Identity concerns and Older People's Use of Assistive Technology: A Scoping Review

Yanet Morejon Hernandez [1, 2], Grevet Smith Moyo [1, 2], Deirdre Desmond [1, 2]

[1] Department of Psychology, Maynooth University, Co. Kildare, Ireland
[2] Assisting Living and Learning (ALL) Institute, Maynooth University, Co. Kildare, Ireland

Corresponding Author

Yanet Morejon Hernandez (https://orcid.org/0000-0003-4835-5903)

Email: yanet.morejonhernandez.2021@mumail.ie

Address: Department of Psychology, John Hume Building, North Campus, Maynooth University

Assisting Living & Learning (ALL) Institute, Eolas Building Second Floor, North Campus, Maynooth University

Wordcount: 5246 (excluding abstract, tables, figures, and references)

Number of figures: 2 Tables, 3 Figures and 1 Supplementary Material

Abstract

This scoping review explores conceptualisations of identity in relation to older adults' use of assistive technology and describes patterns of AT use and emotional experiences associated with identity-related concerns. Searches were conducted in six databases (*n = 1508*) limited to peer-reviewed papers published between 2000 and 2022; resulting in the inclusion of 33 relevant papers. The literature evidences an array of overlapping conceptualisations within identity and self. Older adults' experiences with assistive technology are nuanced by ambivalent emotions; marked by both positive – autonomy, security– and negative associations –loss of independence, stigma, threat to personal identity and dignity. Patterns of technology use encompass compensatory strategies such as negotiation, delays, resignation, substitutions, and pragmatic customisations; these are strongly determined by the self-perception of the need to use assistive technologies. Findings demonstrate that identity-related concerns influence older adults' behavioural and emotional responses regarding the use of assistive technology. This highlights the need for further research on lived experiences and the role of stakeholders in supporting older adults' identity processes throughout their adoption of assistive technology.

Keywords: assistive technology, older people, identity, self, conceptualisation.

Abstract Wordcount: 172

Introduction

As life expectancy has increased, models of ageing have evolved towards empowerment perspectives, moving from understanding ageing as a phase of decline and loss of capacity to a time of activity, autonomy and social participation. Successful ageing models suggest an ability to flexibly adapt to age-related challenges without resigning relevant components of identity and self-definition in later life (Cotter & Gonzalez, 2009). However, these may be difficult to preserve with ageing, especially when coupled with health- and disability-related challenges (WHO, 2021; World Health Organization & United Nations Children's Fund (UNICEF), 2022). Assistive Technology (AT) can be useful enabling older adults to preserve, prolong, and enhance quality of life and daily performance (Abdi et al., 2019; Desmond et al., 2018; Khasnabis et al., 2015; WHO and UNICEF, 2022). AT refers to a system of services, knowledge, skills, procedures, and policies regarding the provision, use and assessment of assistive products. Assistive products range from low-tech devices, such as walking and hearing aids, to high-tech equipment, such as smart home technologies and social robots (Khasnabis et al., 2015; WHO and UNICEF, 2022).

The Matching Person and Technology (MPT) Model underscores the relevance of considering a) the needs and preferences of the person, b) the environmental factors where the technology is used and c) the technology functions and features (Martinez & Scherer, 2022; Scherer & Craddock, 2002). Factors beyond availability and affordability can prevent older adults from adopting AT; these include, stigma, lack of knowledge, lack of perception of need, aesthetics, embarrassment, and contradictions between desired identities and identities associated with AT (Gitlin, 1995; Jacobson, 2014; Parette & Scherer, 2004; Peek, 2017; Peek et al., 2014). Lund and Nygård (2003) suggest reasons for AT use are more associated with individuals' managing to achieve and present a desired occupational self-image, rather than the actual activities performance using assistive products. According to the MPT Model, after AT acquisition users may experience changes in perceived capabilities, subjective well-being, self-esteem, mood and social participation, among other psychosocial factors (Scherer & Craddock, 2002).

AT adoption can involve adjustments and negotiations in self-identity and self-image (Desmond et al., 2018; Larsen et al., 2019; Parette & Scherer, 2004), especially for older adults

experiencing disability for the first time (Gitlin, 1995). Leahy's (2023) findings attest to the complexity and fluidity of a disability identity in older age; especially considering that decline and impairment can be experienced and manifest differently amongst the diverse older population (WHO, 2021). Whilst some studies have emphasized a relationship between identity and disability (Charmaz, 1983, 1995; Hutchinson et al., 2018; Papadimitriou, 2008; Watson, 2002; Yoshida, 1993), and others have focused on identity and AT use (Jacobson, 2010, 2014; Lund & Nygård, 2003; Rosenberg & Nygård, 2012), older adults' identities in relation to AT use and associated experiences, remain insufficiently explored (Astell et al., 2020; Jacobson, 2014; Larsen et al., 2019; Rosenberg & Nygård, 2012). Moreover, the intersection between ageing and disability has been overlooked, despite their overlapping characteristics (Lamb, 2015). Indeed, technology can become a bridge enabling broader understandings of this complex interplay (Gilleard & Higgs, 2014).

An individual's identity —also referred as self-identity—, is built up and continuously defined through action and interaction, reflexivity and discourse (Papadimitriou, 2008; Watson, 2002; Yoshida, 1993). According to Biggs (1997), "an ageing identity is subject to flux and multiple possibility" (1997, p. 554). They further claim that identity is becoming increasingly fluid and that ageing can be considered as a performance (Biggs, 2004). Individuals express their identities in multiple social contexts; these shape the identities that performers wish to convey and the identities of those who observe and interact with them (Goffman, 1971). Identity-related concerns are variously discussed in literature in terms of the self, self-image, self-identity, self-concept, self-perception (Block et al., 2010; Charmaz, 1983, 1995; Cotter & Gonzalez, 2009; Dudek et al., 2021; Yoshida, 1993). For instance, self-concept refers to an "organization of attributes that have become consistent over time" (Charmaz, 1983, p. 170). Cotter and Gonzalez (2009) define self-concept as a symbolic, social and linguistic phenomenon, involving interrelated beliefs and ideas about the self and a dynamic system of self-perceptions about selves, identity and self-esteem. According to Dudek et al. (2021), self-image or self-concept, refers to individuals' perceptions about their self, including feelings and knowledge about their own identity. The related concept of self-efficacy is considered among relevant individual attributes influencing older adults' AT adoption (Chen & Chan, 2014). This is defined as a "sense of accomplishment and personal well-being that comes from being able to

navigate challenges or attain personal goals" (Block et al., 2010, p. 742), which is influenced by past experiences and has an impact on further actions and decisions. Given the significance of identity concerns shaping older adults AT integration, this review focuses on two questions:

1. How is identity conceptualised and operationalised in research about AT use among community-dwelling older adults?
2. What patterns of AT use and emotional experiences reported by older adults are associated with identity-related concerns about AT?

Methods

This scoping review was guided by the JBI Manual for Evidence Synthesis (Peters et al., 2020) and it adheres to Preferred Reporting Items for Systematic Reviews and Meta-Analysis — Extension for Scoping Reviews (PRISMA-ScR) checklist (Tricco et al., 2018).

Eligibility criteria

Papers were eligible for inclusion if 1) published in peer-reviewed journals between 2000 and 2022, 2) written in English or Spanish, 3) referred to identity-related concerns about AT use, 4) at least 70% of participants were aged over 60, living in community settings.

Information sources, search, and selection process

Using the PCC framework (Lockwood et al., 2019), we identified four key terms: identity, older adults, AT and community settings. Preliminary searches were carried out mapping key terms to be used in the final search syntax. The first reviewer (YMH) drafted, edited, and ran the searches, complemented by discussions with the third reviewer (DD). Searches were performed in *EMBASE, PsychINFO, PubMed, SAGE, Scopus, and Web of Science* using the search strings outlined in *Table 1*Table *1*. Last updated search was performed on the 25th of February 2022. Zotero software was used to remove duplicates. Unique entries were then exported to Rayyan (Ouzzani et al., 2016), where reviewers YMH and GM independently screened titles, abstracts, and full-text papers. We resolved disagreements through discussion, including the reviewer DD when needed. Quality assessment of the

papers was not performed, as the main purpose of the review is to map available evidence (Peters et al., 2020).

Data extraction and analysis

YMH independently extracted data from each study using the following criteria: general study information, methods, design, participants' characteristics (e.g., age, sample size, living setting, health status, AT use), types of AT and identity-related concerns. Data under identity-related concerns was clustered as follows: 1) references to identity-related concerns in theoretical framework and findings, 2) patterns of AT use, and 3) older adults' opinions and expressions referring to emotional experiences associated with identity-related concerns about AT.

Following the JBI Guidance (Peters et al., 2020) and Pollock et al. (2021), we used descriptive statistics and basic qualitative content analysis for summarizing the data. Evidence sources analysis is summarised in the following categories: 1) *identity-related concerns about AT,* 2) *older adults' patterns of AT use* and, 3) *older adults' emotional experiences*. Results are presented in a narrative description supported by tables and figures.

Results

We identified 1508 references from database searches. We sought clarifications from 10 corresponding authors due to missing information (e.g., participants' age, living settings); responses led to the inclusion of 3 of these papers. The PRISMA flowchart (*Figure 1*) shows the selection process leading to the inclusion of 33 papers reporting 32 studies.

Study characteristics

Studies included in the review were conducted in 16 countries, with the United States of America (n = 11) being the most represented. Qualitative methods (n = 21) prevailed among the papers, followed by quantitative (n = 9) and mixed methods approaches (n = 3). Various multi-purpose AT devices were mentioned with an average of 2 devices reported in each paper. Broadly, these included home-related technology, general monitoring devices, with walking aids (n = 15),

quality of life (n = 17) and health monitoring (n = 20) devices being most prevalent (*Figure 2*). Sample sizes in the studies ranged from 4 (Ek et al., 2011) to 4446 participants (Lin & Wu, 2014). Participants' ages ranged from 55 to 106 years old (See *Supplementary material*). Most studies involved both users and non-users of AT (n = 20), and independent living was the most frequent living setting reported (n = 18). Patient groups were extensively represented in the papers, cardiovascular conditions (n = 22) and musculoskeletal (n = 19) diseases were most common. A comprehensive table provided as supplementary material summarises data extracted from each paper.

Identity-related concerns about AT use

Table 2 presents identity-related concerns addressed in the included papers. typically referring to more than one related term. *Identity* was mentioned in 8 papers, of which only Bowes and McColgan (2013) provided an explicit definition: "identity relates to a sense of belonging, appreciation by others and a positive construction of the self" (p. 43). Others only mentioned a sense of identity (Bailey et al., 2011; Chen, 2020; Sanders et al., 2012) and a "re-evaluation of identity" (Gale & Sultan, 2013, p. 142). It is argued that *identity* work involves acceptance of vulnerability of ageing and the need for AT use (Aceros et al., 2015). While for patients living alone with long-term condition, recalling old memories contribute to maintain their *self-image* and protect significant values of their *identity* (Ek et al., 2011).

Mentioned in six papers, *place identity* mostly referred to ageing in place. Aceros et al. (2013) assert that *place identity* is a social construction allowing people to have a sense of belonging and connection to a place which guides their actions and projections. *Place identity* was reflected in expressions such as "there's no place like home", "home is the older adults' world"; "home is the person's continuity" (Aceros et al., 2013), "safe and sound" (Mortenson et al., 2016, p. 7). Home was considered part of individual's identity (Courtney, 2008; Courtney et al., 2008), a place of safety, especially when becoming the primary health space for those with long-term conditions (Gale & Sultan, 2013).

S*elf-identity* (n = 3) was defined as the personhood of cultural elements in one's own words and perspective, which influence perceptions and descriptions of smart home monitoring (Fritz et al., 2016). Two papers shared a conception of *self-identity* linked to *place identity*: a) *self-identity* and privacy were closely linked to the home (Courtney et al., 2008) and, b) a sense of *self-identity* is sustained by patients with health decline, using their homes as a resource where functionality and autonomy were negotiated (Mortenson et al., 2016).

We found a variety of operational definitions of *self-efficacy* (n = 11) where both generalized, and behaviour-specific self-efficacy were represented. These included perceptions about personal levels of activity performance and participation (Orellano-Colón et al., 2020), confidence to do daily living activities without falling or losing balance (Horton, 2008), a person's beliefs about their own capabilities to perform an activity (Van Houwelingen et al., 2018), levels of comfort in performing self-monitoring via a specific telehealth system (Wang et al., 2020), and finding a way to do things on their own as opposed to other people determining what to do (Lin & Wu, 2014). Self-efficacy was considered as "users' perceptions of themselves as learners" (Outila & Kiuru, 2020, p. 176). Other references included confidence or *self-efficacy* for managing one's health (Bakas et al., 2018); *exercise self-efficacy* (Bedra & Finkelstein, 2015); *gerontechnology self-efficacy* referred to "a user's assessment of their own ability to perform a task successfully using gerontechnology" (Ha & Park, 2020, p. 1875); and *assistive devices self-efficacy* related to individuals' beliefs in their capabilities to perform a series of needed actions to achieve a particular goal (Roelands et al., 2002).

Papers referring to *self-perception* (n = 5) shared similar conceptualizations associated with *self-perceptions* of health and ageing, yet they lacked explicit definitions (Andersen et al., 2007; Bechtold et al., 2021; Courtney et al., 2007; Sánchez et al., 2019; Thilo et al., 2021). Andersen et al. (2007), Sánchez et al. (2019) and Thilo et al. (2021) referred to self-perceived health, and physical functioning, active lifestyle, and mobility, respectively. S*elf-perception* of own ageing were discussed with emphasis on self-image (Bechtold et al., 2021), while *self-perceived* loss of independence was mentioned as informing the self-concept (Courtney et al., 2007). Similarly, individuals' transition towards requiring assistance can evoke changes in self-perception while challenging them to re-define themselves (Thilo et al., 2021).

Whilst discussed in five papers, no definition of *self-image* was provided. *Self-image* was often linked to older adults' maintenance of a consistent, desired, and/or ideal self-image for themselves and for others (Bechtold et al., 2021; Bowes & McColgan, 2013; Copolillo et al., 2002; Ek et al., 2011; Wu et al., 2015). This was described as a compensation for perceived impairments (Wu et al., 2015) and as a strategy to avoid disruptions in *self-image* that AT could trigger (Copolillo et al., 2002). Older adults avoided being attached to an image of frailty and tried to show their ability to fend for themselves (Bowes & McColgan, 2013). Patients with long-term condition strived to maintain a *self-image* to be seen as a giver and supporter to others, rather than a care recipient (Ek et al., 2011).

Operational definitions of *self-concept* (n = 3) were not found. It is argued that older adults need to work on their *self-concept*, seen as a shaping process of "good users and helpful devices" (Aceros et al., 2015, p. 105) . Courtney et al. (2007) discussed how users' *self-concept* could be affected by perceived obtrusiveness of technology; while Thilo et al. (2021) suggested that technology provokes losses in self-concept.

Lastly, two papers discussed the *self*. Thilo et al. (2021) claim that ageing *self* is the process of coping with perceived age-related changes where emotional burdens and challenges may arise. This also implies re-defining the *self* as the transition to become someone who requires assistance, involving modifications in *self-perception* (Thilo et al., 2021). Outila and Kiuru (2020) emphasized the willingness to learn new things and making oneself feel better and a more capable person.

In summary, the literature discusses identity-related concerns about AT use predominantly in terms involving the *self*, and less frequently using the term identity.

Older adults' patterns of AT use associated with identity-related concerns about AT

Figure 3 shows the summary of findings presented in the following sections. With regard to older adults' patterns of AT use, we identified both, *perception/self-perception of need* (Courtney, 2008; Courtney et al., 2008; Thilo et al., 2021) and *denying necessity* (Chen, 2020) as highly influential (Aceros et al., 2015; Chen, 2020; Copolillo et al., 2002; Courtney, 2008; Courtney et al., 2007, 2008; Fritz et al., 2016; Grace et al., 2017; Horton, 2008; Luz et al., 2017; Roelands et al., 2002; Sánchez et al., 2019; Sanders et al., 2012; Thilo et al., 2021; Wu et al., 2015). The following

expressions illustrate a tension between current identities and identities associated with people requiring AT through advancing age or frailty: *"…when I become older, I will consider assistive technologies"* (Chen, 2020, p. 1468); *"…who is older who is more infirm and has more difficulty maybe they would value being monitored all the time"* (Grace et al., 2017, p. 318); *"but if really I needed it, it would mean that I'm out of order or doddering"* (Wu et al., 2015, p. 198); *"I am not that bad really. I mean I do have falls every now and then, but I haven't had a bad one"* (Horton, 2008, p. 13). Consistently, Courtney (2008) found that the *self-perception of need* was the most important consideration when adopting Smart Home Information Technologies.

The *legitimation process* is defined by a cyclical transition in which older adults reflect on perceived safety often as a result of experiencing a critical event, which may lead to recognizing AT use need and plan a starting point (Thilo et al., 2021). Aceros et al. (2015) claimed that telecare acceptance is not spontaneous, rather users work on their *self-concept*, indicating a gradual progression towards AT use ranging from device rejection even after acquisition, to intentional and appropriate use. Legitimation process influence both, future decisions about AT adoption, and patterns of use in current AT users.

Most papers revealed patterns of non-use associated with forgetfulness and alternative coping strategies (Aceros et al., 2015; Bailey et al., 2011; Greenhalgh et al., 2013; Horton, 2008), such as covering devices in personal and public places (Copolillo et al., 2002; Courtney et al., 2007; Gale & Sultan, 2013), and avoiding going out (Bowes & McColgan, 2013; Ek et al., 2011). For some, certain strategies reflected choice amongst alternatives, such as replacing AT with other objects with equivalent functionality, e.g., using an umbrella instead of a cane (Chen, 2020), others relied on environmental factors such as holding onto walls, furniture, and someone's arm (Copolillo et al., 2002; Luz et al., 2017). When implemented, pragmatic customizations enhanced ease of use, occasionally involving the help of family member or caregiver (Greenhalgh et al., 2013). New functionalities emerged by modifying originally intended technology use (Outila & Kiuru, 2020). Other coping strategies concerned negotiations of personal meanings, e.g., privacy concerns were negotiated in exchange of security provided by AT (Courtney et al., 2008; Mortenson et al., 2016). Older adults consideration of AT adoption as the *"last resort"* (Copolillo et al., 2002, p. 65), at *"the*

last stage" (Resnik et al., 2009, p. 6), were reasons for delaying AT use as much as possible or only if needed. Expressions like *"being pragmatic"* (Bailey et al., 2011, p. 838) and *"doing what one has to do"* (Copolillo et al., 2002, p. 66), illustrated AT acceptance as resignation.

Older adults' emotional experiences associated with identity-related concerns about AT

Whether AT users or non-users, older adults' emotional experiences were predominantly ambivalent. Most emphasised AT benefits in protecting and supporting their independence and autonomy, allowing them to perform daily activities including health monitoring (Bowes & McColgan, 2013; Chen, 2020; Courtney, 2008; Courtney et al., 2007; Fritz et al., 2016; Grace et al., 2017; Horton, 2008; Resnik et al., 2009; Roelands et al., 2002; Sánchez et al., 2019). As a study participant refers, *"...when I have the cane, I have something I can lean on if I'm all alone"* (Resnik et al., 2009, p. 8). For some, AT undermined their sense of *independence* and symbolized a loss of autonomy and decline (Aceros et al., 2015; Bailey et al., 2011; Bowes & McColgan, 2013; Chen, 2020; Courtney et al., 2007; Mortenson et al., 2016; Resnik et al., 2009; Sánchez et al., 2019; Sanders et al., 2012). Participants' excerpts illustrate this: *"that would be my aim—to be as independent as I could"* (Bowes & McColgan, 2013, p. 40); *"I don't like the idea that something is taking care of me"* (Courtney et al., 2007, p. 245); *"a walker to me just takes away an awful lot of your independence"* (Resnik et al., 2009, p. 8).

We identified different types of stigma showing signs of ageism. Older adults' narratives showed a subjective classification of two main groups of older people. Those considered "too ill or too dependent by their carers" (Sanders et al., 2012, p. 8), who need AT intervention (Mortenson et al., 2016), for whom a loss of independence (Aceros et al., 2015) and a physical decline (Resnik et al., 2009) is implied. Labels used included "…old fashioned and obsolete…" (Wu et al., 2015, p. 197), *"it's like you're at the last stage"* (Resnik et al., 2009, p. 6). The second group referred to those who remained or perceived themselves as healthy, physically active, and independent; hence, not candidates yet to benefit from AT. For example, *"...I am not as weak as that"*, *"I am not that old to use that stuff"* (Chen, 2020, p. 1468). Another type of stigma was associated with characteristics of AT devices. On one hand, those judged as sporty, and fashionable were considered more appealing

than those with a standard medical appearance, which evoked rejection, due to suggesting functionality loss and impairment (Resnik et al., 2009).

Older adults preferred to preserve *control* over their environment, life, and decisions, regardless of AT functionalities (Bailey et al., 2011; Copolillo et al., 2002; Courtney, 2008; Ek et al., 2011; Horton, 2008; Resnik et al., 2009). For participants considering AT adoption, products needed to enhance personal abilities to manage their life and health (Copolillo et al., 2002). When users met new demands through AT adaptation, they experienced feelings of achievement and control (Bailey et al., 2011). Older adults valued being able to control devices, especially in the case of malfunction, when feelings of anxiety and frustration could arise (Horton, 2008). Similarly, there was a desire to control content and recipients of information sharing (Courtney, 2008). In some instances, AT was favoured over human care services, given that feelings of dependence and diminished sense of control were associated with caregiver support (Resnik et al., 2009).

Participants reported AT added a sense of *security* in their private homes, helping them in the event of a fall (Horton, 2008; Mortenson et al., 2016), facilitating self-care activities and health monitoring at home (Grace et al., 2017). AT needed to provide physical stability and *security* to be incorporated in daily activities (Chen, 2020; Copolillo et al., 2002). Some considered AT as a complement to personal safety (Orellano-Colón et al., 2020; Roelands et al., 2002). Others highlighted that personal voice contact could support their safety if a fall alarm was triggered (Thilo et al., 2021). Contrary, some considered AT as intrusive and invasive, disturbing a sense of *security* (Mortenson et al., 2016), while others reported feeling unsafe, in danger, at risk and threatened (Chen, 2020; Fritz et al., 2016; Thilo et al., 2021).

One-size-fits-all and medically standard AT devices were undesirable by older adults (Fritz et al., 2016). They expressed concerns about loss of *dignity* associated with using AT, since it was a constant reminder of their impairment (Sánchez et al., 2019). *Dignity* was also linked to privacy, illustrated by older adults' rejection of AT due to unwanted surveillance (Fritz et al., 2016; Mortenson et al., 2016). The presence of technology at home impacted daily performance by making individuals more self-conscious and thus restricting their usual behaviour; this provoked feelings of anxiety and undermined sense of freedom (Courtney, 2008; Sánchez et al., 2019). *Pride* was a reason for not

acknowledging AT use need, while "false pride" (Luz et al., 2017, p. 214) was invoked to explain a disparity between perceived need and actual need. Greenhalgh et al. (2013) noted that technologies are embodiments of users' self and cultural values; while Gale and Sultan (2013) found that AT users experienced embodiment vulnerability due to dissolved boundaries between body and technology.

Additional negative experiences included feelings of anxiety in the interaction with the technology (Chen, 2020; Gale & Sultan, 2013; Ha & Park, 2020; Van Houwelingen et al., 2018; Wu et al., 2015); feeling isolated and disconnected from others (Chen, 2020; Gale & Sultan, 2013; Sánchez et al., 2019); feeling lack of trust (Fritz et al., 2016); fear of going out alone (Aceros et al., 2015); and embarrassment (Courtney et al., 2007). Positive experiences included feelings of peace of mind (Aceros et al., 2013; Gale & Sultan, 2013), and improvements in communication with family, peers, and healthcare staff (Bowes & McColgan, 2013; Chen, 2020; Gale & Sultan, 2013; Outila & Kiuru, 2020; Wu et al., 2015).

Discussion

This scoping review sought to address how identity has been conceptualized and operationalized in research on older adults' AT use, and to explore reported patterns of use and emotional experiences linked with identity-related concerns. Collectively the literature points to the complexity of identity concerns in AT use. This encompasses the person's sense of who they are and how they define themselves and towards others (self; identity; self-identity; self-concept), the perception of own's health, physical appearance, performance (self-perception and self-image), the awareness of one's own ageing and changes associated (self-perception of ageing; ageing self), the ability to perform an activity autonomously or with external help (self-efficacy, gerontechnology efficacy), and the place to whom the individual is/feels attached to (place-identity). All share a reference to the self or a "self-process" (Stryker & Burke, 2000) which involves going through a process of comparison with themselves —either their past or the future as an ideal self— and with others. Older adults negotiate AT's benefits against their expectations and the impact on their self-image (Gramstad et al., 2013; Peek et al., 2014; Rosenberg & Nygård, 2012).

Older adults wish to preserve their place identity especially when the AT is home-based and can be perceived as disrupt or contradicting home aesthetics (Peek et al., 2014; Rosenberg & Nygård, 2012). Parks (2015) argues that home-based technology plays a role in maintaining individuals' selfhood. As reported by Chen and Chan (2014), older adults are more attached to personal and environmental factors and not the technology itself. The community becomes vital, "providing individuals with a sense of identity, belonging, coherence, and support in times of need" (Khasnabis et al., 2020, p. e95).

We discerned two approaches to understand identity-related concerns across the papers. The structurally oriented perspective points to studies examining categories as fixed constructs, what they represent for participants at the point of the study. The process oriented perspective is characterized by a dynamic approach where identity concerns are constructs in an evolving process, complex in its nature, context and time-dependent (Charmaz, 1983; Papadimitriou, 2008; Spirtos & Gilligan, 2022; Watson, 2002; Yoshida, 1993). This review findings provide insights acknowledging the coexistence of interrelated processes such as identity management, AT adaptation, and their implications through ageing. Further research can contribute to understand their mutual influence, by exploring lived experiences of older people, especially now that we are moving towards "an era of assistive care and assistive living" (Khasnabis et al., 2020, p. e94) regardless of individuals' age, health status or functioning capacity.

Identified types of stigma expressed variations of ageism, manifested in the discrimination towards old age (Butler, 1969). Stigma is "a special kind of relationship between attribute and stereotype" (Goffman, 1990, p. 4). Certain types of AT became stigmatized attributes such as 'blemishes' or 'discredited' (Goffman, 1990) features disturbing the older person. This was reported as subjective classifications of older adults being independent, strong, not-needing AT *versus* those dependent, frailer, needing AT. Stigma associated with disability and AT use can be closely interrelated and can impact AT decision-making (Parette & Scherer, 2004). Reviewed papers display stigmatization towards others and internalized stigma, also known as *self* or *felt* stigma (Goffman, 1990; González-Domínguez et al., 2018). This process reflects the individual's incorporation of societal negative views into their own personal system and sense of self (Livingston & Boyd, 2010).

Both, practitioners and older adults share ageist attitudes of home adaptations (i.e., grab rails, fixed seat, walk-in showers) seen as signs of disability, frailty and decline, with a clinical aesthetics perceived as negative (Bailey et al., 2019).

Older adults use coping strategies to avoid potential disruption of AT in their lives. Gramstad et al. (2013) suggested that using others as devices and changing daily routines were alternatives to delay seeking help and further AT adoption. Personalization and customization of AT become stigma management strategies that convey pride and joy (Jacobson, 2010). Similarly, Rosenberg and Nygård (2012) indicate users' ability to produce new AT functionalities; this innovation highlights users' active role in finding pragmatic solutions and enable continued use. It also suggests that malleability should be an AT feature.

Support from significant stakeholders (i.e., family, friends, caregivers, etc.) can influence decisions and patterns of AT use (Lindeman, 2011; Parks, 2015; Peek et al., 2016; Rosenberg & Nygård, 2012). Family caregivers of patients with dementia played a key role in facilitating AT integration into daily life, whereas formal AT provision was often reactive and occurred mainly as a consequence of a fall or crisis (Gibson et al., 2015). Relevant others can uphold older adults' desired identities by supporting their own narratives and relationships (Lindemann, 2009). Nevertheless, they may prioritize their own convenience ('bad holding'), rather than recognizing and supporting older adults' authentic accounts and actions ('good holding') (Lindemann, 2009). Subsequent research can clarify stakeholders strategies in supporting older people's identities.

Acknowledging the need for AT use is paramount in AT adoption (Ghorayeb et al., 2021; Hunter et al., 2021; Peek, 2017). Most older adults consider technology to better suit frailer people rather than themselves (Peek et al., 2014), while some delay seeking assistance when devices do not meet their needs (Gramstad et al., 2013). Denying the need of AT use is elucidated through the notion of candidacy, which explains that "individuals' views of whether they are candidates for particular illnesses or conditions, and the associated interventions and services, are socially constructed" (Mackenzie et al., 2013, p. 803). This can explain why older adults in reviewed papers tend to consider themselves as not candidates yet for AT adoption.

Mackenzie et al. (2013) suggest a relationship between candidacy and identity; individuals hold multiple identities that may hinder their identification of candidacy. Acknowledging one's candidacy for a service or intervention may conflict with another candidacy or social context in which other identities are held. This is supported by Charmaz's (1983) approach to self and identity reconstruction as a process with a pendular motion, transitioning between current, past and future perceptions of health and ability,. Experiences of chronic illness and disability shape individuals' learning process about new emerging identities integrating perceived losses and changes in functional ability. Future research needs to explore the multiple identities that older adults hold and wish to uphold, and their mechanisms, particularly when AT is being incorporated into daily life and may be experienced as conflicting with desired identities.

As papers were predominantly written in English, this scoping review is limited in its ability to capture how identity-related concerns about older adults' AT use are represented in other languages and cultural traditions.

Conclusion

This scoping review summarized the evidence from 33 papers reporting on the relevance of identity-related concerns about AT and associated patterns of AT use and emotional experiences reported by older adults. Overall, the literature underscores the presence of both structural and process-oriented study approaches with no common agreement on conceptualisations and operationalisations of 'identity' in the context of AT use. Review findings demonstrate that the manner in which the need for AT use emerges can influence older adults' identity processes, having an impact on their behavioural patterns of AT use and emotional experiences regarding their use of AT. With different levels of emphasis, papers included in this review illustrated the relevance of older adults' concerns regarding their identity and self at any stage of AT adoption, including previous phases of non-use of AT. Further qualitative research exploring lived experiences of older people is needed to describe this dynamic interplay. Additionally, research involving relevant stakeholders can inform whether and how they support older adults in this process. Finally, the absence of consistency

in identity-related terminologies, may have limited the search strategy and consequent selection of papers.

Funding details

This publication has emanated from research conducted with the financial support of Taighde Éireann – Research Ireland under Grant number 18/CRT/6222. For the purpose of Open Access, the author has applied a CC BY public copyright licence to any Author Accepted Manuscript version arising from this submission.

Disclosure statement

The authors have no conflicts of interest to declare.

References

Abdi, S., Spann, A., Borilovic, J., de Witte, L., & Hawley, M. (2019). Understanding the care and support needs of older people: A scoping review and categorisation using the WHO international classification of functioning, disability and health framework (ICF). *BMC Geriatrics*, *19*(1), 195. https://doi.org/10.1186/s12877-019-1189-9

Aceros, J., Cavalcante, M., & Domenech, M. (2013). Telecare User's Place Identity: A Conversation Analysis. *REVISTA LATINOAMERICANA DE PSICOLOGIA*, *45*(1), 81–95. https://www.webofscience.com/wos/woscc/full-record/WOS:000320092900006

Aceros, J., Pols, J., & Domenech, M. (2015). Where is grandma? Home telecare, good aging and the domestication of later life. *TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE*, *93*, 102–111. https://doi.org/10.1016/j.techfore.2014.01.016

Andersen, D. A., Roos, B. A., Stanziano, D. C., Gonzalez, N. M., & Signorile, J. F. (2007). Walker use, but not falls, is associated with lower physical functioning and health of residents in an assisted-living environment. *Clinical Interventions in Aging*, *2*(1), 123–137. Scopus. https://doi.org/10.2147/ciia.2007.2.1.123

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. https://doi.org/10.1017/S0144686X19000230

Bailey, C., Aitken, D., Docking, R., Wilson, G., Hodgson, P., & Douglas, B. (2019). "What? That's for Old People, that." Home Adaptations, Ageing and Stigmatisation: A Qualitative Inquiry. *International Journal of Environmental Research and Public Health*, *16*(24). Scopus. https://doi.org/10.3390/ijerph16244989

Bailey, C., Foran, T. G., Ni Scanaill, C., & Dromey, B. (2011). Older adults, falls and technologies for independent living: A life space approach. *Ageing and Society*, *31*(5), 829–848. Scopus. https://doi.org/10.1017/S0144686X10001170

Bakas, T., Sampsel, D., Israel, J., Chamnikar, A., Bodnarik, B., Clark, J., Ulrich, M., & Vanderelst, D. (2018). Using telehealth to optimize healthy independent living for older adults: A feasibility study. *GERIATRIC NURSING*, *39*(5), 566–573. https://doi.org/10.1016/j.gerinurse.2018.04.002

Bauer, S. M., Elsaesser, L.-J., & Arthanat, S. (2011). Assistive technology device classification based upon the World Health Organization's, International Classification of Functioning, Disability and Health (ICF). *Disability and Rehabilitation: Assistive Technology*, *6*(3), 243–259. https://doi.org/10.3109/17483107.2010.529631

Bechtold, U., Stauder, N., & Fieder, M. (2021). Let's walk it: Mobility and the perceived quality of life in older adults. *International Journal of Environmental Research and Public Health*, *18*(21). Scopus. https://doi.org/10.3390/ijerph182111515

Bedra, M., & Finkelstein, J. (2015). Feasibility of post-acute hip fracture telerehabilitation in older adults. *Studies in Health Technology and Informatics*, *210*, 469–473.

Biggs, S. (1997). Choosing not to be old? Masks, bodies and identity management in later life. *Ageing and Society*, *17*, 553–570. https://doi.org/10.1017/S0144686X97006600

Biggs, S. (2004). Age, gender, narratives, and masquerades. *Journal of Aging Studies*, *18*(1), 45–58. https://doi.org/10.1016/j.jaging.2003.09.005

Block, P., Vanner, E. A., Keys, C. B., Rimmer, J. H., & Skeels, S. E. (2010). Project Shake-It-Up: Using health promotion, capacity building and a disability studies framework to increase self efficacy. *Disability and Rehabilitation*, *32*(9), 741–754. https://doi.org/10.3109/09638280903295466

Bowes, A., & McColgan, G. (2013). Telecare for Older People: Promoting Independence, Participation, and Identity. *Research on Aging*, *35*(1), 32–49. https://doi.org/10.1177/0164027511427546

Butler, R. N. (1969). Age-Ism: Another Form of Bigotry. *The Gerontologist*, *9*(4 Part 1), 243–246. https://doi.org/10.1093/geront/9.4_Part_1.243

Charmaz, K. (1983). Loss of self: A fundamental form of suffering in the chronically ill. *Sociology of Health & Illness*, *5*(2), 168–195. https://doi.org/10.1111/1467-9566.ep10491512

Charmaz, K. (1995). The Body, Identity, and Self: Adapting to Impairment. *The Sociological Quarterly*, *36*(4), 657–680. http://www.jstor.org/stable/4121346

Chen, K. (2020). Why do older people love and hate assistive technology? – an emotional experience perspective. *Ergonomics*, *63*(12), 1463–1474. https://doi.org/10.1080/00140139.2020.1808714

Chen, K., & Chan, A. H. S. (2014). Predictors of gerontechnology acceptance by older Hong Kong Chinese. *Technovation*, *34*(2), 126–135. https://doi.org/10.1016/j.technovation.2013.09.010

Copolillo, A., Collins, C., Randall, N. R., & Cash, S. H. (2002). The impact of experience and heuristics on everyday decisions to use mobility devices: The need for control in nine African-American older adults. *Physical and Occupational Therapy in Geriatrics*, *20*(2), 57–74. Scopus. https://doi.org/10.1300/J148v20n02_04

Copolillo, Collins, C., Randall, N. R., & Cash, S. H. (2001). The Impact of Experience and Heuristics on Everyday Decisions to Use Mobility Devices: The Need for Control in Nine African-American Older Adults. *Physical & Occupational Therapy In Geriatrics*, *20*(2), 57–74. https://doi.org/10.1080/J148v20n02_04

Cotter, V. T., & Gonzalez, E. W. (2009). Self-concept in older adults: An integrative review of empirical literature. *Holistic Nursing Practice*, *23*(6), 335–348. https://doi.org/10.1097/HNP.0b013e3181bf37ea

Courtney, K. L. (2008). Privacy and senior willingness to adopt smart home information technology in residential care facilities. *Methods of Information in Medicine*, *47*(1), 76–81. Scopus. https://doi.org/10.3414/ME9104

Courtney, K. L., Demiris, G., & Hensel, B. K. (2007). Obtrusiveness of information-based assistive technologies as perceived by older adults in residential care facilities: A secondary analysis. *Medical Informatics and the Internet in Medicine*, *32*(3), 241–249. https://doi.org/10.1080/14639230701447735

Courtney, K. L., Demiris, G., Rantz, M., & Skubic, M. (2008). Needing smart home technologies: The perspectives of older adults in continuing care retirement communities. *Informatics in Primary Care*, *16*(3), 195–201. Scopus. https://doi.org/10.14236/jhi.v16i3.694

Desmond, D., Layton, N., Bentley, J., Boot, F. H., Borg, J., Dhungana, B. M., Gallagher, P., Gitlow, L., Gowran, R. J., Groce, N., Mavrou, K., Mackeogh, T., McDonald, R., Pettersson, C., & Scherer, M. J. (2018). Assistive technology and people: A position paper from the first global research, innovation and education on assistive technology (GREAT) summit. *Disability and Rehabilitation: Assistive Technology*, *13*(5), 437–444. https://doi.org/10.1080/17483107.2018.1471169

Dudek, M., Baisch, S., Knopf, M., & Kolling, T. (2021). "THIS ISN'T ME!": The Role of Age-Related Self- and User Images for Robot Acceptance by Elders. *International Journal of Social Robotics*, *13*(6), 1173–1187. https://doi.org/10.1007/s12369-020-00678-1

Ek, K., Sahlberg-Blom, E., Andershed, B., & Ternestedt, B.-M. (2011). Struggling to retain living space: Patients' stories about living with advanced chronic obstructive pulmonary disease. *Journal of Advanced Nursing*, *67*(7), 1480–1490. https://doi.org/10.1111/j.1365-2648.2010.05604.x

Fritz, R. L., Corbett, C. L., Vandermause, R., & Cook, D. (2016). The influence of culture on older adults' adoption of smart home monitoring. *Gerontechnology*, *14*(3), 146–156. Scopus. https://doi.org/10.4017/GT.2016.14.3.010.00

Gale, N., & Sultan, H. (2013). Telehealth as "peace of mind": Embodiment, emotions and the home as the primary health space for people with chronic obstructive pulmonary disorder. *Health and Place*, *21*, 140–147. Scopus. https://doi.org/10.1016/j.healthplace.2013.01.006

Ghorayeb, A., Comber, R., & Gooberman-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*, 102571. https://doi.org/10.1016/j.ijhcs.2020.102571

Gibson, G., Dickinson, C., Brittain, K., & Robinson, L. (2015). The everyday use of assistive technology by people with dementia and their family carers: A qualitative study. *BMC Geriatrics*, *15*(1). Scopus. https://doi.org/10.1186/s12877-015-0091-3

Gilleard, C. J., & Higgs, Paul. (2014). *Ageing, corporeality and embodiment*. Anthem Press.

Gitlin, L. N. (1995). Why Older People Accept or Reject Assistive Technology. *Generations: Journal of the American Society on Aging*, *19*(1), 41–46. https://www.jstor.org/stable/44877289

Gitlin, L. N., Luborsky, M. R., & Schemm, R. L. (1998). Emerging concerns of older stroke patients about assistive device use. *The Gerontologist*, *38*(2), 169–180. https://doi.org/10.1093/geront/38.2.169

Goffman, E. (1971). The presentation of self in everyday life. In *The presentation of self in everyday life*. Penguin.

Goffman, E. (1990). *Stigma: Notes on the management of spoiled identity*. Penguin.

González-Domínguez, S., Muñoz, M., Ausín, B., Castellanos, M. A., & Pérez-Santos, E. (2018). Age-related self-stigma of people over 65 years old: Adaptation of the Internalized Stigma of Mental Illness scale (ISMI) for use in age-related self-stigma (IS65+) in a Spanish sample. *Aging & Mental Health*, *22*(2), 250–256. https://doi.org/10.1080/13607863.2016.1247422

Grace, S. L., Taherzadeh, G., Jae Chang, I. S., Boger, J., Arcelus, A., Mak, S., Chessex, C., & Mihailidis, A. (2017). Perceptions of seniors with heart failure regarding autonomous zero-effort monitoring of physiological parameters in the smart-home environment. *Heart and Lung: Journal of Acute and Critical Care*, *46*(4), 313–319. Embase. https://doi.org/10.1016/j.hrtlng.2017.04.007

Gramstad, A., Storli, S. L., & Hamran, T. (2013). "Do I need it? Do I really need it?" Elderly peoples experiences of unmet assistive technology device needs. *Disability and Rehabilitation: Assistive Technology*, *8*(4), 287–293. https://doi.org/10.3109/17483107.2012.699993

Greenhalgh, T., Wherton, J., Sugarhood, P., Hinder, S., Procter, R., & Stones, R. (2013). What matters to older people with assisted living needs? A phenomenological analysis of the use and non-use of telehealth and telecare. *Social Science & Medicine (1982)*, *93*, 86–94. https://doi.org/10.1016/j.socscimed.2013.05.036

Ha, J., & Park, H. K. (2020). Factors affecting the acceptability of technology in health care among older korean adults with multiple chronic conditions: A cross-sectional study adopting the senior technology acceptance model. *Clinical Interventions in Aging*, *15*, 1873–1881.

https://www.embase.com/search/results?subaction=viewrecord&id=L2005158924&from=export

Horton, K. (2008). Falls in older people: The place of telemonitoring in rehabilitation. *Journal of Rehabilitation Research and Development*, *45*(8), 1183–1194. Scopus. https://doi.org/10.1682/JRRD.2007.09.0152

Hunter, S. W., Meyer, C., Divine, A., Hill, K. D., Johnson, A., Wittich, W., & Holmes, J. (2021). The experiences of people with Alzheimer's dementia and their caregivers in acquiring and using a mobility aid: A qualitative study. *Disability and Rehabilitation*, *43*(23), 3331–3338. https://doi.org/10.1080/09638288.2020.1741700

Hutchinson, K., Roberts, C., & Daly, M. (2018). Identity, impairment and disablement: Exploring the social processes impacting identity change in adults living with acquired neurological impairments. *Disability & Society*, *33*(2), 175–196. https://doi.org/10.1080/09687599.2017.1392931

Jacobson, S. (2010). *Overcoming the Stigma Associated with Assistive Devices*. 12.

Jacobson, S. (2014). *Personalised assistive products: Managing stigma and expressing the self* [School of Arts, Design and Architecture]. https://aaltodoc.aalto.fi:443/handle/123456789/13321

Khasnabis, C., Holloway, C., & MacLachlan, M. (2020). The Digital and Assistive Technologies for Ageing initiative: Learning from the GATE initiative. *The Lancet Healthy Longevity*, *1*(3), e94–e95. https://doi.org/10.1016/S2666-7568(20)30049-0

Khasnabis, C., Mirza, Z., & MacLachlan, M. (2015). Opening the GATE to inclusion for people with disabilities. *The Lancet*, *386*(10010), 2229–2230. https://doi.org/10.1016/S0140-6736(15)01093-4

Lamb, E. (2015). Age and/as Disability: A Call for Conversation. *Age, Culture, Humanities: An Interdisciplinary Journal*, *2*, 315–324. https://doi.org/10.7146/ageculturehumanities.v2i.130612

Larsen, S. M., Mortensen, R. F., Kristensen, H. K., & Hounsgaard, L. (2019). Older adults' perspectives on the process of becoming users of assistive technology: A qualitative systematic review and meta-synthesis. *Disability and Rehabilitation: Assistive Technology*, *14*(2), 182–193. https://doi.org/10.1080/17483107.2018.1463403

Leahy, A. (2023). Disability Identity in Older Age? - Exploring Social Processes that Influence Disability Identification with Ageing. *Disability Studies Quarterly*, *42*(3–4), Article 3–4. https://doi.org/10.18061/dsq.v42i3-4.7780

Lin, I.-F., & Wu, H.-S. (2014). Activity limitations, use of assistive devices or personal help, and well-being: Variation by education. *The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences*, *69*, S16-25.

Lindeman, D. (2011). Interview: Lessons from a Leader in Telehealth Diffusion: A Conversation with Adam Darkins of the Veterans Health Administration. *Ageing International*, *36*(1), 146–154. Scopus. https://doi.org/10.1007/s12126-010-9079-7

Lindemann, H. (2009). Holding One Another (well, Wrongly, Clumsily) in a Time of Dementia. *Metaphilosophy*, *40*(3/4), 416–424. https://doi.org/10.1111/j.1467-9973.2009.01592.x

Livingston, J. D., & Boyd, J. E. (2010). Correlates and consequences of internalized stigma for people living with mental illness: A systematic review and meta-analysis. *Social Science & Medicine (1982)*, *71*(12), 2150–2161. https://doi.org/10.1016/j.socscimed.2010.09.030

Lockwood, C., dos Santos, K. B., & Pap, R. (2019). Practical Guidance for Knowledge Synthesis: Scoping Review Methods. *Asian Nursing Research*, *13*(5), 287–294. https://doi.org/10.1016/j.anr.2019.11.002

Lund, M. L., & Nygård, L. (2003). Incorporating or resisting assistive devices: Different approaches to achieving a desired occupational self-image. *OTJR: Occupation, Participation and Health*, *23*(2), 67–75. https://www.proquest.com/docview/220297766/citation/51C21F70D6E547C4PQ/1

Luz, C., Bush, T., & Shen, X. (2017). Do Canes or Walkers Make Any Difference? NonUse and Fall Injuries. *The Gerontologist*, *57*(2), 211–218. https://doi.org/10.1093/geront/gnv096

Mackenzie, M., Conway, E., Hastings, A., Munro, M., & O'Donnell, C. (2013). Is 'Candidacy' a Useful Concept for Understanding Journeys through Public Services? A Critical Interpretive Literature Synthesis. *Social Policy & Administration*, *47*(7), 806–825. https://doi.org/10.1111/j.1467-9515.2012.00864.x

Martinez, A., & Scherer, M. (2022). *"Matching Person & Technology (MPT) Model" for Technology Selection as Well as Determination of Usability and Benefit from Use "Matching Person & Technology (MPT) Model" for Technology Selection as Well as Determination of Usability and Benefit from Use*.

Mortenson, W. B., Sixsmith, A., & Beringer, R. (2016). No Place Like Home? Surveillance and What Home Means in Old Age. *Canadian Journal on Aging = La Revue Canadienne Du Vieillissement*, *35*(1), 103–114. https://doi.org/10.1017/S0714980815000549

O'Brien, A., & Ruairi, R. M. (2009). Survey of Assistive Technology Devices and Applications for Aging in Place. *2009 Second International Conference on Advances*

in Human-Oriented and Personalized Mechanisms, Technologies, and Services, 7–12. https://doi.org/10.1109/CENTRIC.2009.9

Orellano-Colón, E. M., Harrison-Cruz, S., López-Lugo, E., Ramos-Peraza, S., Meléndez-Ortiz, A., Ortiz-Torres, J., & Rodríguez-Marrero, J. (2020). Assistive technology self-management intervention for older Hispanics: A feasibility study. *Disability and Rehabilitation. Assistive Technology*, *15*(8), 862–870. https://doi.org/10.1080/17483107.2019.1621954

Outila, M., & Kiuru, H. (2020). "Picturephone in My Home": Actor-Network Theory and Foucauldian Discourse Analysis on Northern Finnish Older Adults Starting to Use a Video Conferencing Service. *Journal of Technology in Human Services*, *39*(2), 163–192. Scopus. https://doi.org/10.1080/15228835.2020.1869670

Ouzzani, M., Hammady, H., Fedorowicz, Z., & Elmagarmid, A. (2016). Rayyan—A web and mobile app for systematic reviews. *Systematic Reviews*, *5*(1), 210. https://doi.org/10.1186/s13643-016-0384-4

Papadimitriou, C. (2008). Becoming en-wheeled: The situated accomplishment of re-embodiment as a wheelchair user after spinal cord injury. *Disability & Society*, *23*(7), 691–704. https://doi.org/10.1080/09687590802469420

Parette, P., & Scherer, M. (2004). Assistive Technology Use and Stigma. *Education and Training in Developmental Disabilities*, *39*(3), 217–226. https://www.jstor.org/stable/23880164

Parks, J. A. (2015). Home-Based Care, Technology, and the Maintenance of Selves. *HEC Forum*, *27*(2), 127–141. https://doi.org/10.1007/s10730-015-9278-4

Peek, S. (2017). *Understanding technology acceptance by older adults who are aging in place: A dynamic perspective* [Doctoral Thesis]. Ipskamp.

Peek, S., Luijkx, K. G., Rijnaard, M. D., Nieboer, M. E., van der Voort, C. S., Aarts, S., van Hoof, J., Vrijhoef, H. J. M., & Wouters, E. J. M. (2016). Older Adults' Reasons for Using Technology while Aging in Place. *Gerontology*, *62*(2), 226–237. https://doi.org/10.1159/000430949

Peek, S. T. M., Wouters, E. J. M., van Hoof, J., Luijkx, K. G., Boeije, H. R., & Vrijhoef, H. J. M. (2014). Factors influencing acceptance of technology for aging in place: A systematic review. *International Journal of Medical Informatics*, *83*(4), 235–248. https://doi.org/10.1016/j.ijmedinf.2014.01.004

Peters, M., Godfrey, C., McInerney, P., Munn, Z., Tricco, A., & Khalil, H. (2020). Chapter 11: Scoping Reviews (2020 version). In E. Aromataris & Z. Munn, *JBI Manual for Evidence Synthesis* (JBI, 2020). (Editors). https://synthesismanual.jbi.global

Pollock, D., Davies, E. L., Peters, M. D. J., Tricco, A. C., Alexander, L., McInerney, P., Godfrey, C. M., Khalil, H., & Munn, Z. (2021). Undertaking a scoping review: A practical guide for nursing and midwifery students, clinicians, researchers, and academics. *Journal of Advanced Nursing*, *77*(4), 2102–2113. https://doi.org/10.1111/jan.14743

Resnik, L., Allen, S., Isenstadt, D., Wasserman, M., & Iezzoni, L. (2009). Perspectives on use of mobility aids in a diverse population of seniors: Implications for intervention. *Disability and Health Journal*, *2*(2), 77–85. https://doi.org/10.1016/j.dhjo.2008.12.002

Roelands, M., Van Oost, P., Depoorter, A., & Buysse, A. (2002). A social-cognitive model to predict the use of assistive devices for mobility and self-care in elderly people. *The Gerontologist*, *42*(1), 39–50. https://doi.org/10.1093/geront/42.1.39

Rosenberg, L., & Nygård, L. (2012). Persons with dementia become users of assistive technology: A study of the process. *Dementia*, *11*(2), 135–154. https://doi.org/10.1177/1471301211421257

Sánchez, V. G., Anker-Hansen, C., Taylor, I., & Eilertsen, G. (2019). Older people's attitudes and perspectives of welfare technology in Norway. *Journal of Multidisciplinary Healthcare*, *12*, 841–853. https://www.embase.com/search/results?subaction=viewrecord&id=L2002854024&from=export

Sanders, C., Rogers, A., Bowen, R., Bower, P., Hirani, S., Cartwright, M., Fitzpatrick, R., Knapp, M., Barlow, J., Hendy, J., Chrysanthaki, T., Bardsley, M., & Newman, S. P. (2012). Exploring barriers to participation and adoption of telehealth and telecare within the Whole System Demonstrator trial: A qualitative study. *BMC Health Services Research*, *12*, 220.

Scherer, M., & Craddock, G. (2002). Matching person & technology (MPT) assessment process. *Technology & Disability*, *14*(3), 125–131. https://doi.org/10.3233/tad-2002-14308

Spirtos, M., & Gilligan, R. (2022). 'In your own head everyone is staring': The disability related identity experiences of young people with hemiplegic cerebral palsy. *Journal of Youth Studies*, *25*(1), 50–66. https://doi.org/10.1080/13676261.2020.1844170

Stryker, S., & Burke, P. J. (2000). The Past, Present, and Future of an Identity Theory. *Social Psychology Quarterly*, *63*(4), 284–297. https://doi.org/10.2307/2695840

Thilo, F. J. S., Schols, J. M. G. A., Halfens, R. J. G., Linhart, M., & Hahn, S. (2021). Deciding about the use of a Personal Safety Alerting Device-The need for a legitimation process: A qualitative study. *Journal of Advanced Nursing*, *77*(1), 331–342. https://doi.org/10.1111/jan.14566

Tricco, A. C., Lillie, E., Zarin, W., O'Brien, K. K., Colquhoun, H., Levac, D., Moher, D., Peters, M. D. J., Horsley, T., Weeks, L., Hempel, S., Akl, E. A., Chang, C., McGowan, J., Stewart, L., Hartling, L., Aldcroft, A., Wilson, M. G., Garritty, C., … Straus, S. E. (2018). PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. *Annals of Internal Medicine*, *169*(7), 467–473. https://doi.org/10.7326/M18-0850

Van Houwelingen, C. T. M., Ettema, R. G. A., Antonietti, M. G. E. F., & Kort, H. S. M. (2018). Understanding older people's readiness for receiving telehealth: Mixed-method study. *Journal of Medical Internet Research*, *20*(4). Scopus. https://doi.org/10.2196/jmir.8407

Wang, H., Zhao, Y., Yu, L., Liu, J., Zwetsloot, I. M., Cabrera, J., & Tsui, K.-L. (2020). A Personalized Health Monitoring System for Community-Dwelling Elderly People in Hong Kong: Design, Implementation, and Evaluation Study. *Journal of Medical Internet Research*, *22*(9), e19223. https://doi.org/10.2196/19223

Watson, N. (2002). Well, I Know this is Going to Sound Very Strange to You, but I Don't See Myself as a Disabled Person: Identity and disability. *Disability & Society*, *17*(5), 509–527. https://doi.org/10.1080/09687590220148496

WHO. (2021, October 4). *Ageing and health*. https://www.who.int/news-room/fact-sheets/detail/ageing-and-health

World Health Organization. (2021). *International Classification of Functioning, Disability and Health (ICF)*. https://icd.who.int/dev11/l-icf/en

World Health Organization & United Nations Children's Fund (UNICEF). (2022). *Global report on assistive technology*. World Health Organization; WHO IRIS. https://apps.who.int/iris/handle/10665/354357

World Health Organization (WHO) and the United Nations Children's Fund (UNICEF). (2022). *Global report on assistive technology*. World Health Organization & United Nations Children's Fund. https://www.who.int/publications-detail-redirect/9789240049451

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. https://www.scopus.com/inward/record.uri?eid=2-s2.0-84921458730&doi=10.2147%2fCIA.S72399&partnerID=40&md5=57826cb795ad2e55bb85c64e26e12865

Yoshida, K. K. (1993). Reshaping of self: A pendular reconstruction of self and identity among adults with traumatic spinal cord injury. *Sociology of Health & Illness*, *15*(2), 217–245. https://doi.org/10.1111/1467-9566.ep11346888

Table 1 Key Terms and Search Syntax entered into Databases

Group of key terms		
Group 1. Identity related terms	(identity OR “self-identity” OR “self” OR “self-image” OR “self-concept” OR “self-perception” OR “self confidence” OR “self esteem” OR “body image” OR “body identity” OR "body identification" OR “body representation” OR “body schema” OR "body dissatisfaction")	
Group 2. Older adults	(“older adult” OR “older people” OR senior OR elder OR "old age" OR "high age" OR “aged 65” OR “65+” OR “aged, 80 and over” OR "oldest old people" OR aged OR aging OR ageing OR frail OR frailty OR "frail elderly" OR "healthy aging" OR “geriatrics” OR “gerontology” OR "geriatric psychology" OR “senescence” OR “end of life” OR "centenarians" OR “retirement” OR "retirees" OR "longevity")	
Group 3. Community-dwelling	("aging in place" OR "ageing in place" OR aging-in-place OR ageing-in-place OR "aging at home" OR "ageing at home" OR aging-at-home OR ageing-at-home OR "living independently" OR "independent living" OR "living autonomously" OR "autonomous living" OR "living at home" OR "remaining at home" OR "residing at home" OR "community dwelling" OR community-dwelling OR "assisted living" OR “assisted living facilities” OR ALF OR "home care" OR "homecare" OR "home health care" OR "in-home care" OR "domiciliary care" OR "social care" OR “elder care”)	
Group 4. Assistive Technology	(“assistive technology” OR “assistive technology device” OR “self help device” OR "self-help devices" OR "supportive technology" OR "adaptive technology" OR “safety devices” OR "handicapped assistance devices" OR “appliance” OR “telecommunication” OR “tele-monitoring” OR "screen to screen" OR “gerontechnology” OR telehealth OR telehealthcare OR tele-healthcare OR telemonitoring OR "screen to screen" OR telemedicine OR telehomecare OR telecare OR tele-care OR tele-cure OR telemonitoring OR telerehabilitation OR "smart home" OR “smart home technology” OR “rehabilitation equipment” OR "orthopedic equipment" OR "orthotic devices" OR "prostheses and implants" OR "foot orthoses" OR “exoskeleton rehabilitation” OR " wheelchairs" OR “assistive scooter” OR “stand up chair” OR “walking aid” OR “motion analysis system” OR "wearable electronic devices" OR "hearing aids" OR “communication aid” OR "communication aids for disabled" OR "sensory aids" OR "speech recognition software" OR “speech generating device” OR “speech training system” OR “blind mobility aid” OR “tactile reading aid”)	
Search Syntax	*Databases*	*Filters and limits applied*
Group 1 AND Group 2 AND Group 3 AND Group 4	Embase	Title, Abstract, Keywords / Articles/ Humans /Age limits: aged, very elderly / 2000-2022 / English and Spanish
	MEDLINE / Pubmed	Humans / Age limits: 65+ years, 80 and over: 80+ years / 2000-2022 / English and Spanish
	PsycINFO	Journals / English language / Age 65 years and older OR 85 years and older
	SAGE	Abstract / 2000-2022
	Scopus	Search in Title, Abstract, Keywords / Publications after 2000 / Document type: Article / English and Spanish
	Web of Science	Search in Abstract / 2000-2022 / English and Spanish

Table 2 Identity-related concerns identified in the papers

Identity-related concerns	*Number of papers referring to identity concerns and references**	
Identity	8	(Aceros et al., 2015; Bailey et al., 2011; Bowes & McColgan, 2013; Chen, 2020; Ek et al., 2011; Gale & Sultan, 2013; Luz et al., 2017; Sanders et al., 2012)
Place identity	6	(Aceros et al., 2013, 2015; Courtney, 2008; Courtney et al., 2008; Gale & Sultan, 2013; Mortenson et al., 2016)
Self-identity	3	(Courtney et al., 2008; Fritz et al., 2016; Mortenson et al., 2016)
Self-efficacy	8	(Horton, 2008; Lin & Wu, 2014; Orellano-Colón et al., 2020; Outila & Kiuru, 2020; Roelands et al., 2002; Van Houwelingen et al., 2018; Wang et al., 2020; Wu et al., 2015)
Self-efficacy/ Confidence	1	(Bakas et al., 2018)
Gerontechnology self-efficacy	1	(Ha & Park, 2020)
Self-efficacy exercise	1	(Bedra & Finkelstein, 2015)
Self-perception	5	(Andersen et al., 2007; Bechtold et al., 2021; Courtney et al., 2007; Sánchez et al., 2019; Thilo et al., 2021)
Self-image	5	(Bechtold et al., 2021; Bowes & McColgan, 2013; Copolillo et al., 2001; Ek et al., 2011; Wu et al., 2015)
Self-concept	3	(Aceros et al., 2015; Courtney et al., 2007; Thilo et al., 2021)
Self	2	(Outila & Kiuru, 2020; Thilo et al., 2021)

**Given that in most cases papers referred to more than one identity-related concern, the total number of papers in this table does not represent the total of papers included in the review.*

List of Figure Captions

Figure 1 PRISMA flowchart

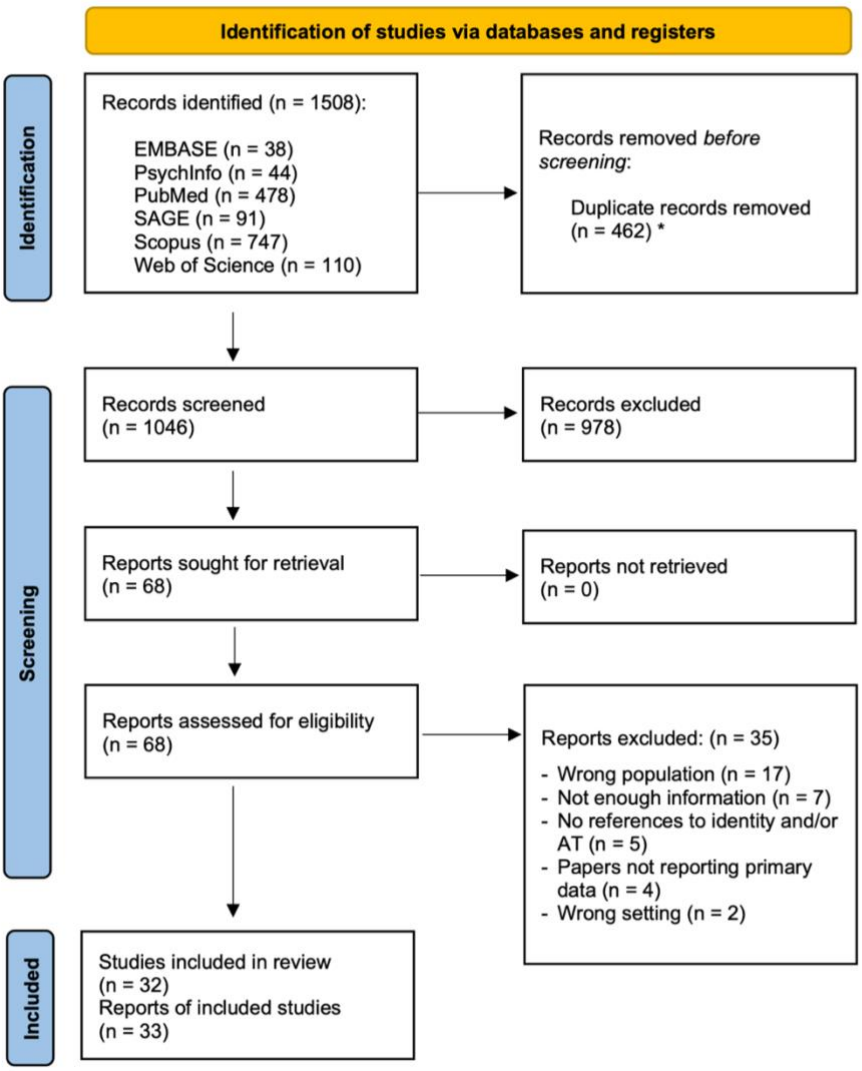

Figure 2 Summary of AT devices reported in the papers using the framework of AT classification proposed by O'Brien and Ruairi (2009)

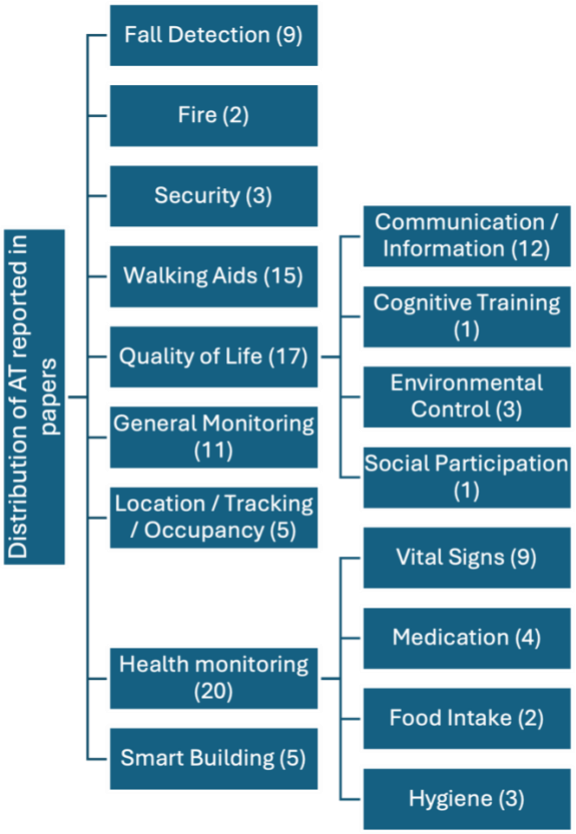

Figure 3 Summary of findings concerning patterns of AT use and emotional experiences associated with identity-related concerns about AT