

What do the papers say? The role of older adults in 20 years of digital inclusion debate in Dutch and Flemish newspapers

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Abstract

Adoption of digital technology by older adults has become an important topic in academia and the public sphere within the debate on digital inclusion. Likewise, this topic has gained traction in the print media also. This paper assesses the representation of older adults in print media in the past 20 years in The Netherlands and Flanders. A total of 281 articles in the Dutch language were analysed to determine the representation of older adults and their level of agency. We found that they were represented in three manners: a) ambassadors of digital skill acquisition; b) naturally lacking in digital skills; or c) not alone in being helpless. These representations clearly increased during the COVID-19 crisis. Some representations can be problematic, as the relationship between older adults

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and digital inclusion is not envisioned positively. Furthermore, they receive no agency to participate actively in the discussion surrounding their own digital inclusion and are too often used as the automatic example of the digitally illiterate – which is not particularly encouraging older adults towards digital skills acquisition.

Keywords: Ageism, Digital Inclusion, content analysis, media discourse, representation

Introduction

Representation in the media has an important role in public debates as it can influence the perception of groups by associating them with certain attitudes, skills, and issues (Bernhold 2021; Lepianka 2015b; Sink & Mastro 2017). The media representation of older adults with regard to digitalisation might lead to the conclusion that digital devices are not for them as they are too old (e.g. Köttl et al. 2021, 2022b; McDonough 2020; Neves et al. 2018). Older adults themselves already tend to think that new digital technologies are not meant to be used by them. For example, a study by Gallistl et al. (2021) found that older self-defined non-users would define their own (limited) use, of for example WhatsApp, as inappropriate and as such equate it with non-use. Moreover, several studies have found that older adults distance themselves from a certain image of old age (Astell et al. 2020; Hurd 1999; Minichiello et al. 2000; Pirhonen et al. 2016), one way of doing this is by avoiding using technology in order to not confirm the stereotype of technical inability (Köttl et al. 2021 2022a; Mariano et al. 2020). Another is by avoiding technology that would convey frailty and is associated with “true old age” (Ivan & Cutler 2021; Köttl et al. 2021; Neven 2010). The implication from these studies is that self-inflicted ageism, self-discrimination on the basis of age, can impede older adults in the adoption of digital technology (Mannheim et al. 2023). Additionally, Ivan and Cutler (2021) concluded that the combination of societal ageist stereotypes and internalised ageism contribute to a self-fulfilling prophesy of expecting and experiencing difficulties when it concerns older adults and technology.

The underdevelopment of older adults’ digital skills has been connected in the past to a lack of access, lack of interest and perceived usefulness,

and fear of mocking (i.e. Hill et al. 2015; Neves et al. 2018; Quan-Haase et al. 2016; Wu et al. 2015). However, one element that has not received as much attention is the impact of the media representation regarding the digital inclusion of older adults – even though it has been theorised that such representation, and stereotypes especially, can influence the behaviour of older adults (Ivan & Cutler 2021; Levy & Leifheit-Limson 2009). Specifically stereotype threat (i.e. fear of conforming to a negative image) has been found to inform older adults' adoption of digital technology (Ivan & Cutler 2021). This paper provides novel insight by examining media representation in newspapers articles which discuss digital inclusion. Furthermore, it explores this in two Dutch-language countries which have comparable high digital technology adoption, Eurostat reported that in 2022 92% of Belgian and 98% of Dutch households had access to the Internet (*Eurostat DE Households 2022*). The research question that we therefore want to answer is: *What is the role of the older adult in Dutch and Flemish newspaper articles discussing digital inclusion?*

Digital inclusion and ageism

Digital inclusion of older adults has been examined regarding access, skills and usage (i.e. Gallistl & Wanka 2022; Gallistl et al. 2020; Hunsaker & Hargittai 2018; Marler & Hargittai 2022; Neves & Amaro 2012; Olsson & Viscovi 2020; Quan-Haase et al. 2018; Van Deursen & Helsper 2015). Digital inclusion is here understood to mean the interaction between social and digital factors that lead to differences in access, skills and usage, which ultimately impact the outcomes an individual can expect as a result of their (lack of) engagement with digital technology (Asmar et al. 2022). Digital technology in this context refers to everyday information and communication technology (EICT) that enable full meaningful participation in daily life, such as online banking and government e-services (Köttl et al. 2022b). It is necessary to provide a brief introduction to the main concepts of digital inclusion before providing the context for older adults. The initial focus of digital inclusion research was on access to new EICTs and the differences in adoption among the populace. In the parlance of digital inclusion research, this is known as the first level divide (Van Dijk 2020a). As the technology was domesticated in everyday life, it became clear that although differences in access were still present, solely focussing on access was not enough to bridge the

detected divide, which is why a second level was identified: that of usage and skills (Hargittai 2010; Howard et al. 2001). Similarly, the further ubiquitous spread of EICTs resulted in the focus on a third level identified that of a disparate outcome. Concurrently research seemed to indicate that digital divides were not sufficient to accurately convey the influence of society and societal structures on the digital inclusion of a person (DiMaggio & Hargittai 2001; Helsper 2012; Mariën & Van Audenhove 2010). Ageism is one such influence which has been found to influence the digital inclusion of older adults (Köttl et al. 2022a; Mannheim et al. 2023; Swift et al. 2017). For example, ageism in the form of self-censure has been found to influence the adoption of digital technology use as argued by Mikulionienė and Rapolienė (2020) and Neves et al. (2018). Additionally, older adults are not a monolith when it comes to digital skills. As older adults have been found to be experts in their own rights (Hunsaker et al. 2020; Olsson & Viscovi 2018), divide digital labour among themselves (Marler & Hargittai 2022) or have distinct practices in their non-use (Gallistl et al. 2021). Furthermore, the use or non-use is determined by the life-course, social environment, and cognitive factors (Olsson & Viscovi 2020; Van Deursen & Helsper 2015).

Digital inclusion has received an increase in attention due to the COVID-19 crisis. Early research in 2020 identified vulnerable populations and determined that older adults were more at risk (Van Deursen 2020). This vulnerability was further corroborated by a survey that found that older adults “seem less equipped to use Covid-19 web-information and communication, although they are more at risk of having severe complications from this disease” (Van Dijk 2020b: 8). Various studies have explicitly examined the ageist views present in media and policymaking, and their disparate impact on the older segment of the population; see the work of Ayalon (2020) or Berridge and Hooyman (2020) for example. Ayalon argued that the representation of older adults during the COVID-19 crisis resulted in intergenerational tension and the erasure of the actual heterogeneity of old age, in essence reducing old age to stereotypes and prejudices. Research has shown that images of ageing can negatively affect attitudes towards ageing and the older adult population (Bai 2014; Cuddy et al. 2005; Cuddy & Fiske 2002; Enßle & Helbrecht 2021; Ivan & Cutler 2021; Loos & Ivan 2018). Additionally, stereotypes or negative attitudes to ageing can affect the well-being of older adults in detrimental

ways: it can negatively influence mental health (Lai 2009) and even influence performance in complicated skills (Levy & Leifheit-Limson 2009).

Ageing is a social construction where age itself is “a linguistic and cultural act” (Bytheway 2011: 9). This implies that the construction of age is not only determined chronologically, it is also influenced by the individual’s experience. This complicates how old age can be defined in scientific terms as it becomes subjective and heterogenous, as the accumulation of experiences cause a rich diversity in late life (Givskov & Deuze 2018; Van Dyk 2014). However, a critical reading of scientific literature in regards to the representation of old age in media found that chronological time is currently still prevalently used to determine old age while examining the role of media in later life (Iversen & Wilińska 2020). The qualification and description of “older adults” is a fraught question. The fact that the term can encompass such a diversity of experiences and multiple generations is one that the scientific literature has similarly struggled with in the past. For example, an older adult can mean someone who just retired at 65, or a 101-year-old who experienced the great depression as a child. This diversity in experiences has led researchers to define older adults in different stages as they realised that the ageing population is not a homogenous group. Laslett (1987) identified the third age as a new chronological identity in contemporary life (Gilleard & Higgs 2008). Where the third age is seen as the “active, healthy and productive side of ageing” (Higgs & Gilleard 2016, p. 1), the fourth age refers to a period in life that is defined by what it lacks instead of what it entails (Higgs & Gilleard 2016). Arguably, the transition to true old age is subjective and determined not by chronological age but by other elements, such as considering oneself frail (Nicholson et al. 2012). Thus, a definition of old age is not provided in this section but will be more inductive and determined as found in the examined texts. This process is described in more detail in the methodological section.

If ageing is socially constructed it follows that ageism is similarly co-constructed by society and the individual. Our definition of ageism builds on this and is inspired by Iversen et al. (2009) conceptual analysis. We define ageism as the often-negative co-construction of ageing by the individual and society. This co-construction results in implicit and/or explicit beliefs about ageing, which, in turn, give rise to cognitive, emotional, or behavioural expressions of exclusions based on age, ultimately

shaping an individual's mental model of ageing. This definition explains why representation can influence the ageing experience; as the individual's ideas of ageing are influenced by the images that they encounter. Self-directed ageism is then the result of incorporating and embodying societal expectations.

Representation

There is relatively limited research into the representation of the older population. More specifically, in terms of representation in newspaper media the research is quite scarce, as Fealy et al. (2012) and Rozanova et al. (2006) concluded. Research on representation is often focussed on that in either multi-media sources (e.g. Edstrom 2018; Lepianka 2015a; Phillipson et al. 2008), television (e.g. Bernhold 2021; Hofer et al. 2022; Lauzen & Dozier 2005; Markov & Yoon 2021), or film (e.g. Loos et al. 2017b; Robinson & Anderson 2006). According to Fealy et al. (2012), the discourse surrounding the ageing population is often one of dependency and vulnerability. This is confirmed by Lepianka (2015a) who found that negative descriptors of older adults were often connected to their "(alleged) incompetence (poor health, infirmity, special social needs and dependencies)" (p. 1108). However, this is disputed by a recent study by Markov and Yoon (2021), who found that the ageing stereotype that was represented most often in the United States of America (US) primetime television was related to the paradigm of "successful ageing," where older adults were often portrayed as ageing graciously, active, and in good health. Furthermore, they found a significant general underrepresentation of older adults in comparison to the actual composition of the US population, and, specifically, a dearth of older adults with intersectional identities, meaning those with disabilities, different sexual identities, or from minority backgrounds were underrepresented in the US primetime television. This could imply that a recent shift has occurred in stereotypes connected to older adults, which is confirmed by the work of Ivan et al. (2020). Loos and Ivan (2018) coined the term "visual ageism," which is the underrepresentation of the diversity of older adults and the overrepresentation of a specific version of ageing, that is connected to the third age. In a cross-country study of images in seven European countries, it was found that the images overwhelmingly focussed on

ageing well which focus on “success independence, efficiency, sociability and wealth” (Loos et al. 2017b: 13).

In terms of the representation of older adults’ technological ability, prior research is limited. Loos et al. (2017b) examined how older adults’ digital skills were shown in the film “Pony Place” and concluded that the two grandparents in the movie were depicted as the “digital immigrant” juxtaposed to the “digital nativeness” of the granddaughter. When they compared this to the actual statistical information of digital engagement in the Netherlands, they concluded that the level of unfamiliarity with digital games as portrayed in the movie does not correlate with the actual experience of older adults in the Netherlands. A study examining the discourse surrounding older gamers found that their portrayal emphasises how games can assist in ageing better, in other words on health, financial, and social benefits (Lavenir & Bourgeois 2017). A discourse analysis of three German newspapers found that older adults were often portrayed as helpless and non-users by other older adults themselves (Köttl et al. 2022b). This helped to create a difference between their own positive ageing experience and that of the perceived real old age (ibid). They also found that there was a particular focus on older adults in the areas where they were perceived to be future consumers and technology as a solution to the problem of ageing, which corresponds with previous research on media representation (Lee et al. 2007; Pasupathi & Löckenhoff 2002; Robinson & Callister 2008; Yläne et al. 2009). In a similar study, Rasi (2022) examined three Finnish news publications for their treatment of older adults and their digital skills and Internet use. They found that the portrayal of older adults’ digital competency was mostly negative and had a focus on skills connected to communication and collaboration (Rasi 2022). Our study adds to the literature by both examining a medium that is under-researched regarding the representation of older adults, as well as by providing novel insight on the changes in perception of older adults regarding digital inclusion over a longer period of time.

Methodology

In this section we will first describe the data collection method, followed by a description of the sample and the data analysis.

Data Collection

We conduct our study on a multi-national sample of Dutch language newspapers from Belgium and the Netherlands. The choice for these countries was due to their geographical location and the comparable technological and societal contexts. And both countries currently have between 80 and 91% daily internet users as per 2022 (*Eurostat – Statistical Atlas* n.d.). A systematic search of the electronic database Lexis Nexis was conducted, which offers, among other things, a vast collection of journalistic documents (Nexis Uni 2021). This database was chosen as it offered access to Dutch as well as Flemish regional and national newspapers for the time-period 2000 to 2020. Although a full listing of all available papers within this database is not available, the database offers access to a wide variety of publications and newspapers. This was confirmed by the authors after the initial data set were compiled. The sample of publications included a clear variety of newspapers across the political spectrum in both Flanders and The Netherlands. The most read newspapers from both countries were all present within the sample and provide a full range across the board. The database itself contains both articles published online and articles that were published in hard copy; this was evident in the document as they had either page indicators (hard copy) or newspaper section headings (online). Table 1 shows the different types of articles,

Table 1. Range of types of articles.

Article	167
Financial	14
International	1
Letter to the editor	6
Media, Culture, Arts	6
National	23
News	12
Opinion	21
Regional	22
Weekly magazine	9

ranging from news reports to letters to the editor. Most articles were not specifically noted as being part of a section of the newspaper and are noted as “article” in the Table to indicate that their placement could not be determined.

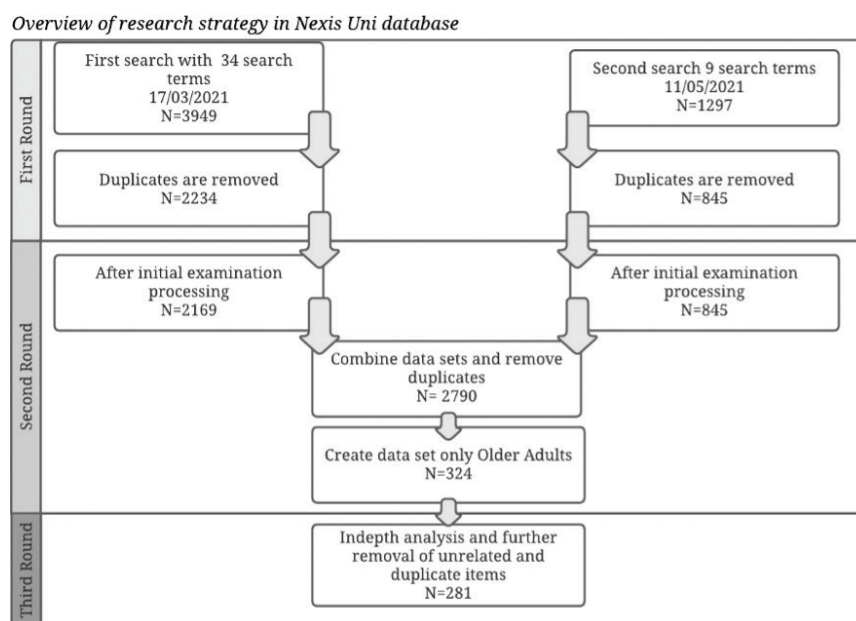
The systematic search was conducted to understand what the role of older adults was within the discussion surrounding digital inclusion. For this reason, CL, IM, and AJ held several meetings to determine and discuss the initial keywords. The initial list was based on desk research and consisted of ten keywords combined with the indicator of a country: Belgium, Flanders (only the Dutch region of Belgium) or The Netherlands. The meeting resulted in additions to this list with a focus on digital inclusion as a human right, which resulted in a first search based on 14 keywords. The keywords were selected in Dutch and are based on that vernacular, meaning that their translations to English can be prone to some loss of nuances that result in a more negative interpretation or connotation that is not necessarily part of the Dutch/Flemish vernacular.

As we took an iterative approach to the review at a later meeting, further keywords such as “digital literacy” and “digital skills” were added; this is visible in Figure 1 as there are two dates of data collection. The iterative approach, combined with the experience of processing the first batch, also allowed for refinement in the search structure, as terms such as “seniors” or “elderly” were added as a quantifier instead of the location. The goal of our research was to understand the definition of older adult according to those media representations. We chose not to specify based on a chronological birth year or number.

The additions or changes in the initial query were discussed between the first and second author, or in larger collaborative moments with all the authors. The focus on the debate surrounding digital inclusion means that some keywords may appear to have a negative bias as the discussion exposes a negative division within society. This notwithstanding, this systematic review was meant to provide insight into media representation of older adults specifically in relation to their role in the newspaper articles about digital inclusion, and not general technology use or technology adoption. This specificity informed the choice of keywords, and an overview of all the keywords is provided in Table 2.

The following exclusion criteria were used during the selection of the articles: the articles needed to be concerned with digital inclusion,

Figure 1. Overview of research strategy in Nexis Uni database.



needed to pertain to either the context of the Netherlands or Belgium (i.e. articles reporting on developments in Africa were discarded), and needed to mention older adults in some form in relation to digital inclusion. Furthermore, due to the structure of newspaper consortia in The Netherlands, there were duplicates of the same articles in multiple regional editions. These were excluded as duplicates if they had the same title as well as the exact same number of words as indicated in the downloaded article. A consensus was reached among the authors on ambiguous cases. Figure 1 shows the review strategy; as mentioned before, there were two dates of data collection: on the 17th of March 2021 and the 11th of May 2021.

The first round resulted in 3949 records including duplicates. The second round found a further 1297 records including duplicates. The two sets were reviewed separately, and in each set duplicates were

Table 2. Overview of keyword combinations for older adults.

Dutch	English	Country	Older people / seniors
Toegang internet	Access internet	Yes	No
Digitale kloof	Digital divide	Yes	No
E-inclusie	E-inclusion	No	No
Inclusie ICT	Inclusion ICT	No	No
Inclusie Internet	Inclusion Internet	No	No
Digitale uitsluiting	Digital exclusion	No	No
Exclusie	Exclusion	Yes	No
Uitsluiting ICT	Exclusion ICT	Yes	No
Toegang tot internet	Access to internet	Yes	No
Recht op internet	Right to internet	Yes	No
Basisrecht internet	Basic right internet	Yes	No
Mensenrecht internet	Humanright internet	Yes	No
“Recht op het internet“	Right to the internet	Yes	No
Uitsluiting Internet	Exclusion internet	Yes	No
Digitale geletterdheid	Digital Literacy	Yes	Yes
Digitale vaardigheden	Digital skills	No	Yes
Digitale ongelijkheid	Digital inequality	No	No

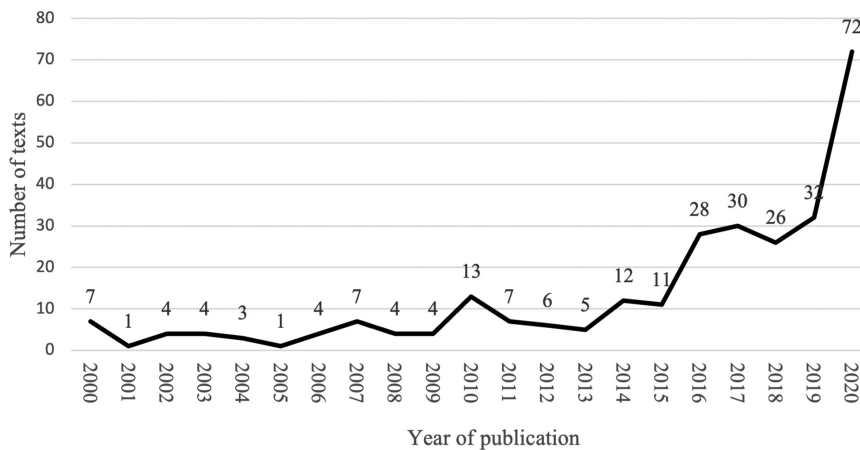
removed, resulting in a total of 2169 articles in the first set and 845 in the second set. For each individual record, we noted whether a text was Flemish or Dutch, whether it concerned older adults, its publication year, and word count. After this review was completed, the two data sets were combined and further duplicates were removed, resulting in a total data set of 2790 individual texts. Concentrating solely on the texts that mention older adults results in a dataset of 324 newspaper articles. During further in-depth analysis, another 43 texts were removed as they either were duplicates or did not, on closer examination, mention older adults and the digital inclusion theme simultaneously, leading to a final sample of 281 articles. The duplicates' removal was necessary as the combining of the data revealed duplicates that were previously not recognised as such due to changes in the title or word count but were upon closer examination duplicates after all. For

those that were deemed to not be on topic, a closer examination was necessary to reveal that the topic did not pertain to digital inclusion or older adults as previously concluded. The final sample consisted of 281 individual texts. A total of 211 articles were published in Dutch newspapers and 70 in Flemish newspapers. Figure 2 shows the distribution of texts between 2000 and 2020.

Data Analysis

In order to examine the role of older adults within the digital inclusion debate in Dutch and Flemish newspapers the data analysis occurred in two steps. We made use of the qualitative analysis software MAXQDA 2020 and 2022. The software allows an easy collaboration and facilitates the coding process. The first step in the analysis process consisted of a content analysis to determine whether the texts discussed digital inclusion and older adults. We determined whether older adults were a topic if the text mentioned the Dutch term “ouderen” or another

Figure 2. This figure shows the number of articles per year.
This figure shows the number of articles per year



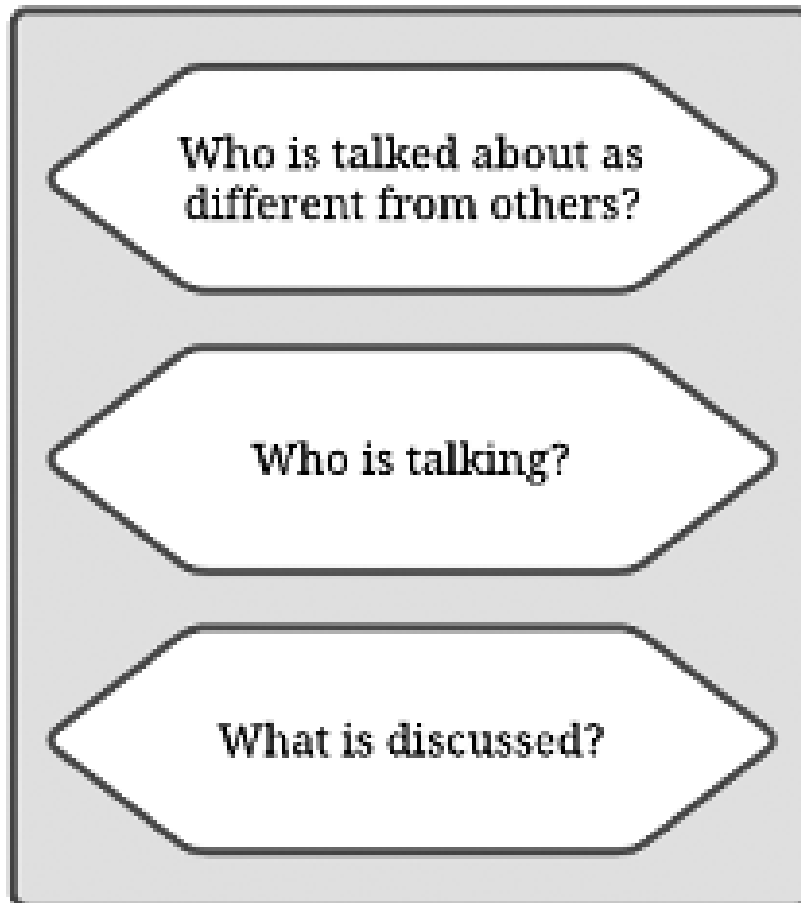
indicator that implied an aged individual, for example, “senioren.” Originally, the aim of the study was to define an older adult as those individuals 65 and older, since 65 is the traditional retirement in both countries. However, it became evident that this definition was not sufficient nor supported by the corpus. We found that the newspapers were considerably flexible in their classification of older adult. Most commonly, the newspaper articles defined an older adult as an individual who is 50 years or older. This coincides with the target audience of the various senior citizen organisations encountered in the texts. For example, in Flemish text no. 225 (Het Belang van Limburg 22/2/2020) one organisation is described as “55-plus organization OKRA” and Seniorweb.nl, a Dutch organisation that assists older adults with digital skill acquisition, uses either 50 or 55 as the youngest age limit in their infographic about older adults and internet activities (2022). For this reason, we decided to include those texts mentioning 50- or 55-year-olds as a lower limit to not lose those articles that clearly dealt with older adults (as determined by the newspapers). This distinction is not specific for the Dutch-speaking region, as it is in line with the findings of Köttl et al. (2022b).

After a text was included a memo was created based on Entman’s (1993) theory of framing. This theory was used to avoid the mistake in content analysis of focussing on dominant messages and to disregard the nuances that would better convey the perception on older adults and digital inclusion (Entman 1993). Figure 3 presents the questions that were answered in the MAXQDA memo. These questions help to provide nuance in the analysis as they provide information about the interplay between the various actors and the perceptions of older adults.

The second step consisted of an inductive thematic analysis (TA) as proposed by Braun and Clarke (2006). Thematic analysis can be used in a contextualist analysis (Braun & Clarke 2006), and provides a clear analytical process. The coding was primarily conducted by the first author. The codes were presented to the second author and themes were collectively derived. During these discussions, the themes and codes were challenged until agreement was found or a theme or code was reconsidered. This was an iterative approach until no new themes arose.

Figure 3. Questions asked in each memo in MaxQDA.

Questions asked in each memo in MaxQDA



Results

Who Talks About Older Adults?

In our findings, it is possible to distinguish four different types of spokespersons. To be included, the spokesperson needed to either speak on behalf of older adults or discuss their situation in order to make a point about (lack of) digital inclusion. Table 3 shows the main types and their distillation into smaller subtypes. Each type will receive a more detailed discussion below.

Government

This first group of persons speaking on behalf of older adults consists of *politicians*, *governmental organisations*, and *libraries*. The involvement of *politicians* can be observed in two ways: they would either act as a caller to action to change the current state of digital inclusion (i.e. a city councillor who argues for special dispensation for older citizens with regard to digital agendas of public services (text no. 197 AD/Algemeen Dagblad 26/6/2019), or they would promote a current cause that they had taken up

Table 3. Types of participants in the 281 texts.

Main Type	Sub type	Number of texts
Government	Libraries	26
	Politicians	34
	Governmental liaised institutions (such as unemployment agencies)	24
Civil organisations	Dedicated to older adults	34
	Broader target group	25
	Service provider	4
Researchers	Experts in digital inclusion	34
	Other	20
Older Adults	-	26
No spokesperson determined	-	54

(i.e. Antwerp city councillor promotes a 2020 initiative to decrease the local digital divide [text no. 221 Provinciale Zeeuwse Courant 16/12/2020]).

The *governmental organisations*, on the other hand, provide context to the issues surrounding digital inclusion. For example, in the text no. 153 (De Telegraaf 27/12/2018), the former director of the Dutch unemployment agency explained his experience with people who are 55+ and unemployed regarding digital connectivity. Finally, the *libraries* are funded by the government and were classified as a separate group as, according to the various articles, one of their main goals is teaching digital literacy. Within the sample, the libraries often used the opportunity to point towards the library's social cohesion function to clarify that they also serve the purpose of providing courses. They often used older adults to frame the need for introductory courses for digital devices.

Civil Organisations

These organisations can be divided into *organisations with a focus on older adults* and *organisations with a focus on wider society*. Within the first segment, the Flemish organisations for older adults "Okra" and "Ouderenbond," and the Dutch "SeniorWeb" are the most prevalent. They promote services that they offer; for example, in text no. 265 (Het Parool 11/05/2020) the service of a helpline for video calls is introduced. They are also asked to comment on social injustice or situations, as in text no. 225 (Het Belang van Limburg 22/2/2020), for example. In this text, Okra provides their opinion about discounts that are only available via apps. The *organisations with a focus on wider society* use older people more as an example to describe the impact of a digital society. One example is: "It is possible that for many older people it will be a while before they can see and hug their family" (text no. 270 BN de Stem.nl 11/4/2020, p.1), in relation to a wider discussion about the impact of COVID-19 on the Dutch population.

Researchers

Within the newspaper texts it is possible to see the difference in treatment of digitalisation between texts where *experts on digital inclusion or adoption* are asked to comment versus *other researchers*. There are two names that stand out with multiple articles in which they are asked to comment: Jan

van Dijk in the Netherlands and Lieven De Marez in Flanders. Both these researchers are experts in digital inclusion or adoption and are asked to provide context or are interviewed regarding research results they are presenting. For example, De Marez presents and contextualises the results of the Flemish Digimeter, a yearly survey that provides insight on the state of digital Flanders (see Vandendriessche et al. 2020 for an example of such a report). The *other researchers* form a distinct group within the discussion as they are often used to substantiate a claim or to provide context on a new phenomenon from their own field, such as in text no. 175 (De Morgen 17/7/2018), where a technology acceptance expert is asked to provide context for why care robots might not be accepted.

Older Adults

Out of the 281 texts, there were only 26 in which older adults contributed to the discussion themselves. Older adults were often not the main subjects of the texts. In text no. 231, for example, the efforts of an organisation are described, and an active member provides feedback on their services: “SeniorWeb gives a sense of security with issues. I find it very nice to be helped by peers. The volunteers of SeniorWeb take time for my questions and I like that” (text no. 231, Trouw 26/2/2020: 1). This brings us to the first distinct representation that an older adult played, and that was of an *ambassador*. This representation was seen often in texts in which the older adults gave positive comments on a course, or an activity organised by the library or non-profit organisation. The only text out of 26 in which the older adults did not express any interest in digital skills is text no. 107 (NRC Handelsblad 08/05/2016), which focusses on the reasons behind the disengagement of older adults from the digital world. The article does offer views from both professor Van Dijk and SeniorWeb, but the focus of the article is on the experience of older adults.

The Perception of Older Adults and Digital Inclusion

In this section, we will explore the way older adults are portrayed within the newspapers pertaining to digital inclusion in greater detail. The corpus of texts shows a tendency to portray older adults as the typical example of someone without digital skills. Older adults can function like this

either alone or in conjunction with other disadvantaged groups. Overall, we identified three perceived roles of older adults in the digital inclusion debate: “ambassador,” “naturally lacking digital skills,” and “not alone in being helpless.” The prevalence of these categories is also mentioned for each portrayal.

Ambassador

As explained above, the ambassador is used to showcase digital initiatives for older adults. Their input has a twofold effect: firstly, their input is used to show that *learning digital skills* has value for older adults. This can be seen in text no. 172 (Eindhovens Dagblad 23/11/2018), where one 82-year-old explains that she recently used the Internet to request that her municipality repair the sidewalk. She learned these skills in a 2-year project described in this text. The other effect is that it shows that these *are skills that older adults can learn*. Often the participants are older participants ranging from 75 to 90. Their portrayal shows that it is possible for every age to participate and benefit from these projects. As an example of this, we can paraphrase a 90-year-old participant explaining the benefits of a different course (text no. 158, De Nieuwsbode Groot-Zeis 28/11/2018): “Now I can e-mail my granddaughter in Basel and read the newspaper on the iPad. Because my children cancelled my subscription when I moved,” This type of portrayal was found in 18 documents.

Naturally Lacking in Digital Skills

The second portrayal that can be identified is that of older adults as unquestionably lacking in digital skills; this was found in 101 documents. Often, just by using the term “ouderen/senioren” (in English: “elderly”), it is implied that this group is digitally illiterate. One article introduces the lack of digital skills as a barrier to e-governance and then equates analogue access with fighting for the rights of older people (text no. 197 AD/Algemeen Dagblad 26/6/2019). Here it is taken for granted that older people are unable to make use of the digital possibilities and all of them will need to have an analogue solution. In another text, the discussion on the disappearance of regular in-person banking services leads to the mention that, besides e-banking options, there will be service points where older

adults can receive help with internet banking (text no. 196, De Telegraaf 7/12/2019).

As seen in the two previous examples, the older adult is often presented as helpless regarding, or a victim of, the shift to “digital only,” and as the reason why alternatives need to be found. An extreme example opposes the decision by the Dutch government to only offer online tax forms, as “autonomy is taken away from older people in the Netherlands and they are made dependent on the help of others when the government decides that all contact between civilians and government is digitalized” (text no. 90, De Twentsche Courant Tubantia, 19/11/2015: 1). The author goes so far as to say that older adults cannot learn to use digital technology: “Old people no longer have the flexibility to learn these digital skills and on top of that many have a lesser interest in digitalisation, these groups have missed the computer age completely” (text no. 90, De Twentsche Courant Tubantia 19/11/2015: 1).

Not Alone in Being Helpless

This next portrayal of older adults occurs when they are grouped with others that are seen as “naturally” digitally illiterate. This was found in 52 documents. The most common denominators here are people with a lower level of education, people with lower social economic status, and people living in poverty. These groups are often used when an author is describing the problem and a quick description is needed to sketch the situation. Older adults are part of those unable to join a more digital society as seen here: “old people, lower educated, unemployed and immigrants are barely able to close the gap in usage of computers in comparison to the rest of the Netherlands” (text no. 31, Reformatisch Dagblad 18/10/2007: 1). The portrayals as discussed above have one thing in common, and that is that the older adult, alone or grouped with others, is seen as a victim in need of help regarding digitalisation.

When Are Older Adults Invoked in the Discussion?

We were able to distinguish four distinct fields in which older adults were used in one of the roles as described above. These fields were social life, health care, economic welfare, and societal changes. In some of these

fields it was possible to discern a change caused by the COVID-19 health crisis, and this has been highlighted in the below sections.

Social Life

The social life and the implications of digitalisation prior to 2019 was mostly focussed on the loss of social connections due to digital technology, such as the loss of face-to-face contact because of digitalisation (e.g. text no. 109, Het Nieuwsblad 31/8/2016). Often linking this to psychological reasons for not using digital technology such as shame or negative response by their children (i.e. text no. 31, Reformatisch Dagblad 18/10/2007).

Overall, the focus is more on what older adults lose due to digitalisation instead of the potential benefit. And if a benefit is discussed it is not perceived to be equal to offline contact rather as a poor substitute, even if an article highlights that it makes connection with distant grandchildren possible (text no. 35, Trouw 4/5/2008). This stressing of the importance of offline connection changes during the COVID-19 health crisis when the ability to use digital communication technologies became the only means of safe communication for many older adults. This resulted in a lot of articles in 2020 highlighting the importance of digital skills and showing the benefits of digital communication. Articles call upon older adults to learn how to use digital communication devices i.e. text no. 229 (De Faam 30/12/2020). And in 2020 the articles do not ask for analogue solutions anymore and instead focus on the struggles of older adults to learn these new skills. One example, text no. 229 (De Faam 30/12/2020), confirms these struggles by reporting on the 15 per cent increase in the number of calls received by SeniorWeb, this is an organisation which aims to provide computer and internet assistance to older adults in the Netherlands.

Health Care

The second field to be discussed here is health care, and the benefits that digitalisation can offer for a growing ageing population worldwide regarding societal problems such as: higher health care costs, insufficient available care facilities, and a growing demand for health care (Pekkarinen et al. 2020). An essential element of digital health care is the ability to remain autonomous at home (text no. 175, De Morgen 17/7/2018). In

the corpus of texts, robots and alarms are proposed as means to remain at home longer, allowing ageing in place. The problems associated with these are discussed, such as the inability to use a health alarm correctly (text no. 18, Rotterdams Dagblad 22/9/2004), or the lack of training of the care workers (text no. 175, De Morgen 17/7/2018). This discussion is centred on the acceptance of digitalisation in health care, and is interwoven with psychosocial and economic concerns of both the care staff and older individuals towards digitalisation: “so this means that I might not have a job anymore, [the student nurses] say when they see the robot” (text 175, De Morgen 17/7/2018: 4).

The other problem that is highlighted in the texts is the disparity between those with and without digital skills in acquiring the necessary health advice. This includes the benefits for those digitally skilled enough to find health solutions, specialists, and health information. The difference in access to health care is highlighted in a call to action for politicians to ensure that the disparity does not grow and that those vulnerable to digital exclusion are offered analogue solutions (e.g. texts no. 202 [Reformatorisch Dagblad 14/5/2019] and no. 188 [Nederlands Dagblad 17/4/2019]). The focus in 2020 is not on health care when digitalisation and older adults is discussed, as only one article discusses digital health care. However, this concerns the specific context of the older adult with a migration background, who according to two scientists, experience more boundaries in accessing digital health care (text no. 240, Het Parool 8/7/2020).

Economic Welfare

In terms of economic welfare, prior to 2020 a lot of articles focus on the abilities of those over 50 to obtain and maintain sufficient digital skills to continue employment. One such text discusses the changes in the *financial services* industry, which is rapidly becoming more digital, and focusses heavily on the employees who are unwilling to change. The employees consider that they have weathered these storms before, and they expect to not be affected this time (text no. 133, De Telegraaf 13/5/2017). The other economic welfare aspect can be found in the consequences of not being able to access banking services without using internet banking (e.g. text no. 35, Trouw 4/6/2004), or the inability to independently file taxes (e.g.

text no. 135, *Het Nieuwsblad* 7/9/2017). The older adult was portrayed multiple times as the main victim of the push of the Dutch government to only allow tax filing online (e.g. text no. 90, *De Twentsche Courant Tubantia* 19/11/2015). The main argument was that this would require third-party help and would mean a loss of autonomy for the older adult.

Societal Changes

The fourth and last field is that of the position within society. Pre-COVID 19, the focus is on the loss of autonomy experienced by older adults when they encounter digital technology. We classify this as a societal issue, as not participating impacts non-users beyond the social or financial level. It has an influence on full participation in the public sphere, as can be observed in the closure of physical service points in municipalities, banks, and train stations. These closures have had a profound impact on those that are unable or unwilling to use digital alternatives (e.g. texts no. 196 (*De Telegraaf* 7/12/2019) or no. 159 (*Krant van West Vlaanderen* 21/9/2018)). Autonomy is also seen as important by older adults themselves as it is one of the main reasons for older adults' participation in a digital skills course (i.e. texts no. 172 [*Eindhovens Dagblad* 23/11/2018] and no. 132 [*Het Laatste Nieuws* 06/28/2017]).

Discussion

Based on this analysis, we see that the digitalisation debate, and specifically the media representation of older people, is a matter of underrepresentation of capable and diverse older people, and a misrepresentation of older people in general as digitally incompetent. This is similar to the concept of "visual ageism," as coined by Loos and Ivan (2018), in that the media representation is not balanced compared with the segment of the actual population. Similar to visual ageism the observed expression of ageism is influenced by the concepts of successful ageing, as the examined media representation embodied the same tenets of successful ageing (i.e. autonomy and independence). Our observations differ from that of Loos and Ivan (2018) in that, unlike visual representation, word choices in printed media can already be ageist and the focus is not on physical ability but more on cognitive ability. The representation by

older adults themselves illustrates this emphasis on cognitive ability. As they provided evidence of their ability to acquire digital skills. This is further reflected in the fact that prior to COVID-19, the social life received less attention in comparison to others, as the focus was more on the loss of the analogue social life. While the digital social life was barely considered a possible addition or replacement of the analogue social interaction. We theorise that this might be because the newspaper could not foresee that digital social connections were needed to replace in-person contact, as was the case during the COVID-19 period. It then became an essential tool to avoid social isolation. This theory is supported by the increase of attention to the social life in the newspapers in 2020.

As the findings show, older adults and digitalisation can be found in a variety of contexts. It is important to make a distinction between when older adults themselves contribute and when others speak for them. Older adults were able to contribute directly to only 26 out of 281 documents, and this occurs often in relation to a digital initiative such as a computer course. Here the perception of older adults is that of ambassador and is positive on purpose to illustrate that older adults can learn these skills. This is similar to the findings by Rasi (2022) in that the older adults are happy targets of digital inclusion initiatives; however, the difference between the Finnish portrayals and the Dutch-language are found in that they are portrayed not so much as incompetent but as eager beginners or average users. Two texts out of 26 are an exception to this as they contain older adults who reject digital technology. The two texts contextualise the disengagement of technology as a conscious choice. The difference between self-representation and representation by others is found in the autonomy available to the older adult and the diversity that is present in old age. When others discuss older adults in relation to digital inclusion it is often as one homogenous group in need of digital assistance, this concurs with existing research (Loos et al. 2017a, 2017b). There are exceptions, as the senior citizen organisations specifically acknowledge that there is heterogeneity in the abilities of older adults. However, there they distinguish between groups within the older population and portray the oldest-old “naturally lacking in skills.”

In the other texts where, older adults are mentioned but not directly engaged with, the focus is on the consequences and existence of the digital divide, and most often the older adult is mentioned as a group that is left behind and/or not benefiting from the possibilities of digital technology. The contexts in which older adults and digital technology are discussed vary; the societal and financial contexts are often dominated by negative expectations for older adults. The focus here is on the loss for older adults and less on the possibilities that digital technologies might have for them. The older adult is used as an example to easily clarify the issue for the reader who might be impacted if the digital divide continues.

The misrepresentation of older adults as naturally digitally incompetent is a form of *ageism* as it frames older people in an inescapable state of being. It can be argued that age, unlike poverty or education, is a state that cannot be changed. By casting older adults as digitally incompetent, it grants a certain futility towards the aim of changing that state. Furthermore, this framing may strongly contribute to older adults remaining unable to recognise the benefit of digital technology in their lives. Yet, this is essential for technology adoption as several scholars have noted that a lack of need or interest is often a reason for non-engagement or disengagement with technology (Ghorayeb et al. 2021; McDonough 2016, 2020; Quan-Haase et al. 2018).

Conclusion

Media representation is known to impact the perceptions of the public, and the representation of older adults within the digital inclusion debate over the last 20 years is mostly negative or hopeless. This can affect the goal of achieving digital inclusion of older people. Previous studies have shown that several of the barriers to inclusion for older people are related to fear of mocking, fear of being perceived as stupid, and the perception that it is not for them. The image that is prevalent throughout the corpus of texts does not portray the older adult in an empowering manner. Rather, in some cases, it might even enhance their reluctance about digital technology. The inclusion of older adults' perspectives in 26 articles is encouraging as they are given agency to represent themselves. However, the overall lack of

texts and self-representation means that the media representation is not yet sufficient. The definition of older adult in the newspaper articles seems to start from 50 or 55 years onwards, and this impacts the topics that are discussed. Subsequently, it ensures that newspaper articles about older workers and their issues are included but dilutes the effectiveness of the category “older adult” as it consists of at least three generations, and it becomes difficult to identify with this representation.

The representation of older adults as enthusiastic users of digital technology might have an impact on the adoption of digital technology. The older users show that digital technology is useful and beneficial for them. Previous studies have argued that older adults’ adoption is hindered by the perception that technology will not be useful for them (Castleton et al. 2020; McDonough 2020). The COVID-19 crisis has made clear that internet communication is essential for the current situation, and this might entice older adults to learn digital skills. It would, therefore, have been interesting to hear from more older adults in the 72 texts published in 2020. Their descriptions of finding digital solutions might inspire others to act and to develop skills. Peer-to-peer education has proven to be essential in retaining skills. Representation in this instance is ensuring visibility of digitally skilled older adults.

The media coverage of older adults and digital inclusion mostly does not contain a positive or hopeful narrative. If a society wants to ensure more digital participation of older adults and wants to promote successful ageing by digital social engagement and autonomy, we must ensure that the representation of the digital older adults improves. This can be achieved by guaranteeing that older adults are given space in the media to represent themselves. This includes more representation via the organisations dedicated to older adults and by older adults themselves. The fact that only 26 articles over a span of 20 years contained the voices of older adults results in an underrepresentation of this population. Moreover, the representation as *naturally lacking in digital skills* needs to be changed. The population of older adults is too diverse to be used in that fashion. It erases their competency and history.

The main limitation of this research is that the corpus of texts was retrieved from one database only. Even though Lexis Nexis is a vast

database, it is possible that certain newspapers were not included due to their lack of “deep archives” (Nexis Uni 2021), or that these same newspapers do not provide access to all of their archives. Still, we did encounter all the most-read newspapers, a broad selection of the established Dutch magazines, and a variety of papers over the whole political spectrum. Further research is necessary to investigate whether similar trends can be found in other countries. One suggestion is to investigate the discourse present in newspapers in Afrikaans (one of the main languages in South Africa and deriving a lot of the vocabulary from Dutch) to see the differences between their discourse and that of their European counterparts. Moreover, it would be interesting to investigate whether the overrepresentation of texts from the Netherlands is reflected in a difference in digital inclusion policy between Flanders and The Netherlands, where it might be expected that there is more public sphere debate surrounding the digital inclusion of older adults in The Netherlands due to more media attention.

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References

- Asmar, A., Marien, I. & Van Audenhove, L. (2022). No One-Size Fits All! Eight profiles of digital inequalities for customized inclusion strategies. *New Media & Society* 24(2): 279–310. doi: 10.1177/14614448211063182
- Astell, A. J., McGrath, C. & Dove, E. (2020). “That’s for old so and so’s!”: Does identity influence older adults’ technology adoption decisions? *Ageing and Society* 40(7): 1550–1576. doi: 10.1017/S0144686X19000230
- Ayalon, L. (2020). There is nothing new under the sun: Ageism and inter-generational tension in the age of the COVID-19 outbreak. *International Psychogeriatrics* 32(10): 1221–1224. doi: 10.1017/S1041610220000575
- Bai, X. (2014). Images of ageing in society: A literature review. *Journal of Population Ageing* 7(3): 231–253. doi: 10.1007/s12062-014-9103-x
- Bernhold, Q. S. (2021). The role of media in predicting older adults’ own age-related communication and successful aging. *Mass Communication and Society* 24(1): 1–30. doi: 10.1080/15205436.2020.1743862
- Berridge, C. & Hooyman, N. (2020). The consequences of ageist language are upon us. *Journal of Gerontological Social Work* 63(6–7): 508–512. doi: 10.1080/01634372.2020.1764688
- Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology* 3(2): 77–101. doi: 10.1191/1478088706qp063oa
- Bytheway, B. (2011). *Unmasking age: The significance of age for social research*. Bristol: Bristol University Press.
- Castleton, A., Cid, A. & Silva, D. (2020). ‘For older folks like me, these things are over us...’: The challenge of embedding tablet computers in everyday life within a geriatric hospital in Uruguay. *Educational Gerontology* 46(4): 167–181. doi: 10.1080/03601277.2020.1720321
- Cuddy, A. J. C., & Fiske, S. T. (2002). Doddering but dear: Process, content, and function in stereotyping of older persons. In T. D. Nelson (ed.), *Ageism: Stereotyping and prejudice against older persons* (pp. 3–26). Cambridge: MIT Press.
- Cuddy, A. J. C., Norton, M. I. & Fiske, S. T. (2005). This old stereotype: The pervasiveness and persistence of the elderly stereotype. *Journal of Social Issues* 61(2): 267–285. doi: 10.1111/j.1540-4560.2005.00405.x

- Digital economy and society statistics – Households and individuals*. (2022). Available on https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Digital_economy_and_society_statistics_-_households_and_individuals (Accessed: December 13, 2022).
- DiMaggio, P. & Hargittai, E. (2001). From the 'digital divide' to 'digital inequality': Studying Internet use as penetration increases. *Princeton: Center for Arts and Cultural Policy Studies, Woodrow Wilson School, Princeton University* 4(1): 4–2.
- Edstrom, M. (2018). Visibility patterns of gendered ageism in the media buzz: A study of the representation of gender and age over three decades. *Feminist Media Studies* 18(1, SI): 77–93. doi: 10.1080/14680777.2018.1409989
- Enßle, F. & Helbrecht, I. (2021). Understanding diversity in later life through images of old age. *Ageing and Society* 41(10): 2396–2415. doi: 10.1017/S0144686X20000379
- Entman, R. (1993). Framing: Toward clarification of a fractured paradigm. *Journal of Communication* 43(4): 51–58. doi: 10.1111/j.1460-2466.1993.tb01304.x
- Eurostat – Statistical Atlas*. (n.d.). Available on <https://ec.europa.eu/statistical-atlas/viewer/?config=RyB-2021.json&mids=B-KGCNT,C06M01,CNTOVL&o=1,1,0.7&ch=ECO,C06¢er=50.80094,5.92632,5&lcis=C06M01&> (Accessed: October 10, 2023).
- Fealy, G., McNamara, M., Treacy, M. P. & Lyons, I. (2012). Constructing ageing and age identities: A case study of newspaper discourses. *Ageing & Society* 32(1): 85–102. doi: 10.1017/S0144686X11000092
- Gallistl, V., Rohner, R., Hengl, L. & Kolland, F. (2021). Doing digital exclusion – Technology practices of older internet non-users. *Journal of Aging Studies* 59: 100973. doi: 10.1016/j.jaging.2021.100973
- Gallistl, V., Rohner, R., Seifert, A. & Wanka, A. (2020). Configuring the older non-user: Between research, policy and practice of digital exclusion. *Social Inclusion* 8(2): 233–243. doi: 10.17645/si.v8i2.2607
- Gallistl, V. & Wanka, A. (2022). The internet multiple: How internet practices are valued in later life. *International Journal of Ageing and Later Life* 15(2): 103–126. doi: 10.3384/ijal.1652-8670.3563
- Ghorayeb, A., Comber, R. & Goberman-Hill, R. (2021). Older adults' perspectives of smart home technology: Are we developing the

- technology that older people want? *International Journal of Human – Computer Studies* 147(November 2020): 102571–102571. doi: 10.1016/j.ijhcs.2020.102571
- Gilleard, C. & Higgs, P. (2008). The third age and the baby boomers. *International Journal of Ageing and Later Life* 2(2): 13–30. doi: 10.3384/ijal.1652-8670.072213
- Givskov, C. & Deuze, M. (2018). Researching new media and social diversity in later life. *New Media and Society* 20(1): 399–412. doi: 10.1177/1461444816663949
- Hargittai, E. (2010). Digital Na(t)ives? Variation in Internet skills and uses among members of the “Net Generation.” *Sociological Inquiry* 80(1): 92–113. doi: 10.1111/j.1475-682x.2009.00317.x
- Helsper, E. J. (2012). A corresponding fields model for the links between social and digital exclusion: A corresponding fields model for digital exclusion. *Communication Theory* 22(4): 403–426. doi: 10.1111/j.1468-2885.2012.01416.x
- Higgs, P., & Gilleard, C. (2016). Old age and the fourth age paradigm. *In Personhood, identity and care in advanced old age* (pp. 1–10). Bristol: Bristol University Press.
- Hill, R., Betts, L. R. & Gardner, S. E. (2015). Older adults experiences and perceptions of digital technology: (Dis)empowerment, wellbeing, and inclusion. *Computers in Human Behavior* 48: 415–423. doi: 10.1016/j.chb.2015.01.062
- Hofer, M., Birrer, A., Eden, A. & Seifert, A. (2022). Daily TV use and meaning in life among older adults: The moderating role of selective and compensatory TV use. *Mass Communication and Society* 1–22. doi: 10.1080/15205436.2022.2135447
- Howard, P. E. N., Rainie, L. & Jones, S. (2001). Days and nights on the Internet: The impact of a diffusing technology. *American Behavioral Scientist* 45(3): 383–404. doi: 10.1177/00027640121957259
- Hunsaker, A. & Hargittai, E. (2018). A review of Internet use among older adults. *New Media & Society* 20(10): 3937–3954. doi: 10.1177/1461444818787348
- Hunsaker, A., Nguyen, M. H., Fuchs, J., Karaoglu, G., Djukaric, T. & Hargittai, E. (2020). Unsung helpers: Older adults as a source of digital

- media support for their peers. *Communication Review* 23(4): 309–330. doi: 10.1080/10714421.2020.1829307
- Hurd, L. C. (1999). “We’re Not Old!”: Older women’s negotiation of aging and oldness. *Journal of Aging Studies* 13(4): 419–439. doi: 10.1016/S0890-4065(99)00019-5
- Ivan, L. & Cutler, S. J. (2021). Ageism and technology: The role of internalized stereotypes. *University of Toronto Quarterly* 90(2): 127–139. doi: 10.3138/utq.90.2.05
- Ivan, L., Loos, E. & Tudorie, G. (2020). Mitigating visual ageism in digital media: Designing for dynamic diversity to enhance communication rights for senior citizens. *Societies* 10(76): 1–13. doi: 10.3390/soc10040076
- Ivan, L., Loos, E., & Tudorie, G. (2020). Mitigating visual ageism in digital media: Designing for dynamic diversity to enhance communication rights for senior citizens. *Societies* 10(76): 1–13. doi: 10.3390/soc10040076
- Iversen, S. M. & Wilińska, M. (2020). Ageing, old age and media: Critical appraisal of knowledge practices in academic research. *International Journal of Ageing and Later Life* 14(1): 121–149. doi: 10.3384/ijal.1652-8670.18441
- Iversen, T. N., Larsen, L. & Solem, P. E. (2009). A conceptual analysis of ageism. *Nordic Psychology* 61(3): 4–22. doi: 10.1027/1901-2276.61.3.4
- Köttl, H., Allen, L. D., Mannheim, I. & Ayalon, L. (2022). Associations between everyday ICT usage and (self-)ageism: A systematic literature review. *The Gerontologist* 63(7): 1172–1187. doi: 10.1093/geront/gnac075
- Köttl, H., Gallistl, V., Rohner, R. & Ayalon, L. (2021). “But at the age of 85? Forget it!”: Internalized ageism, a barrier to technology use. *Journal of Aging Studies* 59: 100971. doi: 10.1016/j.jaging.2021.100971
- Köttl, H., Tatzler, V. C. & Ayalon, L. (2022). COVID-19 and everyday ICT use: The discursive construction of old age in German Media. *The Gerontologist* 62(3): 413–424. doi: 10.1093/geront/gnab126
- Lai, D. W. L. (2009). Older Chinese’ attitudes toward aging and the relationship to mental health: An international comparison. *Social Work in Health Care* 48(3): 243–259. doi: 10.1080/00981380802591957
- Laslett, P. (1987). The emergence of the third age. *Ageing and Society* 7(2): 133–160. doi: 10.1017/S0144686X00012538

- Lauzen, M. M. & Dozier, D. M. (2005). Recognition and respect revisited: Portrayals of age and gender in prime-time television. *Mass Communication and Society* 8(3): 241–256. doi: 10.1207/s15327825mcs0803_4
- Lavenir, G. & Bourgeois, N. (2017). Old people, video games and french press: A topic model approach on a study about discipline, entertainment and self-improvement. *MedieKultur: Journal of Media and Communication Research* 33(63): 20. doi: 10.7146/mediekultur.v33i63.24749
- Lee, M. M., Carpenter, B. D. & Meyers, L. S. (2007). Representations of older adults in television advertisements. *Journal of Aging Studies* 21(1): 23–30. doi: 10.1016/j.jaging.2006.04.001
- Lepianka, D. (2015a). How similar, how different? On Dutch media depictions of older and younger people. *Ageing and Society* 35(5): 1095–1113. doi: 10.1017/S0144686X14000142
- Lepianka, D. (2015b). The representation of youth in the Dutch News media. *Young* 23(4): 277–292. doi: 10.1177/1103308815596881
- Levy, B. R. & Leifheit-Limson, E. (2009). The stereotype-matching effect: Greater influence on functioning when age stereotypes correspond to outcomes. *Psychological Ageing* 24(1): 230–233. doi: 10.1037/a0014563
- Loos, E. & Ivan, L. (2018). Visual ageism in the media. *Contemporary Perspectives on Ageism* 19: 163–176. doi: 10.1007/978-3-319-73820-8_11
- Loos, E., Ivan, L., Fernández-Ardèvol, M., Sourbati, M., Ekström, M. & Wilin, M. (2017). Ageing well? A cross-country analysis of the way older people are visually represented at websites of organizations for older people. *Journal of Comparative Research in Anthropology and Sociology* 8(2): 63–83.
- Loos, E., Kubiński, P. & Romero, M. (2017). The representation of older people playing a digital game in the short film ‘Pony Place’: A semiotic and narratological analysis. *Journal of Comparative Research in Anthropology and Sociology* 8(2): 43–62.
- Mannheim, I., Varlamova, M., Van Zaalen, Y. & Wouters, E. J. M. (2023). The role of ageism in the acceptance and use of digital technology. *Journal of Applied Gerontology* 42(6): 1283–1294. doi: 10.1177/07334648231163426
- Mariano, J., Marques, S., Ramos, M. R., Gerardo, F. & De Vries, H. (2020). Too old for computers? The longitudinal relationship between stereotype threat and computer use by older adults. *Frontiers in Psychology* 11: 1–7. doi: 10.3389/fpsyg.2020.568972

- Mariën, I. & Van Audenhove, L. (2010). Embedding e-inclusion initiatives in people's daily reality: The role of social networks in tackling the digital divide. *Digitas Conference 'Digital Natives, Digital Immigrants; Digital Asylum Seekers: The Clash of Cultures* (pp. 1-14). 22-24 June, 2010. Sibiu, RO.
- Markov, Č. & Yoon, Y. (2021). Diversity and age stereotypes in portrayals of older adults in popular American primetime television series. *Ageing & Society* 41(12): 2747-2767. doi: 10.1017/S0144686X20000549
- Marler, W. & Hargittai, E. (2022). Division of digital labor: Partner support for technology use among older adults. *New Media & Society* 26(2): 978-994. doi: 10.1177/14614448211068437
- McDonough, C. C. (2016). The effect of ageism on the digital divide among older adults. *Gerontology & Geriatric Medicine* 2(1): 1-7. doi: 10.24966/ggm-8662/100008
- McDonough, C. C. (2020). Determinants of a digital divide among able-bodied older adults: Does "Feeling Too Old" play a role? *International Journal of Aging Research* 3: 60. doi: 10.28933/ijoar-2020-02-2305
- Mikulionienė, S. & Rapolienė, G. (2020). Perceived incentives and barriers to social participation: The case of older adults living alone in Lithuania. *Passionate Europe* 6(2): 176-176. doi: 10.17356/ieejsp.v6i2.626
- Minichiello, V., Browne, J. & Kendig, H. (2000). Perceptions and consequences of ageism: Views of older people. *Ageing and Society* 20(3): 253-278. doi: 10.1017/S0144686X99007710
- Neven, L. (2010). 'But Obviously not for Me': Robots, laboratories and the defiant identity of elder test users. *Sociology of Health and Illness* 32(2): 335-347. doi: 10.1111/j.1467-9566.2009.01218.x
- Neves, B. B. & Amaro, F. (2012). Too old for technology? How the elderly of Lisbon use and perceive ICT. *The Journal of Community Informatics* 8(1): 1-22. doi: 10.15353/joci.v8i1.3061
- Neves, B. B., Waycott, J. & Malta, S. (2018). Old and afraid of new communication technologies? Reconceptualising and contesting the 'age-based digital divide.' *Journal of Sociology* 54(2): 236-248. doi: 10.1177/1440783318766119
- Nexis Uni. (2021). *What is a Nexis Uni Search?* Available on [https://help.lexisnexis.com/Flare/nexisuni/US/nl_NL/Content/concept/search_cpt.htm?Highlight=which papers included](https://help.lexisnexis.com/Flare/nexisuni/US/nl_NL/Content/concept/search_cpt.htm?Highlight=which%20papers%20included) (Accessed: October 20, 2021)

- Nicholson, C., Meyer, J., Flatley, M., Holman, C. & Lowton, K. (2012). Living on the margin: Understanding the experience of living and dying with frailty in old age. *Social Science & Medicine* 75(8): 1426–1432. doi: 10.1016/j.socscimed.2012.06.011
- Olsson, T. & Viscovi, D. (2018). Warm experts for elderly users: Who are they and what do they do? *Human Technology* 14(3): 324–342. doi: 10.17011/ht/urn.201811224836
- Olsson, T. & Viscovi, D. (2020). Who actually becomes a silver surfer? Prerequisites for digital inclusion. *Javnost-The Public* 27(3): 230–246. doi: 10.1080/13183222.2020.1794403
- Pasupathi, M. & Löckenhoff, C. E. (2002). Ageist behaviour. In T. D. Nelson (ed.), *Ageism: Stereotyping and prejudice against older persons CN – HQ1061. A42442 2002* (pp. 201–246). MIT Press. Cambridge, Mass.
- Pekkarinen, S., Hennala, L., Tuisku, O., Gustafsson, C., Johansson-Pajala, R.-M., Thommes, K., Hoppe, J. A. & Melkas, H. (2020). Embedding care robots into society and practice: Socio-technical considerations. *FUTURES* 122: 102593. doi: 10.1016/j.futures.2020.102593
- Phillipson, C., Leach, R., Money, A. & Biggs, S. (2008). Social and cultural constructions of ageing: The case of the baby boomers. *Sociological Research Online* 13(3): 1–14. doi: 10.5153/sro.1695
- Pirhonen, J., Ojala, H., Lumme-Sandt, K. & Pietilä, I. (2016). 'Old but not that old': Finnish community-dwelling people aged 90+ negotiating their autonomy. *Ageing and Society* 36(8): 1625–1644. doi: 10.1017/S0144686X15000525
- Quan-Haase, A., Martin, K. & Schreurs, K. (2016). Interviews with digital seniors: ICT use in the context of everyday life. *Information Communication and Society* 19(5): 691–707. doi: 10.1080/1369118X.2016.1140217
- Quan-Haase, A., Williams, C., Kicevski, M., Elueze, I. & Wellman, B. (2018). Dividing the Grey Divide: Deconstructing myths about older adults' online activities, skills, and attitudes. *American Behavioral Scientist* 62(9): 1207–1228. doi: 10.1177/0002764218777572
- Rasi, P. (2022). 'Behind the Digi-God's back': Social representations of older people's digital competences and internet use in regional Finnish newspapers. *Ageing and Society* 42(4): 829–848. doi: 10.1017/S0144686X20001269
- Robinson, T. & Anderson, C. (2006). Older characters in children's animated television programs: A content analysis of their Portrayal.

- Journal of Broadcasting & Electronic Media* 50(2): 287-304. doi: 10.1207/s15506878jobem5002_7
- Robinson, T. & Callister, M. (2008). Body image of older adults in magazine advertisements: A content analysis of their body shape and portrayal. *Journal of Magazine Media* 10(1): 1-16. doi: 10.1353/jmm.2008.0001
- Rozanova, J., Northcott, H. & McDaniel, S. A. (2006). Seniors and portrayals of intra-generational and intergenerational inequality in the globe and mail. *Canadian Journal on Aging/La Revue Canadienne Du Vieillessement Aging* 25(4): 373-386. doi: 10.1353/cja.2007.0024
- Seniorweb.nl. (2022). *Over SeniorWeb*. SeniorWeb.nl. Available on <https://www.seniorweb.nl/over-seniorweb> (Accessed: March 29, 2022)
- Sink, A. & Mastro, D. (2017). Depictions of gender on primetime television: A quantitative content analysis. *Mass Communication and Society* 20(1): 3-22. doi: 10.1080/15205436.2016.1212243
- Swift, H. J., Abrams, D., Lamont, R. A. & Drury, L. (2017). The risks of ageism model: How ageism and negative attitudes toward age can be a barrier to active aging. *Social Issues and Policy Review* 11(1): 195-231. doi: 10.1111/sipr.12031
- Van Deursen, A. J. A. M. (2020). Digital inequality during a pandemic: Quantitative study of differences in COVID-19-related internet uses and outcomes among the general population. *Journal of Medical Internet Research* 22(8): e20073. doi: 10.2196/20073
- Van Deursen, A. J. A. M., & Helsper, E. J. (2015). A nuanced understanding of Internet use and non-use amongst older adults. *European Journal of Communication* 30(2), 171-187.
- Van Dijk, J. A. G. M. (2020a). *Digital divide*. Polity Press. Cambridge UK.
- Van Dijk, J. A. G. M. (2020b). Closing the digital divide the role of digital technologies on social development, well-being of all and the approach of the Covid-19 pandemic. *Socially Just Transition towards Sustainable Development: The Role of Digital Technologies on Social Development and Well-Being of All*. New York: Virtual Expert Group UN Meeting. Available on https://www.researchgate.net/publication/343555101_CLOSING_THE_DIGITAL_DIVIDE_The_Role_of_Digital_Technologies_on_Social_Development_Well-Being_of_All_and_the_Approach_of_the_Covid-19_Pandemic (Accessed: April 14, 2022)

- Van Dyk, S. (2014). The appraisal of difference: Critical gerontology and the active-ageing-paradigm. *Journal of Aging Studies* 31: 93–103. doi: 10.1016/j.jaging.2014.08.008
- Vandendriessche, K., Steenberghs, E., Matheve, A., Georges, A. & De Marez, L. (2020). Imec. Digi Meter 2020. In *Imec Vlaanderen (Digimeter)*. imec. Available on <https://www.imec.be/nl/expertises/techtrends/imecdigimeter/digimeter-2020#rapport> (Accessed: October 20, 2021)
- Wu, Y. H., Damnée, S., Kerhervé, H., Ware, C. & Rigaud, A. S. (2015). Bridging the digital divide in older adults: A study from an initiative to inform older adults about new technologies. *Clinical Interventions in Aging* 10: 193–201. doi: 10.2147/CIA.S72399
- Ylänne, V., Williams, A. & Wadleigh, P. M. (2009). Ageing well? Older people's health and well-being as portrayed in UK magazine advertisements. *International Journal of Ageing and Later Life* 4(2): 33–62. doi: 10.3384/ijal.1652-8670.094233

