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## The digital gender divide in the life experiences of elderly women

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Despite the difficulties in adapting to digital skills, more and more elderly people are interacting in cyberspace; even so, the twofold digital gender and age divide continues to be a challenge for the e-inclusion of elderly women. Elderly women have faced more obstacles for socialising in information and communication technologies (ICTs) as a result of the combination of inequalities that have shaped their lives. The use and appropriation of ICTs can lead to genuine transformations in their daily lives, by creating an opportunity for carrying out other roles, occupying other spaces, creating other forms of personal relationships and so on, which would improve their quality of life. This article offers an interpretation of the relationship between elderly women and ICTs through life narratives of Catalan women who became users as they entered old age<sup>1</sup>.

#### Introduction

The information society is emerging as a phenomenon that has favoured the creation of a global and knowledge society, where access and use of information and communication technologies (ICTs) are providing a source of new opportunities, but new social inequalities too (Bonder, 2004; Castells, 1998; García Canclini, 2004; Wolton, 2004; Tezanos, 2004). The 'network society' (Castells, 2006) has given rise to new forms of sociability and new social-participation mechanisms, having set the framework for digital citizen spaces. Access to ICTs and their use are a *sine que non* for participation in digital citizen spaces; participation is currently unequal and conditional on such factors as social class, gender, ethnicity and age.

The digital divide is a manifestation of such inequalities. The first digital divide relates to access to computers and internet connections; the second affects uses (both in intensity and in variety) and is determined by the individuals' capacities and skills for using ICT equipment and resources. Although the access gap still persists among elderly people and groups from low income and low educational backgrounds, today's policies promote such use and skills (Castaño, 2008). In the specific case of elderly women, the digital divide is expressed in two areas: access and use. Women are at a disadvantage compared to men, owing to their more limited use and a use that generally requires less technological skill.

I. The article's content is based on research for a project subsidised by the Catalan Women's Institute (ICD) entitled 'Analysis of the relationship of women aged 65 and over with new technologies in their association and education environments', conducted in 2011 by the Catalan Institute of Ageing's team at the UAB, which it is part of.

Elderly people's motivations and obstacles to accessing ICTs are a well-worn topic (Castaño, 2009; Miranda, 2007; Sayago, 2009). Nevertheless, a gender-perspective approach continues to be an area of interest, especially where an analysis can help to identify obstacles and facilitators in the technology-appropriating process. Castaño (2008) focuses on this point, specifying the way in which training levels, work careers, economic levels and women's ages have made an impact when it comes to ICTs.

It is cultural, family and social elements that have an impact in the second gap; understanding how they are having an effect may be key to intervening (Gil, Vitores, Feliu and Vall-Llovera, 2011). It is in this context that gender stereotypes such as social construction mediated by socio-cultural interpretations could be acting negatively in the case of elderly women and strengthening their effect with age prejudices. Such duplicity ought to have a direct effect on the digital divide's reproduction. In addition, this is about women who have faced difficulties in their personal and educational development and for social participation. Some studies highlight the importance of researching the factors that help with overcoming the gap and remaining in cyberspace (Faulkner and Lie, 2007). So, the view is that finding out how gender stereotypes operate may contribute knowledge on the obstacles to ICT access and use. It may likewise shed light on the practices and strategies of elderly women to become a digital citizen. This article, then, offers an analysis of the influence of gender and age stereotypes, as well as obstacles and facilitators in relation to elderly women with ICTs. An analysis was accordingly made of narratives of women who had taken the step from non-user to user over the last three years at least, before the field work was carried out, and who are active members in educational and associative fields of participation in rural and urban environments.

## 1. The challenge of using ICTs for active ageing

According to the data from the Survey on Equipment and Use of Information and Communication Technologies in Households, conducted by the National Institute of Statistics (INE) in 2018, 85.7% of men and 84.6% of women regularly use the internet in Catalonia. The generation gap is notable: 95% of young people regularly use the internet, compared to only 48.5% of people aged 65 and over (Table1).

Table 1	. People age	d 16 to 74 by s	ex and age and	l main variables of	ICT use Catalonia, 2018
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	Total	Use of the internet in the last three months (%)	Regular use of internet (once a week) (%)	Online purchases in the last three months (%)
Gender				
Men	2,730,029	88.0	85.7	47.7
Women	2,797,719	87.9	84.6	50.8
Age				
16 to 24	659,239	97.8	95.8	62.2
25 to 34	854,198	94.5	91.1	61.4
35 to 44	1,222,974	97.3	96.0	60.0
45 to 54	1,155,520	95.0	92.8	46.4
55 to 64	915,625	80.0	76.6	38.4
65 to 74	720,192	54.2	48.5	23.1

Source: Idescat, based on the National Institute of Statistics Survey on Equipment and Use of Information and Communication Technologies in Households.

The 2018 edition of the annual report, 'La sociedad en red' [The Network Society], issued by the National Telecommunications and Information Society Observatory (ONTSI), confirms the data's trend for Spain. As regards ICT services hired in households with young and elderly people respectively, there are differences in internet access, given that nine out of every ten households with young people have an internet connection, compared to five out of every ten with elderly people. As for individual equipment, more than 90% of young people have a computer or smart phone, whereas, in the case of people aged 65 and over, only 59.7% have a computer and 28.3% a smart phone. Even greater are the differences in frequency of use of mobile phones: 93.1% of young people who have one use it daily, whereas only 36.6% of the elderly who have one use it

daily. 86.9% of young people access the internet through their mobile, compared to 26.8% of the elderly (who do so more sporadically). Practically all young people have used the internet in the last three months (97.1 %), basically at home or a friend's home or at school. The figure drops to 36.9% for people over the age of 64 years of age, who mainly use the internet at home. 61.6% of elderly women have not used the internet or smart phone in the last three months, compared to 38.4 % of elderly men. When it comes to those who are connected to the internet, however, 53.2 % are women and 46.8% are men.

These figures show a double digital divide, according to sex and age, as well as the consolidation of women as users once the technology is used. They likewise highlight the established goal of continuing to bring technical literacy and skills to Spanish citizens, reaffirming, in turn, the digital agenda's targets for Europe. The digital divide of elderly women is a priority analysis and intervention subject, considering that technologies can become an opportunity for the social inclusion of elderly people and women in particular (Seguí Dolz, 2006; Ramírez Pino, 2008; Instituto de la Mujer, 2008).

The use of ICTs represents the double edge of social inclusion and exclusion for elderly women. On the one hand, ICTs coordinate new shared ways of living one's life, given that they facilitate the creation of new social networks and maintenance of family relations (email and social networks) and access to online services that can be managed from the household (for example, training for carers, health forums, managing social benefits, planning medical visits and so on), and represent a potential for healthcare and social assistance providers as well as an innovative tool for elderly people's associations (COM, 2007). On the other hand, non-use and non-access can limit the possibilities for social relations and for administrative and commercial management, which could make life easier in situations of dependence (Spanish Ministry of Health, Social Policy and Equality *et al.*, 2011). In sum, the appropriation of information and communication technologies offers elderly women an opportunity for empowerment in accessing resources that improve their quality of life, being a means to active ageing.

Active ageing has been defined as the process of optimising the opportunities for health, participation and security (WHO, 2002) and training (ILC-Brazil, 2015) to improve the quality of life of people as they age. In that sense, the concept of 'activity' refers to a social, cultural and civil participation process that goes beyond physical and productive-work aspects and has, in turn, an implicit empowerment value for elderly people towards their capacities and potential, far removed from the conception of old age associated with limitations and shortcomings. The use of ICTs and the role they play in the ageing process is an issue found in the European policies agenda for improving conditions in several areas: work, given that they have positive effects for staying in the labour market, in providing qualification flexibility and development; the community, as they facilitate social participation, promote social inclusion and reduce the risk of isolation; and the household, owing to the fact that it prolongs independence and autonomy for living at home as long as possible (COM, 2005, 2007). In addition, the fact that elderly people use ICTs like their family members and the rest of the population creates an equality effect that contributes towards their social inclusion (Sayago, 2009).

Some studies, such as 'Mujeres y nuevas tecnologías de la información y la comunicación' [Women and new information and communication technologies] (Instituto de la Mujer, 2008), relate the digital divide to the generation factor, given that the socialisation process shapes a series of behavioural roles and guidelines that determine the use of ICTs. That being the case, the divide would narrow with future generations, owing to the fact that ICT culture and socialisation would be more homogeneous (Querol, 2011). For her part, Castaño (2005) argues that the digital divide is a manifestation of the social inequalities that depend on a multiplicity of factors: a) the structure of opportunities (availability and universality of technological education, investment in science and technology, services costs and telecommunication regulation, etc.); b) cultural attitudes relating to the use of computers and the information that circulates on the network; c) knowledge of English; and d) people's financial and educational resources for the IT field.

On the other hand, there are a series of initiatives geared to social intervention which are aimed at promoting actions for including women in the world of technologies: portals for good ICT and gender practices, guides for incorporating gender-equality criteria in institutional e-formats and collecting resources (Catalan Women's Institute, 2009) and actions for improving citizens' technological skills (e-Equality programme; Instituto de la Mujer's CERES programme; Avanza Plan and Avanza Plan 2; Strategy for 2011-2015). The documents' scope is significant; even so, such studies and initiatives follow an approach that fails to take a comprehensively deep look at the influence of cultural factors in the appropriation of technologies or to discover spaces for breaking away in the isolation and feelings of alienation that elderly women experience who have been left out of the technological process.

## 2. Gender and age stereotypes and their relationship with ICTs

Gender roles have traditionally been constructed on a 'binary' sexual-division work basis, according to which women would take up domestic work and family caring, whereas men would carry out their activity in the public arena, as regards their participation in the formal labour market and in the field of political decisions, essentially. Here the family model is the basis of an organisation founded on performative lines of activities, expectations and imageries that define gender identities (Martín Palomo, 2008).

Nevertheless, this typology is now being transformed, as a consequence of social changes that have been occurring at an accelerating pace since the end of the 20th century and which have been having a decisive influence on the traditional reproduction model for gender roles. Some of the most important aspects of these roles notably include the transformation of models for sexual, reproductive and family behaviour (couples living together later in life, single-person and singleparent households, low birth rates, late maternity, feminisation of old age, incorporation of women in the labour market which has diversified co-responsibility in household chores and so on). Gender is therefore a concept that denotes certain cultural constructions, shaped through the creation of ideals on the roles assigned to men and women, a way of referring to the social origins of subjective identities, a social category imposed on a sexed body (Scott, 1990). So, the ways that men and women experience old age relate to the cultural contexts in which behavioural models and gender attributions to each sex have been constituted (Fischer and Manstead, 2000). Jayme and Sau (1993) point out that gender has two sides to it: the collective, insofar as it involves people's adaptation to the society's expectations and gender roles, and the individual, in the way in which each person experiences their own gender. Gender identity is the personal experience of the gender role and that is the public expression of the gender identity.

For their part, stereotypes are exaggerated beliefs associated with a category (race, gender, age, social class, etc.,) whose function is to justify (rationalise) behaviour in relation to that category (Colom, 1997). There is a close relationship between the concepts of stereotypes, prejudices and discrimination and their effect on attitudes. Prejudice is defined as the sum of negative beliefs and judgements on a social group. These consist of knowledge, judgements and beliefs, and as such are made up of 'stereotypes', that is, the latter being the cognitive component of prejudices. Stereotypes facilitate social identity, the sense of belonging to a social group, through acceptance and identification and group integration, and have an adaptive value, given that they help us to understand the world in a simplified, coherent and unified way. Similarly, being learnt through social interaction, stereotypes can be eradicated over time (González Gabaldón, 1999). Jayme and Sau (1993) argue that there are some classic gender-differentiated aspects in analysing personalities that are associated with masculinity or femininity, which, put in relation with other parameters such as outer and inner space of interactions, can lead to the classification set out in Table 2.

Table 2. Classic gender-differentiated gender-personality aspects

Activity	Space	Masculine	Feminine
Public	Exterior	Activity, dominance, control, aggressiveness	Passiveness, submission, lability, inhibition
Private	Interior	Passiveness, submission, lability, inhibition	Activity, dominance, control, aggressiveness

Source: Jayme and Sau, (1993: 249).

So, then, we can observe that an initial classification based on gender stereotypes and their influence on personalities varies according to whether public or private activities are being dealt with, in inner or outer spaces, with the latter possibly even reversed in their behaviour models. This is an interesting approach when it comes to reflecting on gender roles in old age. Prieto (2009) argues that identities in old age tend to be constructed by cultural arrangements that are defined by oppositions between them:

- Centrality as opposed to periphery: men centralise the space of culture, above all the spaces of power such as politics, decision-taking at home, among other things; whereas women have remained outside power, preparing adaptive strategies to be accordingly implemented.
- The space of the public as opposed to the domestic: directly relating to the previous point, Prieto asserts that public space constitutes the place par excellence for constructing the masculine identity. Private and household spaces are not specifically about a women's place, but rather a men's space where women build their possibilities of identity.
- Independence as opposed to dependence: the most masculinised values are called into question when signs of dependence are presented among men, with their position 'setting the standards' questioned. It is in this masculine climate that women build their heteronomous identity, to be and care for the others.
- The everyday façade of the extraordinary: women have to represent stability to sustain the risks that men will take outside the home.
- The rational as opposite to the emotional: it seems like the values considered positive are reversed in old age, often, causing more difficulties among men for assuming and understanding their own feelings in this new stage.

Nevertheless, it is asserted that there is presently no dichotomy so pronounced among the attributes ascribed to the sexes, but rather a similarity experienced among the attributes conferred on men and women (Colom Bauzà, 1997). This would be marked by changes in the 'self-image' that women have of themselves, due to the attribution of instrumental, in addition to expressive, features. This process has been based on the socio-cultural changes that have been occurring since the 1960s and on which basis women's roles have been substantially transformed. Here, Prieto and others (2009) add an important notion in the experience of the constitution of gender identities in old age: in addition to this set of oppositions in the construction of identities in each stage of life, old age rolls into feminine. This is based on the fact that women carry more weight in the demographic structure and in the central role in family care. Likewise, awareness of and knowledge in self-care puts them in a positive position, basically in accepting the passing of the years. Skills for increasing independence, for biding time and knowing how to recreate emotionally difficult situations put them in a favourable position and gain spaces of power compared to men who resist new changes.

## 3. Gender identities, stereotypes and ICT

The literature on the relationship between gender and technologies first started to develop in the 1970s, in line with the libertarian gender movements of the previous decade, and brought an opportunity to the feminist movement to demand women's participation in science and technology. The theoretical approaches contextualised and historically placed the relationship of women and technological development, from the point of view of not just access and use but also the creation of technical devices, as well as their influence on the structure of society's power. It is through these theoretical gender and technology readings that the trends of liberal feminism, socialist and constructivist feminists were consolidated (Vergés et al., 2009). The review by Gil-Juárez, Vitores, Feliu and Vall-Llovera (2011) makes the case of young women having underestimated technological skills and less confidence than men; in addition to expressing less interest in computers, women also feel greater anxiety (He and Freeman, 2009; Meelissen and Drent, 2008; Todman, 2000). Here the studies indicate that young people's positive experiences with ICTs since first contact and informality in learning enable them to become expert users. Despite all that, girls have fewer positive experiences and this has a negative impact on the process for learning expert uses (Baldassarri et al., 2009; Hackbarth, 2001). Such learnt behaviour helps to shape different identities, in both aptitudes and skills for using ICTs.

The lack of women's interest here in technologies is determined by a socio-cultural construction on the issue, which is associated with an activity typical of men (Wajcman, 2006). Technological skills are performed by gender. Men are considered to be more competent because of a supposed affinity of masculine attributes, whereas women lack these skills in the performativity of their femininities (Cockburn, 1992). Research in the symbolic issues constructed around gender and its relationship with technologies is a way of discovering intervention alternatives in this regard, which help to raise the number of elderly women accessing ICTs by taking the opportunity they offer in the face of some of the elderly people's social problems.

4. Access to ICTs and their use: the inter-generational and life-cycle perspective Introducing cyberspace into everyday life has an impact on age stereotypes; there is a constant association between youth and technology, built on designations such as 'digital natives' and 'network generation' (Querol, 2011).

Age stereotypes are found not just among young population groups (Montañés and Latorre, 2004) but also among groups of elderly people (Chasteen *et al.*, 2002). This factor may operate from outside, that is, from the values that society imposes on the stage of old age, and, extensively, on elderly people; or as a 'self-limitation', seeing that they themselves perceive age as a limitation for social participation and experimentation in several areas of daily life (learning and physical exercise, among other things). They act negatively, in turn, when they keep elderly people out of cyberspace, discouraging and underestimating the effort and interest of more and more elderly people who struggle to leave behind this obstacle to digital inclusion. The stereotyped characterisation of elderly people is based on a series of 'myths' that reinforce the notion of regarding them as a 'burden on society' and is constructed in opposition to the notion of youth (Fernández Ballesteros, 1992; Losada, 2004; Duque and Echanogorria, 2008). By contrast, the positive perceptions of elderly people and on old age do have effects on increased life expectancy and on adaptability in this process (Levy *et al.*, 2002). Table 3 reproduces a classification of myths on old age and its central features and what the reality is like.

Table 3. Myths and facts on old age

Fact		
Old age does not start uniformly but is variable and individualised		
Diversity is a feature of the experience of old age, based on the heterogeneousness of life paths, generational belonging, place of residence, family histories and so on		
Non-productivity can be interpreted in several ways, depending on a person's circumstances		
Many elderly people are interested in various social projects and even become more involved		
Elderly people have many possibilities		
Many elderly people not only continuously adapt to new situations but teach us through example		
Loss of memory can occur at any age		
Most elderly people live independently		
There are many, varied situations at this stage		
Old age is a particular stage in life		
Each person reflects the essence of their personality as time passes		
Sexuality does not disappear with age		

Source: Pérez Serrano, G. (coord.) (2004). Calidad de vida en personas mayores. Madrid: Dykinson.

As for the digital inclusion of elderly people, a dangerous association of negative stereotypes sometimes arises, along with elderly people's supposed lack of interest in and capacity for learning new things, which are part of the most classic myths. Castaño and others (2009) argue that, for all the difficulties that they present in this area, the fact of having more free time to dedicate to pursuing personal interests is an important motivation for accessing ICTs and using them. The same author points out that elderly women's motivations for connecting to the internet are of a practical nature and organised into three categories: 1) employment reasons (training in the work area), 2) family reasons (children need it for studying and these elderly women gradually adapted) and 3) the need to communicate with the family and friends. Elderly people have lacked socialisation in this area; at best, for personal reasons, ICTs were introduced during the last stage of their careers. The closest generations today (development, *baby boom* and transition) correspond more to the features of an acquired-rights and socialised awareness in a more participatory culture (Duque and Echanogorria, 2008); the digital divide, however, persists among them.

The generational perspective helps us to understand the values, roles and daily routines that give meaning to the life project of the women and men that make them up. These frameworks for understanding help us to understand the difficulties and social practices of elderly women in the face of technologies. As their careers were forged, what were their opportunities for training and socio-cultural participation and what were the levels of income their households had? Each of these factors affects knowledge and permeability with regard to ICT appropriation and everyday life. This is the only way we can avoid an evolutionist-technological view of generations and consider the most recent to be 'best' for attending to the diversity of personal careers (Querol, 2011).

Here the decision to study the collective of women aged 65 and over is based on a non-chronological life-cycle perspective of ageing which recovers the dynamic character that constitutes people's lives (Villar and Triadó, 2006). The notion of life cycle refers to certain situations of their paths which prove significant for people. The age of 65 is not a fixed cut-off point, but quite the opposite, inviting analyses of the ICT-appropriation processes in certain circumstances and life contexts. An example would be early retirement, though this is hardly widespread among elderly women, given that some of them have not taken part in the formal labour market. Other situations take central place for them, such as reclaiming the personal project after the stage of family obligations, living in widowhood and caring for dependent family members.

The challenge for the analysis is attempting to avoid a reductionism of the 'women's problem in ICTs' (Gil *et al.*, 2011) as if it were a women's problem with ICTs, since it is gender and feminine and masculine identities that are in question.

## 5. Analysis model

The analysis model was constructed from the perspective of considering access to ICTs and their use as an opportunity for active ageing. Elderly women must get around gender stereotypes to introduce themselves into the world of technology and delve deeply in its uses. Stereotypes have been partly considered through the social practices of the relevant generations. Therefore, the generational perspective is key to understanding the process of elderly women's ICT appropriation. Analysing the relationship between ICTs and the life cycle of elderly women will highlight the meaning that technology has for them, the points in their lives when they decide to tackle it and how they change or give new meaning to their everyday experiences. Here, the fact of becoming technological users can generate spaces for breaking away from the acceptance of traditionally assigned roles, causing changes in the function of the stereotypes that they would have reinforced. So, technology becomes constituent of the identities of elderly women among whom a series of factors operate such as facilitators or obstacles to accessing and using ICTs. Some of them will function as a reinforcement of stereotypes and others as clearly resistance and break-away factors.

Semi-structural in-depth interviews were conducted for collecting data. The issues that are tackled identify the life situations where ICTs have been significant for elderly women, as well as their influence in the construction of gender identities. The interviews met a purposive-sampling criterion. Eight women over the age of 65, living in Catalonia and who had been using a computer and basically the internet for at least three years were interviewed. The women were contacted in participation spaces and in university programmes for elderly people. For the purposes of achieving greater diversity among the people consulted, interviewees were sought out who were residents in not just urban (Barcelona city) but also rural contexts (villages with fewer than 5,000 in habitants) in Catalonia. Diversity was also sought in level of studies, civil status, the household unit's features (living alone, as a couple, with family members) and in the occupations carried out as their main activity throughout their lives (productive and reproductive work). A total of seven interviews were analysed: four urban and three rural<sup>2</sup>. The content was analysed with support from the ATLAS.ti program.

#### 6. Results

We shall then present the main results of the analysis of the life narratives, ordered according to the following aspects: a) obstacles, b) facilitators, c) motivations, d) stage of life, e) gender stereotypes and f) uses/non-uses of ICTs.

#### a) Obstacles

The obstacles identified include some directly linked to the generation, such as difficulties in adapting to software changes and understanding computer language in general. Lack of confidence and of personal safety were associated with a generational disconnection with respect to the technological environment, which emerges as a new universe far removed from the usual social practices. The daily routine is built up from family and local relationships, as well as by carrying out activities that only allow the use of computers when a sufficiently justified need arises. Family care is linked to the previous obstacle and clearly has a value as work time that hampers both access to and the learning of the most advanced uses of ICTs.

<sup>2.</sup> A balance of participation areas was followed. Income levels delimited the sample to middle-class realities, a sample with users with a smaller level of income may make the analysis more complex, even though stereotypes will continue to play a decisive role, given their socio-cultural basis of constitution. Even so, an initial exploration of technological transformations in the everyday lives of ICT users may provide clues for compiling a situational map on the effect of gender stereotypes, which may be later compared to the developmental paths of people who do not use equipment and others with another socio-economic profile (lower income and education levels, etc.)

Another feature that limits ICT access and use is the priority that the male partner imposes in organising time and activities carried out at home, attaching greater importance to tasks that 'correspond' to carer work and rejecting other tasks that involve the use of technology. The financial costs of computers and internet connections are also perceived as obstacles. In the rural context, it is harder to compensate lack of individual income with access to public facilities, because socio-cultural spaces with equipment and free internet connections may be located far from the home and, in turn, reduce the possibilities of access to support resources for learning.

Age emerges as an obstacle associated with state of health, basically in relation to cognitive capacity and the impossibility of remaining in front of a computer owing to muscular, skeletal and visual problems and so on.

## b) Facilitators

As regards facilitators, they occupy a central place in three aspects: a) proximity of socio-cultural facilities (specifically, centres for the elderly); b) methodology of learning; y c) mutual and family support.

The proximity of facilities where training is given on using computers and ICT tools enables women working as their family's carer (partner and grandchildren, mainly) to carry on with their everyday activities while taking courses. The gender variable plays a favourable role in this subject in particular, in the sense that there is a habit of synchronising various tasks at the same time which allows women to organise themselves and go over to the neighbourhood centre to take an IT course, do practicals and so on. So, the capacity to organise reproductive-work time offers a margin of independence for taking part in activities outside the home. The facility (old people's centre, association, classroom, etc.,) where the course is given is an important space for social relations and technology, a new element for generating interpersonal ties.

As for methodology, personalised learning-access and paces are very positively evaluated: informal ICT-accessing spaces in facilities have been identified as ideal where one computer per person can be used and the time taken that is needed for understanding content. Note that aids and course repetitions for affirming and going over content complement methodological resources. It could be said that they are resources created by the women themselves. Mutual support between classmates and help from volunteers are key to the process; some value this resource so much that they subsequently become volunteers themselves. Likewise, family support is another key facilitator in ICT access and use: help from children and grandchildren is an important aspect here, mainly in encouragement to learn with the added motivation that comes with a gift of a technological device or by cross-learning with grandchildren.

The combination of facilitators has an effect on the social inclusion of elderly women because they can enter cyberspace and encounter new social and more egalitarian relation spaces in the process, on subjects that facilitate intergenerational contacts. The women realise that a good part of the existing obstacles will be overcome in the future with the arrival of new generations who will be socialised in the use of ICTs and for whom continuity in such use will be simpler.

Emotions also have a key space in the gender reading of ICT access; what stands out from the discourse is the need to use tools that enable the maintenance of affective ties between close individuals (friends and family), technology-mediated carer work and the conveyance of intergenerational values. Likewise, the embarrassment that leads to access difficulties has been repeatedly pointed out along with the explanation that once users have achieved their goal of managing a tool, they present a great sense of security and personal reaffirmation. This is an important achievement in a field of knowledge where elderly women have historically felt undermined in their capacity to manage it. So, when skilled use is confirmed, the sense of triumph is twofold, in other words, both personal and social. An example of such facilitators is given below, as expressed by one of the women interviewed:

'I thought I was stupid at first; then I thought I wasn't stupid, that it was simply something [UAB virtual campus] that I didn't know and that if I did [not] know how to do it, I would learn to do it — if not in two sessions, in ten, it's all the same to me —, but I had to know how to do it. I later thought... also out of pride, thinking that if the others can do it so can I; I've always believed that whatever others do, I can do too. We women always make the mistake of letting men sort out the technical problems. No, emphatically, and I'm telling this to all the women: let's never let them do anything for us, because that's where we're a sort of victim that sometimes, maybe, suits us' (woman from the training area, aged 72, urban context).

The influence of careers on access and use is relative, seeing that it has not been identified as a favourable factor for learning, the argument being that only some specific programs are used for administration, a feature that is maintained in women currently between the ages of 65 and 75.

## c) Motivations in ICT access and use

The most important motivations include: the need to fight against digital illiteracy, need to bide one's time, interest in learning new things and curiosity. Working hand in hand with these are effort and perseverance. Some of the interviews emphasise the pleasure and entertainment provided from using ICTs, with the current use perceived as more gratifying and preferable to what it could have been during the paid-work stage. As for the interviews held in training spaces, the interest stems from accessing specialist information and applying IT tools for learning. Technological volunteering is also a motivation for continued training and adaptation to technological changes. In general, motivations are strongly connected to stage of life, as we shall see in the following point.

## d) Stage of life in ICT access and use

There are several stages in the life cycle that the interviewees considered key in their narratives and which define some transition or change in life stories. In some cases these play an active role in ICT access, the most illustrative being widowhood and the end of intensive family care or, on the contrary, the start of caring for dependent people. The following quotation demonstrates how using computers represented a breathing space from caring for a dependent family member, which very probably involved a healthy resource for the emotional overload of the time.

'As the process of my husband's dependency progressed, the computer was useful to me as it enabled me to keep him company, spend more time by him and continue with my chores. What's more, I used to do a lot of knitting and sewing before, but I can't do any of that any more following an operation on both my shoulders and wrists. I certainly can use the computer, however... so, it keeps me company, I can write, do power points, send emails, always trying to get whatever I do to be positive for me and for someone else too. Computing has been very useful to me' (woman from the association's environment, 81 years old, urban context).

Retirement emerges less forcefully, partly because jobs have rarely been the guiding thread of the life narrative, let alone its main feature. Jobs are present in the discourse, but it is the reproductive work space and the affective and identity-building connotations they consequently have that are more important. Widowhood and dedication to family care are stages of life that in most cases present interdependence with gender stereotypes, as we shall see below.

## e) Gender stereotypes

The analysis shows that the most significant stages of life in the interviewed women's narratives relate to social practices assigned to women: a) reproductive work, b) completion of the stage of intensive family care and c) widowhood. The narration of the elderly women's relationship with ICTs connect important technological experiences to these stages of life. The quote given below shows how technology filled an elderly woman's existential void after the sudden death of her husband, whom she had been taking care of. The experience of the interviewee reflects the inaccuracy of age stereotypes, showing that, facing break-up situations, a new opportunity arises for learning and doing more and more new activities:

'My husband had a long illness... The second time he was operated on for an aneurysm, he died from an infection. He died suddenly, it happened very quickly, and I needed to do other things. He was 67. I had to keep myself distracted, because life went on and I wasn't going to burden my daughter with problems of any kind [...], and, above all, I had to make the most of life up to the very end. I had to make the most of it with dignity and I had to cheer everyone around me, that is, all my family. Studies, then, are clearly what I liked the most, I also really like to do chores, but I thought I was past it with all that, as doing chores was tantamount to my not thinking, and what I need to distract myself from this sorry business was to fill my thoughts as much as possible with my studies, and there were a lot of things to do in order to move on. I still think today that if I had a thousand lives, I'd still need more to do everything I'd like to do; as long as we live, we never know enough, and I want to know as much as possible. Let's say I'm a busybody who likes life and I intend to live it to the very end' (woman from training area, aged 72, urban context).

The narratives that include ICTs in critical stages of life refer to the preparing of life stories, by learning how to use new functions for adding photos, editing texts, looking for information and so on. It is interesting to observe a recovery of pre-marriage life in one of the narratives; that is, the need to reclaim a profound identity beyond reproductive family roles such as wife, mother, grandmother.

'I compiled my own life story, yes. It doesn't reach the time of my grandchildren, it goes up to when I married, with photos from when I was very young, of my parents when they married, of me during my early childhood, from the war years, as I was born in 1932, and I have some recollection, not too much, of when we used to go to the shelter, things that came back to me in my memory [...]. Afterwards I did other things too, for example, recovering all the photos of my children, from childhood to adulthood; I've tweaked a few photos where they were damaged. We now have a volunteer colleague who is giving us lots of help with all this', (woman from the association's environment, aged 78, urban context).

By observing the links between the aspects, we can clearly see the influence of the sexual division of work inside and outside of the home as a structural aspect in ICT access. It should be pointed out that this situation could be linked to training and personal development opportunities in general; the careers, however, show a break when transformation points are recorded in all or part of the routines of reproductive work. Women who have devoted themselves entirely to family care, just when their children leave home and their grandchildren go to school, find time to be able to learn the things that prove interesting to them and this is when technology appears. Some of the women argue that men have more learning possibilities since they have more free time for all that. As for use of computers at home, there are two single episodes that invite reflection on how gender stereotypes operate in private spaces through an unequal process in power to take decisions over the use of space and time. First, the space at home where computers are used; the experiences of widowhood have the effect of restructuring spaces and functions in the home. One of the interviews describes the master bedroom becoming a study and place for carrying out new activities, such as using computers and university education.

Other narratives similarly explain how what was once the 'study where the husband spent most of his time' is now being remodelled and the laptop is in the dining room. The second notable fact is the case of a technological volunteer who has found a hobby in it but is unable to enjoy it at home as it annoys her partner and she cannot cut her working time caring for him. Productive careers correspond to feminised work, such as that of the shop assistant, secretary, dressmaker and hairdresser. Only two of the women managed a personal undertaking. Seeing that people who belong to a generation where women occupied the place of family well-being production and men took on the role of productive worker, there is an inequality for knowledge and leisure access. Here is a typical narrative on the matter:

'I didn't work because I married at the age of 20, just when I finished my studies. I took the last exam in September and got married in October. Then my husband had a shop, restaurant,

bakery, and I was no longer able to move away from there' (woman from the association's environment, aged 76, rural context).

Uses are also recorded that reverse the logic of the established distribution of tasks according to the man/woman binary, where women take charge of activities that their partners previously carried out. For example, some administrative procedures or monitoring bank accounts and family expenses. Uses are likewise made in a distinct way; for example, men organise travel, women look for information, or delegate specific actions to their male colleagues at associations or to their sons-in-law.

## f) Uses and non-uses of ICTs

The aim of analysing the uses is to observe how they influence the technological appropriation process and active-ageing issues. Some uses are highlighted here which were key to the 'entry' stage of the learning and use process with greater intensity. When they managed the tool, they became attached to the training activities, such as accessing the virtual campus, to the documents they need and for facilitating learning in general. As for people taking part in association environments, the concerns were more personal or for taking part in political, cultural or religious areas.

As regards ICT uses in health issues, they were generally quite low in intensity (of interest when something happened to a family member). They are also used for seeking information on travelling and places and issues of interest and for relating to friends and family members. We can confirm that the relational aspect is key to the value of the uses and, possibly, one of the values recognised as more important. Relating with contemporaries, maintaining and renewing affective networks, accessing information on family members living far away, helping other people with learning how to use ICTs, speaking with grandchildren on various issues, playing with them online and so on.

Most of the people interviewed found that using ICTs could be very useful in lonely situations and declared that they used them more often when they felt lonely or when they no longer had anything to do (without social relationship), and explained that their lives had undergone a significant change since they were widowed. Here some of the non-uses of ICTs can be related, such as online banking management, virtual purchases or for managing healthcare appointments. They do not know how to look for information on aid resources for everyday life, they are not interested in taking part in forums on specific issues and they make little use of chat although they are keener to learn. These uses and non-uses also relate to types of everyday life activities according to gender roles and their promotion could help to highlight situations requiring support for carrying out everyday life activities; for example, ordering purchases through the internet and managing home deliveries.

#### 7. Conclusions

## Gender stereotypes, as well as educational, employment and generational factors, have impact on the digital inclusion of elderly women

The analysis made sheds light on the central role of some factors associated with gender stereotypes regarding elderly women with ICTs. The sexual division of work is a central aspect in this regard, revealing the negative effects of that social contract in various generations of women. The assignment of certain social roles and performance of practices confined to private spaces, with the consequent burden of reproductive work, have had consequences for their life paths. Caring involves a rigid burden of work throughout the life cycle which has direct consequences on the availability of free time and the possibility of deciding one's personal development and search for opportunities for education and social participation.

The generational aspect is equally crucial; the careers analysed show that women's exclusive dedication to the family and their 'dual presence' when working outside the home has kept them far away from the technological information revolution, possibly because that revolution was not necessary for repeating basic work routines. Even so, if they were central players in the development of other types of technology, such as that of household appliances, since the latter

bring greater 'efficiency' to the performance of household chores and enable the addition of other simultaneous responsibilities, that role has never received any kind of recognition. Women did not need ICTs in reproductive work or for their studies as they had no opportunity to continue educating themselves throughout their lives. Here, they feel the new generations of women who have joined the labour market will be socialised in the area of ICTs. They also believe that there are now fewer inequalities, that values are different and that domestic chores are shared more between couples, which means women can have more resources (time) at their disposal.

# The strategies for appropriating ICTs: the opportunity of stages of life, local resources and mutual support

ICTs come into lives just when the reproductive work cycle has practically finished. This is therefore when they rekindle their deferred wishes, seek out activities that will give sense to their new routines, experiment with the opportunity of starting again and giving meaning to a life project. Widowhood, children leaving the family home, grandchildren attending school and even caring for dependent partners can be reasons for finding a resource in ICTs that gives new meanings to life. Biding time in something these women like, in something they always wanted to do; it is a way of searching for pleasure. Old age can be experienced as a period of liberation and opening up of new opportunities, according to one of the interviewees:

'The computer was crucial, I spent many hours on it, that stage was a complete clearing of the air: writing my story, the customs of Banyoles... a true liberation. It was very important for me and I recommend it to people who are retiring or live alone' (woman from the association's environment, aged 78, rural context).

As they get older, some women who rarely questioned the gender-assigned roles they socialised in start to challenge and resist those roles (Arber and Ginn, 1996). Age stereotypes are perceived in contrast to the youngest population, given the surprise they express facing this new reality with grandmothers using computers and even able to teach certain functions, although they show they have no influence on technological experience. On the contrary, life episodes are identified which show the erratic stereotyped construction of elderly people as solitary, unmotivated individuals who have renounced active participation.

Environments of belonging are important because they raise greater or lesser possibilities of access to resources for access to ICTs and their use. Specific facilities (centres for elderly people) are decisive in the process: their local nature is key to the time management of the women who plan a day of reproductive tasks. They are likewise a type of 'universal' facilities they can easily associate with and at a very affordable cost, the only problem being whether they have sufficient places available to match the demand for activities. This reality is more complex in the rural context. Facilities are not always nearby and it may well be there are some women who cannot drive. In addition, there are fewer participatory spaces on offer for elderly people who offer these courses. Nevertheless, once the use is learnt, it may be of great use, as they create the possibility of diversifying daily activities (entertainment, social relations, education and so on).

We should also highlight the positive value that elderly women attach to mutual support in the learning process, so much so that some, on completing their IT courses, have become technological volunteers. The teaching methods do not seem very developed as most of these women have explained self-learning techniques, hence the importance they attach to mutual learning.

#### ICT uses in active ageing

Developing social relations is an aspect of vital importance at the stage of old age. Technological education is very often an excuse for relating to other people, although it is also used for revitalising long-term relations or socialising in chats with other people on issues. Whatever the motivation, the central role that they have in promoting social relations among elderly women is clear, and this factor needs to be taken into account when it comes to planning interventions in the area. This is possibly the most important aspect to technological uses for active ageing, as they

promote social participation and are a space recognised by elderly women themselves for social inclusion and, or as they put it themselves, 'for being part of today's world'. There is also an awareness of the effects on mental health, seeing that they are resources used for feeling well and, sometimes, as a distraction from everyday problems. In addition, they create a sense of personal security, this being a very important subjective aspect in the strategies used for taking on the changes involved in old age. However, there is still much to be done in the field of promoting uses in preventing situations of dependence, in learning new uses and even in delving deeper into some that may be of help in daily life, such as applications for physical exercise.

The importance of ICTs is not visualised for financial uses such as online purchases or managing administrative or bank procedures. Little use is likewise made for searching for specialist information while using and building blogs or information-updating applications are unknown, etc. It would be important here to promote other uses of computers and the internet, by helping elderly women to deepen their knowledge and discover new personal interests.

## The value of ICTs and opportunities in old age for elderly women

Technologies, by themselves, have not sustained the changes that might occur in the identities of the women who told us about their experiences, but they have become part of the history of each of them. These are therefore new stages of life that are emerging accompanied by an innovative resource, putting them in a different position with regard to the world. Fighting against the digital divide involves initiatives that go beyond technology itself, which is why we need to observe what kind of impact contextual factors make. The features that make up stereotypes exist but change according to the social relations that sustain them, and the life stories and new interactions that are managed around them. It is not only important for resources to be accessed but also for the meaning of technologies to be found in elderly women's life experiences. Their own accounts are an empowering factor for those who still feel such learning to be unfinished business.

Later generations of elderly women may have more knowledge of ICTs; even so, there is still a tendency for inequalities to continue in aspects relating to use and the incorporation of women in designing technologies. Adaptation to tools and the value they have for everyday life will require continuous technological updates; the problem then will not end with one generation. Having an impact on areas such as sexual division of work and uses of time is an issue that remains valid, and more so in a social model in crisis such as the present one, where some practices are repeated even more forcefully, such as caring for individuals.

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