

Methods and (Lack of) Theory in Digital Inclusion, Digital Divide, and Digital Equity Research on Older Adults

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Abstract

Older adults, as a group, have been the focus of considerable attention from digital inclusion researchers. The paper analyses literature on the digital inclusion, digital divide, and digital equity of older adults from the last five years (2017-2022) to explore the extent to which recent digital inclusion research considers developments in the field and explores how research has progressed from exploration to theory building and the empirical testing of models. The paper contributes to our understanding of digital inclusion research on older adults through an analysis of methodologies and theories employed, and the topics investigated. Trends, deficits and gaps for future research are identified, with suggestions for how our knowledge, understanding and conceptualization of older adults' digital inclusion may be advanced further.

Keywords: digital inclusion, digital equity, digital divide, maturity, literature review

1. Introduction

Inequality in people's access to digital technologies came to academic attention in 1997 when the first academic article on the "digital divide" was published (Katz & Aspden, 1997). Now, with a quarter of a century of academic writing and research on digital inclusion, there is little evidence of waning interest in the topic. 2021 saw a large rise in the number of articles addressing issues of digital divisions likely driven by COVID19 pandemic, the rise in working and learning from home through digital technologies, and the inequalities in engagement with digital technologies revealed because of the pandemic response.

Older adults, as a group, have been the focus of considerable attention from digital inclusion researchers. This group is often reported as less engaged with the Internet than other age groups (Díaz Andrade et al., 2021), and researchers raise concerns that older people are being "left behind" in an increasingly digital world and are stuck on the wrong side of the digital divide (Malta & Wilding, 2018). While digital divide,

digital inclusion, and digital equity are conceptually different, they are often used interchangeably by researchers. The three terms highlight the problems, solutions, and results of digital inclusion, which will be used in this paper as an umbrella term. This paper focuses on the digital inclusion of older adults, not only because they are a commonly researched group but also due to the number of digital inclusion initiatives targeting them. Many societies around the globe have an aging population and internet technology is positioned as an important basis for building digitally inclusive communities within which older people are active participants (International Telecommunication Union, 2021). This discussion does not aim to be an exhaustive, systematic review of literature focused on the digital inclusion of older people. Rather, it analyses literature on the topic from the last five years (2017-2022) to explore the extent to which recent digital inclusion research considers developments in the field and how research has progressed from exploration to theory building and the empirical testing of models. The paper also considers key themes emerging from our analysis and proposes how our knowledge, understanding and conceptualization of digital inclusion may be advanced further.

2. From digital divide to digital inclusion to digital equity

Despite over a quarter century of research into digital inequality, there is still no generally accepted understanding of the concept of digital inclusion and the language used to describe people's engagement with the Internet continues to evolve. Although the term digital divide is still used frequently to refer to "the gap between those who have and do not have access to computers and the Internet" (van Dijk, 2006, p. 221), it is considered outdated and too narrowly focused on people's access to internet infrastructure (Holcombe-

James, 2021). The terms digital inclusion and digital exclusion reflect a wider political and societal inclusivity agenda that recognizes the right of all to participate in society and an appreciation of difference and diversity (Gordon-Burns et al., 2012). Following on from this, digital inclusion similarly recognizes the right of individuals to participate in digital society and, as a strategy, digital inclusion aims to ensure that all citizens have equal opportunities and adequate skills to benefit equally from digital technology (Pawluczuk et al., 2021). Digital exclusion, in contrast, focuses on digital barriers that prevent people connecting online and is considered to contribute directly to social exclusion, isolation and lack of participation in society more generally (Malpass et al., 2021). The terms digital equality and digital inequalities also have broader societal implications, focusing on communities and individuals who are able or unable to participate in an increasingly digital society (Seifert, 2020).

Discussions in this research area have therefore broadened to address concerns of equity and the need to develop a deep and nuanced understanding of the multifaceted ways in which people may or may not be digitally included, the possible reasons why, and how systemic challenges to digital inclusion can be addressed. While early research on digital inclusion focused primarily on who did or did not have access to the Internet (Holcombe-James, 2022), more recently, there has been a rejection of this binary view and an acknowledgement that people's engagement with the Internet is not just a matter of access but manifests in complex ways because of a range of competing personal, local and system-wide factors (Brandtzæg et al., 2010; Du, 2017). It is now widely recognized that there are several levels of "divides" – first level divides in access, second level divides in use, and third level divides in the outcomes and benefits derived from engagement with digital technologies (Ragnedda & Mutsvairo, 2018). Importantly, the language used to discuss developments in the area has evolved away from the early deficit language of "divides" towards more positive terms such as "inclusion", "engagement" and "equity", although the term "digital divide" remains prominent (e.g. van Dijk, 2020).

Accompanying the change in language, there has been a progressive shift in the focus of digital inclusion research towards considering factors such as differences in usage, skills and outcomes (van Deursen and van Dijk, 2014), rather than just people's access to the internet. Helsper and Reisdorf (2017) identify four categories of reasons for digital disengagement: access, skills, interest, and costs while others add the issue of trust (Trentham et al., 2014). If we conceptualize Helsper and Reisdorf's (2017) costs as an access issue, we can summarize the reasons underpinning people's differing engagement with the internet as outlined in the literature as: access, skills, motivation, and trust.

3. Recent literature reviews on digital inclusion

Previous reviews on digital inclusion range from formal systematic reviews of the broad topic area (Lythreathis et al., 2022) or specific sub-topics (Bhattacharjee et al., 2020), to scoping reviews (Esteban-Navarro et al., 2020), and general literature reviews (Liao et al., 2022). There is a broad base of extant literature on digital inclusion focused on defining and explaining key concepts (Scheerder et al., 2017) and investigating how digital inclusion impacts different demographic and socio-economic groups, and the efficacy of digital inclusion interventions and initiatives (Acilar & Sæbø, 2021; Saleminck et al., 2017). These reviews have been extended to understand how events such as Covid 19 promote or impede digital inclusion initiatives and propose possible solutions to overcome the digital divide for various demographic groups and in diverse geographic locations (Aissaoui, 2021; Esteban-Navarro et al., 2020). In addition, the reviews provide valuable perspectives on definitions and terminology, factors underpinning digital inclusion, the different groups affected, and they explore potential interventions to address challenges identified (Borg et al., 2019; Fang et al., 2019; Hustad et al., 2019).

However, the reviews rarely extend beyond reporting key findings of the empirical work, and few analyze the methodologies and data collection processes adopted. Although some reviews note the research design of the studies (Morte-Nadal & Esteban-Navarro, 2022) and highlight the limitations of the research (Vassilakopoulou & Hustad, 2021), the majority overlook the role of theory in informing the design of studies or interpreting the results. An exception is Vassilakopoulou and Hustad (2021), who posit that despite the existence of fully developed theoretical frameworks in studies related to ICTs, these are still lacking in digital inclusion studies.

4. Methods

This review was conducted following the recommendations of Webster and Watson (2002), vom Brocke et al. (2015), and Templier and Paré (2015). As noted, digital divide, digital inclusion, and digital equity are conceptually different, but they are often used interchangeably by researchers. The three terms were included in the search to capture articles on the problems, solutions, and results of digital inclusion. Considering the wide range and variety of publications on the topic, Scopus and Web of Science were selected to capture content from multiple disciplines. Searches, conducted between February and April 2022, were limited to the title, abstract, and authors' keywords, using the terms "digital divide", "digital inclusion",

“digital equity” and synonyms for older adults (see Table 1). Because of the fast-moving nature of technology and the field, the search was limited to articles published between 2017 and 2022 in English.

Database	Search terms	Relevant Abstracts	Relevant Articles
Scopus	TITLE-ABS-KEY ("digital divide" OR "digital inclusion" OR "digital equity" AND "older adults" OR "seniors" OR "elderly people")	148	35
Web of Science	TITLE-ABS-KEY ("digital divide" OR "digital inclusion" OR "digital equity" AND "older adults" OR "seniors" OR "elderly people")	173	7
Total			42

Table 1: Search strategy

The initial search in Scopus retrieved 148 relevant abstracts. Based on the title and abstract, the identified abstracts were reviewed and limited to peer-reviewed empirical studies focusing on older adults. A total of 35 articles were found to be relevant. The same procedure was also applied to the Web of Science database, which retrieved 173 in the initial search. Articles that had already been retrieved from Scopus were removed, and seven articles were found relevant. Excel was used to capture article citations for analysis.

The use of theory/paradigms and the methodological choices made by researchers are specific criteria considered in evaluation of the maturity of a research domain (Keathley et al., 2013; Vos, 2015). With an interest in the development of research in the digital inclusion field, these criteria provided a lens to establish the extent to which research in this area has moved beyond descriptive conceptualization and framework development to explanatory empiricism. The articles included in the literature review were evaluated for their research design, (including paradigmatic, methodological and data gathering approaches/choices), and theory. They were also analyzed for disciplinary fit because one of the indicators of maturity explored by Keathley et al. (2013) is *authorship divergence*. That is, does authorship expand beyond a small number of authors as the area attracts academic attention? If authors from different disciplinary fields are researching digital inclusion, this

indicates that authorship is likely diffuse rather than concentrated. The articles were also coded for their main research focus with the a priori codes access, skills, motivation or trust.

Coding was conducted by all authors collaboratively. In an initial sort, articles were collaboratively coded for disciplinary fit based on abstract and journal title. Statements of journal aims were read to verify the disciplinary “conversations” at hand. For example, Golomski et al. (2022), discussing ICT connectivity among older adults in the *Journal of Enabling Technologies*, was categorized as Health/Wellbeing because of the focus on social isolation and sociability. Similarly, articles in journals with a disciplinary cross-over, like *Educational Gerontology* and *Gerontechnology* were coded by perceived focus of the article. For example, Han's and Nam's (2021) discussion of supportive environments for older adults in *Educational Gerontology* focused on digital skills and was coded as Education. Initial codes were combined into the following categories: Communication (includes social media), Health/Wellbeing, Education, Information Technology/Information Science, and Sociology (includes social inclusion and leisure).

A deeper reading of the articles provided an opportunity to verify the conversations taking place and recode them as appropriate. For example, Gallistl et al. (2021) in the *Journal of Aging Studies* was originally categorized as Health/Wellness, but upon a further deeper review of the article it was moved to Sociology. This overlap between Health/Wellness and Sociology was teased out through cross-coder discussion. Two new codes for research focus were added inductively following the deeper reading: policy (e.g. Gallistl et al., 2020) and digital identity (e.g. Muñoz-Rodríguez et al., 2020) through inter-coder discussion.

5. Results

Our analysis indicates that scholarship on digital inclusion and older adults is distributed across a small number of fields, with more publications in Health and IT journals (Table 2). In the Health field, eight of the articles were in journals focusing on gerontology. Overall, 118 unique authors contributed to articles in the collection. While author networks were not developed, we identified researchers within disciplinary groups (Nimrod, 2018 and 2021; Yoon et al., 2020; Yoon et al., 2021) and across disciplines (Quan-Haase et al., 2017, Quan-Haase et al., 2018; Tsatsou, 2021b and 2021c). Research collaborations exploring loneliness and exclusion were also identified (Gallistl, et al., 2020; Köttl et al., 2021; Schlomann et al., 2020; Seifert & Schelling, 2018). Most of the studies took a quantitative approach. Although the balance between quantitative and qualitative varied across disciplines, Sociology was

the only field where qualitative methods dominated. For the mixed methods studies, Golomski et al. (2022) used a survey and observation, Tappen et al. (2022) used a survey and focus groups, Jacobson et al. (2017), Chang et al. (2018) and Suchowerska & McCosker (2022) undertook interviews and a survey, Gallistl et al. (2020) applied document analysis and analyzed survey data.

Discipline	Qual	Quant	Mixed	Total
Health	0	10	2	12
Education	1	5	0	6
IT	2	7	2	11
Sociology	4	1	1	6
Comms	2	4	1	7
Total	9	27	6	42

Table 2: Research design

The dominant quantitative approach meant that surveys were the most frequent method of data collection (Table 3). 14 of the 33 surveys were distributed face-to-face, 11 were distributed online and four were paper-based only, with the remaining four distributed in some combination of these distribution methods. 16 of the articles reported on data from larger studies, including research programs focused specifically on older adults including the Health, Ageing and Retirement in Europe (SHARE) study (Gallistl et al., 2020) and Health and Retirement Study (Lee, 2021), or more general health or social surveys, such as the California Health Interview Survey (CHIS) (Yoon et al., 2021) or the Chinese Social Survey (Xu et al., 2021). The analysis of selected data from larger studies was particularly common in the Health category. The survey-based research that did not report on data from larger studies generally used author-designed instruments based on validated scales and items from previous research with additional sections included by the authors specific to their focus. For example, Muñoz-Rodríguez et al. (2020) used previously validated scales for measuring perceived social support, frequency of online activity and internet motivation alongside an author-created instrument on digital identity.

Interviews and then focus groups were the most common qualitative data collection method used. Only one of the studies reviewed (Gallistl et al., 2020) used document analysis in a mixed methods study that included an analysis of Austrian policies addressing older adults' internet use alongside statistical analysis of data on internet use drawn from a large survey of health and aging. Similarly, just one article collected observation data. Golomski et al. (2022) observed how their research participants (older adults living in subsidized housing) engaged with the iPads the

researchers used to administer a survey in another mixed methods study.

Discipline	Survey	Observ.	Interv.	Focus groups	Doc analysis
Health	12	1	1	1	0
Education	5	0	0	1	0
IT	9	0	3	1	0
Sociology	2	0	4	0	1
Comms	5	0	1	2	0
Totals	33	1	9	5	1

Table 3: Data collection methods

Twenty of the 42 articles explored Motivation, often focusing on how and why older adults use the internet (Table 4). Within the Health articles, these often analyzed older adults' use of digital health information (e.g. Mitchell et al., 2019), as well as whether connectivity helps overcome loneliness and/or supports well-being (e.g. Schlomann et al., 2019; Xu & Huang, 2021). Two of the Motivation articles in the Sociology category drawn from the same study (Gallistl et al., 2021; Köttl et al., 2021) explore reasons for non-use beyond lack of access, analyzing the impact of internalized ageism and avoidance practices. Choi et al. (2020) similarly analyze the impact of perceived ageism on use.

Discipline	A	S	M	T	D	P
Health	5	0	7	0	0	0
Education	0	3	2	0	1	0
IT	2	3	4	0	1	1
Sociology	0	1	4	0	0	1
Comms	0	3	3	1	0	0
Totals	7	10	20	1	2	2

Table 4: Research focus

(Key: A=Access; S=Skills; M=Motivation; T=Trust; D=Digital Identity; P=Policy)

There were four articles that did not fit easily into the main categories of Access, Skills, Motivation and Trust so two new categories of Digital Identity and Policy were added. Within the Digital Identity category, Muñoz-Rodríguez et al. (2020) analyzed variables associated with higher levels of digital identity in older adults while Tsatsou (2021b) explored the digital identity of “vulnerable groups” including older adults. In the Policy category, Suchowerska and McCosker (2022) focused on policy initiatives to support older adults’ digital skills and Gallistl et al. (2020) examined political interventions aimed at supporting the internet use of older adults.

Only seven articles explicitly mentioned framing their research through existing theory. The Technology Acceptance Model (TAM) and Diffusion of Innovation were both applied individually (Han & Nam, 2021; Zhou, 2019 respectively) and in combination (Bergstrom, 2019). Other theories or frameworks mentioned included social capital theory (Chang et al., 2018), metagovernance (Suchowerska & McCosker, 2022), socio-emotional selectivity theory (Lissitsa et al., 2022) and information use environment (Jacobsen et al., 2017). The remaining articles took a descriptive, exploratory approach without the explicit application of theory.

6. Discussion

The articles reviewed were drawn from a range of disciplines although there were some noticeable omissions such as Government/Policy. While the disciplinary focus of individual authors’ research was not explored, there is an interdisciplinarity research emphasis in journals that focus on older adults. There are few journals that specifically explore education for older adults, however. The research in this area centers around conversations in *Educational Gerontology* and the *International Journal of Lifelong Education*. As the

call for life-long information literacy increases, appropriate support for it needs to be addressed (Martínez-Alcalá et al., 2021) Currently, it falls outside of “traditional” education policy and programming. While there may be commitments through disability services and services for older adults, the gap in digital skills provision and support should not be left to families (Xiong & Zuo, 2019) or to other organizations, often community organizations such as libraries, to address without on-going government funding.

Digital inclusion is now acknowledged as multi-faceted and research exploring the topic should look beyond issues of access and infrastructure (Costa et al., 2019; van Deursen & van Dijk, 2019; Huxhold et al., 2020). The evidence from this review of recent literature on the digital engagement of older adults indicates that those working in this area are focused increasingly on how this group interacts with the internet and digital technologies and how they enhance their lives and well-being, rather than merely whether they use them or not. Although use and non-use remain prominent themes (Lopez et al., 2021), the articles in this collection investigate the socio-emotional factors motivating older adults to adopt technology, rather than financial or geographic constraints on access or barriers of impairment, although subjective health was also identified as a measure (Wan et al., 2022). The dominance of the Motivation code represents a discourse shift in digital inclusion scholarship, exploring the impact of the internet on the loneliness, depression, happiness, social connectivity, and well-being of older adults. The discussions in the articles around well-being and social isolation primarily position digital inclusion as beneficial for older adults (e.g. Quan-Haase et al., 2018; Silva et al., 2022) although Wallinheimo et al. (2021) found that quality of life (QoL) outcomes during the height of the COVID-19 pandemic were related to how older adults used the internet, noting: “Use for communication purposes was associated with higher QoL, while use for information searching was linked to lower QoL and higher depression symptoms” (p. 10). The apparent move away from a focus on first level “digital divides” (Ragnedda & Mutsvauro, 2018) towards second and third level issues of use, skills and outcomes could be indicative of an evolution in thinking away from a preoccupation with “divides” and towards exploring differing uses of technologies and the consequences for individuals. Another explanation for the trend could be that there is a perception that older adults now have more access (in terms of connectivity and availability of technology), but we lack understanding of how their digital literacy skills and motivation enable them to engage in ways that would meaningfully support their quality of life. Overall, the majority of the articles remained focused on the adoption of the internet, however, exploring the

factors influencing older people's acceptance and use of technology.

Two new codes beyond Access, Skills, Motivation and Trust were identified - those of Policy and Digital Identity. These both emerged from the coding exercise and may provide further evidence of a move away from a focus on adoption in favor of a focus on the development and evaluation of the impact of digital inclusion efforts. The term "digital identity" is both a sociological and a bureaucratic or administrative construct. The latter is concerned with how individuals verify who they are online (online identity management) while the former relates to how people present themselves in online spaces, often focused on people's social media personas (Jäkälä & Berki, 2013), and it is this conceptualization of digital identity explored by the articles in this collection by Muñoz-Rodríguez et al. (2020) and Tsatsou, (2021a). Previous research into individuals' digital identity has predominantly focused on young people, because adolescence and youth is a critical period for identity construction (González-Larrea & Hernández-Serrano, 2020), so the extension of this focus to older adults is an interesting and promising development. Rather than considering older adults as a homogenous category with similar digital needs, opportunities and challenges, the research into their digital identities highlights intra-group variances in both capabilities and aspirations.

The articles by Suchowerska & McCosker (2022) and Gallistl et al. (2020) were coded under the added category of Policy as neither seemed to align well with the others. Although the articles discussed initiatives by governments to extend older adults' internet access and skills, their focus was predominantly on the policy context, rather than the impact of policies and initiatives on older adults. The evaluation of the impact of government digital inclusion policies and initiatives is an ongoing concern (for example, Dezuanni et al., 2018) and while the assessment of short-term gains in access or skills is relatively straightforward (Martínez-Alcalá et al., 2021), the longer-term impact and sustainability of programs is more difficult to identify. As Dezuanni et al. (2018) note, the emphasis of evaluations to date have focused on how programs have developed individuals' and groups' technical abilities, rather than the holistic impact on the community.

The paucity of articles focusing on Trust is noteworthy, particularly as there is evidence that suggests older people are increasingly concerned about security and safety online (InternetNZ, 2021). However, trust and motivation are tightly coupled because those lacking trust in online services and interactions are likely to become demotivated and unwilling to engage (Goedhart et al., 2019). This is exacerbated by fears of internet scams and security of personal data, noted as reasons for not going online by non-users (Blank et al., 2019). It is likely that Trust is implicit or conflated into

Motivation in studies exploring older people's use and non-use of the internet because it features rarely as a separate concept in those papers that emphasize Motivation.

Given the focus on adoption noted above, the use of theories seeking to explain adoption such as the TAM and Diffusion of Innovation dominate. Overall, however, there is a lack of theory to frame the research within the literature reviewed. Instead of theory building or even the widespread use of theoretical or conceptual frameworks, there is a strong focus on exploratory and descriptive research with a heavy emphasis on the analysis of selected survey data from larger studies of health and aging and there is little evidence of the development of theory nor breadth of methods expected in a mature research field (Keathley et al., 2013; Vos, 2015).

A substantial number of the articles re-examine larger datasets for evidence of the digital divide. The data gathering for these studies typically involve researchers visiting participants in their homes and undertaking face-to-face structured interviews. Because of the frequency of analysis of data from larger studies, face-to-face data gathering processes were most common in the articles and a good approach for ensuring those who are not online are included. There was a substantial number of studies in the collection that used online-only questionnaires, however, and it is worth questioning how effective this method is when exploring digital inclusion. Some of the studies using an online questionnaire investigated older adults' use of specific platforms such as social media (Diniz et al., 2021) or were aimed at those who use the internet regularly (Tirado-Morueta et al., 2021) so an online approach is appropriate. Other studies aiming to explore older adults' more general internet engagement and disengagement also gathered data through online methods, however, and did not always acknowledge the inherent bias in this approach. All four factors of access, skills, motivation and trust can lead to bias in the data in favor of those more digitally engaged, confident and with better quality connectivity.

Despite high internet infrastructure availability and connectivity rates reported in many countries, concern has been expressed that the figures are artificially high because they typically count those who have good internet connectivity (those who have a landline, internet access, or a fixed address) and stable social circumstances (Citizens Advice Bureau, 2020). In Aotearoa New Zealand, for example, although The World Internet Project (WIP) statistics state that 94% of the population is connected (Díaz Andrade et al., 2021), nonprofit and community organizations interacting with vulnerable groups regularly estimate that 1 in 5 people (20%) in the country are digitally excluded. The WIP's sample in Aotearoa New Zealand did not include anyone with an internet connection provided through the

Skinny Jump program, for example, an initiative providing affordable broadband for a range of priority groups (Skinny, 2020). Over 35,000 individuals in Aotearoa New Zealand have Skinny Jump modems. Those studies using an online questionnaire alone to explore digital connectivity and use are not only missing those who are not online at all but also those with limited or poor-quality connectivity. As this can impact on their capacity to engage with a range of internet-enabled services and activities, the data on uses and engagement may be skewed in those studies using online-only approaches. For example, those in precarious employment and accommodation circumstances are often missed in surveys. This further exacerbates the potential for bias of online-only surveys.

The use of deficit discourses in relation to digital inclusion has been highlighted previously (Campbell-Meier et al., 2020), particularly in the Education field (Honan, 2006). There was some evidence of this in the articles reviewed with a focus on what is lacking or missing for older adults. It is possible that terms like “digital divide” and “digital exclusion” that are used commonly throughout the literature lead researchers to focus on absence of engagement and a preoccupation with trying to fix what is perceived as wrong with those who are not engaged, rather than exploring their experiences with technologies on their own terms. It is also conceivable that the view of older adults as vulnerable impacts on the language used around their digital engagement. In the collection of articles reviewed, however, there is indication of a move away from both generalized and deficit approaches. Bossio and McCosker (2021), emphasize that older people are not a homogenous group of internet users while Hargittai & Dobransky (2017) and Yoon et al. (2020) analyze the impact of intra-group differences on internet use and uses. Similarly, Hargittai et al. (2018) focus on the links between demographic differences and skills and Tirado-Moueta et al. (2018) examine the extent to which socio-demographic variances in internet use by older adults are moderated by skills programs. Gallistl et al. (2020) criticize discourses that conceptualize aging as a societal problem to be solved through technological development thus positioning non-use as a threat. The interest in older people’s digital presence and identity in the articles reviewed may indicate a refocusing of research in the area, away from a preoccupation with this group’s “problematic” relationship with digital technologies in favor of a focus on how and why they enact their digital identities leading to a more complete and complex understanding of their experiences as a result.

7. Limitations

Some limitations of the approach taken are noted. First, our search terms did not include “digital

exclusion” and “digital inequality”, as these were implied in the adopted search string. Inclusion of these terms may retrieve other relevant articles which were not part of this review. This review was not intended to be a comprehensive systematic review, and some articles might have been missed because of the keywords used. Second, the search was limited to only two databases. Although the databases are multidisciplinary and can provide relevant and up-to-date articles, there may be other articles that were not retrieved (e.g., Martín-Martín et al., 2018).

8. Conclusions

The narrow range of methodologies employed, and the lack of theoretical perspectives identified in the articles reviewed suggest that the research into the digital inclusion of older adults is not yet at a mature stage although there are the beginnings of expansion and diffusion in disciplinary spread and authorship which may indicate maturing.

The review indicates some promising areas for future research. Although the article often emphasized that older people were not a homogenous group, there remains an underlying (and often unexpressed) assumption that older adults lack internet skills, motivation, and access. The beginnings of a focus on older adults’ digital identity (as a social construct), however, makes no assumptions about their abilities to engage online but rather explores how and why they create and enact their digital identities. Further exploration and refocusing of research in this area on the digital identities of older adults may provide a pathway moving researchers away from a deficit digital divide approach towards more positive digital equity perspectives. This could include exploring isolation and loneliness as a feature of some older people’s digital identities as well as the impact of impairments on their experiences of doing and being digital.

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