Family relationships and use of digital technologies among older Italians: A broad assessment based on a new nationally representative survey (ICTAGE)

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Bruno Arpino, Cecilia Tomassini, Emilio Travaglini, Luca Maraniello

1. Introduction

Population ageing intersects with accelerating digitalization, making older adults' engagement with technologies a central topic in demographic and social research. A persistent "age digital divide" is well documented: compared with younger cohorts, older adults exhibit lower internet access, narrower repertoires of online activities, and more limited digital skills (Friemel, 2016; Hargittai & Dobransky, 2017; Hunsaker & Hargittai, 2018). Beyond access, differences in motivation, perceived utility, and confidence contribute to second-level divides in skills and uses (Hunsaker & Hargittai, 2018). These divides matter because digital engagement may support communication, access to services, and autonomy in later life—yet the benefits are unevenly distributed.

A family lens contribute explaining this heterogeneity. Life-course theory emphasizes "linked lives," whereby individual behaviours and outcomes are embedded in interdependent family trajectories (Elder, 1998). In parallel, the intergenerational solidarity framework highlights how structural (e.g., availability of kin) and associational (e.g., contact, proximity) dimensions shape exchanges of support across generations (Bengtson & Roberts, 1991). Applying these perspectives to digitalization, family ties can motivate adoption (e.g., for communication with and among caregivers), scaffold learning, and provide ongoing assistance; conversely, relatives may substitute for direct use by transacting online on behalf of older adults ("proxy use") (Dolničar, Grošelj, Filipovič Hrast, Vehovar, & Petrovčič, 2018).

Empirically, two strands of research are particularly relevant. One examines how digital media complement rather than replace face-to-face interaction in intergenerational relationships and how online contact helps sustain ties at a distance (Arpino, Meli, Pasqualini, Tomassini, & Cisotto, 2022; Arpino & Failli, 2024). The other investigates how family relations shape older adults' own digital engagement: children and grandchildren often act as "digital mediators," initiating use and troubleshooting, while partners contribute through a "division of digital labor"; in parallel, proxy arrangements can emerge when skills or motivation are low (Dolničar et al., 2018; Luijkx, Peek, & Wouters, 2015). Comparative European evidence also documents persistent age gradients in access and use, underscoring the need for population-based assessments that jointly consider family and digital domains (König, Seifert, & Doh, 2018).

Despite the growing interest in older adults' use of digital technologies and the longstanding importance of family ties, research that examines the intersection of these domains is still limited and often based on small and/or non-representative samples. We implemented a survey (ICTAGE) that directly addresses this gap by providing nationally representative micro-data for Italians aged 60–85 that jointly cover family structures and relations (availability of children and grandchildren, contact

frequency, support exchanges, perceived closeness) and multiple digital dimensions (skills, motivations, worries, uses, and proxy/assisted use). Italy is a compelling case for studying these interdependencies. Strong intergenerational ties coexist with notable challenges in older adults' digital inclusion, and e-government tools (e.g., identity credentials) increase the stakes of autonomous and assisted use.

Grounded in life-course and intergenerational-solidarity perspectives and informed by recent Italian and European findings, our objective is to deliver a broad mapping of how family relates to older Italians' digital engagement and to identify leverage points for inclusion policies that support both autonomous and family-assisted digital practices. We also introduce ICTAGE as a new data source for family studies on older Italians in the digital age.

2. Data and Methods

Studied population. The target population comprises individuals aged 60–85 residing in Italy at the time of data collection. Respondents were required to be cognitively able to participate in a structured interview. In total, 1,550 valid interviews were collected.

Sampling design. The survey employed a stratified quota sampling design along three dimensions: area of residence (North-West, North-East, Centre, South & Islands), age group (60–75; 76–85), and gender (male; female). The intersections generated 16 cells (4 × 2 × 2) that guided the distribution of interviews. Weights were computed in accordance with this design to align the achieved sample with the demographic structure of the Italian population aged 60–85, as estimated by ISTAT. We plan to estimate post-stratification (raking) weights to adjust the sample for additional characteristics (e.g., education).

Data collection. Data were collected through Computer-Assisted Telephone Interviewing (CATI) by the research institute SWG S.p.A. (Trieste). Fieldwork took place between 10 July and 5 August 2025, during which trained interviewers administered the questionnaire by telephone.

Questionnaire. The instrument comprises four thematic sections:

- Sociodemographic characteristics and subjective well-being;
- Digital competences, attitudes, and internet use;
- Family relations and mutual support;
- Information on children and grandchildren.

Each section includes standardized items derived from international surveys (e.g., SHARE, ESS) and original questions specifically designed to capture intergenerational exchanges of support in digital contexts, including assisted/proxy use.

Ethical considerations, data protection, and availability. The ICTAGE survey was conducted in accordance with GDPR (EU 2016/679). Participants were informed about the aims of the study and the voluntary nature of participation. The dataset shared for research purposes contains de-identified information, with no variables that allow direct identification of respondents. The ICTAGE dataset will

be available in multiple formats (Excel, SPSS, Stata) after an embargo period and will be accompanied by the final questionnaire.

Technical validation. To assess data quality and representativeness, weighted descriptive analyses will be conducted for gender, age group, education, occupational status, and geographical area. Additional analyses will describe patterns of internet use, self-assessed digital competence, and reliance on family support. Weighted frequencies from ICTAGE will be compared with estimates from nationally representative ISTAT surveys for the Italian population aged 60–85.

3. Preliminary results and next steps

Digital skills are heterogeneous: 13% report no skills at all or very low levels, while more than one third reach medium-to-high levels—evidence of a substantial digital divide within the restricted age group considered. Fear of making mistakes (46%) and difficulty learning new technologies (41%) indicate psychological barriers that may undermine autonomy and confidence.

Internet use is substantial yet polarized: about half use it daily, while more than one fifth report no use in the past six months. Common online activities include communication with relatives and friends, seeking health information, banking operations, and use of the national public digital identity system. Nearly one fifth rely on support from family members or acquaintances to carry out online tasks.

Children are the primary source of help (36%), followed by spouses/partners, underscoring the role of children as "digital mediators." About one quarter report having no one to turn to for assistance, indicating a potential compound risk of social and digital exclusion. Relationships with children are central: over 64% feel very or extremely close, with frequent in-person and telephone contact. Digital forms (video calls, messaging) are widespread but do not replace direct interaction. Children's help extends beyond the digital domain to bureaucratic management and, to a lesser extent, emotional and domestic support reflecting an asymmetrical intergenerational exchange wherethe younger generation often provides assistance.

Planned analyses. We will estimate multivariable associations between multiple dimensions of family relationships (availability of children/grandchildren; perceived closeness; contact frequency; exchanges of support) and multiple digital outcomes (specific purposes of internet use; a digital-skills index; motivations and worries; indicators of proxy/assisted use). Planned models include ordinal models for digital-skills scales, multinomial logistic/Poisson models for varied online activities and diversification of use, and latent class analysis to identify profiles of "independent users," "assisted/proxy users," and "non-users." Weights will be applied and missingness addressed via multiple imputation. We expect stronger family ties to be associated not only with higher odds of internet use, but also with more diversified activities, and better skills; for older adults with low motivation/skills, we expect greater reliance on family members as proxy users.

4. Concluding remarks

This study aims to quantifying how specific constellations of family resources (e.g., availability of children/grandchildren, closeness, support exchanges) translate into unequal access to essential digital

domains—health services, banking, and SPID/e-government—and whether proxy help both preserves access and inadvertently slows skill accumulation. More broadly, we also emphasize how the ICTAGE survey provides a new empirical foundation for these contributions. Its multidimensional design enables analyses of digital engagement, the intensity and mode of online communication, and the role of kin networks in supporting (or substituting for) digital practices. Beyond documenting associations, ICTAGE helps pinpoint which combinations of family resources and barriers are most strongly linked to proxy dependence, guiding policies that expand autonomous use among the least connected while leveraging family as a facilitator where appropriate.

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