Chapter 11
The Italian Way to an Online Probability Panel

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11.1 Challenges and Opportunities of an OPP

Online Probability Panels (OPP) have emerged as pivotal tools in the field of social sciences, particularly suited for longitudinal analysis. Unlike online surveys based on convenience samples—often affected by self-selection bias (Cornesse & Blom, 2023)—OPPs employ rigorous probability-based sampling procedures that reflect the demographic composition of the target population, offering a more robust and representative foundation for digital data collection. The resulting data are not only cost-effective and timely but also maintain high standards of quality and representativeness (Callegaro et al., 2014; Blom et al., 2016).

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The main characteristics that distinguish OPPs as a robust methodological infrastructure for longitudinal research can be summarized across three core dimensions:

1. Survey Technique: Web-based and self-administered questionnaires (CAWI) are the primary mode of data collection in OPPs. They support complex routing and multimedia integration while minimizing interviewer bias and logistical costs. Challenges such as digital literacy gaps and device access are often addressed through mixed-mode strategies or the provision of technological support to participants (Scherpenzeel, 2009; Yeager et al., 2011).
2. Sampling Strategy: Unlike convenience-based online surveys, OPPs employ rigorous probability sampling, typically derived from population registries, ensuring representativeness and external validity (Cornesse & Blom, 2023). This approach mitigates self-selection bias and enables generalizability, a critical feature for national-level analyses.
3. Longitudinal Design: A defining feature of OPPs is their longitudinal architecture. Participants are surveyed repeatedly over time, allowing researchers to trace individual and group-level changes. Such a design enables the study of dynamic processes such as attitude shifts, behavioural changes, and the influence of contextual variables (Menard, 2002; Biolcati-Rinaldi & Vezzoni, 2012). However, issues such as attrition and panel conditioning remain relevant and are addressed through refreshment samples and conditional incentives (Maslovskaya & Lugtig, 2022).

From a methodological point of view, OPPs support rich advancements: they can *link data* with administrative records, integrate embedded experiments, and capture metadata (e.g., response times, device usage, etc.), incorporating AI tools, wearables, and data donation mechanisms (Das, 2025). Importantly, OPPs are aligned with current trends in digital innovation and *Open Science* (Scherpenzeel, 2011), following FAIR principles (Findable, Accessible, Interoperable, Reusable) and building a potentially collaborative environment. They support *modular designs*, promote *interdisciplinarity*, and offer scalable infrastructures that can adapt to *emerging research needs* (e.g., the COVID-19 pandemic). Modular panel structures enable both standardized data collection and researcher-proposed thematic modules, thereby enhancing flexibility and analytical scope (see Sect. 11.2).

On the other hand, it is crucial to mitigate the risk of *panel attrition*—participants dropping out over time—which can threaten the representativeness of longitudinal data. However, the use of incentives and periodic refreshments of samples has proven effective in maintaining engagement over multiple waves remains a methodological and logistical challenge (see Sect. 11.4). *Panel conditioning* also deserves careful attention. The repeated measurement of the same individuals may influence their responses, leading to artificial stability or change that does not reflect actual societal dynamics. This effect, although difficult to eliminate, can be monitored through methodological adjustments and experiment-based validations. Another major concern is the *digital divide*. Despite increasing internet penetration, digital exclusion still affects certain sociodemographic groups, such as older adults or

individuals with lower socioeconomic status. This can introduce coverage bias and hinder the generalizability of findings. To mitigate this, many European OPPs adopt hybrid recruitment strategies and mixed modes of survey administration, providing sometimes also technological tools to ensure participation (Scherpenzeel, 2009). Financial and institutional *sustainability* is another key challenge. Establishing and maintaining an OPP requires considerable investment in infrastructure, personnel, and data quality assurance. Ensuring long-term funding and operational continuity is essential for the reliability and usefulness of these panels.

Nevertheless, the opportunities associated with OPPs are significant. They enable the collection of high-frequency, high-quality data at relatively low costs compared to traditional techniques, promote data-driven research in social sciences and interdisciplinary collaboration, data integration, methodological innovations, and offer scalable infrastructures that can adapt to emerging research needs. In doing so, they can contribute not only to scientific advancement but also to social monitoring and evidence-based policy making.

The following paragraphs illustrate the choices made in building the first Italian OPP.

11.2 Architecture of the Italian Online Probability Panel

The Italian Online Probability Panel (IOPP) is designed in line with other European probability-based panels, following a methodologically structured architecture. The goal is not only to achieve initial representativeness but also to ensure long-term consistency, quality, and epistemological value of the collected data. Every aspect—ranging from recruitment to questionnaire modules—is oriented toward producing robust, methodologically sound, and socially valuable data. The combination of rigor and flexibility enables the panel to adapt to social changes while maintaining scientific solidity.

IOPP hybrid recruitment relies on a push-to-web strategy (CAWI self-completion)—individuals who do not complete the questionnaire online are subsequently recruited through a Computer-Assisted Personal Interviewing (CAPI)—departing from a two-stage sample extracted from the Italian National Register (see Sect. 11.3).

IOPP is characterized by a structure of five annual waves administered via CAWI (Computer-Assisted Web Interviewing) but also includes postal deliveries for self-administration via PAPI (Paper and Pencil Interviewing), to include individuals with limited digital skills or access (Couper, 2000; De Leeuw, 2005). In fact, Italy is still marked by a significant digital divide, linked to both geographic and sociodemographic factors (Plan International & University Bocconi, 2021; European Commission, 2024; Italian Government, 2021). The surveys, spaced 2–3 months apart, are designed to continuously detect social changes (Haas et al., 2021; Blom et al., 2020), and are scheduled to avoid high-mobility periods (e.g., summer or Christmas holidays) to maximize participation (Dillman et al., 2014;

Callegaro et al., 2015). To this end, various support tools are also implemented, such as a help desk, follow-up reminders, and in-app notifications alongside a web app, which facilitates user access and interaction.

During the first year of calibration, three consecutive waves will allow for testing the sample quality and optimizing instruments and procedures. These surveys will serve as benchmarks for correcting nonresponse bias through weighting and post-stratification (Groves et al., 2009), and for calibrating the design in preparation for the regular data collection phase scheduled for 2026.

At full implementation, the five IOPP waves will be structured so that the same parts of the Core Questionnaire are administered during the same periods each year distributed across the first three waves (70% of each wave). These waves will also include Additional Questionnaires (30% of the entire wave) proposed by the scientific community and evaluated by the IOPP Scientific Committee based on criteria such as coherence, methodological rigor, operational sustainability, and scientific and social relevance. The remaining two waves will be allocated to external researchers or institutions (100%), whose proposals will likewise be assessed through an open call process.

The panel design also includes a periodic sample refreshment to maintain longitudinal representativeness (Lynn, 2009), by integrating new cohorts (e.g., newly turned 18-year-olds) and compensating for panel attrition (participants voluntary or involuntary dropping out).

IOPP is therefore based on three main data collection instruments:

1. Recruitment questionnaire, administered via CAWI/CAPI using a push-to-web approach: it collects sociodemographic, behavioural, attitudinal information, and respondents' perceptions of the study. This information can also be used to define subsamples, to which different questionnaires may be administered, depending on specific research objectives and the evolving needs of social research over time (see Sect. 11.4).
2. Core Questionnaire (CQ), the backbone of longitudinal data collection, administered via CAWI and supported by postal PAPI: it covers key areas such as family, health, work, values, behaviours, etc., and is distributed over the first three waves of the year (70% of each wave), for approximately 120 min of survey time (see Sect. 11.5).
3. Additional Questionnaires (AQ), administered to the entire panel or selected subsamples, via CAWI (app or web) integrated by postal PAPI. They can be rotating modules (administered regularly) or non-rotating modules (one-time). These modules can become diachronic instruments if repeated over time.

The integration of CQ and AQ enables the joint analysis of different thematic areas, thus increasing the depth and interpretative potential of the research. The modular architecture of IOPP is designed to be flexible, collaborative, and aligned with Open Science principles, in accordance with leading European models.

11.3 Sampling Strategy

In line with the standards of probability-based social research, the sampling strategy designed for the IOPP ensures that the resulting dataset is statistically representative and able to support detailed analysis across national and subnational domains. The overarching aim is to create a reliable infrastructure capable of capturing the socio-demographic heterogeneity of the population resident in Italy aged 18–74 while maintaining feasibility in terms of implementation and long-term sustainability.

At the core of the IOPP sampling design lies a two-stage probabilistic approach, drawing directly from practices developed by the Italian National Statistical Institute (Istat). The primary sampling units are represented by the Italian municipalities, with respondents serving as the secondary sampling units. Both stages were constructed to preserve proportionality to the target population and to ensure stratification across key variables such as geographic area, demographic size of the municipalities, urban status (regional capitals vs. non-capitals), sex, and age groups.

The reference population was defined based on official Istat data as of January 1, 2023, encompassing all residents in Italy within the defined age range. To reflect the diversity of the population and to support estimates across various domains, the sample was stratified by region (including separate treatment of the autonomous provinces of Bolzano and Trento) and municipal typology, including metropolitan cores and peripheries, small municipalities (up to 10,000 inhabitants), medium-large municipalities (over 10,000 inhabitants) and regional/provincial capitals.

The net effective sample size was set at 10,000 completed interviews extracted from an initial list of approximately 30,000 individuals and distributed across 550 municipalities. This numerical target was determined through successive approximations, balancing the need for estimation accuracy with practical constraints related to cost and fieldwork management. The sampling strategy followed a compromise allocation model—neither fully proportional nor purely equal across strata—aimed at ensuring both national-level efficiency and sufficient statistical power in smaller territories.

In detail, in the first stage, a systematic random sampling method was used to select municipalities within each stratum. The design guarantees self-weighting within strata, meaning that all individuals within a given stratum share the same probability of selection. Over-sampling was applied particularly in regional capitals to counteract risks of under-representation and to ensure more accurate estimation in these strategic areas.

In the second stage, individuals were drawn randomly while preserving the proportional distribution of the population by sex and 5-year age classes. The selection process at the individual level involved a stratified sampling plan combining gender with age brackets (18–29, 30–39, 40–49, 50–59, and 60–74), resulting in ten mutually exclusive groups. Within each sampled municipality, the allocation of interviews was proportional to the local demographic distribution to ensure internal coherence and national comparability.

Importantly, the design allows for post-stratification weighting, based on known population margins, to correct any residual disproportionality and to enhance the generalizability of findings (Groves et al., 2009). The interplay between rigorous statistical planning and context-sensitive adjustments renders IOPP not only a technically sound survey infrastructure but also one that is methodologically transparent and adaptable to expected and unexpected complexities.

11.4 Recruitment and Maintenance of the Panel

Within the Italian context, the IOPP stands out as the first structured OPP employing a mixed-mode approach (CAWI/postal), inspired by leading European initiatives such as LISS, GESIS, and ELIPSS. The project integrates both digital and traditional data collection techniques to overcome the digital divide and to maximize response rates and the timeliness of data collection (Dillman et al., 2014).

During the recruitment phase, it was essential to rely on contact lists extracted from the National Population Register, alongside the adoption of effective outreach and motivational strategies to encourage initial participation (Groves et al., 2009). Recruitment ensures sample representativeness through personalized invitations and a push-to-web strategy, initially involving the postal delivery of a letter containing a QR code, a detailed informational brochure, and a personal ID (PID) for accessing the web-based enrollment questionnaire.

The overall sample is released in three batches: an initial pilot batch of 4,000 cases—used as a test phase for procedures, tools, and platform usability—followed by two main batches of 13,000 cases each. This staggered release allows for progressive calibration and quality control before full-scale implementation.

In the recruitment phase, while the primary goal is to maximize participation via CAWI (Computer-Assisted Web Interviewing), non-respondents are systematically followed up through CAPI (Computer-Assisted Personal Interviewing), according to an adaptive sequential design (Dillman et al., 2014). Up to six contact attempts are made on different days and times. In case of success, interviewers conduct a brief recruitment interview, after which individuals may choose to join the panel and receive credentials to access future surveys via web or mobile app or decide to participate through postal contact.

Economic incentives are essential for fostering participation and long-term engagement (Singer & Ye, 2013). IOPP adopts a mixed incentive scheme: €15 unconditional upon registration and €10 conditional upon the completion of each wave (Göritz, 2006; Scherpenzeel & Toepoel, 2012). These are disbursed as gift vouchers at the end of the calendar year in compliance with Italian legal regulations.

As previously emphasized, panel attrition can jeopardize long-term representativeness, particularly among vulnerable or initially underrepresented groups (Lynn, 2009). Addressing attrition requires personalized communications, reminders, symbolic engagement strategies, and reactivation mechanisms, in addition to planned sample refreshment procedures.

Participation and its maintenance also entail a relationship built on trust and transparency. IOPP guarantees full compliance with GDPR principles, including anonymity, voluntary participation, and regular feedback on how data are used.

Finally, long-term sustainability should be supported not only through government and stakeholder engagement but also via open calls to the academic community. These calls can contribute financially by funding additional modules, while promoting collaborative and multidisciplinary use of the infrastructure.

11.5 Core Questionnaire

The core questionnaire serves as the central tool for collecting data that is comparable over time on key aspects of individual and social life—such as values, opinions, attitudes and behaviours. Designed to ensure longitudinal consistency, it also functions as the foundational layer upon which additional thematic modules can be added. While maintaining stability in content, it can be adapted in response to exceptional events, as demonstrated by adjustments made during the COVID-19 pandemic by various panels (Davern et al., 2021). Its structure reflects analytical needs typical of panel surveys, drawing on established models such as the European Social Survey (ESS) and the GESIS Panel (GESIS, 2025; ESS, 2025).

The development of IOPP's core questionnaire was guided by an empirical and comparative approach, informed by evidence from sociological, demographic, and psychological literature (e.g., Aassve et al., 2013; Ajzen, 2001). The working group analysed the content of major European social science panels—such as LISS (Netherlands), GESIS panel (Germany), UKHLS (UK), and ELIPSS (France)—to ensure broad coverage of key life domains and support international comparability.

Additionally, the questionnaire integrates selected items from European and national surveys, including GGS, SHARE, ESS, EVS, and national studies by Istat, chosen for thematic coherence and analytical utility, while avoiding redundancy in the possible integration between databases. Some questions were specifically developed for the Italian context, in order to capture local nuances and sociocultural specificities.

The outcome is a robust instrument, suitable for both longitudinal and cross-sectional analysis, designed to be flexible and adaptable to future thematic extensions.

The IOPP core questionnaire is structured into ten thematic modules, comprising around 300 items, grouped into three macro-areas: sociographic characteristics, attitudes, and behaviours. Topics include sociodemographics, health, economic conditions, family, education, social integration, media usage, religion, politics, and science and technology, distributed as shown in Table 11.1.

The questionnaire design carefully balanced depth of content with the burden on respondents, estimating an average of five items per minute for a total of approximately 60 min, to be distributed across multiple waves during the year. This

Table 11.1 Modules and corresponding number of questions in the IOPP core questionnaire

Module	N. of items
Sociodemographics	33
Health	18
Economic situation	24
Family and household	65
Education and training	14
Social integration and neighborhood	28
Media usage and leisure	30
Religion	6
Personal attitudes and politics	63
Science and technology	19
Total	300

balance aimed to mitigate fatigue and ensure high data quality, in line with findings from online survey research (Gummer & Daikeler, 2018; Revilla & Höhne, 2020).

To monitor social change, the questionnaire includes both time-invariant variables (e.g., structural characteristics that remain stable) and time-varying measures (e.g., opinions or behaviours subject to change). These are administered at different intervals depending on expected variability—annually, biennially, or on a one-time or conditional basis (Callegaro et al., 2014). It is also possible through IOPP app to update structural variables most subject to change (e.g., employment).

The entire process addressed several challenges, such as managing sensitive items, adapting questions to the Italian context, ensuring correct translation of the items, and balancing international comparability with local relevance.

11.6 Archiving and Dissemination

Within social science research, archiving and dissemination have often been relegated to the end of the project lifecycle, perceived more as formalities than as integral components of the research process. However, a contemporary and more comprehensive perspective treats data stewardship as an ongoing, cyclical activity beginning at the planning stage and continuing through collection, processing, documentation, secure storage, open sharing, and eventual reuse (Ball, 2012). In this brief paragraph, we present part of what Scisci et al. (forthcoming, 2026) clarify and explore in greater depth in the chapter on archiving and dissemination dedicated specifically to IOPP.

A cornerstone of modern data management is the application of FAIR principles—ensuring data is easy to locate, accessible for legitimate use, interoperable with other systems, and reusable in new research contexts (Wilkinson et al., 2016). Rather than being linear, the data lifecycle is inherently dynamic. IOPP data management fits into this protocol where datasets are often revisited for

validation or new analysis; they are constantly updated and refined, necessitating continuous documentation and oversight (CESSDA, 2022).

Key to this lifecycle are dedicated data repositories and archival institutions. Organisations like CESSDA (https://www.cessda.eu) and its Italian partner DASSI (https://www.dassi-archive.it) not only provide safe storage but also enable long-term accessibility and reusability of data. These infrastructures help establish best practices, such as the adoption of standardized metadata formats like DDI (https://ddialliance.org), which allow both humans and machines to interpret datasets efficiently (Marker & Fink, 2018). IOPP complies with such archival practices as such repositories do more than safeguard data; they also support data producers with methodological guidance, metadata support, and resources for ethical sharing, which is crucial, on the one hand, for IOPP's compliance with FAIR principles, and it also encourages a culture of openness and responsibility in data handling (Gaspani et al., 2019).

However, longitudinal research, where data is gathered over time, introduces additional layers of complexity. IOPP's curation efforts will ensure consistency across survey waves, the meaningful tracking of missing data, and logical inconsistencies in responses. We are also aware that documentation must evolve with the study. As survey instruments, sampling methods, or variable definitions change, so must the metadata. Semantic web technologies and controlled vocabularies now play an increasing role in ensuring that datasets remain discoverable and intelligible across platforms and over time (Van den Eynden et al., 2011).

To facilitate comparisons across time periods or countries, harmonization is also essential. International classifications such as ISCO Standard Classification of Occupations—and ISCED—International Standard Classification of Education—provide a shared framework for aligning diverse data. Successful examples include the European Social Survey (Kolsrud & Skjak, 2005) and the Cross-National Equivalent File (Frick et al., 2007), which rely on transparent and consistent harmonization processes to maintain cross-country comparability. IOPP complies with such policies for harmonization and also data preservation, adopting open formats, checking file integrity regularly, and planning long-term access. The OAIS model (Consultative Committee for Space Data Systems, 2024), long used in digital archiving, provides a robust framework for structuring this preservation work across stages—from initial submission to archival maintenance and eventual public dissemination.

Equally important is how data is disseminated and reused. Modern platforms like Dataverse (King, 2007) use persistent identifiers and detailed version tracking to maintain transparency and citation accuracy. We are aware that licensing terms must strike a balance between openness and protection, especially when sensitive data is involved (Chapoy et al., 2020). In such cases, access can be restricted while maintaining catalog visibility, allowing responsible discovery and planning for reuse.

Many archives are now investing in more accessible front-end interfaces. These allow users to visualize, filter, and conduct basic analyses without needing specialized software. Examples include Germany's SOEP (Socio-Economic Panel), the

UK's Understanding Society, and the European Social Survey. These systems aim to serve a broader audience, including educators, students, and policy stakeholders (Dekker, 2020). Building upon the principles of open data, IOPP aims to extend accessibility beyond professional researchers by enabling non-expert users to explore datasets interactively. The initiative may incorporate tools directly within the data repository platform, allowing users to examine variable distributions and perform basic statistical analyses.

Effective data governance in social science is not just about regulatory compliance or technical safeguards. It is an enabler of rigorous, transparent, and open science. Incorporating reusable documentation, modular structures, and reproducible workflows ensures that data does not simply serve its initial purpose but contributes meaningfully to broader knowledge systems. The evolving integration of software practices into data management points to a future where data curation is not merely supporting work but a defining element of scientific rigor and public accountability (Accordino et al., 2025).

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References

Aassve, A., Sironi, M., & Bassi, V. (2013). Explaining attitudes towards demographic behaviour. *European Sociological Review, 29*(2), 316–333. https://doi.org/10.1093/esr/jcr069

Accordino, F., Pecoraro, F., & Luzi, D. (2025). CESSDA data catalogue: An opportunity to enhance data in social sciences. *International Journal on Digital Libraries, 26*(1), 8. https://doi.org/10.1007/s00799-025-00416-w

Ajzen, I. (2001). Nature and operation of attitudes. *Annual Review of Psychology, 52*, 27–58. https://doi.org/10.1146/annurev.psych.52.1.27

Ball, A. (2012). *Review of data management lifecycle models*. University of Bath.

Biolcati-Rinaldi, F., & Vezzoni, C. (2012). *L'analisi secondaria nella ricerca sociale*. Il Mulino.

Blom, A. G., Bosnjak, M., Cornilleau, A., Cousteaux, A. S., Das, M., Douhou, S., & Krieger, U. (2016). A comparison of four probability-based online and mixed-mode panels in Europe. *Social Science Computer Review, 34*(1), 8–25. https://doi.org/10.1177/0894439315574825

Blom, A. G., Cornesse, C., Friedel, S., Krieger, U., Fikel, M., Rettig, T., et al. (2020). High frequency and high quality survey data collection: The Mannheim Corona study. *Survey Research Methods, 14*(2), 171–178. https://doi.org/10.18148/srm/2020.v14i2.7735

Callegaro, M., Baker, R. P., Bethlehem, J., Göritz, A. S., Krosnick, J. A., & Lavrakas, P. J. (Eds.). (2014). *Online panel research: A data quality perspective*. Wiley.

Callegaro, M., Manfreda, K., & Vehovar, V. (2015). *Web survey methodology*. Sage.

CESSDA Training Team. (2022). *CESSDA Data Management Expert Guide*. CESSDA ERIC. https://dmeg.cessda.eu/

Chapoy, E., Lesnard, L., Gaultier-Voituriez, O., Groshens, E., Pedroja, C., & Beldiman-Moore, A. (2020). *Sciences Po. Une histoire de données* (p. 91) [Research Report]. Sciences Po. https://sciencespo.hal.science/hal-03612928

Consultative Committee for Space Data Systems. (2024). *Reference model for an Open Archival Information System (OAIS)* (Recommended Practice No. CCSDS 650. 0-M-3; Magenta Book). NASA. https://ccsds.org/Pubs/650x0m3.pdf

Cornesse, C., & Blom, A. G. (2023). Response quality in nonprobability and probability-based online panels. *Sociological Methods & Research, 52*(2), 879–908. https://doi.org/10.1177/0049124120914940

Couper, M. P. (2000). Web surveys: A review of issues and approaches. *The Public Opinion Quarterly, 64*(4), 464–494. https://doi.org/10.1086/318641

Das, M. (2025). *Building on the LISS experience: Future challenges and opportunities for online probability-based panels*. Conference "European Online Probability Panels (EOPPs): Opportunities for the social research", Milan, May 5–6.

Davern, M., Bautista, R., Freese, J., Morgan, S. L., & Smith, T. W. (2021). *General Social Survey 1972-2021*. NORC at the University of Chicago.

De Leeuw, E. (2005). To mix or not to mix data collection modes. *Surveys. Journal of Official Statistics, 21*(2), 233–255.

Dekker, R. (2020). Social data: CESSDA best practices. *Data Intelligence, 2*(1–2), 220–229. https://doi.org/10.1162/dint_a_00044

Dillman, D. A., Smyth, J. D., & Christian, L. M. (2014). *Internet, phone, mail, and mixed mode surveys: The tailored design method* (4th ed.). Wiley.

European Commission. (2024). 2030 Digital Decade. Annex 1: Competitiveness And Sovereignty, People, Smart Greening, Policy Coherence And Synergies. *Publications Office of the European Union.*https://doi.org/10.2759/635

European Social Survey. (2025). *Source questionnaire development*. Retrieved May 5, 2025, from https://www.europeansocialsurvey.org/methodology/source-question-naire/source-questionnaire-development

Frick, J. R., Jenkins, S. P., Lillard, D. R., Lipps, O., & Wooden, M. (2007). The Cross-National Equivalent File (CNEF) and its member country household panel studies. *Journal of Contextual Economics – Schmollers Jahrbuch, 127*(4), 627–654. https://doi.org/10.3790/schm.127.4.627

Gaspani, F., Pisano, C., & Scisci, D. (2019). I dati oltre la ricerca: L'archiviazione nelle scienze sociali. *AIS, 14*, 71–88. https://doi.org/10.1485/AIS_2019/14_3443545

GESIS – Leibniz Institute for the Social Sciences. (2025). *Documentation GESIS Panel*. Retrieved May 5, 2025, from https://www.gesis.org/en/gesis-panel/documentation/documentation-gesis-panelpop

Göritz, A. S. (2006). Incentives in web studies: Methodological issues and a review. *International Journal of Internet Science, 1*(1), 58–70.

Governo Italiano. (2021). Piano Nazionale di Ripresa e Resilienza (Missione 1: Digitalizzazione, innovazione, competitività, cultura e turismo).

Groves, R. M., Fowler, F. J., Couper, M. P., Lepkowski, J. M., Singer, E., & Tourangeau, R. (2009). *Survey methodology* (2nd ed.). Wiley.

Gummer, T., & Daikeler, J. (2018). A note on how prior survey experience with self-administered panel surveys affects attrition in different modes. *Social Science Computer Review, 38*(4), 490–498. https://doi.org/10.1177/0894439318816986

Haas, G. C., Müller, B., Osiander, C., Schmidtke, J., Trahms, A., Volkert, M., & Zins, S. (2021). Development of a new COVID-19 panel survey: The IAB high-frequency online personal panel (HOPP). *Journal for Labour Market Research, 55*(1), 16. https://doi.org/10.1186/s12651-021-00295-z

King, G. (2007). An introduction to the dataverse network as an infrastructure for data sharing. *Sociological Methods & Research, 36*(2), 173–199. https://doi.org/10.1177/0049124107306660

Kolsrud, K., & Skjak, K. K. (2005). Harmonising background variables in the European Social Survey. In J. H. P. Hoffmeyer-Zlotnik & J. Harkness (Eds.), *Methodological aspects in crossnational research* (Vol. 11, pp. 163–182).

Lynn, P. (2009). *Methodology of longitudinal surveys*. Wiley.

Marker, H. J., & Fink, A. S. (2018). CESSDA – A history of research data management for social science data. In J. B. Thestrup & F. Kruse (Eds.), *Research data management—A European perspective* (pp. 25–42).

Maslovskaya, O., & Lugtig, P. (2022). Representativeness in six waves of cross-national online survey (CRONOS) panel. *Journal of the Royal Statistical Society Series A: Statistics in Society, 185*(3), 851–871. https://doi.org/10.1111/rssa.12801

Menard, S. (2002). *Longitudinal research. Quantitative applications in the social sciences*. Sage.

Plan International & Università Bocconi. (2021). *Sfide attuali e future per la Parità di Genere in Italia: Il divario digitale di genere*. Università Bocconi.

Revilla, M., & Höhne, J. K. (2020). How long do respondents think online surveys should be? New evidence from two online panels in Germany. *International Journal of Market Research, 62*(5), 538–545. https://doi.org/10.1177/1470785320943049

Scherpenzeel, A. (2009). *Start of the LISS panel: Sample and recruitment of a probability-based Internet panel*. CentERdata. https://www.lissdata.nl/app/uploads/sites/4/2023/10/1.-Sample_and_Recruitment.pdf

Scherpenzeel, A. (2011). Data collection in a probability-based internet panel: How the LISS panel was built and how it can be used. *Bulletin de Méthodologie Sociologique, 109*, 56–61. https://doi.org/10.1177/0759106310387713

Scherpenzeel, A., & Toepoel, V. (2012). Recruiting a probability sample for an online panel: Effects of contact mode, incentives, and information. *Public Opinion Quarterly, 76*(3), 470–490. https://doi.org/10.1093/poq/nfs037

Scisci, D., De Santis, G., & Piacentini F. (2026, forthcoming). Archiviazione e disseminazione. In *Italian Online Probability Panel*. FrancoAngeli.

Singer, E., & Ye, C. (2013). The use and effects of incentives in surveys. *The ANNALS of the American Academy of Political and Social Science, 645*(1), 112–141.

Van den Eynden, V., Corti, L., Woollard, M., Bishop, L., & Horton, L. (2011). *Managing and sharing data*. UK Data Archive.

Wilkinson, M., Dumontier, M., Aalbersberg, I., et al. (2016). The FAIR Guiding Principles for scientific data management and stewardship. *Scientific Data, 3*, 160018. https://doi.org/10.1038/sdata.2016.18

Yeager, D. S., Krosnick, J. A., Chang, L. C., Javitz, H. S., Levendusky, M. S., Simpser, A., & Wang, R. (2011). Comparing the accuracy of RDD telephone surveys and internet surveys conducted with probability and non-probability samples. *Public Opinion Quarterly, 75*(4), 709–747. https://doi.org/10.1093/poq/nfr020