

Where's Daddy?

Challenges in the measurement of men's fertility

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Survey of Income & Program Participation (SIPP)

- Nationally representative survey of the civilian, non-institutionalized population
- Panel survey, following respondents over 4 years
- Premier source of information on income and social program receipt
- Collects complete fertility history from both men and women
 - Childlessness
 - Total CEB
 - Multiple partner fertility
 - Grandparenthood

Table 1.
Fertility Indicators: 2014

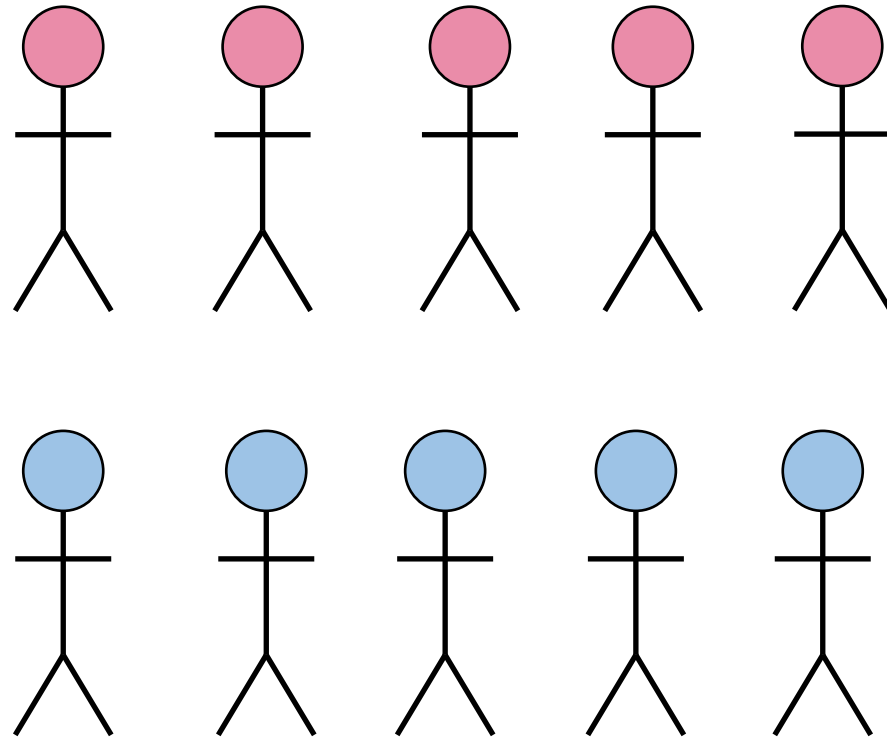
| Characteristic | Women aged 15 and over | | | Men aged 15 and over | | |
|--|--------------------------|--------------|---|--------------------------|--------------|---|
| | Number (in thousands) | Percent | Margin of error (\pm) ¹ | Number (in thousands) | Percent | Margin of error (\pm) ¹ |
| All adults | 130,253 | 100.0 | 0.0 | 121,836 | 100.0 | 0.0 |
| Have biological children | 89,523 | 68.7 | 0.4 | 72,151 | 59.2 | 0.4 |
| Do not have biological children | 40,730 | 31.3 | 0.4 | 49,685 | 40.8 | 0.4 |
| Children ever born | | | | | | |
| None | 40,730 | 31.3 | 0.4 | 49,685 | 40.8 | 0.4 |
| One | 20,603 | 15.8 | 0.4 | 17,634 | 14.5 | 0.4 |
| Two | 33,916 | 26.0 | 0.4 | 27,843 | 22.9 | 0.4 |
| Three or more | 35,004 | 26.9 | 0.5 | 26,674 | 21.9 | 0.4 |
| Age at first birth² | | | | | | |
| Under 20 | 19,338 | 21.6 | 0.6 | 5,890 | 8.2 | 0.4 |
| 20–24 | 33,285 | 37.2 | 0.6 | 22,355 | 31.0 | 0.6 |
| 25–29 | 21,227 | 23.7 | 0.5 | 21,842 | 30.3 | 0.7 |
| 30–34 | 10,944 | 12.2 | 0.4 | 14,057 | 19.5 | 0.6 |
| 35–39 | 3,875 | 4.3 | 0.2 | 5,636 | 7.8 | 0.4 |
| 40 and over | 854 | 1.0 | 0.1 | 2,371 | 3.3 | 0.2 |
| Multiple Partner Fertility² | | | | | | |
| Does not have children with multiple partners .. | 74,618 | 83.4 | 0.4 | 61,653 | 85.4 | 0.5 |
| Has children with multiple partners | 14,905 | 16.6 | 0.4 | 10,498 | 14.6 | 0.5 |

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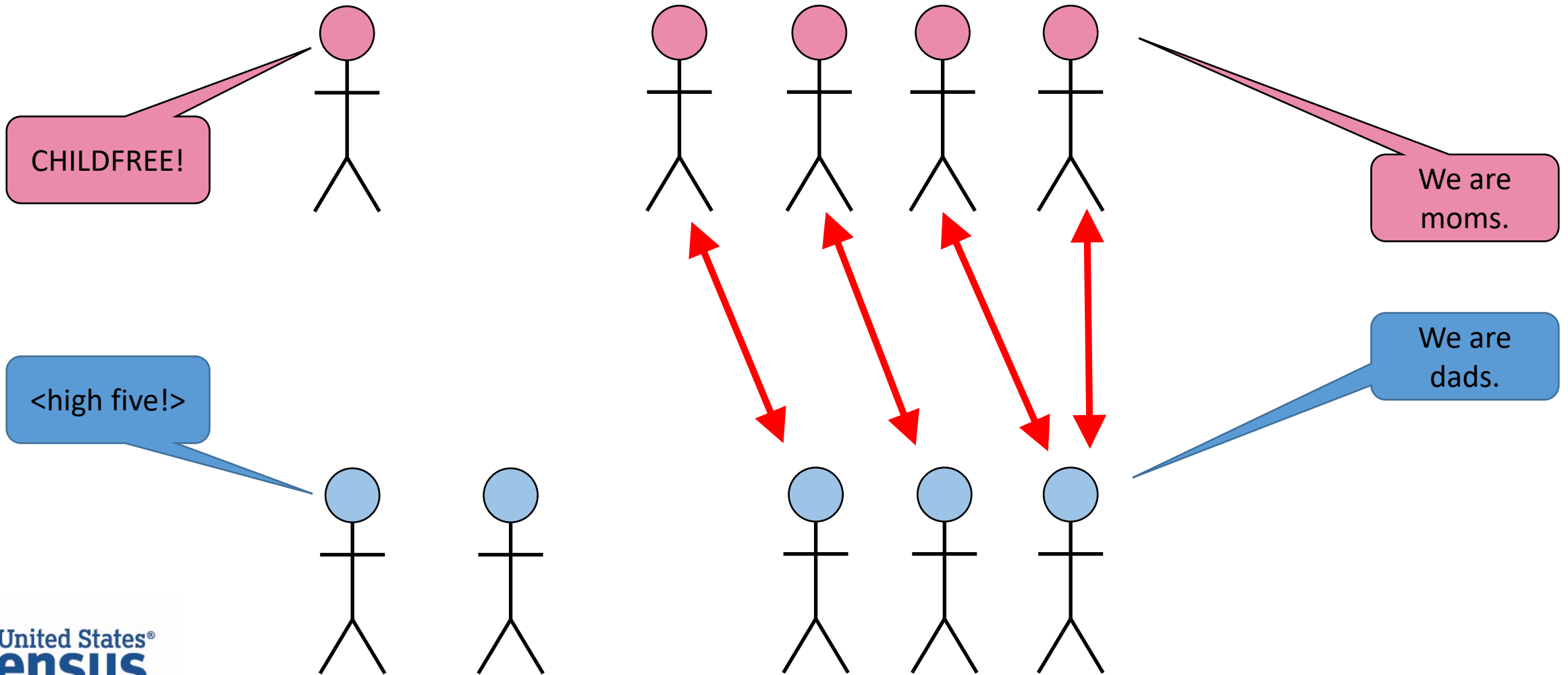
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| All adults | 130,253 | 100.0 | 0.0 | 121,836 | 100.0 | 0.0 |
| Have biological children | 89,522 | 68.7 | 0.4 | 79,151 | 59.2 | 0.4 |
| Do not have biological children | | | | | 40.8 | 0.4 |
| Children ever born | | | | | | |
| None | | | | | 40.8 | 0.4 |
| One | | | | | 14.5 | 0.4 |
| Two | | | | | 22.9 | 0.4 |
| Three or more | | | | | 21.9 | 0.4 |
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Logically, the only way that a larger percentage of men can be childless is if the men who ARE fathers have their children with multiple women.

Higher childlessness in one sex requires the parents of that sex to have higher MPF.



Higher childlessness in one sex requires the parents of that sex to have higher MPF.



The Big Picture

When data are comprehensive, the problems are evident

Parameterizing the Problem

Having complete fertility information from both men and women allows us to triangulate down to numbers of unique childbearing partners:

Total fathers = reported fathers – duplicated fathers

= number of women's childbearing unions – duplicated fathers

= number of women's childbearing unions x (1 – men's MPF)

Competing reports of childbearing

(Numbers in thousands)

| | Number of mothers | Number of fathers | Number of children of these parents | MPF rate for parents |
|---------------------------------------|---|---|-------------------------------------|--|
| Men's reports (N=121,245) | 70,835 <i>(Men's # childbearing unions x (1-women's % MPF))</i> | 72,151 | 173,800 | 14.6% (~85,040 unions reported) |
| Women's reports (N=129,645) | 89,518 | 92,050 <i>(Women's # childbearing unions x (1-men's % MPF))</i> | 221,300 | 16.7% (~107,800 unions reported) |

Competing reports of childbearing

(Numbers in thousands)

| | Number of mothers | Number of fathers | Men's MPF |
|-----------------|-------------------|-------------------|-----------|
| Men's reports | 70,835 | 72,151 | 175% |
| Women's reports | 89,518 | 92,050 | 221,300 |

Men's MPF would have to be twice as high as reported for women's total number of fathers to match the number of fathers in sample.

Competing reports of childbearing

(Numbers in thousands)

| | Number of mothers | Number of fathers | Number of children of these parents |
|--------------------|-------------------|-------------------|--|
| Men's reports | <i>70,835</i> | 72,151 | 173,800 |
| Women's reports | 89,518 | <i>92,050</i> | 221,300 |
| Children's reports | | | 194,323 respondents with a living father 223,467 respondents with a living mother |

Competing sources of childbearing

(Numbers in millions)

The discrepancy between sampled fathers' reported children and children's reported living fathers suggests that we fail to account for roughly 20 million children's fathers.

| | Number of children of these parents | | |
|--------------------|-------------------------------------|--------|--|
| Men's reports | 70,835 | 72,151 | 173,800 |
| Women's reports | 89,518 | 92,050 | 221,300 |
| Children's reports | | | 194,323 respondents with a living father 223,467 respondents with a living mother |

So how many dads are we missing?

Estimating missing dads using children's reports

Children's (all ages) Living Fathers =

(Men in the survey universe x the number of children they have had)

+

(Men outside the survey universe x the number of children they have had)

If we assume that the missing men's parity follows the same distribution as reporting men's parity...

(Numbers in thousands)

| | (A) Proportion of men's children at each parity (REPORTED) | (B) If the children whose fathers are not captured in the SIPP sample are distributed by omitted father's parity in the same distribution as sampled fathers, how many children at each parity level are we missing? | (C) Men's single partner fertility at each parity (REPORTED) | NUMBER OF FATHERS MISSED ((B / parity) * C) |
|-------------|--|--|--|---|
| 1 child | 10.1% | 2,082 | 100% | 2,082 |
| 2 children | 32.0% | 6,576 | 90.2% | 2,966 |
| 3 children | 26.4% | 5,424 | 78.1% | 1,412 |
| 4+ children | 31.4% | 6,443 | 61.3% | 808 |
| TOTAL | 100.0% | 20,523 (REPORTED) | 100.0% | 7,268 |

SOURCE: US Census Bureau, Survey of Income and Program Participation, 2014 Panel, Wave 1

Estimating missing dads using mothers' reports

Fathers =

(Reported total number of fathers at each level of women's parity if each union represented unique fathers

x

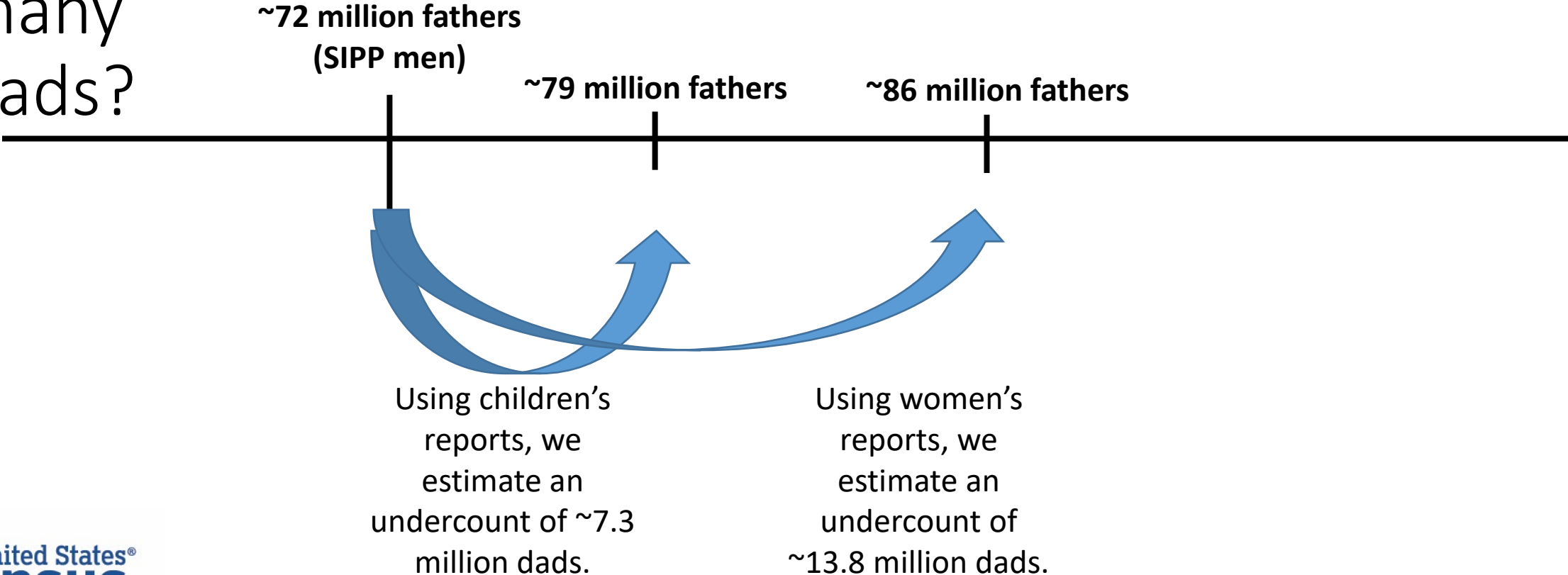
Ratio of unique fathers to all unions at each level of women's parity)

Estimating missing dads using mothers' reports

(Numbers in thousands)

| Women's parity | Reported total number of fathers if each union represented unique fathers (REPORTED) | Ratio of unique fathers to all unions (DERIVED) | Adjusted estimates of the total number of fathers discounting the impact of multiple partner fertility |
|---|--|---|--|
| 1 | 20,599 | .960 | 19,780 |
| 2 | 38,371 | .892 | 34,563 |
| 3 | 25,752 | .744 | 19,151 |
| 4+ | 22,720 | .548 | 12,440 |
| TOTAL | 107,800 | | 85,933 |
| Number of fathers missed from reported 72,151 | | | 85,933 – 72,151 = 13,782 |

How many dads?



How many dads?

~72 million fathers
(SIPP men)

...but each of these estimates needs to be reduced by the number of fathers not in sample (incarcerated, enlisted, etc.): ~2.1 million

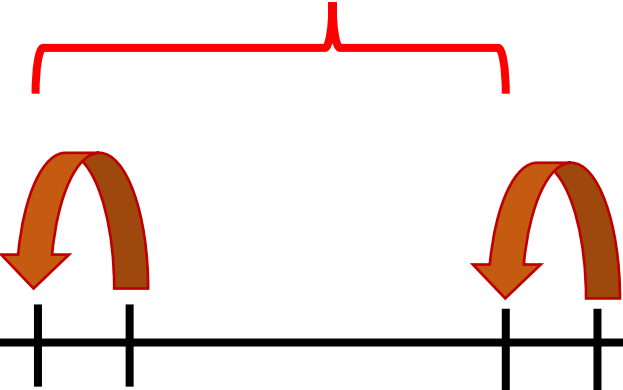
Using children's reports, we estimate an undercount of ~7.3 million dads.

Using women's reports, we estimate an undercount of ~13.8 million dads.

Our best guess is that the SIPP sample is missing between 5-12 million civilian, non-institutionalized fathers.

How many dads?

~72 million fathers (SIPP men)



Using children's reports, we estimate an undercount of ~7.3 million dads.

Using women's reports, we estimate an undercount of ~13.8 million dads.

What does it all mean?

- Is it a sample issue or is it a data issue?
 - Sampled men report their fertility with confidence
 - We tried reweighting the existing sample to reflect these two parameters
 - The data continued to violate a logical relationship between men's and women's paternity and multiple partner fertility
 - We tried reweighting to a midpoint while overweighting MPF dads
 - The data no longer violated paternity/MPF relationships, but still didn't quite align to children's or mothers' reports
- Our missing men are fundamentally different from the men who responded to the SIPP
 - More likely to be fathers
 - More likely to be MPF fathers

Conclusion

We know we have a man problem in survey research, but the SIPP data suggest that it is most prevalently a missing dad problem, and specifically dads who have had their children in multiple unions.

However, it is NOT that these men are not in the sampling frame. Instead, it is that they are non-respondents to the survey.

Unfortunately, non-response adjustments do not account for paternity. This means that the responding men – who less likely to be fathers AND less likely to be MPF fathers – are upweighted to replace the missing fathers, resulting in problematic estimates.

However, this is not a problem that is unique to the SIPP. Ultimately, these data do not suggest a need for better questions or better sampling frames, or any improvement specific to the SIPP, but they do suggest a need for more non-response analyses such as this one to determine the root causes of our data discrepancies so that we can map a way forward.