

Is this information correct?

Assessing the burden and data quality tradeoffs of using extant data

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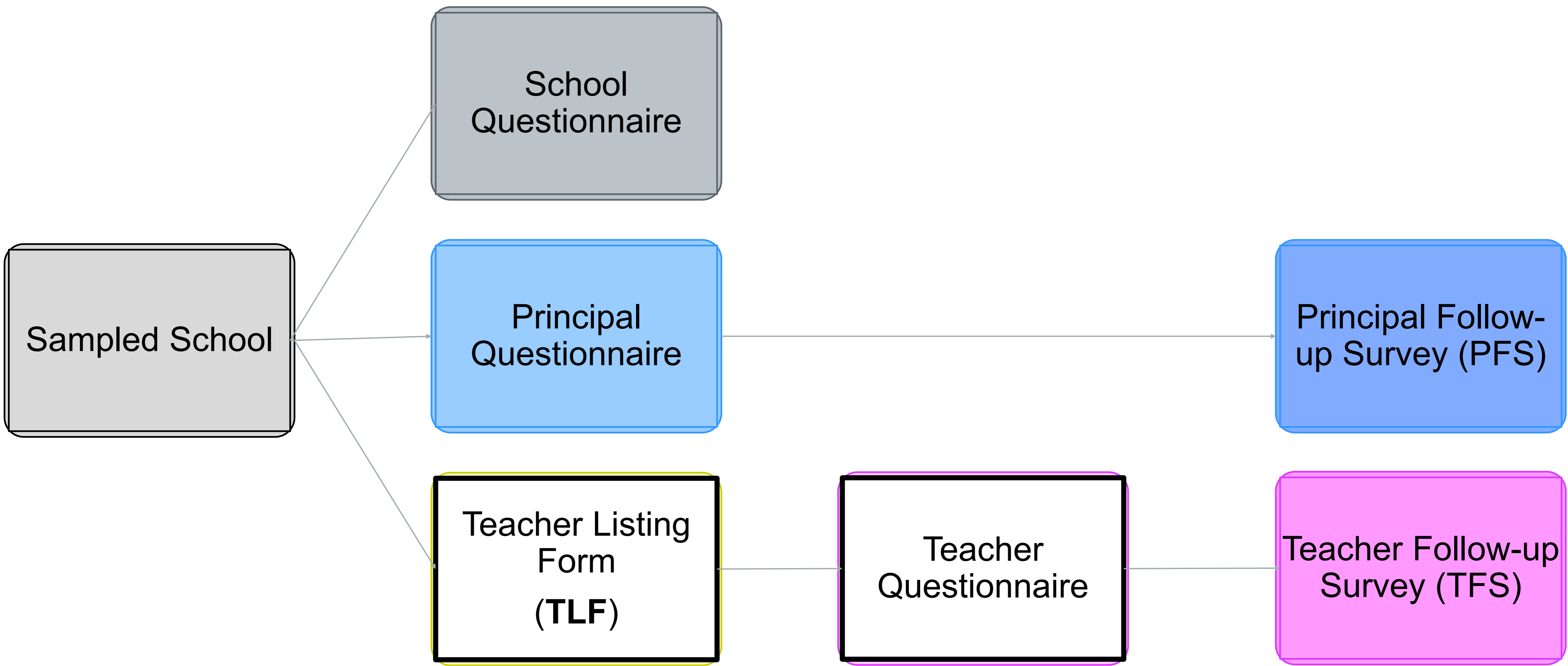
2022 Federal Computer Assisted Survey Information Collection Workshops
April 6, 2022

Dependent interviewing

- Prefilled data for survey respondents to verify
 - Earlier self-reported data or extant data
- Primarily studied in surveys
 - Measurement error and respondent burden (Jäckle 2008, Conrad et al. 2009, Lugtig and Lensvelt-Mulders 2014; Pankowska et al. 2021)
 - Best practices for using dependent interviewing (Lynn & Jäckle 2005, Sinibaldi 2021)
- Survey challenges, such as seam effects, may not be relevant to **frame** formation
 - Dependent housing unit listing can lead to frame bias (Eckman and Kreuter 2011, Eckman and Kreuter 2013)
 - Dependent rostering bias remains underexplored

National Teacher and Principal Survey (NTPS)

- Coordinated surveys of public and private schools, principals, and teachers
 - Directed by the National Center for Education Statistics in the U.S. Department of Education's (ED) Institute of Education Sciences
 - Operations and design input from the U.S. Census Bureau
- ED's primary source of information on K-12 schools from the perspectives of teachers and administrators
- Repeated cross-sectional surveys collected every 2 to 3 years
- School Questionnaire, Principal Questionnaire, Teacher Listing Form (TLF)
 - Teacher rosters or TLFs form the sampling frame for Teacher Questionnaires



Teacher Listing Form (TLF) collection methods

- Completed by sampled schools prior to 2015-16
- Supplemental use of commercial vendor data starting in 2015-16
 - When schools did not complete TLFs and external data of sufficient quality was available, commercial data replaced the otherwise-missing TLFs
- Dependent rostering
 - In 2017-18, certain schools were provided with paper TLFs pre-populated with vendor data (not random) in order to reduce burden and increase response rates
 - Nearly all schools modified TLFs (added at least one teacher, removed at least one teacher, edited at least one teacher)
 - Highest teacher response rates when sampled from school-completed TLFs
- All TLF types implemented in 2020-21
 - Paper and online blank AND pre-populated TLFs
 - Subset of schools randomly assigned to receive blank or pre-populated TLFs; all other schools received pre-populated TLFs when possible
 - Commercial data replaced otherwise-missing TLFs

Online and paper blank TLFs

| PLEASE READ THE REFERENCE CARD BEFORE CONTINUING. (A removable reference card is printed on page 4 of this booklet.) | | | |
|---|---|---|---|
| Line Number | Teacher's Name | Teacher's E-mail Address | Subject Matter Taught |
| | <p>Please list all of the full-time and part-time teachers who TEACH at THIS SCHOOL.</p> <p>List each teacher only once.</p> <p>List in the following order: First name, Middle initial (MI), Last name, suffix (if applicable).</p> <p>Please see the reference card for important information about itinerant teachers, substitute teachers, librarians, principals and other staff that may teach at this school.</p> <p>*Line Ex. is an example of a full-time art teacher.</p> | <p>Please list each teacher's e-mail address.</p> | <p>Enter the numeric code that corresponds to the subject in which the teacher teaches the most classes. If the teacher teaches two or more subjects equally, enter each numeric code that applies.</p> <p>Enter the code for "Other" subject matter for teachers who teach art, foreign language, music, physical education, English as a second language, and any other remaining subjects.</p> |
| | FIRST MI LAST SUFFIX | | <ul style="list-style-type: none"> 1 - Special education 2 - General elementary 3 - Math 4 - Science 5 - English/Language arts 6 - Social studies 7 - Vocational/Technical 8 - Other (e.g., art, music, etc.) |
| *Ex. | Andrew M. Shaffer | ams@place.com | 8 |
| 1 | | | |
| 2 | | | |
| 3 | | | |

Online and paper pre-populated TLFs



National Teacher and Principal Survey
NTPS Respondent Portal
2020–21 School Year



Main Menu **Teacher Listing Form** Contact Us Save and Continue Later

Review and Confirm Teacher Information for the 2020–21 School Year

The teacher information for your school was obtained from a publicly-available source and is presented in the table below. Please review the information for EACH teacher to ensure that it is accurate and complete.

- If the teacher's information is correct, click on the check-mark icon to confirm the teacher's information.
- If the teacher's information is not correct, click on the pencil icon to edit the teacher's name, e-mail address, and/or subject(s) taught.
- If the person listed is not a teacher at this school this school year, click on the trash can icon to delete the teacher from the list.
- If teachers are missing from the list, click the "Add Teacher" button.

[Click here for important information about the other staff that may teach at this school \(e.g. itinerant teachers, substitute teachers, librarians, principals\).](#)

When you are finished, click on "Submit."

10 teachers per page

| Teacher Name | | Teacher E-mail Address | Subject(s) taught | Status (?) | Actions |
|--------------|----------|--------------------------|-----------------------|--------------|---------|
| First | MI Last | Suffix | | | |
| JOHN | C DOE | JOHN.C.DOE@SCHOOL.EDU | Math | Needs Review | ✓ ✎ 🗑 |
| SUSAN | D FOE | SUSAN.D.FOE@SCHOOL.EDU | Science | Needs Review | ✓ ✎ 🗑 |
| JASON | GOE | JASON.GOE@SCHOOL.EDU | English/Language Arts | Needs Review | ✓ ✎ 🗑 |
| MELISSA | G JOE | MELISSA.G.JOE@SCHOOL.EDU | | Needs Review | ✓ ✎ 🗑 |
| KYLE | H KOE | KYLE.H.KOE@SCHOOL.EDU | Vocational/Technical | Needs Review | ✓ ✎ 🗑 |
| AMANDA | LOE | AMANDA.LOE@SCHOOL.EDU | Other | Needs Review | ✓ ✎ 🗑 |
| CODY | MOE | CODY.MOE@SCHOOL.EDU | Special Education | Needs Review | ✓ ✎ 🗑 |
| EMILY | K NOE | EMILY.K.NOE@SCHOOL.EDU | General Elementary | Needs Review | ✓ ✎ 🗑 |
| EMMA | L POE | EMMA.L.POE@SCHOOL.EDU | Math | Needs Review | ✓ ✎ 🗑 |
| JOSHUA | M ROE JR | JOSHUA.M.ROE@SCHOOL.EDU | Science | Needs Review | ✓ ✎ 🗑 |

Showing teachers 1-10 of 180

<< < 1 2 3 4 5 ... 18 > >>

Number of Teachers
Complete: 0
Needs Review: 180
Deleted: 0

OMB No.: 1850-0598
OMB Expiration Date:

[Accessibility](#) | [Security](#)

PLEASE READ THE REFERENCE CARD BEFORE CONTINUING. (A removable reference card is printed on page 4 of this booklet.)

| Line Number | Teacher's Name | Teacher's E-mail Address | Subject Matter Taught | Teacher's Status |
|-------------|--|--|---|---|
| | <p>Please review the list of the full-time and part-time teachers who TEACH at THIS SCHOOL.</p> <p>Make any corrections to the teacher's name in pen.</p> <p>If teacher(s) are missing, add their information to this form. Each teacher should be listed only once.</p> <p>Please see the reference card on page 4 for important information about itinerant teachers, substitute teachers, librarians, principals and other staff that may teach at this school.</p> | <p>Please review each teacher's e-mail address.</p> <p>Make any corrections to the teacher's e-mail address in pen. If the e-mail address is missing, write it in this column.</p> | <p>Please review each teacher's subject matter. If the subject matter is <u>not</u> correct, enter the numeric code that corresponds to the subject in which the teacher teaches the most classes. If the teacher teaches two or more subjects equally, enter each numeric code that applies.</p> <p>1- Special education (SE) 2- General elementary (GE) 3- Math 4- Science 5- English/Language arts (ELA) 6- Social studies (SS) 7- Vocational/Technical (VT) 8- Other (e.g., art, music, foreign language, physical education, English as a second language, and any other remaining subjects)</p> | <p>Please see the reference card on page 4 for important information about itinerant teachers, substitute teachers, librarians, principals and other staff that may teach at this school.</p> <p>Is this person currently a teacher at this school?</p> |
| | FIRST MIDDLE LAST SUFFIX | | | |
| *Ex. 1 | Andrew Michael ^{Schafer} Schaffer | ams@place.com amshaffer@place.com | 5-ELA 6 | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| *Ex. 2 | Elizabeth Marie Smith | ems@place.com | 2-GE | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| *Ex. 3 | Jessica Lynn Jones | jlj@place.com | 6 | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| 1 | | | | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 2 | | | | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 3 | | | | <input type="checkbox"/> Yes <input type="checkbox"/> No |

Experimental design

- Embedded in 2020-21 NTPS collection
- Schools for which vendor data were available were randomly assigned to receive dependent, pre-populated TLFs or blank TLFs
 - About 6,500 public schools and 1,400 private schools received dependent TLFs
 - About 1,200 public schools and 400 private schools received blank TLFs
 - All other schools received blank TLFs since vendor data was not available and are excluded from these analyses
- Teachers were sampled on a rolling basis as TLFs were returned (contacted November through June)
- If schools did not return a TLF after multiple contacts, teachers were sampled from vendor data in early 2021

Research goals

- How does data quality vary between dependent and independent rostering?
 - Roster response rate
 - Number of rostered teachers
 - Percent of (sampled) rostered teachers who are ineligible
 - Percent of (sampled) rostered teachers who complete survey
- Are the advantages of dependent outweighed by disadvantages?

Roster weighted response rates by rostering method

| | Dependent roster | Blank roster |
|------------------------------------|---------------------|--------------|
| School-completed rosters (Public) | 50.16% ¹ | 42.33% |
| School-completed rosters (Private) | 55.82% ¹ | 46.84% |

Both public and private schools who were sent dependent rosters returned those forms at **higher** rates than schools asked to complete blank rosters.

For schools that did not return rosters, teachers were sampled directly from commercial data, so the “overall” roster response rates were 100%.

¹Significantly different than the Blank roster group with $\alpha = .05$

Average number of listed teachers by rostering method

| | Dependent roster | Blank roster |
|--------------------------|-----------------------------|-----------------------------|
| School-completed rosters | 40.0 Public 29.5 Private | 40.3 Public 30.1 Private |
| Overall | 42.3 Public 32.2 Private | 42.9 Public 33.4 Private |

No difference in the number of teachers listed on dependent rosters (after respondent editing) and blank rosters.

Out of scope rates (weighted) for sampled teachers by rostering method

| | | Dependent roster | Blank roster |
|---------|--------------------------|--------------------|--------------|
| Public | School-completed rosters | 3.62% ¹ | 2.96% |
| | Overall | 5.77% | 5.54% |
| Private | School-completed rosters | 6.25% | 5.29% |
| | Overall | 9.21% | 9.22% |

More sampled teachers were confirmed to be out-of-scope on dependent than blank rosters (public only).

After supplementing with vendor data for TLF non-respondents, overall out-of-scope rates were **similar** due to the differential use of vendor data.

¹Significantly different than the Blank roster group with $\alpha = .05$

Response rates (weighted) for teachers by rostering method

| | | Dependent roster | Blank roster |
|---------|--------------------------|---------------------|--------------|
| Public | School-completed rosters | 70.80% | 70.37% |
| | Overall | 59.22% ¹ | 57.60% |
| Private | School-completed rosters | 69.90% | 69.20% |
| | Overall | 57.43% | 54.57% |

- Teacher response rates were **similar** whether they were listed on a dependent or blank roster
- After supplementing with vendor data for TLF non-respondents, teacher response rates were **higher** when public schools were sent a dependent roster (regardless of whether they completed it).

¹Significantly different than the Blank roster group with $\alpha = .05$

Summary

- Expanded use of dependent TLFs increased roster AND teacher response rates without harming data quality
- Schools were more likely to complete dependent than blank TLFs
- A higher proportion of teachers from dependent TLFs were out-of-scope (with similar total numbers of teachers on both form types), but this was balanced out by the relatively lower rate of vendor data supplementation
- Sampled teachers responded at similar rates regardless of whether their school completed a dependent or blank TLF
 - This may be due to school climate or buy-in to the NTPS, or because teachers listed on school-completed TLFs had a longer data collection window in which they completed their Teacher Questionnaire
- For future collections, we plan to continue the use of dependent TLFs whenever possible in order to increase response rates and minimize the use of vendor data supplementation

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<https://nces.ed.gov/surveys/ntps/>