

**New modes of data collection for gaining cooperation from young people**  
**The case of the Survey «Children and young people: behaviors, attitudes, and future projects»<sup>1</sup>**

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**Abstract**

From October to December 2023, the Italian National Institute of Statistics (Istat) carried out the second edition of the survey «Children and young people: behaviors, attitudes and future plans» with the aim of gathering insights into the daily lives of people aged between 11 and 19 residing in Italy. To mitigate potential non-response bias, especially concerning young participants, we implemented new data collection modes. We designed a web questionnaire optimized for and responsive to mobile devices and translated it into 9 languages to encourage participation of the foreigners, a specific target of this survey. The advance letter was designed to be easily readable and with a direct call to action: respondents were given the option to access their questionnaire directly by scanning a customized QR code, providing an alternative to manually entering the link and the username and password. We also introduce an innovative strategy for sending reminders to non-respondents. This involved sending them not only three postal reminders, but also tailored messages via the IO APP, a free mobile application that allows Italian citizens to receive notifications from the public administration and use online public services. Implementing these measures resulted in a good response rate for the Italian respondents and a moderately favorable rate for the foreigners. In the paper we'll give details of the estimated contribution that some of these strategies produced.

**Keywords:** reminder strategies, QR code, mobile devices, questionnaire translation

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<sup>1</sup> This work is the result of a common effort. Paragraph 1 has been written by Fabio Massimo Rottino, paragraph 2 has been written by Federico De Cicco e Serena Liani, paragraph 3 has been written by Andrea Stanco, paragraphs 4 and 5 has been written by Samanta Pietropaoli.

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## **1. The survey design and topics**

From 2 October to 20 December 2023, Istat carried out the second edition of the survey «Children and young people: behaviors, attitudes and future plans». It involved about 100,000 Italians and foreigners, aged between 11 and 19 years old and residing in Italy. The sampling design allows to make estimates at a regional level both for Italians and young people of the five largest groups of foreigners in Italy: Romanians, Albanians, Ukrainians, Chinese, and Moroccans. A total of 20,421 Italians and 18,452 foreigners<sup>3</sup> participated in the survey, for an overall response rate of about 36% (provisional data).

The main objective of the survey was to tap into a younger population, delving into various facets of their daily life, spanning from personal details to scholastic endeavors, from social interactions to technology usage, from reflections on identity and civic engagement to leisure pursuits, and from future aspirations to opinions towards men and women. In particular, the survey asked about who they are, their school life, their citizenship and identity, their social relationships, what they do in their leisure time, their expectation about getting married, having children, and moving abroad, and their opinions about gender stereotypes. The data collected can be used by policymakers to develop policies and strategic actions targeted for young people (Conti, Fanfoni, Fazzi, 2024).

## **2. The questionnaire's design**

The survey data were collected using the Computer Assisted Web Interviewing mode. As the web questionnaire was to be self-administered by children and young people, it had to be easy to access and answer. Therefore, we made some innovations in the questionnaire's design to make it suitable for this population, and more generally to promote the responses, minimize the sources of response errors, and avoid the questionnaire's break-offs (Bali, Barcherini, Fazzi, Grassi, Lorè, Macchia, 2019).

Firstly, the questionnaire was developed using the LimeSurvey software, an open-source tool that enables researchers to create mobile responsive questionnaires and also to consider the consequences the device might have for visual design impact and survey estimates (Callegaro, 2010). The questionnaire's design was then friendly for smartphones and tablets, i.e., the devices most used by

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<sup>3</sup> For the classification of citizenship, we relied on the data present in our archives. It is interesting to note that some young people in the questionnaire declared that they had acquired Italian citizenship, and after appropriate verification, we found that some of them had actually obtained it during 2023, subsequent to our sample selection operations. The collected and corrected data ultimately show that out of nearly 39,000 young people who participated in the questionnaire, more than 22,000 are Italian citizens and almost 16,500 are foreigners.

young people. The access to the questionnaire was made easier, allowing respondents to scan a QR Code as an alternative to type in the questionnaire's link and enter the code written in the advance letter. Furthermore, the questions' wording was tailored to the target and the cognitive effort to answer them was minimized. Finally, to foster the foreigners' participation to the survey, the questionnaire was translated into 9 languages (Albanian, Arabic, Mandarin, French, English, Romanian, Ukrainian, Slovenian, Spanish and German).

The results of the questionnaire's submissions and break-offs have reinforced the choices made. 78.3% of the respondents who submitted the questionnaire (38,873) compiled it by smartphone or tablet (73.8% of Italians and 83.1% of foreigners), and about 70% of them accessed it by QR Code. Most of the respondents who accessed the questionnaire did not appear to have encountered any difficulties in completing it: only 6.2% of respondents who passed the homepage then stopped and never resumed filling it out. Approximately 1,700 foreigners (9.2%) completed the questionnaire in a language other than Italian. Apart from German, which is spoken by national minorities in Italy, English is the second most selected language, followed by Ukrainian. 32% of respondents filled out the questionnaire in Mandarin Chinese (more than 800 questionnaires).

### **3. Reminders via IO APP**

Istat sent an advance letter to the sampling units, to give information about the survey, invite them to participate, and obtain their consent to participate. To foster the response rate, the advance letter was written to be easily read and included a direct call to action. Two different versions of the letter were prepared: one for minors and the other one for people over 18 years old. Special attention was given to the layout and wording of both versions to ensure they were clear in conveying all necessary information to young people. Additionally, the advance letter was translated into 10 languages and made available online on the Istat website<sup>4</sup>.

It was also implemented an innovative strategy for sending reminders to non-respondents. This strategy included not only three postal reminders, which followed the same principles of clarity and simplicity as the advance letter, but also delivering tailored messages via the IO App, a free mobile application that enables citizens to receive messages from the Public Administration on their own mobile device – including notifications and communications regarding application deadlines, documents, and payments – and enjoy public services online.

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<sup>4</sup> All the survey documentation, including the questionnaire, the informative letter, and the methodology, is now available on the web page <https://www.istat.it/it/archivio/287601>. The English version of the page will also be available soon.

The introduction of this new service for sending reminders to non-respondents required an initial preparatory stage to collect and provide data to the IO App manager needed for the service definition. Additionally, the draft service was created, and the associated API Key was generated by the IO App managers. Finally, necessary software modifications were implemented in the development environment, followed by testing with designated test users

After confirming the functionality of the new service, the IO App managers were tasked with publishing it in the production environment. Meanwhile, the reminder process comprises two distinct phases. Initially, fiscal codes of parents for minor children and of young people over 18 in the sample were extracted from the population archives of Istat and uploaded into an Oracle database table. Subsequently, the system invokes the services provided by the IO App, responsible for dispatching messages to mobile devices.

Before sending the message, the system initiates a GET request to a primary endpoint, submitting the respondent's fiscal code, to verify the existence of the recipient and their consent to receive communications. Upon receiving a specific response code equal to "200", indicating success, the system proceeds to dispatch a POST request to a secondary endpoint responsible for delivering the message to the user's mobile device. Finally, the response codes obtained from both calls are logged to monitor the solicited user count. Regarding the second IO App reminder, it was found that 29.2% of the total messages sent were successfully delivered. Notably, this delivery rate increased to 33.2% for messages sent to parents of minor children.

The use of this service offers numerous advantages for Istat. It consolidates all services, communications, and related documents in a single location, facilitating centralized collection. Additionally, it provides a simple, rapid, and secure means of communication with citizens, streamlining the process. Moreover, it enhances digital access to public services, thereby improving the efficiency of the State-citizen relationship. Lastly, it results in cost reduction by decreasing development and communication expenses. However, there are advantages for citizens as well. Citizens can receive legal messages and notifications from Istat, ensuring they stay up to date. Additionally, they have the convenience of adding reminders directly to their personal calendar.

#### **4. Monitoring the data collection**

Monitoring during data collection is a crucial phase, given that nonresponse in web-based surveys can reduce the effective sample size and also introduce bias. Given that nonresponse can undermine the validity of studies, it is important to employ techniques that increase response rates in web-based

surveys (Cook, Heath, & Thompson, 2000). As shown in Crutzen, Göritz (2012) the reminders strategies boost response rates in web-based surveys.

In our survey «Children and young people: behaviors, attitudes and future plans» conducting a preliminary and real-time examination of the distribution of questionnaire submissions by users during the fieldwork, along with the timing of sending advance letters and postal reminders, provides us with crucial insights. In fact, this approach has also enabled us to make more proactive decisions regarding the scheduling and the types of reminder strategies.

Figure 1 illustrates the trend of the absolute number of questionnaires submitted each day from September 29, when the process of sending the advance letters commenced, to December 20, the final day of data collection. The colored vertical lines overlaid to the trend represent the timing of sending reminders: the blue lines indicate the three different postal reminders, while the yellow lines denote two additional reminders sent via the IO App notifications.

As shown in the figure, at the beginning of the survey (October 2), approximately 1,400 questionnaires were submitted from users. The most important peak, with over 1,800 questionnaires submitted in one day, occurred on October 11, reassuring us regarding the confirmation of the receipt of the letters. It is important to note that unfortunately, we do not have feedback from the company responsible for the mailings regarding the timetable and the number of letters delivered to citizens' homes. In the subsequent period, there was a consistent decrease in the number of questionnaires submitted. Sending reminders plays a crucial role in engaging individuals who might delay their response after receiving the initial letter. Hence, strategically emphasizing the importance of fulfilling their statistical obligation is essential. By underscoring this obligation and reminding individuals about their pending response, we can effectively engage those who may have postponed their participation after receiving the initial letter. This proactive approach ensures a higher response rate and improves the overall quality of the data collected.

In this regard, the first postal reminder was scheduled for October 23. We observed its full impact, albeit with a notable delay, on the majority of the sample by November 15, when over 1,400 additional questionnaires were submitted. Conversely, the second and third reminders, scheduled for November 13 and November 27 respectively, had a more immediate impact on stimulating responses. In fact, the peak recorded on November 29 can be attributed to the second reminder, while the peak on December 7 corresponded to the third reminder. To regain the portion of potential young respondents lost during the initial weeks of the survey launch due to postal issues, during the course of the operation, we opted to implement a cost-free reminder strategy with a more immediate impact to encourage responses during the course of the operation. In this regard, on December 5 and December 14, we scheduled and sent IO App notifications to the remaining non-respondents . It can be noted

that after the first sending we recorded an increase on questionnaire submission, for example on December 08 there was more than 1,200 questionnaire sent. This is probably the cumulated effect with the third postal remind meanwhile the second is purely linked to the second notification on Io App.

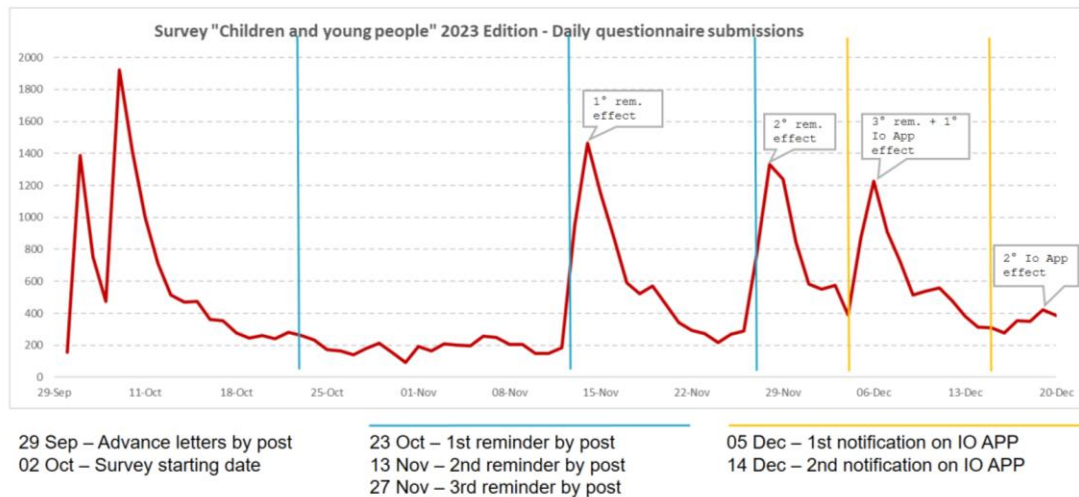


Fig. 1

## 5. Conclusions

The second edition of the survey "Children and young people: behaviors, attitudes, and future plans," conducted by Istat from October 2 to December 20, 2023, yielded significant insights into the lives and perspectives of approximately 100,000 Italian and foreign youth aged 11 to 19 residing in Italy. Utilizing Computer Assisted Web Interviewing (CAWI) mode, the questionnaire's design was carefully crafted to ensure accessibility and minimize response errors, successfully engaging participants across various devices. The integration of LimeSurvey software and the provision of multilingual options facilitated widespread participation, with a notable proportion of respondents completing the survey on smartphones or tablets.

To enhance response rates, an innovative reminder strategy was implemented, incorporating both postal reminders and tailored messages via the IO App. Despite initial challenges, the utilization of IO App notifications proved effective in encouraging responses.

Monitoring data collection proved indispensable in maintaining survey integrity, with real-time examination of submission trends guiding strategic decision-making. Notably, the timely deployment of reminders, coupled with a proactive approach, mitigated the impact of nonresponse.

In conclusion, the successful execution of the survey underscores the importance of innovative methodologies and strategic planning in capturing the perspectives of young individuals.

Moreover, reflecting on the lessons learned from this survey experience, it's evident that there are areas for improvement in future editions. Firstly, regarding the questionnaire, there is a clear need to shorten its length and streamline its completion process further. Not only can this potentially boost response rates for subsequent editions, but it's also a suggestion echoed by many users. Additionally, leveraging communication channels like notifications through the IO App has proven highly effective. Thus, in future iterations, considering its use from the survey's inception, not just for reminders but also for delivering the advance letter, could enhance engagement significantly. Lastly, it's crucial to heed the suggestions of respondents in redesigning the questionnaire layout to make it more appealing to young people. Their feedback, which often advocates for a more colorful and engaging format, can greatly contribute to improving the survey experience and overall participation rates.

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