

Data Quality Checks with Audio Recordings

Case Study: RECOVER Survey, Colombia

Standard quality control procedures for face-to-face surveys use a set of techniques to measure data quality including resurveying respondents on a subset of questions (“backchecking”), accompanying enumerators during the start of the survey to target retraining, and a set of automated data checks. The pivot to remote survey modes made some of these quality control processes impossible to implement.

IPA Colombia piloted a data quality review system meant to improve retention rates and response quality during a high-frequency computer-assisted telephone interview (CATI) that lasted eight days. Due to concerns about low response rate in the follow-up, the project team elected to not backcheck surveys, where researchers resurvey a random subset of respondents to estimate data quality measures. Instead, the project team leveraged audio metadata and double entry from audio recordings to identify potential errors and areas of improvement for interviewer retraining.

Quality Checks without Resurveying

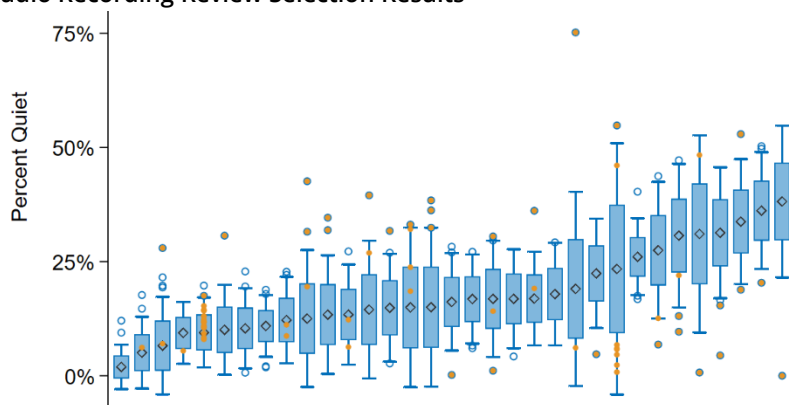
In situations where resurveying respondents can adversely affect retention rates, teams can use survey recordings for quality control:

1. Mix random and targeted selection of audio recordings for review using audio metadata.
2. Double enter survey responses and compare entries to the initial response to decompose sources of error: data entry, comprehension, recordings.
3. Target interviewer retraining using these results.

Review Process

IPA Colombia reviewed 30 percent of the completed surveys. They first selected two sets of surveys, one set randomly and a second set using light, sound, and movement [sensor data](#) automatically collected by the SurveyCTO Collect app used to administer the CATI survey. This selection procedure was designed to target a maximum of 10 percent of the sample by selecting the most surveys with the most extreme value from each enumerator and overall using two sets of audio metadata: percent quiet recorded audio and percent predicted conversation, an estimate of how much of the survey duration had on-going conversation from SurveyCTO’s machine learning algorithm.

Audio Recording Review Selection Results



Note: 1.25 percent of the survey recordings with the highest and lowest percentage of seconds with recorded volume below 25 dB were selected within each enumerator and across all surveys. Each box displays the range of audio volume for each enumerator's survey and each orange dot represents a survey selected for

The review process included technical innovation. It led to decreased turnaround time for retraining. Auditors entered the survey data again while listening to the audio recording from the selected surveys. Answers from the initial survey were automatically compared within the re-entered form. Every time the enumerator's and auditor's responses did not match, the audit survey form would confirm the response. Then, comments from the auditor as well as a subjective evaluation were used to target retraining for enumerators. This was fed into a review process for potential problems with the survey form or survey protocol.

IPA's phone survey methods case studies are part of a series on best practices on implementing surveys using computer-assisted telephone interviewing (CATI) and other remote survey modes. These case studies are made possible with the generous support from and collaboration with Northwestern University's Global Poverty Research Lab (GPRL).