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Title:

The mobile response as determinant factor in mixed-device Cawi:
The case of an Istat survey on students

Authors:

Sabrina Barcherini (ISTAT - Data Collection Directorate)

Serena Liani (ISTAT - Data Collection Directorate)

Luciano Fanfoni (ISTAT - Information Technology Directorate)

Fabio Massimo Rottino (ISTAT - Demographic Statistics and Population Census Directorate)

Speaker:

Luciano Fanfoni

Extended abstract:

The widespread use of mobile devices has brought a change for web surveys, enabling access to a wider respondent pool including children and teenagers. The case study discussed in this contribution is about the Istat survey on behaviors, attitudes, and plans of people aged between 11 and 18. Due to the Covid-19 pandemic, the 2021 edition of this survey had to make relevant changes in data collection process and questionnaire design compared to the previous edition.

Only the self-completed web questionnaire was used as survey mode. Respondents, or their parents if they were minor, were sent advance and remind letters that included the login page link and credentials.

When designing the questionnaire, we took into account the possibility of access and completion with mobile devices. It was important to keep the questionnaire short, and simplify and reduce the questions' wording. The questionnaire consisted only of five sections each of which had a dozen of questions and some branches; the completion time was about 15 minutes.

In addition, we took care of the display of questions on mobile devices. We used the LimeSurvey open-source software (Community Edition installed on Istat web server) that allows designing a responsive questionnaire and it is therefore useful for adapting questions to mobile devices. For example, it allows grid questions, displayed horizontally, to be transformed into single questions, displayed vertically on mobile devices to improve the usability.

Out of a sample of 100,000 survey units, 40,700 questionnaires were collected; among these, 51% were accessed using desktop or laptop, 43.4% through smartphones, and only 5.6% through tablets.

Respondents seem to have encountered quite a challenge at the login page: 24% of the internet clients who visited the login page (56,404) did not reach the first page of the questionnaire. Furthermore, around 1,000 respondents who submitted the questionnaire completed it after making more than one access attempt. Only a few dozen of respondents started to answer with one device and finished with another one.

We analyzed the data to see if there was an association between questionnaire's breakoff and device used. We found a low break off rate (2.2%), with a higher propensity among those who use mobile devices (3.0%). However, this effect is relatively lower when compared to the data

from the subgroup of foreign respondents and close to the data of those who attend a secondary lower school or a secondary upper school.

To assess the quality of the responses, we analyzed the impact of data checks with deterministic and probabilistic imputation. By comparing the initial and final datasets, the checks' impact was calculated for each questionnaire as the ratio of the number of cells that changed after the imputation to the total number of cells. For mobile device respondents the percentage of imputation is higher than desktop or laptop ones (2.1% vs 1.6%). This gap is more significant among foreign students (3.6%), while is relatively consistent across different school orders. Additionally, lower data quality was noteworthy in grid questions across all analyzed groups.

The next edition, scheduled for autumn 2023, is currently being designed. Despite the end of the Covid-19 pandemic and based on the positive results achieved, both the survey design and the LimeSurvey software will remain the same. Some improvements are planned to ease the questionnaire access and completion, regardless of the device used. The login credentials for accessing the questionnaire will be simplified and a QR code will be included in the advanced letter for direct access to the questionnaire without the need to manually enter username and password. The questionnaire will be translated into 9 languages. Furthermore, there will be more thorough monitoring of the respondent's device usage. The aim is to enhance the overall user experience and ensure a smoother and easier data collection process.