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AUTHORS: Lara GITTO,Antonio Rodriguez ANDRES

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The impact of information and communication technologies on psychological well-being among elderly people: A case study of a university of the third age in southern Italy

Lara Gitto[1] and Antonio Rodriguez Andres[2]

[1]*Corresponding author, University of Messina, Messina, Italy, e-mail: Lara.Gitto@unime.it, ORCID: https://orcid.org/0000-0002-0510-9238*
[2]*German University in Cairo, Egypt, ORCID: https://orcid.org/0000-0001-6578-5118*

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Abstract

Using data from a sample of 250 people attending a University of the Third Age in a Southern Italian town, this research examines the impact of ICTs on psychological well-being, estimated through the administration of the WHOQOL BREF questionnaire. Discrete choice and multivariate regression models are applied; Psychological and Social dimensions, both components of the WHOQOL BREF questionnaire, have been included among the regressors. Results show that the ability to browse the internet and the frequency in the use of ICTs have a relatively significant effect on wellbeing. These findings pave the way for further analysis and comparisons within other Universities of the Third Age.

1. Introduction

According to data extracted from the report Ageing Europe - looking at the lives of older people in the EU (European Commission, 2020), it is estimated that there will be close to half a million centenarians in the EU-27 by 2050. Women outnumber men at older ages within the EU-27 population: in 2019, instead, there were more than twice as many very old women (aged 85 or more) as very old men (European Commission, 2020). Due to the increasing aging population, the EU launched an initiative to encourage elderly people to use Information & Communication Technologies (ICTs) so to remain active longer (European Commission, 2012). The OECD data shows that in OECD countries the percentage of individuals aged 55-74 using internet reaches 63% (OECD, 2017). However, although the digital divide has been reduced for the total population, it is still a serious matter for the elderly (Scanlon et al., 2015). There are geographical disparities between Southern, Northern and Central European countries (EU, 2015; ITU, 2021): moreover, the surveys carried out also reveal the existence of gender differences in the use of ICTs (EU, 2015).

The use of ICTs implies the ability to send e-mails, surfing the Internet, using social networking sites, and voice/video technology on devices such as smartphones, computers, and tablets (Blaschke, Freddolino, and Mullen, 2009): hence, ICTs can be seen as fundamental determinants to participate in a modern society (Brenna, 2019; Brenna and Gitto, 2018; Gitto, 2017; Gitto, 2016). In recent years, there has been a growing interest among scholars in the use of ICTs and its beneficial effects on elderly people's wellbeing: the use of digital tools may enhance social participation and psychosocial wellbeing (Brenna, 2019; Brenna and Gitto, 2018; Heart and Kalderon, 2013). The purpose of this study is that of verifying the influence of ICTs on some dimensions of QOL for a sample of elderly people attending a University of Third Age in Southern Italy. By examining a significant case study, it contributes to the formal literature confirming the positive impact that ICTs may exert in favouring aged people socialization and in preventing the risk of isolation.

** All responsibility belongs to the researchers. All parties were involved in the research of their own free will.*

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For that purpose, we employ an original dataset that has been built collecting information from a sample of 250 individuals attending the courses organized by a University of the Third Age in Southern Italy. Binary choice models and multivariate regressions are employed in the statistical analysis. Overall, the results might provide useful information for planning courses aimed especially at strengthening digital competences, given the positive impact on users' lives, and potentially distinguishing by gender, in light of the different way ICTs are used by women and men. The rest of this paper is organized as follows: section 2 deals with the relationship between ICT use and elderly; then, the dataset and the variables used in the empirical analysis, as well as the methodology employed are presented. Section 4 presents the empirical results and Section 5 concludes, providing some indications for future research.

2. ICTs and the elderly

Earlier empirical works suggest that the use of ICTs by ageing population promotes adult learning and supports both health information access and communication with family and friends (Hernández-Encuentra, Pousada and Gómez-Zúñiga, 2009; Carpenter and Bunday, 2007; Selwyn, Gorard and Furlong, 2003), facilitating social support as well (Age UK, 2010). Furthermore, using computers and surfing on the internet gives older people a greater sense of independence and control over their daily lives (Mason et al., 2012; Morris, Goodman and Brading, 2007), especially to those aged over 65, who may be housebound and may, therefore, feel isolated. However, Heart and Kalderon (2013) raise some considerations on the "readiness" of older people to use ICTs. Gitto (2021), examining data from a sample of elderly people attending ICTs courses, analyzes previous digital experience regarding perceived usefulness of ICTs in developing a positive attitude towards the use of such tools. Olson et al. (2011) recognize that much of the previous research on age-related differences in the use of technology has only investigated such usage broadly, without exploring individuals' motivation or gender differences in achieving higher proficiency in the use of ICTs.

The use of ICTs is a driver of the socio-economic development, likely to exert a positive impact on major macro variables (see for instance, Roller and Waverman, 2001, Kumar et al., 2016, Venturini, 2015). However, very little attention has been paid to this topic at a micro level, for example, by carrying out empirical studies aimed at detecting the extent to which ICTs might influence the individuals' quality of life or well-being. The impact of ICTs on individual wellbeing can be appreciated by measuring the increase in Quality of Life (QOL) due to digital skills (Damant et al., 2017). The World Health Organization (WHO) has defined QoL as the "*individuals' perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns*". One of the instruments that measure QOL is the WHOQOL BREF questionnaire, which captures many subjective aspects of QOL (WHOQOL, 1994, 1998a, 1998b), allows cross-cultural comparisons, and is available in many languages (WHOQOL, 1996). This questionnaire has been used to collect data employed for the present analysis.

3. Data and methods

The present study has been carried out within a wider project aimed at evaluating QOL in the population of individuals enrolled at the *Libera Università della Terza Età* (LUTE) in Milazzo, Sicily, (Italy). The LUTE was established in 2011 and it operates in the field of lifelong learning. The term "*Libera*", referring to the UTA, means that, although it is mainly intended for the elderly, there is no age restriction, and all adult people may enroll. In 2016, around nine hundred adults were involved in LUTE activities in Milazzo, attending classes, teaching, or volunteering as to provide course support. Alongside classes based on traditional learning, the courses include interactive classes aimed at familiarizing people with the use of different ICTs, such as personal computers, tablets, smartphones, etc. Courses are free of charge for all members, although there is a modest annual membership fee. This analysis was carried out between March-May 2016 with the aim of gaining information from the people attending courses organized by LUTE.

3.1. The questionnaire

The project was directed at people joining this University of the Third Age, with the objective of collecting data about participants' characteristics and expectations. Participants in the survey were asked to fill in a questionnaire made of several sections, related to individual socioeconomic characteristics; educational initiatives and courses followed; knowledge and current use of ICTs; and QOL perceived. The latter was assessed through the WHOQOL BREF, a questionnaire developed by the World Health Organization (WHO), as specified earlier, and composed by 24 items, relating to specific dimensions of everyday life, plus 2 separate items, aimed at asking the

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respondents to directly rate, on a 0-5 Likert scale, their health status and QOL, respectively. In order to enhance accuracy, all participants were informed that their responses would remain confidential. Overall, the survey included almost 60 items (9 of them were related to personal information, 24 concerned the attendance of courses and the use of ICTs, 26 were extrapolated from the WHOQOL BREF).

Some of the questionnaire items could be specifically considered to measure the consequences ICTs have on social life: for example, ability to enjoy life, ability to concentrate, ability to attribute a 'meaning' to life and to 'enjoy life', overall availability of information, ability to perform daily living activities, satisfaction with personal relationships and friends. These items are related to the psychological and social dimensions, which should be strengthened by the ability to use ICTs (see, for instance, Gitto, 2021). Overall, the domains of well-being described by the WHOQOL were: *physical health* (7 items), *psychological health* (6 items), *environmental health* (8 items), *social relationships* (3 items), plus two separate items which provide further information about an individual's overall perception of QOL (answer to the question "*How would you rate your quality of life*?") and the perception of his/her own health (answer to the question "*How satisfied are you with your health?*"). Each of the 26 items is rated on a 5-point Likert scale (Likert, 1932), and is scored from 1 to 5. This means that higher scores denote a higher QOL (WHOQOL Group, 1998a, 1998b; Skevington, Lotfy and O'Connell, 2004). The presence of the two separate items addressing the perception of either QOL or health status, allows the identification of a final score: the *overall* WHOQOL BREF score. Table 1 summarizes the contents of the survey.

Table 1. The survey

Dimensions	Number of items
Physical health	7 items
Psychological health	6 items
Environmental health	8 items
Social relationships	3 items
Quality of life assessment	WHOQOLBREF 26 items

Details on the algorithms employed to obtain the final score, which is comparable to the more widespread WHOQOL100 score [2] are described in specific bibliographic sources (for instance, WHO, 1996). Items related to Psychological health and Social relationships from the WHOQOL are particularly well suited to address the measurement of increased QOL, as they include questions such as "*How satisfied are you with your personal relationships?*", "*How satisfied are you with the support you get from your friends?*" or "*How much do you enjoy life?*". Regarding the use of ICTs, respondents replied to specific items added to the survey on *frequency* of use, number and *typology* of devices used (PC, tablet, smartphone) and *place* where individuals mainly use ICTs.

Table 2. Characteristics of the sample

Variable	No. respondents	%	Std. dev.	Min	Max
Age	244	62.42 (mean)	10.769	27	95
Over 65	119	0.487	0.500	0	1
Gender (male)	84	0.336	0.474	0	1
Marital status:	250				
Single	25	0.10	0.300	0	1
Married	179	0.716	0.452	0	1
Divorced	17	0.068	0.252	0	1
Widowed	29	0.116	0.321	0	1
Living arrangements:	250				
Alone	37	0.148	0.356	0	1
With Partner	118	0.464	0.500	0	1
With Family	100	0.400	0.491	0	1
Education:	250				
Compulsory education	52	0.208	0.407	0	1
High school	100	0.604	0.490	0	1
Academic	48	0.192	0.394	0	1
Activity:	250				
Pensioner	136	0.544	0.499	0	1
Self-employed	8	0.032	0.176	0	1
Teacher	13	0.052	0.222	0	1
Salesman	4	0.016	0.126	0	1
Employee	23	0.092	0.290	0	1
Housewife	63	0.252	0.435	0	1
Unemployed	17	0.068	0.252	0	1

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Table 2. Characteristics of the sample (Continued)

Variable	No. respondents	%	Std. dev.	Min	Max
Income:	233				1
< 15,000 €	78	0.281	0.450	0	1
15,000-28,000 €	79	0.290	0.454	0	1
28,001-55,000 €	26	0.097	0.296	0	1
55,001-75,000 €	5	0.015	0.120	0	1
>75,000 €	1	0.003	0.054	0	1
No answer	44	0.183	0.386	0	1
ICT availability (possible multiple choice)	250				
Personal computer	172	0.688	0.464	0	1
Tablet	58	0.232	0.423	0	1
Smartphone	118	0.472	0.500	0	1
None	20	0.08	0.271	0	1
Proficiency in using ICT (possible multiple choice)	250				
I cannot do anything	30	0.120	0.326	0	1
Text messages	119	0.476	0.500	0	1
Surfing the net	182	0.728	0.446	0	1
Social network	116	0.464	0.500	0	1
How often do you use ICT?	243				
Never	31	0.124	0.245	0	1
Sometimes	19	0.076	0.266	0	1
Frequently	43	0.172	0.378	0	1
Very frequently	150	0.600	0.491	0	1
Where do you use ICT?	250				
Wherever	15	0.064	0.245	0	1
At friends'	6	0.024	0.153	0	1
At home	199	0.796	0.404	0	1
When travelling/moving	82	0.328	0.470	0	1
Access to internet	250				
Internet yes	220	0.880	.326	0	1
Internet no	23	0.09	.290	0	1
Internet do not know	7	0.03	.090	0	1
Separate-item – Health (score)	250	3.436 (mean)	0.849	1	5
Separate -item – Quality of Life (score)	248	3.714 (mean)	0.693	1	5
Partial WHOQOL BREF (score)	250	83.334 (mean)	11.401	47	111
WHOQOL BREF (score)	248	90.454 (mean)	12.487	51	120
WHOQOL single items					
Pain	250	4.352	0.697	2	5
Drugs	250	3.796	0.870	1	5
Sleep	250	3.468	1.037	1	5
Physical activities	250	3.840	0.775	1	5
Working skills	250	3.880	0.701	1	5
Energy	250	3.496	0.751	1	5
Mobility	250	4.028	0.963	1	5
Physical dimension – total	250	26.860	3.931	14	35
Negative feelings	250	3.948	0.756	2	5
Physical aspect	250	3.388	0.805	1	5
Enjoying life	250	2.776	0.863	1	5
Meaning	249	3.377	0.947	1	5
Concentration	249	3.201	0.818	1	5
Self esteem	250	3.856	0.773	1	5
Psychological dimension – total	250	20.52	3.634	11	29
Personal relationship	250	3.868	0.870	1	5
Sex	250	3.348	0.954	1	5
Social support	250	3.620	0.898	1	5
Social dimension – total	250	10.836	2.077	4	15
Safety	250	3.256	0.721	1	5
Environment	250	3.264	0.746	1	5
Place	250	3.572	1.020	1	5
Health services	250	2.620	0.946	1	5
Money	250	2.792	0.674	1	4
Information	250	3.420	0.823	1	5
Recreation	250	3.056	0.881	1	5
Transports	250	3.128	0.627	1	5
Environmental dimension – total	250	25.108	25.108	11	37

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The sample employed in the present analysis has been taken from people enrolled at the LUTE during the academic year 2015/2016. The questionnaire was distributed to people attending courses. The time required to complete the questionnaire was about 30 minutes and personnel were available onsite to provide clarification if needed. A total of 341 people answered the items of the questionnaire, although only 250 respondents completed the whole form. Since the final calculation of the WHOQOL BREF requires each of the items to be fulfilled, the total number of observations is 244. Table 2 displays the characteristics of the sample of people who answered the survey and the scores reported in the WHOQOL BREF questionnaire.

The participants to the survey are 62 years old on average: the age in the sample ranges from 27 to 95 years, although the distribution is skewed to the right (almost 50% of the people in the sample are over 65). As it has been mentioned earlier, although there is no age limit for enrolling in the LUTE, the courses are mainly directed to the elderly. Two thirds of the respondents are females, 71.6% of the respondents are married and 86.4% live with their family or with their partners; only 14.8% declare to live alone. More than sixty per cent of the participants completed high school, 19.2% of the people in the sample have an academic education. This educational framework suggests that there might be self-selection in the decision of attending LUTE.

Most of respondents are retired (n=136) and 25% of the sample is represented by housewives; professional figures, such as salesmen or employees are hardly (or scarcely) represented. The two most represented levels of income are less than € 15,000 (28%) and between 15,000 and 28,000 Euro (29%). However, it should be noted that 18% of respondents gave no answer to the income question. Most respondents (88%) have an internet connection at home and, therefore, uses ICTs frequently/very frequently (77.2%). Home is the preferred site to connect and use ICT (79.6% of the respondents); however, almost one third of the participants to the survey uses digital devices when travelling/moving. Tablet is the less popular electronic device (23.2%, comparing to smartphone - 47.2% - and personal computer - 68.8%). Most people in the sample use ICTs to surf the internet (72.8%), 46.4% use social networks, while 12% declare they cannot use ICTs. Apart from the age variable, all variables included are categorical variables.

3.2. The econometric analysis

Since the dependent variable is a multiclassified variable made of different scores adding to each other, a multi-ordered logit model may be used to enhance the accuracy of the result. The specification of the multi-ordered logit model is:

$$P\ (Y \leq i|\ X) = \frac{exp\ (\alpha_i + \sum_{k=1}^{K} \beta_k X_k)}{1 + exp\ (\alpha_i + \sum_{k=1}^{K} \beta_k X_k)} \quad (1)$$

where Y is the dependent variable, X_k is the kth independent variable, β_k is the corresponding regression coefficient, and α_i is the intercept. The estimation of the model is done by the Maximum Likelihood (ML) method. The estimators are obtained through numerical optimization. The coefficients are estimated jointly with the threshold values for the latent variable. However, to specify the impact of ICT use on some dimensions outlined by the WHOQOL BREF, ordinary linear regression models (OLS method) are first employed, and their results can serve to make a comparison with the ordered logit model (Wooldridge, 2015). The software Stata has been used to carry on the analysis (StataCorp., 2017).

4. Results

Table 3 displays the results of two different linear regression models whose dependent variables are the psychological dimension and the social dimension of WHOQOL BREF. These latter variables range from 11 to 29 and from 4 to 15 respectively. Most of the estimated coefficients are statistically significant at conventional significance levels. The R-squared values are in acceptable range: ninety-three per cent of the variation is captured by the set of control variables. The F-tests show a significant good ability of predicting the outcome variables.

The dummy variable indicating people over 65 has a positive and significant effect on the psychological and social dimension ($p < 0.000$). This means that elderly people are expected to experience a higher quality of life due to their social relationships. Other variables considered in the estimated model show that being female and married has a positive and significant effect on both dimensions of quality of life ($p < 0.000$). Internet connection at home has a positive and significant effect on both QOL dimensions. The frequency of use of ICT has a positive and significant effect on the psychological as well as the social dimension. Lastly, the use of a specific ICT device has no significant effect on either dimension of quality of life. Nevertheless, a positive sign for all devices is only found in the regression equation where the dependent variable is the social dimension of quality of life.

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Table 3. Regression model

	1st model. Psychological dimension	2nd model. Social dimension
Variables	Coefficient	Coefficient
Gender (female)	3.46*** (0.82)	2.09*** (0.42)
Marital Status (married)	4.34*** (0,82)	2.03*** (0.40)
Education (high school education)	3.96*** (0.75)	1.72*** (0.38)
Age > 65 years	4.00*** (0.71)	2.23***(0.36)
Type of ICT PC Tablet Smartphone	 0.78 (0.99) -0.45 (1.01) -0.10 (0.82)	 0.78 (0.50) 0.44 (0.49) 0.18 (0.45)
Internet access (Yes =1; No = 0)	6.89*** (1.37)	3.46*** (0.73)
Messages	-0.58 (0.77)	-0.21 (0.41)
Internet	1.84* (0.95)	0.94*(0.52)
Social Network	1.37 (0.93)	0.59 (0.51)
Frequency	2.09** (1.03)	0.98* (0.58)
	F(12, 232) = 374.26 (0.000) R-squared = 0.95 # observations = 255	F(12, 232) = 402.13 (0.000) R-squared = 0.94 # observations = 255

Note: (Dependent variables: Psychological and social dimension)
Robust standard errors in parentheses. * = p ≤ .10, ** = p ≤ .05, *** = p ≤ .01

Table 4 displays the estimated results of the ordered logit model that represent a robustness check. The usual interpretation of the ordered logit coefficient is that, for a one unit increase in the explanatory variable, the response variable is expected to change by its regression coefficient in the ordered log-odds scale, the other variables in the model being constant (Wooldridge, 2015). Here, some of the threshold points are not statistically significant. Most of the controls are not statistically significant, and some of them do not have the expected signs, but the dummy variable associated with people over 65 is negatively associated with the probability of enjoying good health. While gender differences in the use of technologies arise for adolescents, especially in favor of boys comparing to girls (Gnambs, 2021), these differences are not confirmed for aged people.

Table 4. Ordered Logit results.

Variable	Coefficient
Female	0.24 (0.27)
Married	0.29 (0.28)
High school education	0.50* (0.26)
Age > 65 years	-0.83** (0.27)
Access to Internet PC Tablet Smartphone	 0.50 (0.37) -0.09 (0.34) -0.39 (0.30)
Nothing	0.71 (0.58)
Messages	0.66** (0.29)
Internet	0.68* (0.41)
Social Network	0.22 (0.31)
Frequency	0.54* (0.33)
Cut 1	-5.13 (1.34)
Cut 2	-1.13 (0.66)
Cut 3	0.70 (0.66)
Cut 4	3.60 (0.72)
Pseudo R^2	0.079
Wald chi2(13)	40.13 (0.000)
Log pseudolikelihood	-276.37654
# of observations	244

Note: Robust standard errors in parentheses.

5. Discussion and conclusions

The empirical analysis that has been carried out shows that the use of ICTs among the elderly can exert a significant impact on some dimensions of QOL. QOL is measured by using a validated tool, the WHOQOL BREF questionnaire, which identifies 4 main dimensions within which everyone's activity can be expressed: Physical, Environmental, Psychological and Social. The last two dimensions can represent everyday life, individuals' objectives, and personal skills.

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Hence, in a first model estimated, social and psychological dimensions are included as dependent variables. They show their significance and a positive correlation with the possibility to access internet, as well as with frequency of use of digital tools. They are positively and significantly influenced by education level (completion of higher school), female gender and an age of 65 or over. These latter correlations, however, do not signify that the use of digital tools can improve women's QOL in their social and psychological dimensions. Rather than, than there is a positive attitude towards learning, likely to be reflected in social relationships and personal mood. The possibility to socialize must be considered the real added value of the Universities of the Third Age. If elderly people were not busy with activities carried out at these institutions, they would probably spend their free time engaging in housing and garden activities, going to the church, or, if less active, watching TV or staying at home without doing anything else.

The opportunities offered by the courses aimed at making elderly people familiar with the use of ICTs may be seen in this perspective. Socialization can be obtained in many ways: during class or on guided tours or during cultural activities, for example. Unfortunately, in recent times where meeting in person can become problematic, because of individuals' physical limitations, or restrictions imposed by national governments to contain the spread of a pandemic (see, for example, Giammanco and Gitto, 2021), who have evaluated the impact of containment policies), ICTs constitute a valid solution to continue guaranteeing social activities and relationships between people who would otherwise remain isolated [3].

The estimation of an ordered logit model, aimed at considering an overall measure for QOL, has not outlined a great significance of the majority of regressors employed: however, the circumstance that frequency in ICT use can improve the wellness declared by individuals deserves to be mentioned. This result must be evaluated together with the significance of the estimated coefficient for education level, but this could lead to a problem in the dataset employed as there may be a selection bias. People attending the LUTE, *i.e.,* the University of Third Age where the research has been carried out, are more educated and skilled than the average population.

Although in the sample of respondents to the questionnaire there are graduates as well as individuals who have only completed compulsory education, most of the participants obtained a high school qualification and attend many courses (at least three-four courses) among those ones offered within LUTE educational programs – from Art to Literature to History, to Foreign Languages, to Informatics and Computer Science. It is not surprising that these people can easily use ICTs and have developed sufficient computer skills [4] in comparison with other elderly. It might also be difficult to support evidence of the direct effects of ICTs on QOL due to the presence of many confounding factors. For instance, people married with children or grandsons and granddaughters may declare not to have time to practice with the computer; indeed, they may be encouraged to learn informatics by the presence at home of a younger family member, who could teach them or with whom they may practice).

An interesting question to formulate concerns the alternative use of spare time if elderly individuals did not use to access the internet. For example, would they have the same incentive to socialize through the internet and social media websites, or would they rather engage in other activities (care of family, parish activities, etc.)? Future research may consider exploring these issues. Relevant issues have emerged in the present study that have stressed the relevance of ICTs for socialization and individuals' quality of life. In order to make the results obtained from the survey carried out more generalizable, similar surveys should be performed in other European countries, given that the estimations carried out summarize the experience of a single University of Third Age in Southern Italy.

Comparing the results obtained with the experiences of other institutions thought for adult people could allow to:

a) Check for regional differences (does the geographical context matter? Do people living in Northern or Central Italy have a different perception of their wellness and QOL?).

b) Confirm if ICTs use is meant as a tool to facilitate daily life (no need to plan housework, going to the bank or the post office to pay bills, ask for medical consultations, etc.).

c) Restrict the use of ICTs only to socialization purposes, to strengthen the relationships with family and friends. In this sense, the use of ICTs is a positive factor for QOL although not strictly necessary to individuals' wellbeing.

A detailed answer to all these questions, according to a geographical, utilitarian, and motivational perspective, would definitely enrich the literature on the attitude of the elderly towards new technologies and would identify strategies aimed at strengthening their QOL.

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Author contribution statements

Author contributed all to the design and implementation of the research, to the analysis of the results and to the writing of the manuscript.

Disclosure statement

No potential conflict of interest was reported by the authors.

Ethics committee approval

All responsibility belongs to the researchers. All parties were involved in the research of their own free will.

Footnotes

1. This EU initiative can be summarized in three pillars: a single European information space, innovation and ICT R&D, and inclusion, better public services, and quality of life. The European Innovation Partnership on Active & Healthy Ageing AHA was introduced in 2011 (EC, 2012) and looks at the improvement of health and quality of life of European citizens with a focus on older people, supporting the long-term sustainability and the efficiency of health and social care systems as well.

2. This measure is too long for practical use, so the WHOQOL BREF is commonly accepted.

3. In Italy, the Government has implemented policies to incentivize people who do not own sufficient resources to buy a personal computer or a tablet or other informatic products. The objective of such "PCc bonus" is to avoid a "digital divide" (Decree of the President of the Italian Council of Ministries, 7th August 2020).

4. This conclusion is especially true in these pandemic times: nowadays, the LUTE is still running its courses, but they have switched to online learning. The attendance is satisfactory and confirms the need to improve peoples' digital skills in order to guarantee participation and avoid exclusion from social activities for elderly who are willing to attend.

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