

# New Family Interrelationship Variables for US IPUMS Data Projects

Kari Williams and Marina Mileo Gorsuch  
Minnesota Population Center, University of Minnesota



UNIVERSITY OF MINNESOTA

## Family interrelationship variables

### What are family interrelationship variables?

Family interrelationship variables show how members of a household are related to each other

1. A person's **spouse** or **partner**
2. A person's **mother(s)** and/or **father(s)**

### Why are family interrelationship variables useful?

- Can easily attach characteristics of spouse/partner and parents to person
- For example:
  - Labor market status of a person's spouse/partner
  - Education of a person's parents

Person number	Relationship to householder	Age	Sex	Marital status	Spouse location	Mother 1 location	Father 1 location
1	Householder	43	M	Married, spouse present	2		
2	Spouse	46	F	Married, spouse present	1		
3	Child	16	M	Single		2	1
4	Child	14	M	Single		2	1
5	Child	7	M	Single		2	1

Example household from Census 2000

## How do the new interrelationship variables improve on existing ones?

### Reflect diverse family types

- Same-sex couples
- Same-sex parents
- Non-married couples
- Non-marital fertility

### Comparable and consistent across different datasets

- Same logic and assumptions apply to multiple IPUMS datasets

### Variables that communicate confidence in the inferred relationship

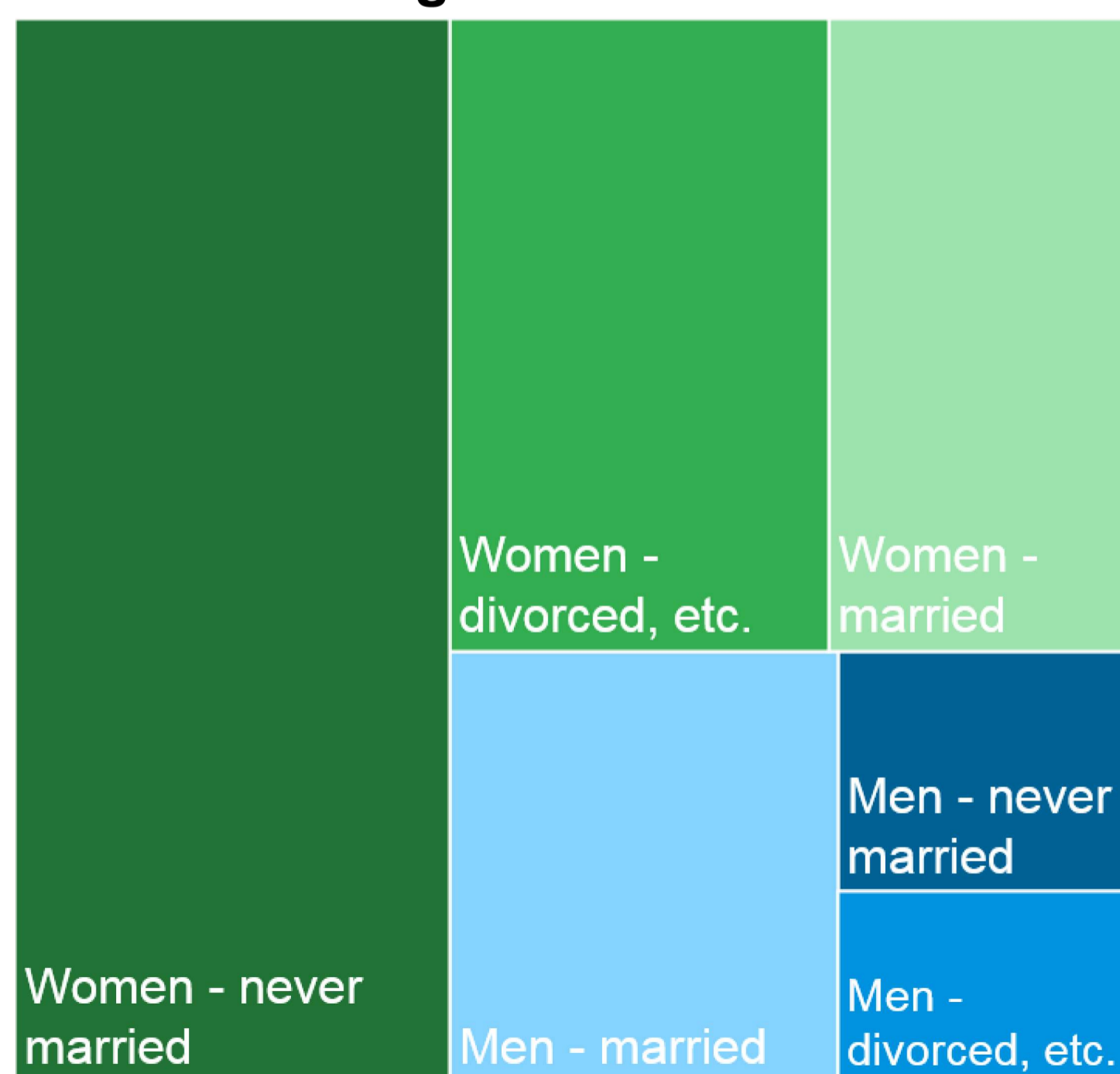
- First digit shows strength of link based on specificity of the relationship
- Second digit shows strength of link based on complexity of household composition

Person number	Relationship to householder	Age	Sex	Marital status	Spouse location	Mother 1 location	Mother 2 location	Spouse clarity	Mother 1 clarity	Mother 2 clarity
1	Householder	25	M	Never married		4	5		11	11
2	Brother/sister	22	F	Never married		4	5		11	11
3	Brother/sister	17	F	Never married		4	5		11	11
4	Parent	54	F	Married, spouse present	5			11		
5	Parent	59	F	Married, spouse present	4			11		

Example household from IHIS 2014

## Information used to assign parents in ambiguous situations

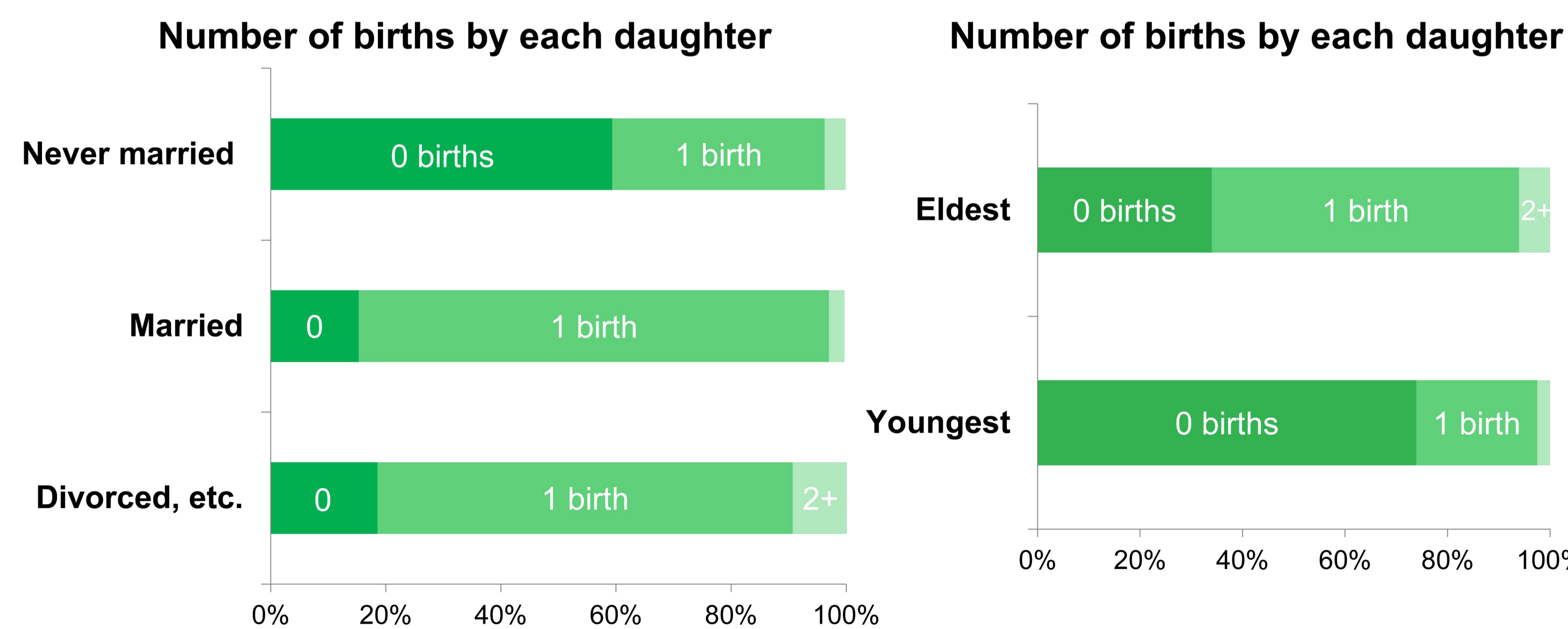
### Parent of a grandchild in the CPS



ATUS/CPS linked datasets 2003-2014; N=1,158

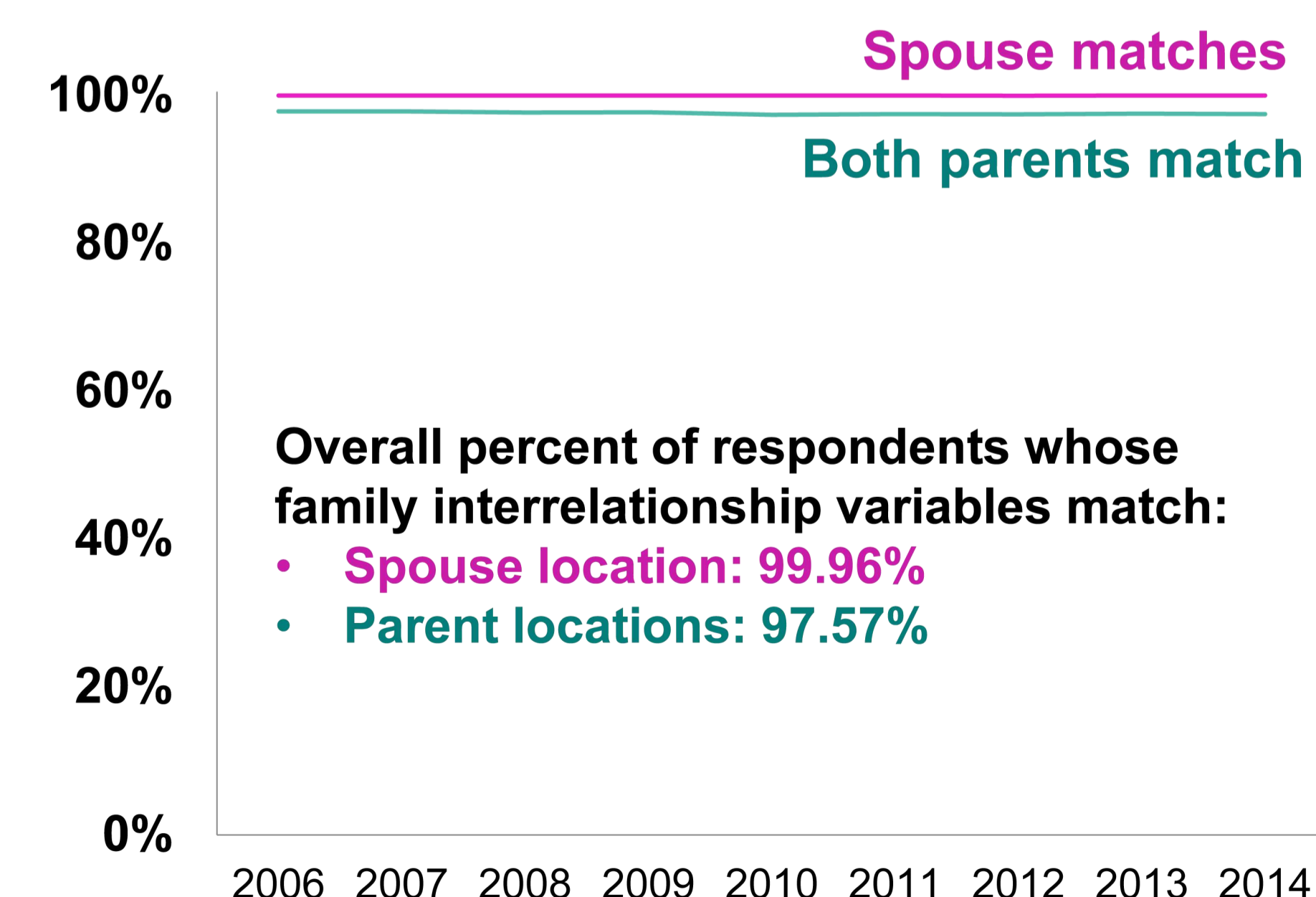
### Households with one grandchild and two daughters

CPS fertility supplements 1994-2012; N=1,293



## Evaluating accuracy of the new family interrelationship variables

### Percent of respondents whose IPUMS family interrelationship variables match self-reported



### Overall percent of respondents whose family interrelationship variables match:

- Spouse location: 99.96%
- Parent locations: 97.57%

IHIS 2006-2014; N=830,717

### Same-sex spouse/partner links are correct

- Researchers may be wary of same-sex couple links because they can be more error-ridden (Black, Gates, Sanders, and Taylor 2007)
- Among same-sex couples identified with IPUMS spouse location:
  - 99.9% match self-reported location (2006-2014 IHIS; N=3,508)
  - 87.2% are gay, lesbian, or bisexual (2013-2014 IHIS; N=374)

### Largest Challenge: Identifying parents of grandchildren

- IPUMS family interrelationship variables correctly match most grandchildren to their self-reported parents
- Two errors do occur:
  1. 10.7% of grandchildren have no parent in the household, but IPUMS assigns parent(s) (2014 CPS ASEC; N=4,275)
  2. 8% of grandchildren have parent(s) in the household, but IPUMS links wrong parent(s) (2014 CPS ASEC; N=4,275)

Take into account parent's SEX



MARITAL STATUS



and AGE