decide, based on what people who used the NCT check changed most often.
- ▶ Plans for continued testing:
  - American Community Survey Content Test (2016)
  - Decennial Tests in 2017 and 2018

# CONTACT INFORMATION:

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To see other Census work on the revisions to the relationship question, visit:

<http://www.census.gov/hhes/samesex/index.html>