Digital ageism in data societies

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With the social distancing imposed by the COVID-19 pandemic, basic processes and services of everyday life became digitalised in many countries. These include restaurant menus, making medical appointments and managing prescriptions and the mandatory use of credit and debit cards instead of cash. Retail stores also increasingly rely on online shopping (Nanda et al., 2021).

In Spain, a large social movement emerged against the deterioration of in-person bank services in late 2021. This movement collected almost 650,000 signatures on an online platform to ask banks and the government to stop the dehumanisation of banking services that, according to them, excluded older users (De Laorden, n.d.). The movement captured political attention and influenced the discussion of public policies. A new regulation came into force in February 2022, compelling the banking sector to extend opening hours and implement dedicated telephone lines to serve older adults. This situation results from existing trends that create and sustain the exclusion of older adults (Fernández-Ardèvol, 2022). First, the COVID-19 pandemic drove the spread of digital banking due to imposed physical isolation during lockdowns and after them. Second, the banking sector is in the midst of a significant digitalisation of services that involves the closure of numerous branches and the dismissal of many staff (Blomquist & Hägglund, 2021). The most important banks offer limited face-to-face service and make it almost compulsory to use other channels for every transaction, leaving people with low digital skills unattended (including many older adults). However, and this is the third element, digital banking was never designed for older clients, and neither were ATMs. Instead, digitalisation targeted young and mid-age adults as they were deemed more likely to accept and appreciate a digitally based relationship with banks. Such a decision might have been shaped by myths that assume that older adults are not interested in digital technologies and have no capacity to learn how to use them (Sawchuk et al., 2020).

The difficulties some groups have in participating in the forced digitalisation of society, accelerated by the COVID-19 pandemic, have made their exclusion more evident (Faraj et al., 2021). So, while digitalisation and digital innovations could be natural for a great part of society and represent an

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improvement, for some people, particularly those on the wrong side of the digital divide, it represents yet another source of exclusion and loss of autonomy.

Moreover, in Western societies, while youth is much admired, praised and sought after, growing old is considered something to avoid. When growing older, individuals are expected to be different from younger adults and have different interests and attitudes. Ageism is about this; it builds on the widely accepted and unquestioned stereotypes about what people should be doing, feeling or thinking depending on their age (Ayalon & Tesch-Römer, 2018). As such, ageism can be positive or negative and can be directed towards people of any age. However, ageism tends to be more negative and more common towards older adults and more positive towards younger adults (Lagacé et al., 2015; Lev et al., 2018). The increasing importance of digital technologies in data societies (which are difficult to escape as we are thrown into a "digital existence"; see Lagerkvist, 2017) reinforces ageist spirals of exclusion and loss of autonomy of older adults.

That digital technologies are biased has been discussed for some time now. Amazon's search algorithms have been accused of being homophobic (Striphas, 2015) and Google's search algorithms of being racist (Noble, 2018). Scholars found gender biases in image-search algorithms (Kay et al., 2015) and race and gender biases in face-recognition algorithms (Sandvig et al., 2016). Academic research has shown how bots reproduce discriminatory behaviours (Neff & Nagy, 2016) and how digital technology is generally geared towards men (Klinger & Svensson, 2021).

However, there is less awareness of digital ageism (Chu et al., 2022). The struggles digital ageism creates might become the elephant in the room. The struggles build on age stereotypes and prejudices that often do not fit reality, but digital ageism is not recognised on those conflicts and it is not named, therefore, it remains massively unquestioned. Building on age stereotypes, public and private discourses over-generalise about older adults' relationship with digital technologies, thus ensuring that digital ageism will affect all adults as they grow older. Ageism could be more pervasive than sexism or racism (Officer & de la Fuente-Núñez, 2018), and as such, it represents one of the largest sources of discrimination (Ayalon & Tesch-Römer, 2018).

In this chapter, we use an age perspective to analyse how digital technologies are conceptualised and designed and how age is perceived, experienced or depicted concerning digital technologies. Our aim is to create awareness of how ageism operates in society and contribute to a broad discussion about digital ageism. We begin with a section about the inevitability of digital technology. This is followed by a section on ageism, and particularly digital ageism, to show at the end of the chapter how such concepts are related to the rest of the book.

Existing in connected data societies

As communication scholars, we tend to underline language and communication in the study and understanding of ourselves. This is most apparent in social constructionist traditions, such as discourse theory and our history and

cognition accounts. Our brains developed, and we became *Homo Sapiens* (the wise human) when we developed a language and started communicating with each other (McCrone, 1990). This means of communication made it possible for us as a species to conquer the surrounding world as it facilitated large-scale cooperation, imagination and social coordination (Harari, 2014). In contemporary times, as our cultures and societies developed, they did so in tandem with popular media and communication platforms. *Mass society* was accompanied by the advent of *mass media* (Gurevitch & Curran, 2005), and with the rise of *network media*, accounts of *network societies* became prevalent (Castells, 2011; van Dijk, 2012). Today, when almost all aspects of our lives *are rendered into data*, data that then is used for various algorithmic calculations and so-called *datafication* (see Cukier & Mayer-Schoenberger, 2013), it is possible to argue that today we live in *data societies*. Data societies are characterised by the hyper-datafication of services, processes, interactions mediated by data and algorithms, and everyday decisions based on data and algorithms. "Referring to the world we live in as a 'data society' is to acknowledge not only the ubiquitous presence of data in society, but also that these data have an impact on our worlds and our experiences of living in them" (Pinney, 2020, p. 224).

Undoubtedly, digital technologies (data, algorithms, and other types of data-supported decision systems) are becoming increasingly important. As we attend to our banking business, report student grades, travel and socialise, we are apparently expected to put our lives, work and friendships into the hands of digital, data-fed, (semi) automated systems. They are also, often inadvertently, used in credit-scoring systems, public transportation and state funding. Furthermore, through digital products and services, these technologies shape our thinking (Dancy, 2018) and imagination (Rushkoff, 2019). For example, social media services are increasingly replacing traditional media channels as information intermediaries (Diakopoulos, 2016). By sorting, filtering and ranking information, these services focus on some ideas and goods and draw us away from others (van Dijck, 2013, pp. 13, 62). Hence, social media services are not a reflection of reality. They create reality and shape the public interest. As Pasquale (2015) argues, these services profoundly influence decisions about what to do, think and buy.

Within the area of *existential media studies,* Peters (2016) argues that the media is both "the habitats and materials through which we act and are" (p. 15). Media is not only about the world; media is the world. To discuss digital technologies thus becomes equivalent to asking what existence is, as digital technologies are becoming environmental, the background of life and our infrastructure of being. This refutes an instrumental view of media and communication technologies as outside tools. Instead, users emerge through or in tandem with the tools (i.e., instruments) they use. As Lagerkvist (2019) puts it, today's environmental and wearable, all-encompassing and increasingly automated digital technologies "co-shape, bring about, and transform the human condition" (p. 1). Even if we do not know we are using the

internet, we use different systems that are based on the internet and are fed by user data. The internet has become an intimate technology that touches upon every facet of life for those living in data societies. Adapting Heidegger's concept of *throwness* to digital media, we are thrown into a digital human condition in which our existence cannot be escaped (Lagerkvist, 2019). But, while digital technologies limit users, they also open up possibilities within their limits. That our existence is *co-constituted* by digital technologies is not the same as being determined by these technologies (Peine & Neven, 2021). Where there is power, there is always a possibility for resistance (Foucault, 1970 as cited in Hou, 2021).

Ageism, an overview

Ageism is one of many forms of "bigotry" (Butler, 1969), and yet it remains relatively unnoticed (e.g., Gendron et al., 2020). There is no agreed-upon definition of ageism or what causes it (Ayalon & Tesch-Römer, 2018; Iversen et al., 2009; Palmore et al., 2005; Snellman, 2016). As explained by Palmore et al. (2005), definitions include attitudes (prejudice) connected to certain age groups, specific behaviours (discrimination) towards individuals because of their age, or both. Attitudes, in turn, can be separated into an affective (feelings you have towards an age group) and a cognitive component (beliefs or stereotypes you hold about specific age groups). In addition to this, there is discrimination on the institutional level (Iversen et al., 2009; Nelson, 2002; Palmore et al., 2005); for example, young adults are expected to do specific tasks in the workplace while older employees are assigned others. Often, ageism refers to chronological age (Iversen et al., 2009; Palmore et al., 2005), meaning a person's age is measured in time from birth to a given date. Interestingly, implicit or explicit ageism operates between different age groups and within the older population and at an individual or institutional level (Bodner, 2009; Levy, 2001).

There is a consensus that ageism affects different ages (e.g., Ayalon & Tesch-Römer, 2018; Bodner et al., 2012) and that it can produce positive and negative outcomes (Levy, 2017). Nevertheless, this volume focuses on negative ageism towards older age groups. More than thirty years of research in the field have shown that older individuals suffer the most from ageism (Iversen et al., 2009; Lagacé et al., 2015).

As the awareness of ageism increases, definitions of it will probably become more inclusive and complex (Palmore et al., 2005). This will likely make ageism more difficult to study, measure and operationalise in reports and academic research (Iversen et al., 2009). Nevertheless, one helpful and condensed definition is the "complex, often negative construction of age" (Ayalon & Tesch-Römer, 2018, p. 3), which takes place at the individual, social and cultural levels (Iversen et al., 2009). This definition summarises the discussion on ageism and underlines that age is not only about biology, i.e., the number of years since birth, but also a socio-cultural construction.

Retirement, for example, appeared with industrialisation and the development of the welfare state. It is possible to argue that public pension systems are age-based policies that constitute positive discrimination towards older age groups. However, these systems have also pushed older adults out of the labour market and power positions both in personal and professional contexts. Consequently, retired older adults change their role in the economy and society (Harris, 2005). Once individuals retire, they become part of a social minority (older adults), a powerless population segment. Sometimes, policymakers, academia and the general population uncritically assume that older populations constitute a burden (Calasanti, 2020). Hence, while age and ageist policies often are connected to biology or chronological age, these intersect with socio-cultural values and imaginations about older adults that cannot be explained as solely a consequence of demographic shifts in society (Lim-soh & Ng, 2021).

Digital ageism

Given the importance of digital technologies, it is no wonder that critical studies are showing increasing interest in their biases, particularly in the emerging field of computer sciences and *critical data studies* (see Iliadis & Russo, 2016). Digital ageism has not been completely oblivious to this trend.

Digital ageism was early defined in the Ageing + Communication + Technologies Project as "the individual and systemic biases that create forms of inclusion and exclusion that are age-related" (*Mandate – Act Project – Concordia University*, 2014). At the project's core is the examination of the various ways in which "digital ageism" is manifested, that is, the often subtle forms of individual and societal biases that exclude or limit people from accessing digital innovations based on their (old) age (Fernández-Ardèvol & Blanche, 2019). Thus, with digital ageism, we refer to the implicit or explicit discrimination of older adults based on how age is represented and experienced in relation to digital technologies.

The first references to "digital ageism" in Google Scholar date back to the mid-2010s. It is used in relation to the network society in general (Sawchuk, 2015), or digital games (Romero & Ouellet, 2016), and digital leisure activities (Hebblethwaite, 2016), among others.

Later, the term digital ageism has also been used in relation to technologies: including digital surveillance (Berridge & Grigorovich, 2022) and artificial intelligence technologies (Chu et al., 2022); in relation to uses of digital technologies: including the social distancing imposed by the COVID-19 pandemic (Neves et al., 2022), the production of memes (Lee & Hoh, 2021), and the way feminist discourses are built-in digital platforms such as Twitter and Wikipedia (Ahlawat, 2022; Gauthier & Sawchuk, 2017); and in the design of digital technologies (Manor & Herscovici, 2021).

In a broader sense, digital ageism includes ageism in relation to digital technologies; including in relation to the digital divide (Choi et al., 2020),

digital platforms (Rosales & Fernández-Ardèvol, 2020), artificial intelligence (Stypinska, 2021) and age ideologies and age biases in the technology industry (Mannheim et al., 2022; Rosales & Svensson, 2021).

Digital ageism is deeply embedded in society and operates at the institutional and interpersonal levels, building on societal values or stereotypes that are widely accepted in society. This impacts on the image older adult users have of themselves and their potential interest in digital technologies, reinforcing processes of exclusion. In other words, individuals and institutions disregard, deprioritise and even exclude older adult users and thus reinforce existing inequalities. In the following sub-section, we contextualise how digital ageism operates at the institutional level, particularly in technology companies, and how it operates at the interpersonal level, building on social values.

Corporate biases

Structural biases are sometimes attributed to the makers of digital technologies and become embedded in such technologies (Rosales & Fernández-Ardèvol, 2019b). It is well-known that young white men dominate the workforce in digital technology companies. The industry has accepted a need for more diversity, meaning more women, people of non-white ethnic backgrounds, and those with different sexualities (Kamiran et al., 2012). There have been attempts to attract women to technology (Perna et al., 2008), but, in general, these have not been as successful as it seems (see Klinger & Svensson, 2021). In their research, Professor Svensson and Dr Rosales have witnessed how technology companies boast that their offices are accessible to people with disabilities and that they support local Pride parades. However, rarely are any visibly older adults, or people above middle age, seen walking around technology headquarters in Scandinavia, Silicon Valley, Barcelona or Bengaluru. Today the forefront of conscious technology companies seems to make room for co-workers with disabilities. "After gender, ethnicity and sexuality, now is the time to cater for co-workers with disabilities", one leading technology activist said at a conference in Berlin in 2019. However, old age does not seem to have entered the minds of the people populating the technology industry.

Furthermore, by being engineered by mostly young programmers, digital products and services risk reinforcing a youth bias (see Rosales & Svensson, 2021). During the design and development of digital technologies, programmers are often unaware of the interests, limitations and preferences of people different from them. For instance, digital technologies are often not trained with data from older users (e.g., Dong et al., 2011; Mannheim et al., 2022; Manor & Herscovici, 2021). In our previous studies, programmers reported that they did incorporate older and diverse participants. By this, they meant women in their 40s (Rosales & Svensson, 2021). User studies often group participants under the labels of 40+, 50+ or 60+, which tend to exclude and dilute the nuances of older users (Rosales & Fernández-Ardèvol, 2019b).

Corporate dynamics force product owners to identify the target user and focus all their efforts on that ideal user. Products are tailored, tested and advertised to the ideal user. Younger generations are generally more common and active in digital technologies, so they become the ideal behind many innovations. Thus, the interest, habits and uses of other users are often disregarded. Older users are barely considered when designing and evaluating new technologies (Li & Luximon, 2016).

Furthermore, while new services are designed to work on most devices, they are still geared towards the latest ones. People who use older devices often find that they do not have enough space or memory to download new apps or the required operating system. Studies have shown that older and second-hand devices are more common among older users (Jacobson et al., 2017). The same goes for academia. Age is not among the most common themes in critical data studies, partly because ageism is a more hidden and accepted form of discrimination (Chu et al., 2022; Rosales & Fernández-Ardèvol, 2020). Therefore, this edited volume is needed to create awareness and contribute to the discussion about ageism in digital technologies.

Institutionally, the digital technology industry often disregards the needs of older adult users in the design, development and advertising of its devices and services as these are most often developed by, and geared towards, younger users. Older adult users are excluded as potential target audiences, and thus their needs are ignored. Those services that are directed towards older adult users mainly focus on health matters in a rather patronising way, portraying older users as a group preoccupied with their health issues.

Interpersonal biases

At the same time, conceptions and perceptions of age in relation to digital technologies shape interpersonal relationships. One widely accepted common dichotomy is that between digital natives and digital immigrants (as also underlined by Judd, 2018). Prensky (2001) argues that "digital natives" are those who grow up with digital technologies, and because of this, they are meant to think, learn and behave differently from so-called "digital immigrants". Such a dichotomy contributes to stereotyping older and younger users of digital technologies. However, no one could claim innate digital skills; usually, it is a matter of access, interest and practice. Furthermore, the pace of innovation and change in digital communication is staggering. Digital technologies develop fast in terms of devices and services. So even if individuals are accustomed to digital technologies from an early age, they still need to update their knowledge continuously. And the ways individuals decide to engage with digital technologies also change and differ along life trajectories (Busch et al., 2021; De Nadai et al., 2019; Ganito, 2017; Tsetsi & Rains, 2017). To believe and spread a digital natives theory is thus somewhat naive. Some digital immigrants (older users) might

be very skilled in two-handed typing, for example, or have other types of expertise. Still, it is common to portray younger users as digital experts, leading them to "youngsplain" the "proper" way to use digital technologies (Comunello et al., 2020). This might overlook the fact that there are many different ways of using digital technologies and different interests and values. While some usages might relate to age, older users are not a homogeneous user group.

Another dichotomy that contributes to the negative stereotyping of older users of digital technologies is that between early and late adopters. Young adults are more likely to become so-called *early adopters* of new technologies, meaning the first users of any new technology and those who adopt it before it becomes well-established (Rogers, 2003). Early adopters are characterised by high motivation, which allows them to overcome the difficulties of accessing and learning these technologies independently. However, most users, including people of all ages, are middle or late adopters. Both middle and late adopters receive recommendations, guidance or support from early adopters. Some early adopters become *warm experts* (Bakardjieva, 2005), often younger relatives or friends (Hänninen et al., 2021). In addition, some late adopters need continuous support from warm experts to cover their needs, including support in acquiring digital skills required to be updated autonomously. Whether subjected to "youngsplainers" or in need of warm experts, the current pace of innovation and change in the digital communication landscape is accompanied by ageist stereotypes and practices, with some individuals (most likely older adults) being either patronised by others or becoming dependent on them, which signal a loss of autonomy to be able to conduct everyday activities.

In this context, digitally savvy older users often need to fight against stereotypes in their everyday digital practices. As studies have shown, it is possible to find early adopters and digitally savvy people among older users (Rosales & Fernández-Ardèvol, 2019a). In our previous studies, older adults reported their efforts to explain that they wanted the most advanced smartphone in a store, not just the one the shop assistant assigned to older users (Rosales & Fernández-Ardèvol, 2016). They surprise relatives when they exhibit knowledge about digital technologies that their younger family members had no idea about. In contrast to digitally savvy older users, who attract attention for their digital skills, there is a trend among younger users to disconnect altogether (Kania Lundholm, 2021). In search of balance and meaning in life, they either dispense with or decrease their connectedness to digital technologies (Syvertsen & Enli, 2020). So-called digital detox and disconnection are becoming popular among younger adults and are applauded by psychologists and mindfulness experts. Thus, while older adults are pushed to take advantage of the potential of digital technologies in their lives, young adults are cautioned against excessive use (Syvertsen & Enli, 2020). This reflects ageist stereotypes connoting non-use to older adults and heavy use to younger adults.

Overview of the book

This anthology contributes to creating awareness of how digital ageism operates in society and how to tackle it in areas such as the (lack of) representation of diverse older individuals in digital technologies, the widespread symbolic representations of old and young age in society related to digitalisation and product-design and development.

The chapters by Francesca Comunello, Simone Mulargia and Francesca Ieracitano and by Jane Vincent provide the theoretical framework for the book. Francesca Comunello et al. analyse digital ageism at the symbolic and design levels and use the discourses of active ageing to reflect on it (Comunello et al., 2023). Jane Vincent discusses the dichotomy between framing studies about older adults based on chronological age vis-à-vis using life events to define life stages; and how a biased framing affects older users (Vincent, 2023).

Ageism might be the elephant in the room; age stereotypes and prejudices plague interpersonal relationships in digital technology companies, and negative age stereotypes are also reported by digital technology workers about themselves, but there is little or no questioning about it (Svensson, 2021; Wiener, 2020). Older adults become the disregarded target(s) in digital products and services, building on the unconscious biases of the technology industry. Ageism becomes embedded in the values and principles of digital technology companies and influences the design, evaluation, testing and marketing of digital products. In this sense, the chapter by Justyna Stypinska, Andrea Rosales and Jakob Svensson analyses the Silicon Valley culture from an ageist perspective and investigates how it influences technological culture (Stypinska et al., 2023). Similarly, Jakob Svensson carries out an empirical analysis of the strands of ageism in the digital industry based on interviews with technology workers worldwide (Svensson, 2023). Concerning the representations of final users of digital technologies, the chapter by Loredana Ivan and Eugene Loos provides a content analysis of the advertising of technological products from an age perspective (Ivan & Loos, 2023). Finally, Sergio Sayago analyses the scarce reflections about ageism in human-computer interaction research (Sayago, 2023).

By virtue of being thrown into a digital existence, digital technologies also matter for individuals unaware of their interaction with these technologies or who barely use them. However, digital services often do not consider and are not trained with data from older users (e.g., Dong et al., 2011). Digital products and services learn from data traces generated by users. Hence this data is biased towards frequent users, who tend to be younger and with relatively high skills and income (Hargittai, 2020; Rosales & Fernández-Ardèvol, 2016). The bias is, thus, implicit in the datasets that reflect the intrinsic stereotypes of society and are amplified by the algorithms. Chapters by Maria Sourbati and by Inês Amaral and Ana Marta M. Flores provide insights into this line. Sourbati's chapter reflects on age biases in smart mobility

in the city of London (UK) and how they promote or impede mobility for all (Sourbati, 2023). Amaral and Flores analyse the active ageing discourses on Instagram and whether these reinforce classical normativities or not (Amaral & Flores, 2023).

Ageism is the Trojan horse that influences how individuals see themselves and their digital decisions (Mariano et al., 2022; Rosales & Fernández-Ardèvol, 2020). The counterpart to ageist prejudices often comes from tech-savvy older users' discourses, which are frequently celebrated for their alleged exotism (Sawchuk et al., 2020). Thus, digital ageism influences the attitudes and interests of older adults in digital technologies and the full integration and autonomy of mainly older adults in the digitalised society. This way, ageism amplifies inequalities and reinforces the digital divide (Calasanti & King, 2021). Roser Beneito-Montagut, Andrea García-Santesmases and Daniel López-Gómez explore imaginaries around older adults and technologies concerning their interests, abilities and skills (Beneito-Montagut et al., 2023). Magdalena Kania-Lundholm analyses how seldom and non-users of digital technologies in Sweden cope with the digitalisation of society and with related ageist stereotypes (Kania-Lundholm, 2023). The chapter by Sarah Wagner and Akiko Ogawa looks at how ageism operates in care homes for the oldest older adults in digital storytelling workshops (Wagner & Ogawa, 2023). Finally, Roxana Barrantes, Silvana Manrique and Daniela Ugarte break down stereotypes about older adults and digital technologies by showing how face-to-face interactions are complementary to social network platform use in six Latin American countries (Barrantes et al., 2023).

User studies in academia often do not include older adults or they group participants under labels such as 45+, 55+ or 65+, which tends to exclude and dilute the nuances of older users (Rosales & Fernández-Ardèvol, 2019b). In addition, studies and research funding that include older adults are often on health-related topics that focus only on the fragility of this cohort, as argued in the chapter by Jane Vincent (Vincent, 2023). The chapters by Sarah Wagner and Akiko Ogawa; Emma Garavaglia, Alessandro Caliandro, Giulia Melis, Emanuela Sala and Daniele Zaccaria; Roser Beneito et al. and Fernández-Ardèvol provide methodological reflections to counterbalance those and other age biases in related research. They illustrate the challenges and potentialities of more comprehensive methods for studying the relationship between ageing processes and digital technologies. Their methodological reflections include the analysis of digital storytelling methods (Wagner & Ogawa, 2023), digital device tracking, social experiments, online interviews (Garavaglia et al., 2023) and how to approach the topic of digital technologies for non-savvy users (Beneito-Montagut et al., 2023).

Finally, the concluding chapter (Fernández Ardèvol, 2023), based on the chapters of the book, reflects on how ageism operates at the design level and at the symbolic level in society. And it also elaborates on the different "ageisms" or the different conceptualisations of ageism used in relation to digital technologies, beyond Digital Ageism, that are conceptualised or used in the book.

The chapters approach the topic of digital ageism through different research methods, either by applying or by critically analysing them. They include literature reviews (Comunello et al., 2023; Sayago, 2023) and a phenomenological literature review (Vincent, 2023). There are quite a few qualitative studies that use or discuss focus group interviews (Kania-Lundholm, 2023), individual interviews (Svensson, 2023) and online interviews (Garavaglia et al., 2023). Some chapters use or discuss ethnographic approaches such as digital storytelling (Wagner & Ogawa, 2023), cinema club discussions (Beneito-Montagut et al., 2023), and participant observations (Svensson, 2023). Visual and text-based content analysis are also used (Amaral & Flores, 2023; Ivan & Loos, 2023). And there are also some quantitative approaches that discuss or rely on traditional descriptive and inferential statistics based on a survey (Barrantes et al., 2023), digital device tracking, social experiments (Garavaglia et al., 2023) and social network analysis (Amaral & Flores, 2023).

While not comprehensive or all-encompassing, this volume provides insights from different parts of the globe, uses different methods and touches upon different aspects of ageism and how it plays out in contemporary connected data societies. It is our hope that this book will raise awareness, challenge power, initiate discussions and spur further research into this field.

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