Redesigning National School Surveys

Coverage and Stratification Improvement using Multiple Datasets

Prepared for:

Federal Committee on Statistical Methodology

November 2013
Authors:
William Robb, Ronaldo Iachan, Kate Flint, Alice Roberts
ICF International

- Contact: william.robb@icfi.com (646) 695-8182
Talk Outline

- To date three national school surveys have used a single, common source for the sampling frame.
  - National Youth Risk Behaviors Survey
  - National Youth Tobacco Survey
  - National School Health Policies and Programs

- We presents results from moving to a frame sourced from multiple files.
  - Make use of data available from the National Center for Education Statistics
  - Goal is to explore increases in coverage
  - Balanced with operational efficiency

- The Talk
  - Describe the studies and data sources
  - Describe the frame build process
  - Present results regarding coverage and duplication
Research Questions

The motivation for building a frame from a combination of sources is to increase coverage, and decrease the risk of coverage bias. We also wanted to explore operational issues.

Specifically, the research questions were:

- What is the increase in coverage?
- What is the rate of duplicate school entries?
- Will the combined frame affect validation and recruitment efforts?
- Is there an impact on the estimates?
### The Studies – Sample Design

#### SHPPS
- National Scope
- Elementary, Middle, and High Schools
- PSU (districts) stratified by Locale Code
- Second Stage: Schools

#### YRBS/NYTS
- National Scope
- High Schools (YRBS/NYTS)
- Middle Schools (NYTS)
- PSU (counties) stratified by Urbanicity/Ethnicity
- Second Stage: Schools
- Third Stage: Students
Validation

- For these studies, we do not replace non-responding schools. We do, however, replace schools that are found to be ineligible.

- Our recruiters contact schools to confirm that
  - The school itself is eligible
  - All sampled grades are present
  - The students are not a “pull-out” population from other schools

- School and personnel information is stored in a contact management system, which provides tracking and support for validation, recruitment, and fielding.
Data Sources for Sampling Frame

To Date: Single MDR File

- The “MDR” files have been used as a single source for the frame up to this point.

- Single source for public and private school data, including
  - Updated contact information, including personnel names.
  - Enrollment and Ethnicity counts incorporated from NCES

Piloted: Combined with NCES Files

- For the 2014 NYTS & SHPPS piloted a combined frame built from NCES and MDR files

- Two additional files:
  - Common Core Data for public schools
  - Private School Data for Private Schools

QED = Quality Education Data; MDR = “Market Data Retrieval”; NCES = National Center for Education Statistics; CCD = Common Core Data; PSS = Private School Survey
Processing Description

Schools

– Screening for geography, type
– Record level matching based on:
  • Public: NCES ID (96.0%), Address (0.8%), Phone (3.2%)
  • Private: Address (100%)
– Screen for eligible schools

Districts

– Match schools to 18,474 CCD districts
– Match schools to 13,823 MDR districts
– Combined frame included 15,665 districts
# Processing Summary

<table>
<thead>
<tr>
<th></th>
<th>Public Schools</th>
<th>Private Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Existing Both Sources</strong></td>
<td>51,749 84.0%</td>
<td>13,995 57.0%</td>
</tr>
<tr>
<td><strong>Existing MDR Only</strong></td>
<td>3,905 6.3%</td>
<td>3,936 16.0%</td>
</tr>
<tr>
<td><strong>Added CCD Only</strong></td>
<td>5,988 9.7%</td>
<td>6,607 26.9%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>61,642</td>
<td>24,538</td>
</tr>
</tbody>
</table>
Duplicates/Ineligibles

Duplicates (NYTS)

Ineligibles (SHPPS)
Looking Ahead

In process, for proceedings publication:

- Assess school ineligibility rates for NYTS
- Add elementary schools (SHPPS) to file processing and coverage assessment
- Finish duplication assessment via record review

After Fielding

- Assess impact on estimates

Preliminary Findings

- Increases in coverage, primarily among small and private schools
- Increases in ineligibility schools identified during validation
Thank You – and stay tuned!

Contact Author: William Robb
william.robb@icfi.com
(646) 695-8182