

OLDER PEOPLE AND DIGITAL DISCRIMINATION

Promoting digital literacy to reduce biases in online social research

by *Danilo Boriati**

Abstract

In the digital age, older people are often marginalized and discriminated against in online social research due to their perceived lack of digital literacy. This bias can have significant implications for research validity and the representation of older adults in various fields. This essay aims to explore the challenges faced by older people in online social research, the importance of promoting digital literacy among older adults, and strategies to reduce bias in research methodologies. By enhancing digital literacy among older adults, in fact, researchers can ensure a more accurate and inclusive representation of this demographic group in online social research.

Keywords

Older adults, Digital discrimination, Biases, Digital literacy

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1. INTRODUCTION

In post-modern society, information and communication technologies (ICTs) have brought about changes that have tangible effects on people's daily lives; these technologies have also assumed such a central role that they are now considered essential for people to be truly included within social systems (D'Ambrosio and Boriati, 2023).

However, not all people have the same chance to be integrated within digital social systems, due to the low digital literacy, the digital divide and the consequent limited accessibility of digital platforms by older people.

This condition causes an increased digital discrimination (Delli Paoli and Masullo, 2022) in globalised social contexts, i.e. that kind of injustice or inequality in the treatment of people based on their ability to access or use digital technologies (Köttl and Mannheim, 2021). For older people, in particular, this means remaining excluded from the possibilities offered by virtual reality (Castells, 1996; Bauman, 1998; Norris, 2001), as well as from possible online social research paths¹.

This contribution aims to reflecting on the need to address the digital divide and digital discrimination among the older adults, in order to reduce the possible methodological biases that often occur with social digital research, such as the low representativeness of the older component in online surveys conducted on the entire population.

Specifically, the contribution emphasises possible strategies to be implemented in order to include older people in social research conducted online: offering, for instance, through life-long learning (Drew, 1997; Diggs, 2008 Quadagno, 1999) and digital literacy (Rivoltella, 2017) strategies, free training courses to teach older people how to use digital technologies and to develop technologies and interfaces that are easily usable by older people, taking into account their physical and cognitive needs.

In this way, it will be possible to increase the share of the older component that – when not specifically targeted by researchers – is currently excluded from participating in social research that are conducted with the purpose of digital tools. For example, in research conducted on non-probability samples, very often the share of the older population is underrepresented due to their low participation, which is due to a lack of sufficient digital literacy.

¹ In this paper, "older adults" are considered to be those who are over 65 years old, based on what has been suggested by major national research institutes.

2. DIGITAL DISCRIMINATION OF OLDER ADULTS: IMPLICATIONS FOR SOCIAL RESEARCH

Many studies have discussed the issues of access to information and communication technologies by older adults and typical challenges they encounter in the digital arena².

Older people, in fact, face numerous challenges in online context, including limited access to technology (Millward, 2003), lack of digital skills (Van Deursen and Van Dijk, 2011), and stereotypes about their abilities. The digital divide (Hargittai, 2002; Van Deursen and Helsper, 2015a) – which refers to the gap between those who have access to technology and the internet and those who do not – is also a significant barrier for older adults in participating in online social research.

So, older adults face digital discrimination³ in various aspects of their lives: many researchers established and focused on digital discrimination (Dabo et al., 2022), which can be highlighted and explained including access to technology, online services, and social interactions. As technology continues to advance rapidly, older people often struggle to keep up with the latest trends and developments, leading to their exclusion from digital platforms (Bentivegna, 2009). This exclusion can be attributed to ageist stereotypes that portray older adults as technologically incompetent or disinterested in using digital tools (Anderson, 2008; Van Deursen and Helsper, 2015b).

Many older adults, in addition, may not have the financial means (Choi, Dinitto, 2013) to purchase devices or internet service, or they may lack the technical know-how to navigate online platforms effectively. In fact, according to ISTAT data (2023), in households composed only of the older people (65 years and older) there is a lower prevalence of the Internet, such that just over half of senior citizens (53,4%) have a web access.

Moreover, older adults are often stereotyped as being technologically inept, which can lead researchers to overlook them as participants in online studies. These stereotypes can perpetuate ageist attitudes and further marginalize older adults in research contexts.

Furthermore, older people may encounter age-related barriers (Raihan et al., 2024) such as reduced dexterity, vision impairment, or cognitive decline, making it challenging for them to navigate the digital

² For a preliminary theoretical reconstruction, see Manor and Herscovici (2021) and the essay by Schroeder et al. (2023).

³ Digital discrimination is defined as discriminatory treatment or disparate impact acts based on automatic decisions made by algorithms (Wihbey, 2015).

landscape effectively. As a result, older adults are often overlooked in online research studies, leading to a lack of representation and diverse perspectives in social research and a low representativeness of the older component in online surveys conducted on the entire population.

3. THE IMPORTANCE OF PROMOTING DIGITAL LITERACY AMONG OLDER ADULTS

The term literacy can be defined

as the mastery of simple and practical skills which bring a profound enrichment and transformation of human thinking capabilities [...]. Technological innovations have transformed how learning is taking place and digital literacy has become one of the main competences in this era (Reddy et al., 2020: 81).

In this perspective, digital literacy can be defined as the set of skills, knowledge and abilities needed to use digital technologies effectively, safely and critically (Tinmaz et al., 2022). Competence which is not limited to the ability to use digital tools, but also includes the ability to understand, evaluate and create digital content (Heitin, 2016), manage one's online identity and actively participate in the digital society.

Digital literacy, therefore, is crucial for older adults to navigate the digital landscape effectively and, also, to participate in online social research. In fact, by promoting digital literacy among older people, researchers can ensure equitable representation and reduce bias in their studies.

This becomes possible because digital literacy encompasses a range of skills, including the ability to use digital devices, access online information, communicate effectively, and participate in those sociological researches that are conducted with internet-based techniques.

To promote digital literacy among older adults and encourage their participation in online surveys, researchers can provide training programs, workshops, and resources tailored to needs and preferences of older people. By empowering them with the necessary skills and knowledge to engage with digital platforms, researchers can, in this way, enhance the quality and diversity of their online social research. Promoting digital literacy among older adults (Xu et al., 2021), hence, is essential for reducing bias in online social research and ensuring the inclusion of this demographic group in research studies, analysing also

their perspectives to studies in various fields.

Additionally, promoting digital literacy among older adults can help combat ageism and stereotypes about older people's abilities in using technology. By equipping older adults with the skills and knowledge to navigate online platforms, researchers can, ultimately, create a more inclusive research environment that values the contributions of older adults and reflects the diversity of the population sample.

4. STRATEGIES TO REDUCE BIAS IN ONLINE SOCIAL RESEARCH WITH ELDERLY

For many years, the methodological literature has been concerned with the comprehensive analysis of bias in social research⁴. In general terms, bias «means that the samples of a stochastic variable that are collected to determine its distribution are selected incorrectly and do not represent the true distribution because of non-random reasons» (Panzeri et al., 2008: 4258).

The biases referred to in this paper, concern, specifically, the non-participation of the older population share in social research conducted online on entire populations. In this case, the reference is to those non-probabilistic samples used, very frequently, in surveys conducted online, in which there is a self-exclusion of the older portion of the population. It must be emphasised, however, that the sample size depends on the size of the population to be sampled (Bailey, 1982).

To reduce this type of bias in online social research and promote inclusivity, researchers must take proactive measures to include older adults in their studies. This can be achieved, for example, by designing research protocols that accommodate the needs and preferences of older participants, such as providing clear instructions, accessible formats, and technical support.

Researchers should also ensure that online surveys and questionnaires are user-friendly and age-appropriate (Regmi et al., 2016), taking into account the cognitive and physical limitations of older adults. Additionally, researchers can collaborate with community organizations, senior centers, and advocacy groups to recruit older participants and foster partnerships that promote digital literacy and engagement. By implementing these strategies, researchers can create a more inclusive and diverse online research environment that values the perspectives and

⁴ For a brief literature review, see, among others, the essays by Suchman, 1962; Berk, 1983; Winship and Mare, 1992; Hammersley and Gomm, 1997.

experiences of older adults.

There are, however, several strategies that researchers can implement to reduce bias in online social research and promote the inclusion of older adults. One approach is to provide training and support for older adults to enhance their digital literacy skills and confidence in using technology. This can involve offering workshops, tutorials, or one-on-one assistance to help older adults navigate online platforms and participate in research studies. Additionally, researchers can design studies that are accessible and user-friendly for older adults, taking into account their unique needs and preferences. This can include using plain language, providing clear instructions, and offering accommodations for those with sensory or cognitive impairments. By creating research studies that are inclusive and welcoming to older adults, researchers can ensure a more diverse and representative sample of participants.

From a specifically methodological point of view, reducing bias in online social research with older populations involves a combination of methodological strategies and ethical considerations dealing with sampling and selection bias, technology barriers, question design bias, digital divide considerations, monitoring and adjusting during research program.

Regarding sampling and selection bias, in the writer's opinion, the focus should be, as anticipated, on: a) diverse recruitment: use multiple channels for participant recruitment, such as social media, community organizations, healthcare providers, and senior centers, to reach a broad demographic; b) inclusive criteria: ensure inclusion of participants with varied socio-economic, cultural, educational, and geographical backgrounds; c) digital access consideration: provide devices and internet access if necessary, to avoid excluding those people with limited technological access; d) random sampling: use random or stratified sampling techniques to ensure representation across subgroups of the older population; e) screening participants: clearly define inclusion and exclusion criteria that align with the research objectives to prevent overrepresentation of certain demographics.

With regard to technological barriers, attention must be paid to: a) user-friendly interfaces: design research tools (e.g., surveys, platforms) with clear, large fonts, simple navigation, and low cognitive load (Melani Christian, Dillman, 2004); b) tech support: offer technical support and provide detailed instructions to participants on how to engage with the study materials; c) alternative modes: combine online methods with offline options, such as telephone interviews or paper surveys, for those less familiar with technology.

With regard, on the other hand, to the question design bias, it would be appropriate to make: a) pilot testing (Gangemi, 2007): test the survey with a small group of older participants to identify unclear or biased questions; b) avoid jargon: use straight forward language, avoiding technical terms or overly complex wording (Melani Christian et al., 2007); c) neutral wording: ensure questions are neutrally phrased to avoid leading responses.

The digital divide considerations, relate specifically to provide tutorials or coaching on how to use digital tools for research, if needed.

A further strategy could be to monitoring and adjusting during research program by collecting feedback from participants about the process to identify and address any emerging biases and by checking data for signs of bias or missing representation, and adjust recruitment strategies accordingly.

Last, but not least, is the choice to use a Mixed-Methods approach: using both methods to validate the results and ensure their robustness, while addressing the biases inherent in the individual approaches, makes it possible to avoid “coverage errors” (Corbetta, 1999), while also intercepting more heterogeneous portions of individuals. The combination of both quantitative and qualitative techniques (Frudà, 2007; Amaturò and Punziano, 2016) can make it possible to satisfy the requirements that a sample must have: heterogeneity (i.e. the ability to include the internal differences specific to the universe of reference), representativeness (i.e. the ability to represent the known qualities and characteristics of the entire universe) and sufficiency (i.e. the ability to guarantee a sufficient level of statistical reliability of the representation of the characteristics specific to the universe under analysis) (Guala, 2000), especially in Internet-mediated researches (Hesse-Biber and Griffin, 2013).

By employing these strategies thoughtfully, researchers can achieve more accurate and ethical outcomes in online social research involving older populations.

5. CONCLUSIONS

Older people face digital discrimination in the digital age, which can lead to bias and exclusion in online social research. By promoting digital literacy among older adults and their digital engagement (Kebede et al., 2022), researchers can reduce bias and ensure equitable representation in their studies.

Digital literacy is an essential skill for navigating today's complex technological ecosystem. The spread, use and improvement of information and communication technologies, in fact, impose new challenges and critical issues but also significant opportunities for those who are able to understand and use them with awareness. This is why, to best address these changes, it is crucial to promote digital literacy that goes beyond basic technical skills, moving towards a critical understanding of technologies and the power dynamics behind them. Indeed, when technologies are used by competent people, they are able to effectively improve the quality of life, promoting the active and responsible inclusion (D'Ambrosio and Boriati, 2023: 26) of social actors.

Digital literacy is essential for empowering older people to navigate the digital landscape effectively and participate in online research. By implementing strategies to promote digital literacy (Ahmad et al., 2022) and inclusion (Hill et al., 2015), researchers can create a more diverse and inclusive online research environment that values the perspectives and experiences of older adults. It should not be forgotten, in fact, that the development of web 2.0 and mobile devices are turning obsolete ways of doing research (Punziano, 2016).

Ultimately, promoting digital literacy among older people is critical for combating bias and promoting inclusivity in social research. In fact, by promoting digital literacy among older adults and providing them with the necessary support, researchers can empower older adults to engage in online social research effectively and contribute their perspectives to studies in various fields of so-called "Digital Sociology" (Lupton, 2015). By implementing the above mentioned strategies to reduce bias and create a more inclusive research environment, in conclusions, researchers can ensure a more accurate and representative representation of older adults in online social research and lead to more representative samples that can improve researchers' ability to generalise results (Hewson, 2003).

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