

Constructing an Inventory of Non-response Bias Studies in Federal Surveys

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Study Background

- *What is the effect of growing survey nonresponse?*
- FCSM team formed to review nonresponse bias studies conducted since 2006
- Team consists of members from NCHS, SAMHSA, NCES, BLS and Census
- Preliminary report delivered at FCSM 2018 Research and Policy Conference

Study Aims

- Analyze characteristics of nonresponse bias studies since 2006, when OMB *Standards and Guidelines for Statistical Surveys* was released
- Characteristics include:
 - Survey type and Mode
 - Target of NRB analyses
 - NRB Assessment Methods
 - Post-survey adjustments and their effects

Methods

- There is no central repository of nonresponse bias studies
- Collect studies through solicitation from agencies, literature reviews, open call to professional associations
- Winnow collected studies to create a database for analysis
- 165 studies assembled

Caveats

- Assembled studies are not a probability sample.
- Descriptive findings are limited to those studies that could be located in the study period.
- Data assembled are meant to be supplemented by continued collection.

Nonresponse Bias Studies by Year

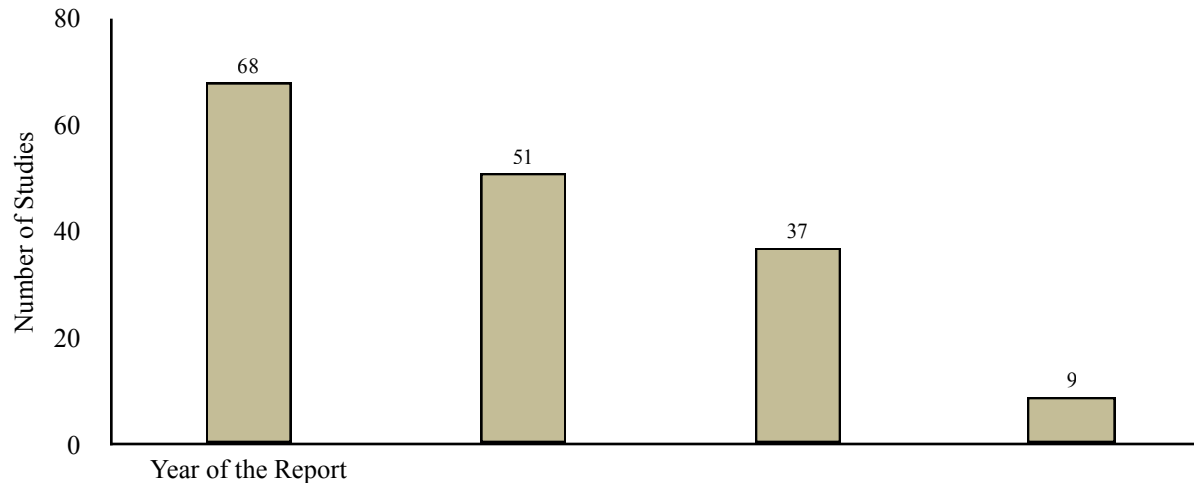


Figure 1. Number of Nonresponse Bias Studies Published by Year from 2006 to 2018.

NOTE: 165 eligible studies were included in this analysis. "Not Reported" refers to reports with an unknown publication date but a known survey data collection date that met the eligibility criteria for this review.

Nonresponse Bias Studies by Response Rate

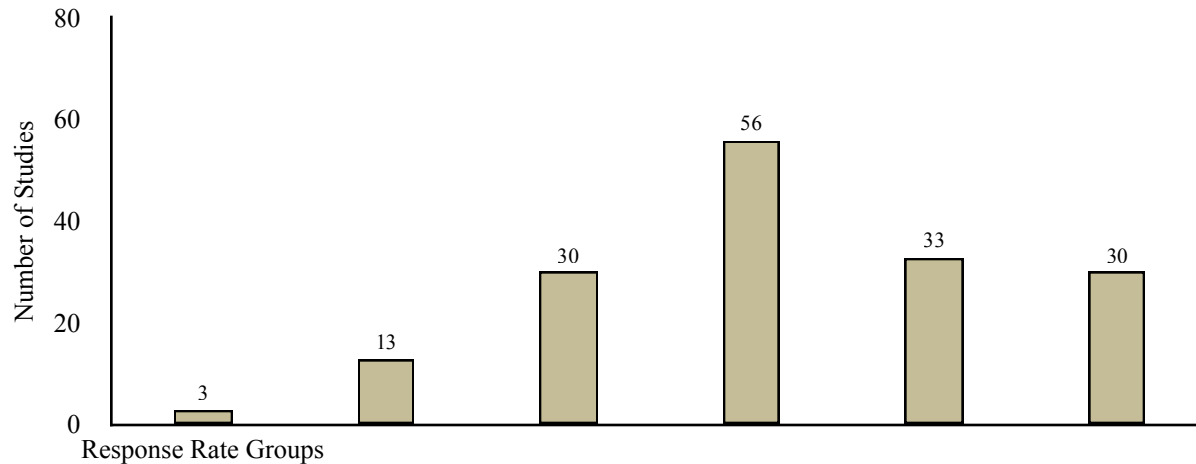


Figure 2. Number of Nonresponse Bias Studies Published by Unit Response Rates.

NOTE: 165 eligible studies were included in this analysis.

Nonresponse Bias Studies by Agency

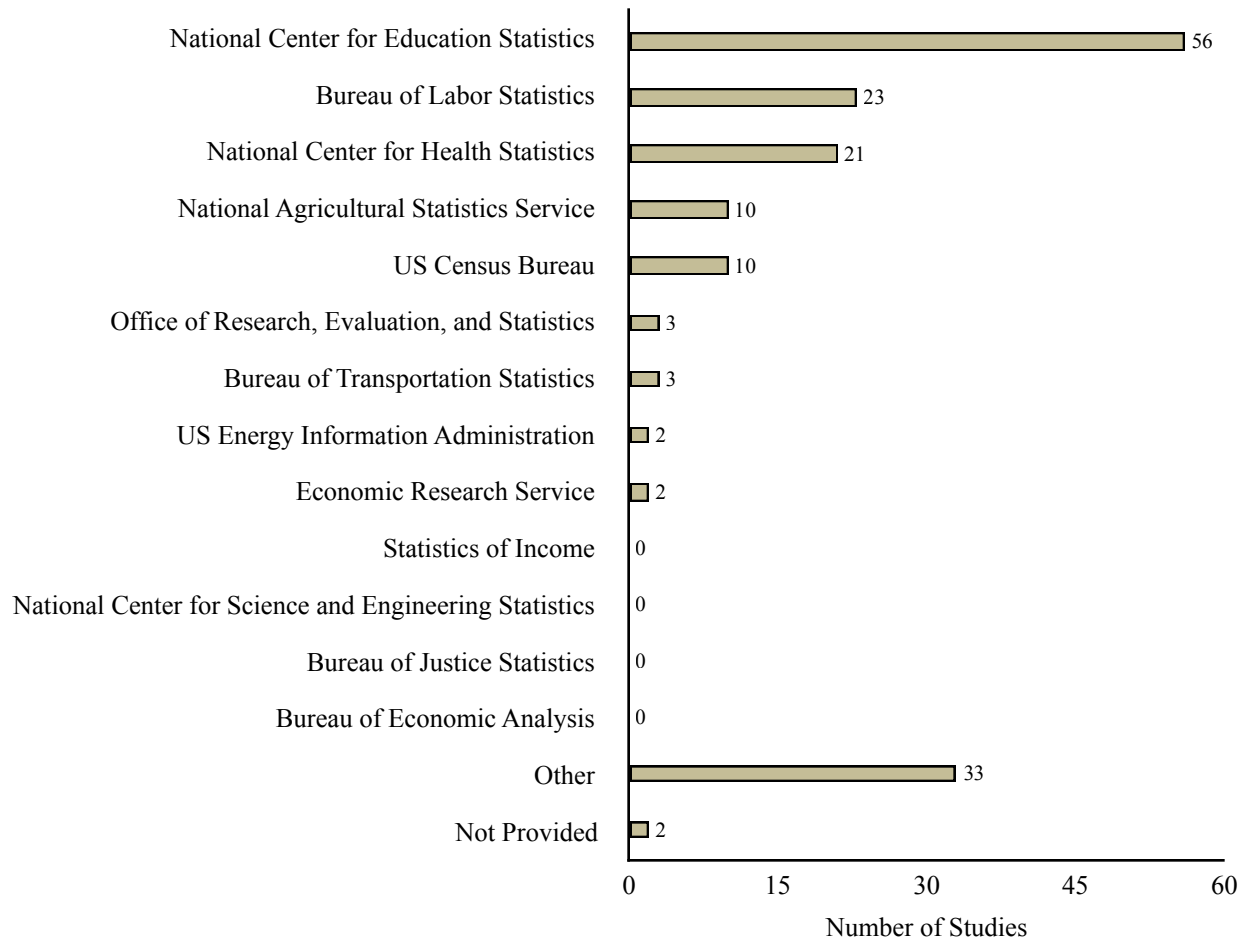


Figure 3. Number of Nonresponse Bias Studies Published by Federal Agency.

NOTE: 165 eligible studies were included in this analysis. The 13 Federal statistical agencies are listed. The “other” category represents studies conducted by multiple statistical agencies or by non-statistical government agencies.

Nonresponse Bias Studies by Survey Type and Year

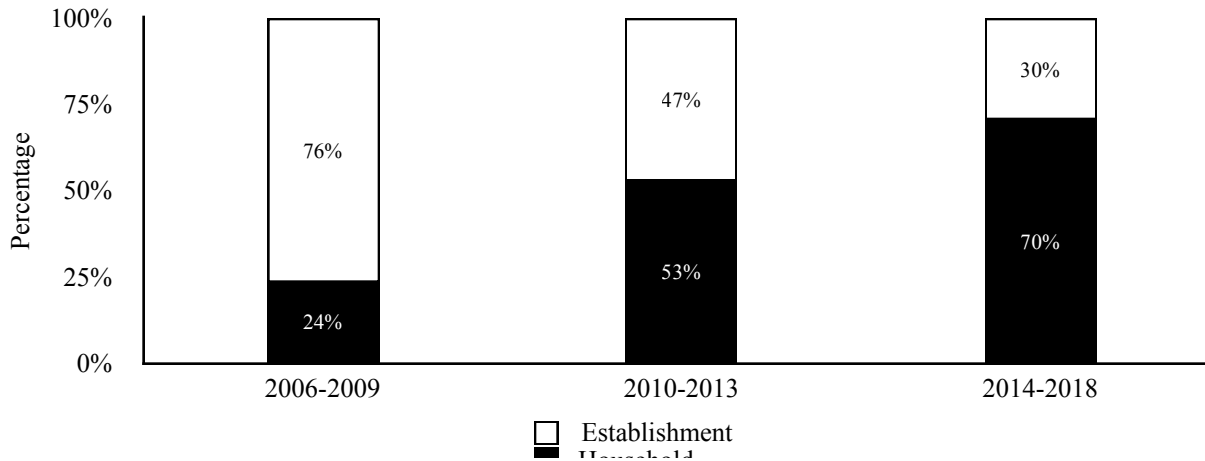


Figure 5. Percentage of Nonresponse Bias Studies Published by Survey Type and by Year from 2006 to 2018.

NOTE: 156 out of 165 eligible studies were included in this analysis. The 9 missing studies were those with an unknown publication date. Black bars represent the percentage of household surveys and white bars represent the percentage of establishment surveys by year.

Nonresponse Bias Studies by Survey Type and Mode

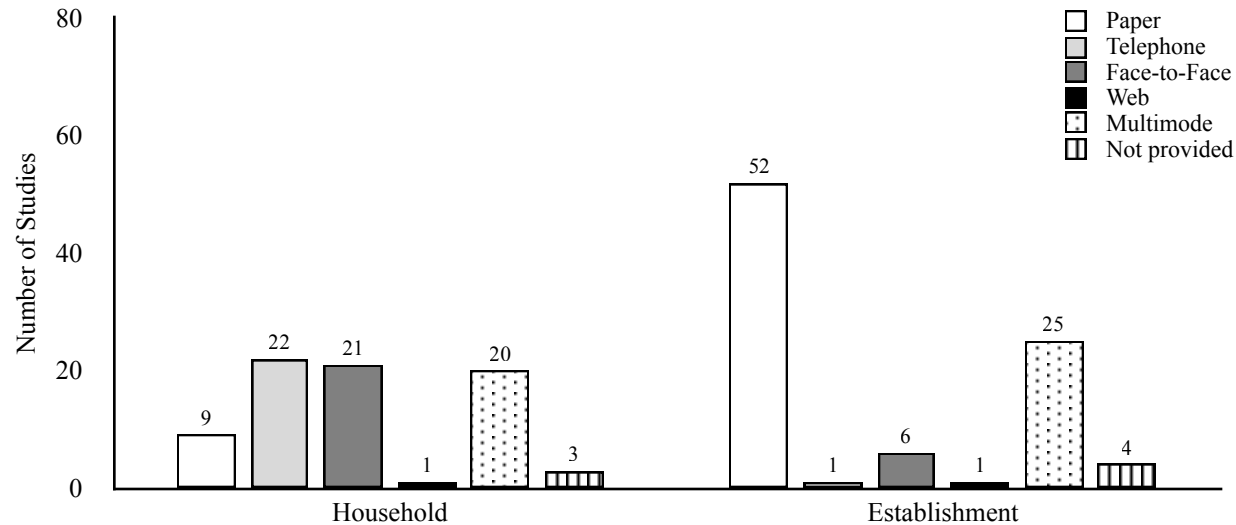


Figure 7. Number of Studies Published by Mode of Data Collection and Survey Type

NOTE: 165 eligible studies were included in this analysis.

Nonresponse Bias Studies by Survey Type and Target of Analysis

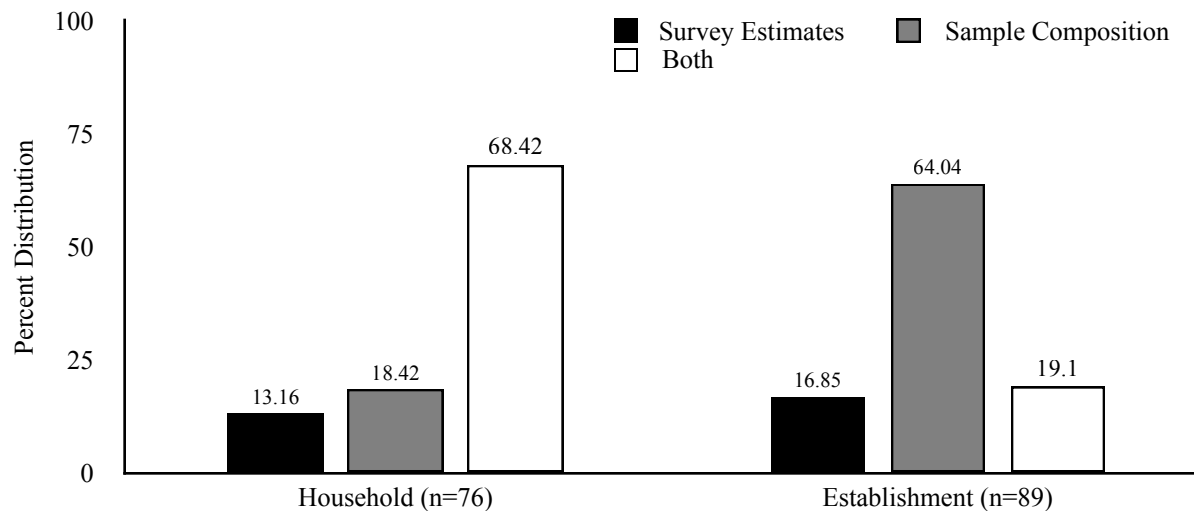


Figure 9. Percent Distribution of Nonresponse Bias Studies Published by Survey Type and Target of Analysis.

NOTE: 165 eligible studies were included in this analysis.

Nonresponse Bias Studies by Survey Type and Method

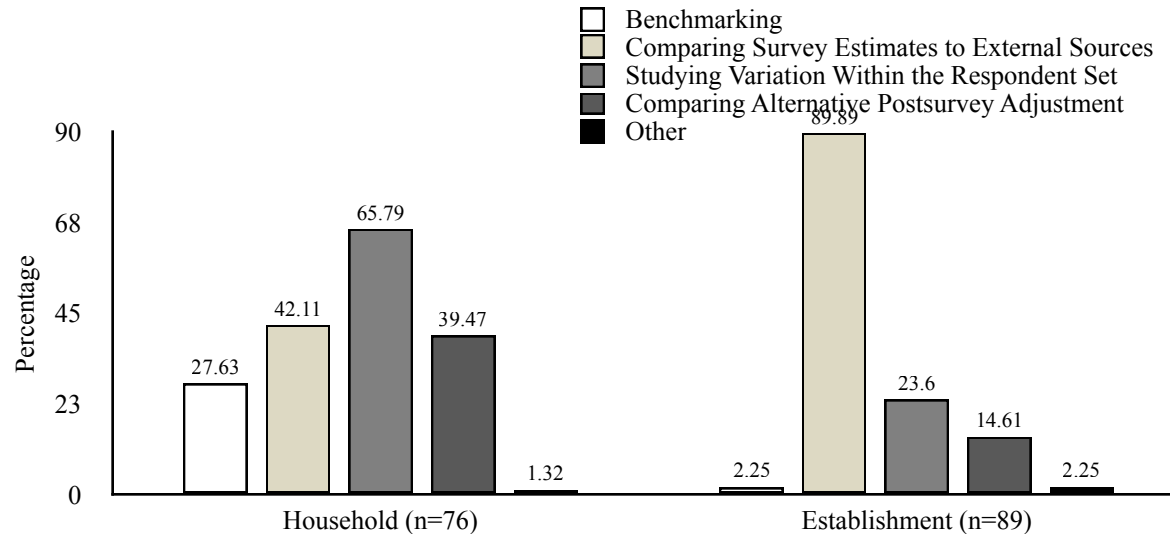


Figure 12. Nonresponse Bias Methods Used by Survey Type.

NOTE: 165 eligible studies were included in this analysis. Percentages do not add to 100% because some studies used more than one method.

Nonresponse Bias Methods Employed by Year

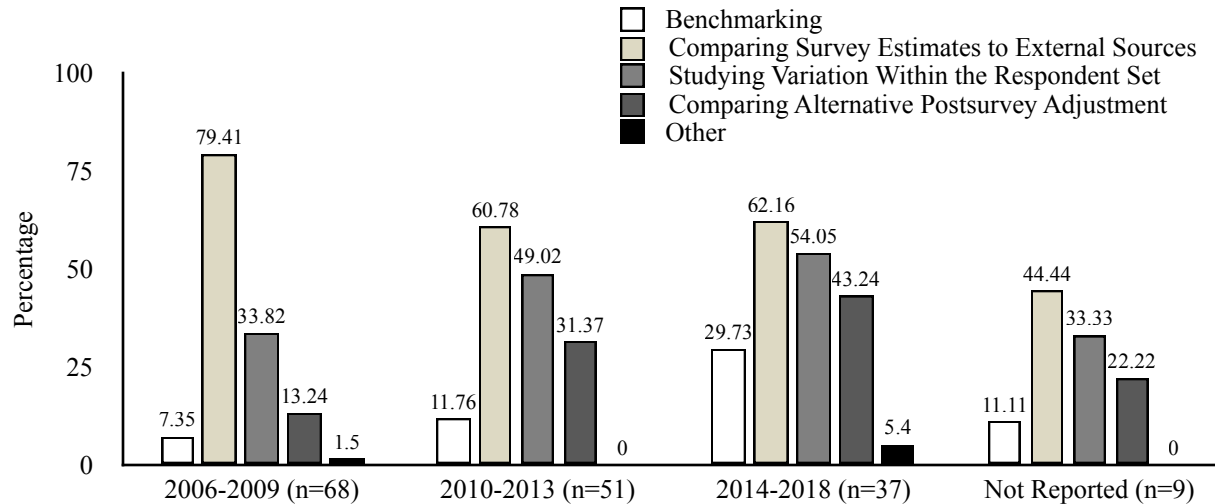


Figure 13. Nonresponse Bias Methods Used Over Time.

NOTE: 165 eligible studies were included in this analysis. Percentages do not add to 100% because some studies used more than one method.

Nonresponse Bias Reported Before and After Post-Survey Adjustments

Table 1. Report of Nonresponse Bias, Before and After Weight Adjustment

	Bias Before Weighting			
	Yes (n=111)	No (n=3)	Not Discussed (n=40)	Unclear (n=11)
Bias After Weighting				
Bias Reduction	85.6%	0.0%	77.5%	27.3%
No Bias Reduction	7.2%	66.7%	10.0%	0.0%
Not Discussed	4.5%	33.3%	10.0%	27.3%
Unclear	2.7%	0.0%	2.5%	45.5%

Conclusions and Possible Next Steps

- Analyses reveal differences in NRB assessment (target and method) by survey type, mode and year.
- Findings can be built upon with further collection of NRB studies
- More systematic collection could be undertaken with a centralized, prospective and standardized approach

Reference

Peter Miller, Tala H. Fakhouri, Morgan Earp, Kathryn Downey Piscopo, Steven M. Frenk, Elise Christopher, and Jennifer Madans.

A Systematic Review of Nonresponse Bias Studies in Federally Sponsored Surveys. FCSM 20-02. Federal Committee on Statistical Methodology. March 2020.

Thank you

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