



Bob and Weave: When COVID-19 Made a Federal Survey Nimble



Casey Eggleston, Mikelyn Meyers, Jason Fields
U.S. Census Bureau

Mini-Conference: Data Collection, Measurement, and Public Opinion During a Pandemic

American Association of Public Opinion Research

May 13, 2021

Any opinions and conclusions expressed herein are those of the author and do not represent the views of the U.S. Census Bureau. All results are from the Household Pulse Survey website that notes the following: *The U.S. Census Bureau reviewed this data product for unauthorized disclosure of confidential information and approved the disclosure avoidance practices applied to this release. CBDRB-FY21-CBSM002-020.*

A Responsive, Fast-Turnaround Federal Survey

- Household Pulse Survey has been a unique effort in response to the rapid changes associated with the COVID-19 pandemic
- Limitations with regard to sampling, contact methods, data collection methods, and other procedures were temporarily suspended given the great need for timely data
- Able to collect web-only responses from a national sample of cell phones and email addresses weekly using Qualtrics
- From the outset, the Pulse Survey was intended to be EXPERIMENTAL, SPEEDY, and RESPONSIVE
- We hope the Pulse Survey's proof of concept opens the door for similar efforts in response to other emerging information needs

Monitoring Methods

- Direct Feedback
 - Respondent feedback
 - Data user feedback
 - Media inquiries
- Direct Monitoring
 - Analysis of survey open-ended text (e.g., word clouds)
 - Analysis of break offs and other data quality indicators
- Indirect Feedback
 - Social Media posts (e.g., Twitter)

Nimble Survey Adjustments

- Split-Ballot Experiments
 - Survey Language Selection
 - School Enrollment Wording Experiment
- Data Quality Checks
 - Outlier follow-up checks
 - Detailed error messages
 - Warning prompts (aka “soft edits”)

Split-ballot experiments

Language Selection

- Setup:
 - Qualtrics default sets response language based on respondent browser settings
 - Each survey page has a language dropdown to toggle language
 - Multilingual usability pretesting in preparation for 2020 Census suggested language toggle designs can be problematic
- Feedback:
 - Initial low uptake of the Spanish instrument in Pulse Survey, though on par with other Census Bureau web surveys such as the ACS
 - Higher drop-off rate in Pulse Survey for respondents identifying as Hispanic
 - Language team recommended an explicit language selection questionnaire item

Language Selection

- Response:
 - Pulse Survey randomly assigned respondents to language defaults or to an experimental condition with an explicit language selection item

English



English ▼

This survey is available in English and Spanish. Please select the language in which you prefer to complete the survey.

If you would like to change your language selection later, please use the drop down menu in the upper right corner of each page to select the language in which you prefer to complete the survey.

English

Español

Spanish



Español (América Latina) ▼

Esta encuesta está disponible en inglés y español. Seleccione el idioma en el que desee completar la encuesta.

Si después quisiera cambiar el idioma que haya seleccionado, use el menú desplegable en la esquina superior derecha de cada página para seleccionar el idioma en el que desee completar la encuesta.

English

Español

Language Selection

- Response:
 - Pulse Survey randomly assigned respondents to language defaults or to an experimental condition with an explicit language selection item

English



English ▼

This survey is available in English and Spanish. Please select the language in which you prefer to complete the survey.

If you would like to change your language selection later, please use the drop down menu in the upper right corner of each page to select the language in which you prefer to complete the survey.

English

Español

Spanish



Español (América Latina) ▼

Esta encuesta está disponible en inglés y español. Seleccione el idioma en el que desee completar la encuesta.

Si después quisiera cambiar el idioma que haya seleccionado, use el menú desplegable en la esquina superior derecha de cada página para seleccionar el idioma en el que desee completar la encuesta.

English

Español

Language Selection

- Result:

- Experimental wording associated with statistically significant increase in uptake of Spanish instrument (1.26% control vs. 1.43% experimental) and marginally significant reduction in drop off among Hispanic respondents
- Impact might have been even larger if design had permitted including language choice on first screen (required content pushed it 2nd screen)

- Conclusion:

- Full implementation of explicit language selection questionnaire item
- Good case study of using ongoing survey to test qualitative findings and make evidence-based design decisions

School Enrollment

- Setup:
 - Original school enrollment question performed well in spring 2020 cognitive testing; continued unchanged into Phase 2 of Pulse Survey.
- Feedback:
 - Increased rate of single-child households reporting both homeschooling and enrolled in public/private school in fall (March 2020 = 11.0% vs. September 2020 = 25.7%)
 - Other research organizations adding modifications to school enrollment questions to distinguish homeschooling from 100% virtual schooling (e.g., Pew)

School Enrollment

- Response:
 - Pulse Survey randomly assigned respondents to original enrollment wording or revised wording with a homeschooling clarification

Original Wording

At any time during the **2020-2021 school year**, will any children in this household be enrolled in a public school, enrolled in a private school, or educated in a homeschool setting in Kindergarten through 12th grade or grade equivalent? *Select all that apply.*

Yes, enrolled in a public or private school

Yes, homeschooled

No

Experimental Wording

At any time during the **2020-2021 school year**, will any children in this household be enrolled in a public school, enrolled in a private school, or educated in a homeschool setting in Kindergarten through 12th grade or grade equivalent? *Select all that apply.*

Yes, enrolled in a public or private school

Yes, homeschooled (not enrolled in a public or private school)

No

School Enrollment

- Result:
 - Reduced reporting of homeschooling with experimental wording (11.1% Week 16 new wording vs. 16.9% Week 13 original wording)
 - Lower reporting of dual homeschooling and enrolled in public/private school for single-child households (17.4% Week 16 experimental wording vs. 25.7% Week 13 original wording)
- Conclusion:
 - Findings suggested improved data quality with the revised wording
 - Decision made to implement new wording for all respondents

Data quality checks

Validation and User Prompts

- Setup:
 - Initially, Pulse Survey relied primarily on Qualtrics default data validation options (e.g., only allow respondents to enter a number within a specified range)
 - Also relied on Qualtrics default error messages

Validation and User Prompts

- Feedback:
 - Data processing team requested greater clarity about high-value responses for spending questions (affecting around 1% of responses)
 - Data processing team requested to reduce incidence of special characters that validation default still allows, such as percent sign or comma
 - A few respondent complaints indicated that respondents were getting stuck at validation points in the instrument
 - One respondent shared a screenshot in which it appeared a valid response was not going through (investigation revealed that hidden “spaces” in a numeric responses would not pass validation)

Outlier Follow-Up Checks

- Response 1:
 - Using example of SIPP outlier follow-up checks, Pulse Survey implemented series of questions triggered by outlier reports to allow respondents to confirm or correct

You said that you spent \$5000.00 on prepared meals during the **last 7 days**. This amount seems unusually high. Are you sure it is the correct amount?

Yes

No, I need to correct the amount

Detailed Error Messages

- Response 2:
 - Update default error messages to include explicit instructions about how to enter valid numbers (mention spaces specifically)

English

 Please enter a valid number. Only enter numbers or leave the box blank. Delete any spaces or letters.

How many people under 18 years-old **currently** live in your household? *Please enter a number.*

10%

Warning Prompts (soft edits)

- Response 3:
 - Add warning prompt when respondents enter certain characters in numeric response. Allow respondent to proceed if they do not self-correct

English ▾

During the **last 7 days**, about how many hours did the student(s) spend doing learning activities on their own? Do not include time spent with teachers or other household members. Enter the total number of hours for all students. *If none, enter 0.*

10+ | hours

Please do not include any special characters such as , - % + \$ in your response. Enter only numbers.

Validation and User Prompts

- Result:
 - No notable problems with follow-up questions, minimal added burden for respondents (e.g., high value checks displayed for less than 1% of respondents)
 - High-value checks resulted in substantial proportion of corrections (42% for grocery spending and 60% for prepared food spending)
 - No way to determine how often error messages display in Qualtrics
 - No further respondent complaints about getting stuck at these points

Validation and User Prompts

- Conclusion:
 - Hard to assess effect of these edits, but we discovered no problems with them and received no further complaints about these issues so we considered the changes successful and kept them in the instrument
 - Take-aways:
 - The default Qualtrics validation for numeric responses is not perfect, so other custom modifications might also be desired (like disallowing percentages from numeric responses)
 - Need to balance data quality with respondent difficulty navigating the survey
 - Soft edits instead of validation can reduce respondent burden
 - Customizations take additional resources, so it is worthwhile to evaluate whether they are really needed and designing customizations that can be used for a variety of situations rather than specific to one survey item

Key Points

- Federal statistical agencies CAN work quickly and responsively in the right circumstances
- Ongoing experimental data collections responsive to urgent data needs could continue beyond the pandemic
- Such data collection vehicles provide timely data AND large-scale opportunities for experimentation and iterative improvement
- Tests and modifications to ongoing data collections need to balance costs (including time and effort, risk of errors), respondent burden, and data quality/user needs



Thank you!

Casey Eggleston
casey.m.eggleston@census.gov