

MAD  **S**



**REPORT
ON
IMPLEMENTATION
BARRIERS**

Models for Advancing the Digital Inclusion of Seniors

Project Number: 2022-1-DE02-KA210-ADU-000081744



**Co-funded by
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1. INTRODUCTION

This report summarises the findings of a survey among senior citizens about what keeps them from attending digital training courses, and offers suggestions to adult education providers wishing to develop such courses for seniors.

1.1 BACKGROUND

A clearer understanding of the digital learning needs of seniors and of the manifold barriers that may negatively affect their acquisition of digital literacy via dedicated training activities (= “implementation barriers”) is vital to developing successful strategies and activities aimed at advancing their digital inclusion.

The project “Models for Advancing the Digital Inclusion of Seniors” (MADIS) addressed the pressing issue of improving the digital literacy among seniors. It is a response to the changing demands of our digital world, improving lives, reducing isolation and promoting inclusivity for senior citizens. The senior population in the European Union is growing, yet there is a significant lack of digital literacy among them. Digital skills have become crucial for various aspects of life, including social participation, healthcare access and everyday tasks. This is especially vital for seniors with disabilities, limited mobility and low income. However, organisations which provide digital competency training to older adults face various implementation barriers, such as internet access issues, distrust of technology – particularly among “off-liners” -, access to seniors living in rural areas or financial constraints.

1.2 SURVEY

To identify “implementation barriers”, that is, barriers that might keep senior citizens from attending training classes aimed at improving their digital literacy, a survey was conducted as part of the MADIS project among more than 90 senior citizens aged 65 and over in Germany, Greece and Italy. The findings of the survey which are presented in this report on implementation barriers are the foundation for developing suitable training interventions. Ultimately, this knowledge will benefit not only senior citizens but also society as a whole, as we strive to bridge the digital divide.

This report therefore offers valuable insights for the wider adult education sector, including training organisations, community centres, libraries, government agencies, non-profit organisations or funders and is aimed at adult education staff working in different organisations such as training providers, community centres, NGOs, etc.

The objective of the survey was to gather input on what is keeping seniors from acquiring digital skills via training by asking them questions such as:

- what has kept them from participating in digital training activities so far;
- what is keeping them from using digital tools and online media;
- what and how would they like to learn so there is a link to real-life needs.

The survey did not seek to comprehensively measure or standardise the level of digital literacy of the respondents (this would be outside the scope of this project), but instead to identify the barriers they face in accessing and participating in training aimed at advancing their digital literacy. The results are laid out in this report.¹ It aggregates the findings from the separate country reports which detail the findings of the surveys conducted in Germany, Italy and Greece, respectively.

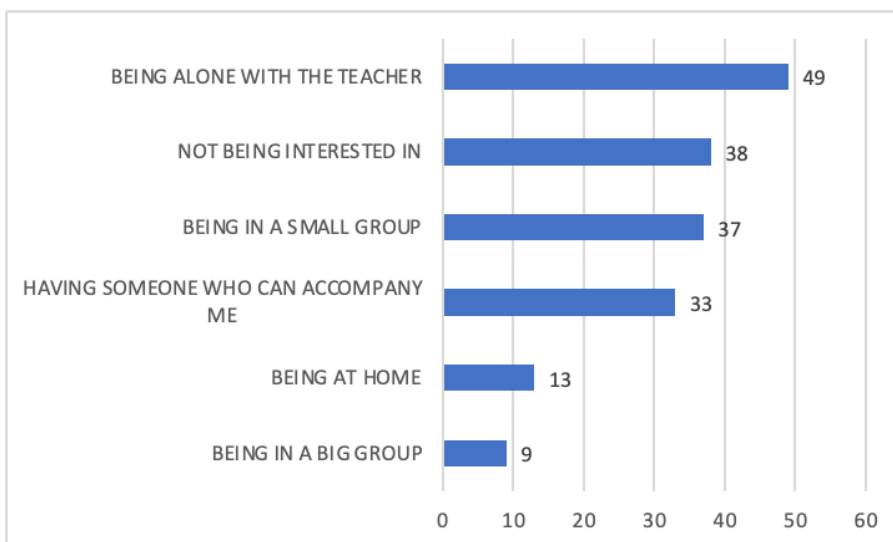
It is structured to provide an overview of the propensity of seniors to digital training and of the identified implementation barriers, and it lays out digital learning needs of seniors while also further analysing the findings via a vulnerability index and a fragility index.

2. PROPENSITY TO TRAINING

Are senior citizens inclined to participate in digital training courses?

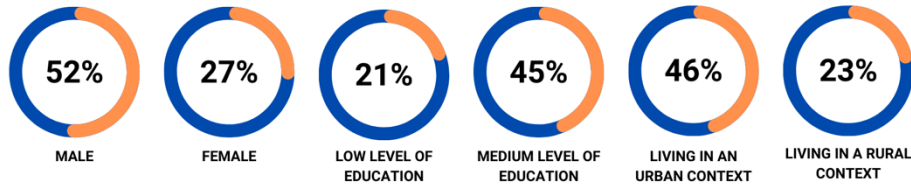
The seniors interviewed did not show a great propensity to participate in training courses, 38 people said they are not interested in a training course and 63% have so far never attended a training course for the use of digital devices. Among these 63%, there is a significant difference between genders: 52% of males have already participated in a course against 27% of females. Also, more than twice as many seniors with a medium/high educational level have taken part in training courses compared to those with a low educational qualification.

GRAPH 1 – IDEAL CONDITIONS TO PARTICIPATE IN A TRAINING COURSE



¹ For more information about the methodology of the survey and the individual survey questions, please refer to annex 1 at the end of this report.

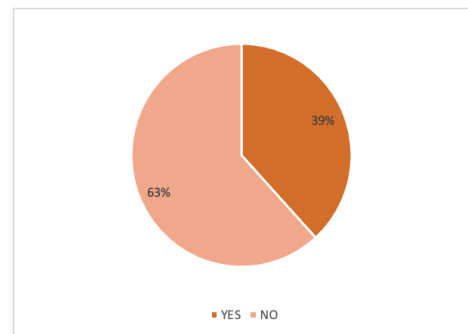
PROPENSITY TO TRAINING



Considering the context in which people live, it can be observed that those who declared that they live in an urban context took part in training courses with a double percentage compared to those who live in rural contexts.

GRAPH 2 – HAVE YOU EVER ATTENDED A TRAINING COURSE ON THE USE OF ANY DIGITAYL DEVICE?

	YES	NO	TOTAL
MALE	52,2	47,8	100,0
FEMALE	26,8	73,2	100,0
LOW LEVEL OF STUDY	21,4	78,6	100,0
MEDIUM LEVEL OF STUDY	44,6	55,4	100,0
RURAL	23,5	76,5	100,0
URBAN	45,6	54,4	100,0



Therefore, it can be said that being male, having a higher level of education and living in an urban context are conditions that favor participation in digital training courses, while barriers would seem to be being female, having a low level of education and living in a rural context.

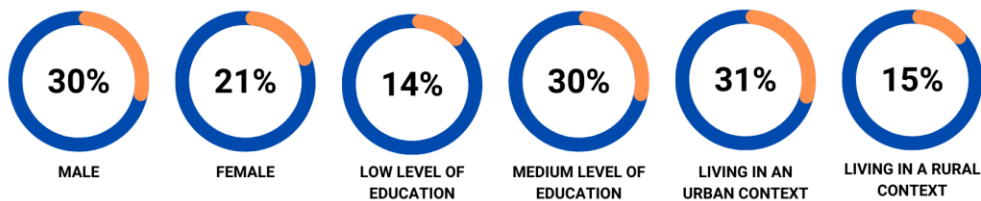
How should training providers reach out to seniors, especially ones who do not show a great propensity to participating in a digital training course?

Only 25% of the senior citizens surveyed claim to have previously received an invitation to participate in training courses, among them there is a significant difference between genders, 30% of males received an invitation against 21% of females. There is also a clear difference among levels of education and place of residence: 30% of those with a medium-high level of

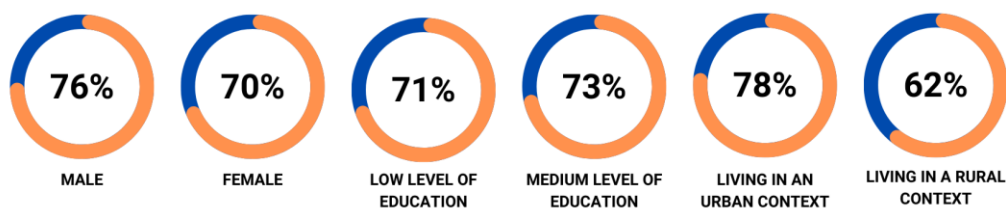
education against 14% of those with a low level of education have been previously asked to participate in a digital training course, and 31% of those who live in an urban context against 15% of those who live in a rural context.

Most of the people involved in the survey (72%) declared that they have at some point in the past received information regarding the advantages of using digital devices. There are no substantial differences between genders or with respect to the level of education or place of residence.

HAVE YOU EVER BEEN ASKED TO PARTICIPATE IN A DIGITAL TRAINING COURSE?



HAS ANYONE EXPLAINED TO YOU THE ADVANTAGES OF USING DIGITAL DEVICES?



An effective and inclusive communication strategy designed to reach out to seniors who - in terms of their propensity to participating in digital training courses - exhibit differences in gender, education level and place of residence, might include the following:

- Tailored messages and materials that address the specific needs and interests of seniors based on their gender, education level and place of residence. Messages should acknowledge and highlight these differences to ensure inclusivity. Disseminating messages and materials should involve traditional methods like postal mail, community bulletin boards and local newspapers as well as modern methods such as email, social media and community websites. The language used should be clear and simple, avoiding technical jargon, and the visuals and graphics used should be inclusive and easy to understand, especially for seniors with varying levels of education.
- Messages that emphasise the practical benefits of digital training courses, such as improved communication with family and friends, access to online health or banking services, and the ability to stay engaged and informed. In this respect, seniors who have previously participated in digital training courses could be involved as advocates who share their positive experiences and success stories with their peers. Seniors might also be offered incentives or recognition such as certificates or small rewards.
- Partnerships with local community organisations such as public libraries and cultural centres that have established connections with seniors, particularly in rural areas. These organisations can help disseminate information and promote digital training courses.
- In-person or virtual community workshops and information sessions to provide seniors with a low propensity to participating in digital training courses with a platform to ask questions, express concerns and learn more about the possible benefits of using digital devices and digital training opportunities. This can also be expanded to include outreach teams composed of individuals familiar with the local community and culture. These teams can conduct door-to-door visits, phone calls or online outreach, depending on seniors' preferences.

3. IMPLEMENTATION BARRIERS

What keeps seniors from participating in digital training courses? What are the barriers that adult education providers who implement such courses should address?

3.1 IDENTIFYING AND RANKING IMPLEMENTATION BARRIERS

Just 40% of the seniors interviewed had previously been enrolled in digital training programmes, with the duration of courses averaging 35 hours. The programmes primarily focused on imparting fundamental digital skills and took place at non-academic institutions such as community centres. Interestingly, the vast majority of participants expressed satisfaction with the programmes they attended. The most highly regarded aspects of the programmes were the quality of the instructors and the format of the programme. This is also reflected in the implementation barriers chosen by seniors in the survey.

To analyse the survey results about the implementation barriers, we divided the barriers into 4 different categories, namely, personal, social, physical and organisational barriers.

Personal barriers are:

- not wanting to attend training courses with other people
- not being used to attending training courses
- topics being too difficult
- not being able to speak English well enough

Social barriers are

- having to look after other people
- not having enough money
- having no time

Physical barriers are:

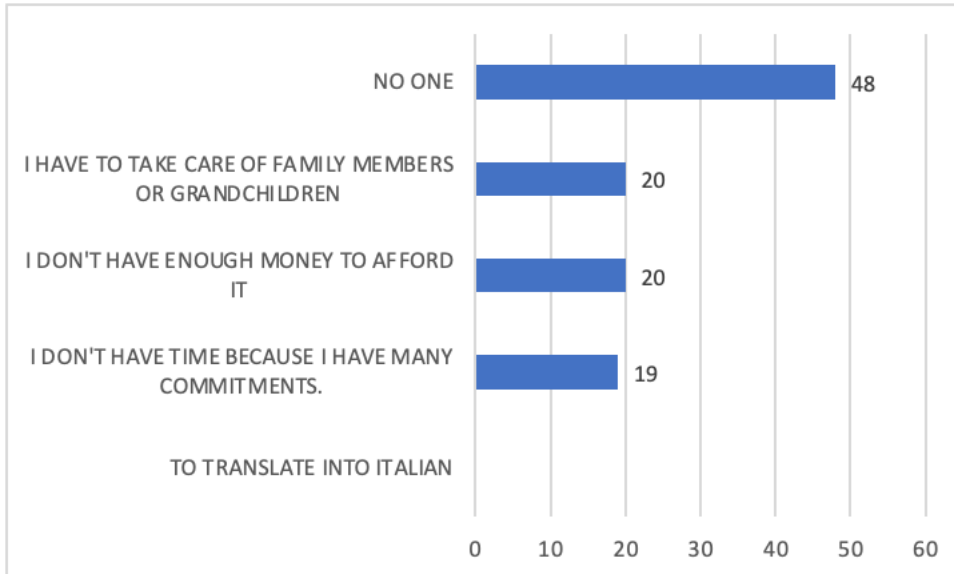
- not being able to see well
- not being able to hear well
- not being able to sit for long
- various other physical or mental constraints

Organisational barriers are:

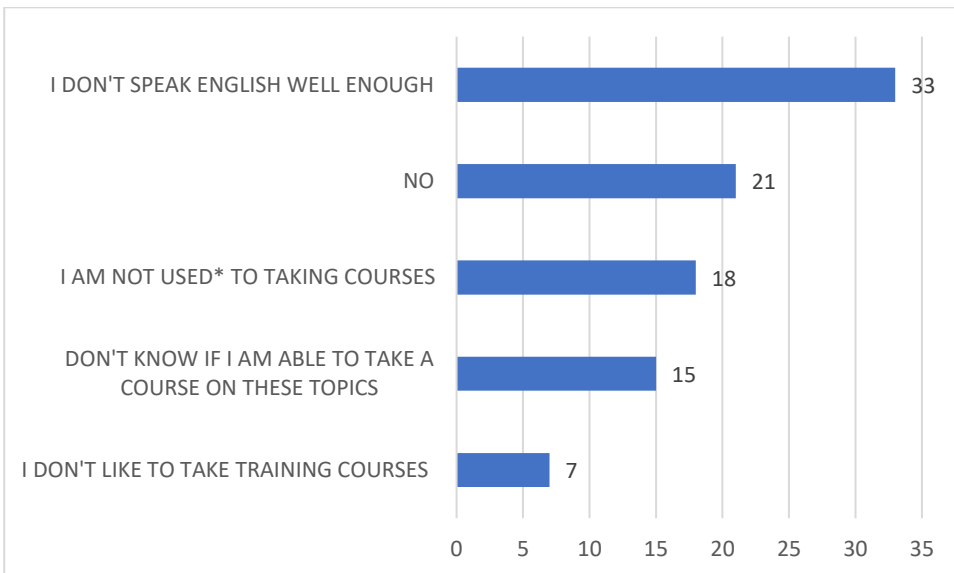
- having to take an admission test
- not having devices to bring to the course
- having to pay a fee to participate
- not having any means of getting to the course

Almost half of the seniors interviewed believed they have no particular social barriers to attending training courses, while the others identified barriers such as: not having enough money (20 respondents), not having enough time (19 respondents) or having other family commitments that do not allow them to participate in training courses (20 respondents). The major barrier of an organisational nature is the cost of the course (31 respondents) followed by the difficulty relating to possession of digital devices and the fear of not being able to pass a possible admission test.

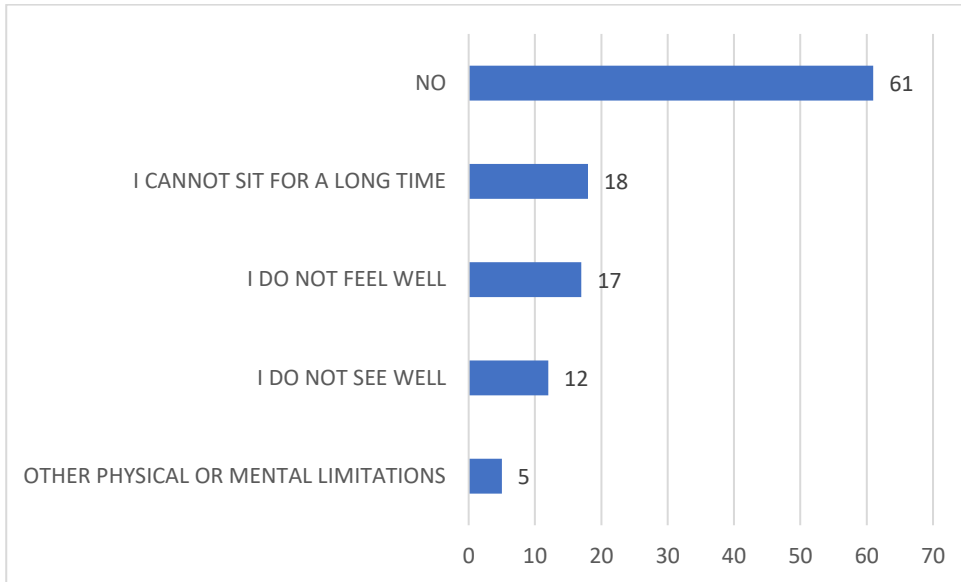
GRAPH 3 – WHICH OF THESE SOCIAL BARRIERS COULD PREVENT YOU FROM ATTENDING A COURSE ON THE USE OF DIGITAL DEVICES?



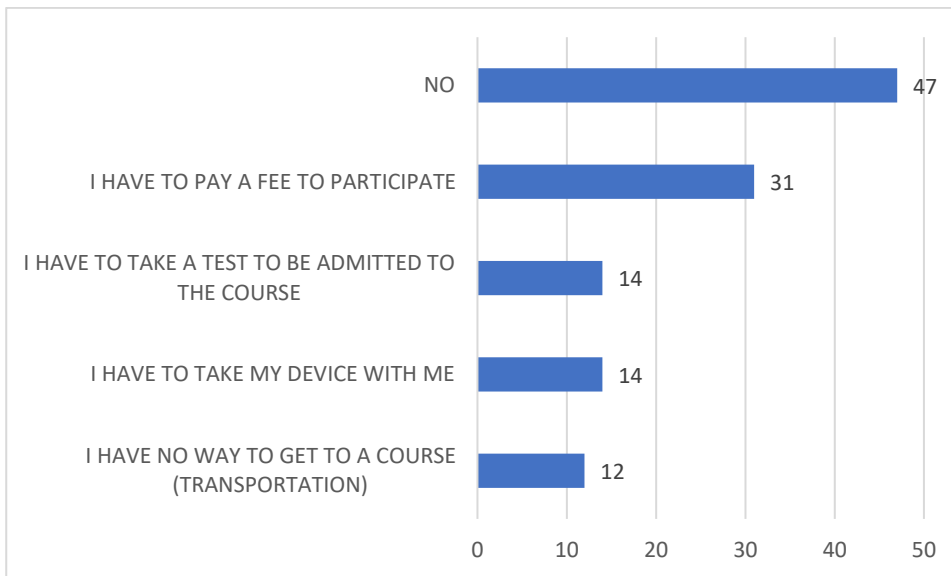
GRAPH 4 – WHICH OF THESE PERSONAL BARRIERS COULD PREVENT YOU FROM ATTENDING A COURSE ON THE USE OF DIGITAL DEVICES?



GRAPH 5 – WHICH OF THESE PHYSICAL BARRIERS COULD PREVENT YOU FROM ATTENDING A COURSE ON THE USE OF DIGITAL DEVICES?



GRAPH 6 – WHICH OF THESE ORGANISATIONALS BARRIERS COULD PREVENT YOU FROM ATTENDING A COURSE ON THE USE OF DIGITAL DEVICES?



The main barrier of a personal nature is the lack of knowledge of English needed to understand digital applications (33 respondents) and not being used to attending training courses (18 respondents) as well as the perception of not having enough skills and knowledge to participate in a training course. Interestingly, physical barriers on the whole did not seem to play a big role.

To learn more about the relation between structural data of the respondents (gender, level of education, place of living) and the 4 categories of implementation barriers, please refer to annex 2 at the end of the report.

These findings are compiled in the following list, which ranks implementation barriers according to the number and the percentage of survey respondents.

OVERVIEW	BARRIERS	NR	%
PERSONAL BARRIER	I DON'T SPEAK ENGLISH WELL ENOUGH TO UNDERSTAND ENGLISH COMMANDS/GUIDELINES USED TO EXPLAIN DIGITAL DEVICES	33	32,4
PERSONAL BARRIER	I HAVE TO PAY A FEE TO PARTICIPATE	31	30,4
SOCIAL BARRIER	I HAVE TO LOOK AFTER MY GRANDCHILDREN OR OTHER FAMILY MEMBERS	20	19,6
SOCIAL BARRIER	I DO NOT HAVE ENOUGH MONEY TO AFFORD IT	20	19,6
SOCIAL BARRIER	I HAVE NO TIME BECAUSE I HAVE MANY COMMITMENTS	19	18,6
PERSONAL BARRIER	I AM NOT USED TO ATTENDING TRAINING COURSES	18	17,6
PHYSICAL BARRIER	I CAN'T SIT FOR LONG	18	17,6
PHYSICAL BARRIER	I DON'T HEAR WELL	17	16,7
PERSONAL BARRIER	I DO NOT KNOW IF I AM ABLE TO ATTEND TRAINING COURSES ON THESE TOPICS	15	14,7
ORGANISATIONAL BARRIER	I HAVE TO TAKE A TEST TO BE ADMITTED TO THE COURSE	14	13,7
ORGANISATIONAL BARRIER	I HAVE TO BRING MY DEVICE WITH ME	14	13,7
PHYSICAL BARRIER	I DON'T SEE WELL	12	11,8
ORGANISATIONAL BARRIER	I HAVE NO MEANS OF GETTING TO A COURSE (NO ACCESS TO PUBLIC TRANSPORT, NO DRIVER'S LICENSE, NO ONE TO DRIVE ME THERE, ETC.)	12	11,8
PERSONAL BARRIER	I DO NOT LIKE ATTENDING TRAINING COURSES WITH OTHER PEOPLE	7	6,9

Here is a summarised overview of the implementation barriers identified in the survey categorised according to the 4 different types of barriers, namely, personal, social, physical and organisational barriers.

Personal Barriers

1. English Language Proficiency: 33 respondents (32.4%) mentioned not speaking English well enough to understand commands/guidelines related to digital devices as a barrier.
2. Fees: 31 respondents (30.4%) cited having to pay a fee as a barrier.
3. Not Used to Attending Training Courses: 18 respondents (17.6%) expressed that they were not accustomed to attending training courses.
4. Uncertainty About Attending: 15 respondents (14.7%) reported not knowing if they were able to attend training courses on these topics.
5. Disliking Group Courses: 7 respondents (6.9%) indicated that they did not like attending training courses with other people.

Social Barriers

1. Family Responsibilities: 20 respondents (19.6%) mentioned having to look after their grandchildren or other family members.
2. Financial Constraints: 20 respondents (19.6%) reported not having enough money to afford participation.
3. Time Constraints: 19 respondents (18.6%) cited a lack of time due to many commitments.

Physical Barriers

1. Limited Mobility (Sitting): 18 respondents (17.6%) reported not being able to sit for extended periods.
2. Hearing Impairment: 17 respondents (16.7%) mentioned hearing difficulties.
3. Vision Impairment: 12 respondents (11.8%) reported not being able to see well.

Organisational Barriers

1. Admission Test: 14 respondents (13.7%) mentioned having to take a test to be admitted to the course.
2. Device Requirement: 14 respondents (13.7%) reported having to bring their own device.
3. Lack of Transportation: 12 respondents (11.8%) cited barriers related to accessing the course location, such as no access to public transport or lack of transportation options.

What can adult education providers do to address these implementation barriers?

Adult education providers wishing to create a more accessible and inclusive environment for seniors to participate in digital training courses can address these barriers for instance by:

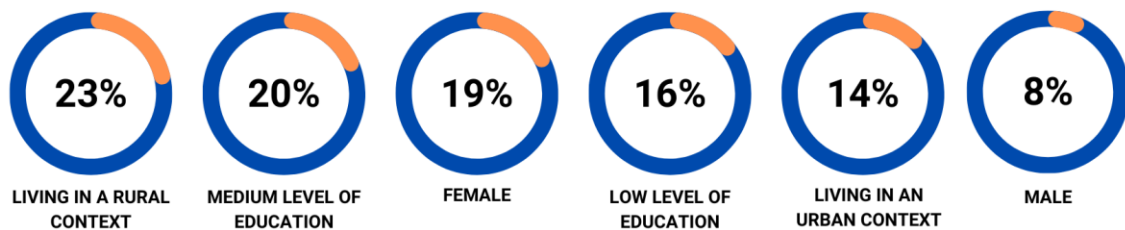
- Providing language support resources, including teaching materials translated into the country language and providing a short glossary of the main English terms used in digital training courses.
- Exploring various funding options for reducing or waiving course fees for seniors, especially those with financial constraints such as partnerships with local organisations.
- Offering flexible learning formats, including study-at-home and in-person options, to accommodate seniors who may not be used to attending training courses or prefer solo learning.
- Ensuring that course materials and facilities are accessible to seniors with physical impairments, such as providing comfortable seating arrangements and assistive technology.
- Collaborating with local organisations to provide childcare services or support for seniors with family responsibilities during training sessions.
- Offering flexible scheduling options and shorter course durations to accommodate seniors with busy schedules.
- Promoting health and well-being activities to address physical barriers, such as exercise breaks during training sessions.
- Providing information about transportation options and consider offering transportation services for seniors who face mobility barriers.
- Minimising admission requirements and tests, making it easier for seniors to enroll in courses.
- Offering loaner devices for seniors who do not have access to their own.
- Fostering an inclusive and welcoming learning environment to address social barriers, such as seniors' preference for solo learning.

3.2 CREATING A VULNERABILITY INDEX

What types of seniors are most affected by these implementation barriers?

If we consider the correlation between these 4 different types of barriers with the structural data gathered in the survey, namely gender, level of education and place of residence (rural/urban), we can define an index of vulnerability, which provides further insights into the implementation barriers. The synthetic vulnerability index shown below highlights how the implementation barriers listed above are most prevalent among those who live in a rural context, followed by those who have a medium level of education and are female.

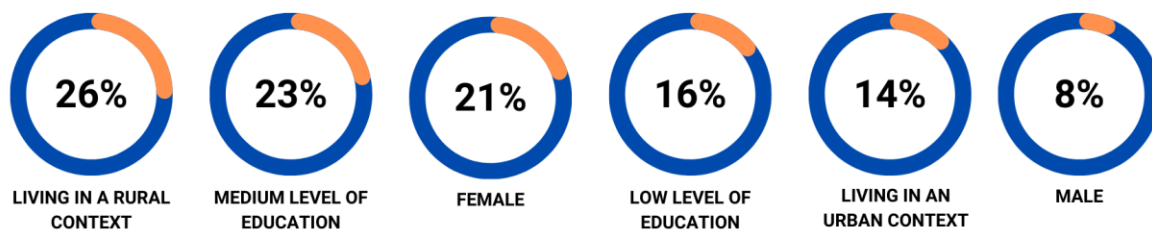
VULNERABILITY INDEX



Personal vulnerability

Looking at the 4 categories of implementation barriers in more detail, the vulnerability index for personal barriers (personal vulnerability index) shows that people living in rural contexts and being female are the most vulnerable because they believe they do not have enough cultural tools such as educational level to address these issues or because they are not used to participating in training events.

PERSONAL VULNERABILITY INDEX

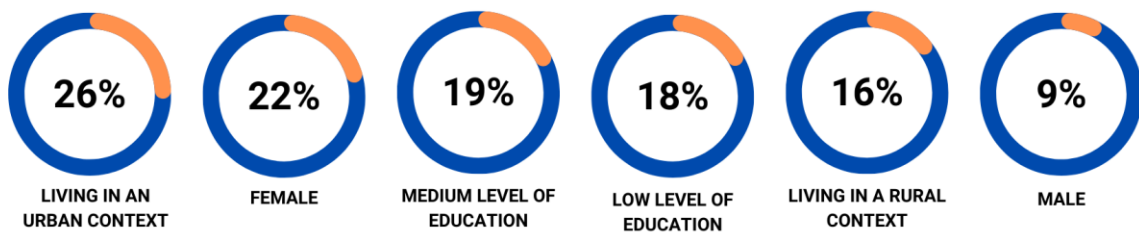


- I do not like attending training courses with other people
- I am not used to attending training courses
- I do not know if I am able to attend training courses on these topics
- I don't speak English well enough to understand English commands/guidelines used to explain digital devices

Social vulnerability

The social vulnerability index highlights that living in an urban context and being female are among the highest indices. It is therefore imperative to encourage the participation of predominantly female individuals living in urban contexts, who express constraints due to limited time, caregiving responsibilities or financial constraints for training.

SOCIAL VULNERABILITY INDEX

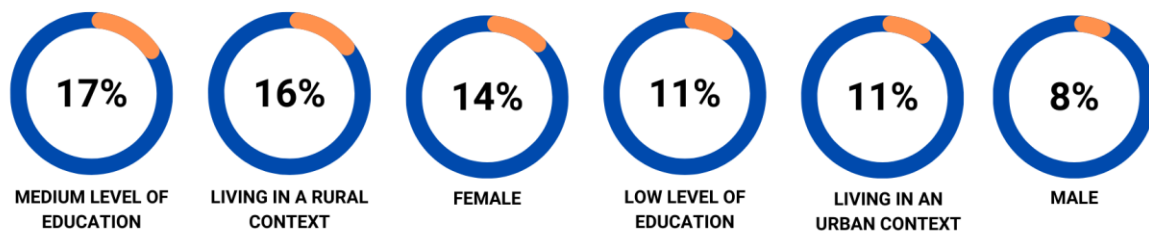


- I have to look after my grandchildren or other family members
- I do not have enough money to afford it
- I have no time because I have many commitments

Physical vulnerability

There are no significant differences between the organisational, social, personal and physical barriers, even if – in terms of physical vulnerabilities - males seem to have fewer overall barriers.

PHYSICAL VULNERABILITY INDEX

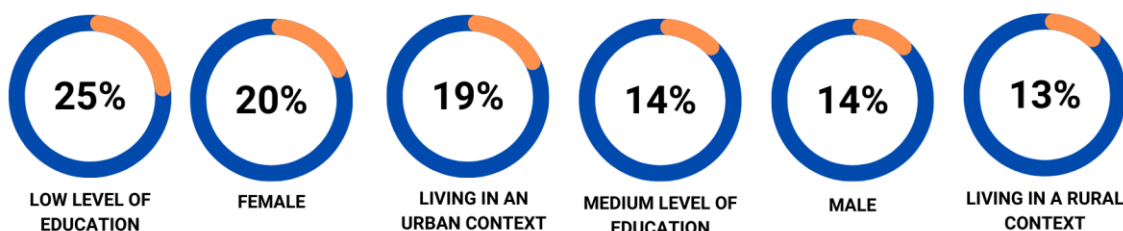


- I don't see well
- I don't hear well
- I can't sit for long
- Other physical or mental constraints

Organisational vulnerability

Looking individually at the 4 types of implementation barriers, the greatest vulnerabilities in terms of organisational barriers are a low level of education and being female. The strategies and tools that can be used to better include seniors with a low level of education include addressing their belief that they have to pass an admission test, ensuring accessibility to necessary digital tools, offering affordable or free courses, and facilitating easier access to course locations. To encourage participation in training courses among individuals residing in rural areas it is of great importance to explore a range of strategies, including online learning platforms, mobile applications, community outreach initiatives, financial aid options, transportation support, digital literacy programmes, community learning centres, flexible scheduling, local language support and tailored course content.

ORGANISATIONAL VULNERABILITY INDEX



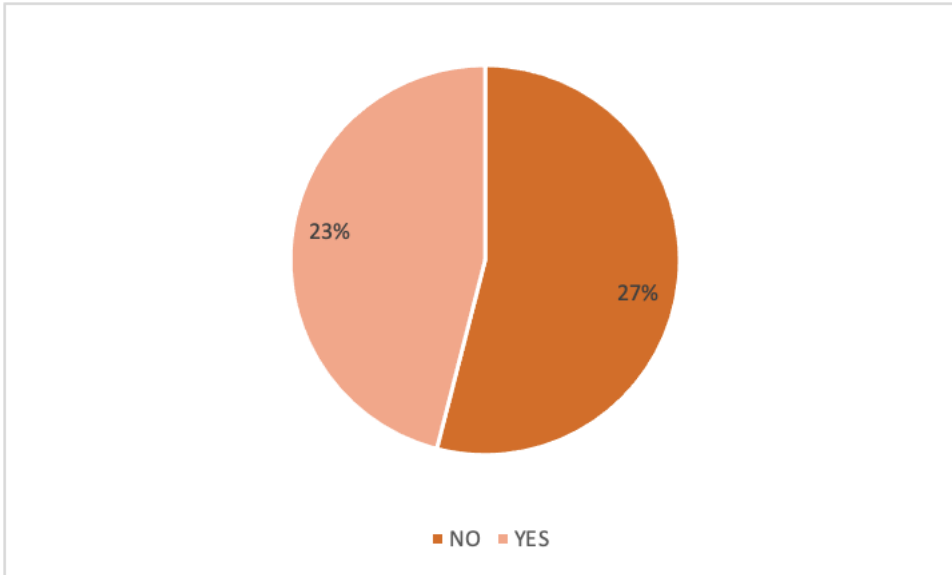
- I have to take a test to be admitted to the course
- I have to bring my device with me
- I have to pay a fee to participate
- I have no means of getting to a course

3.3 LEARNING NEEDS & FRAGILITY INDEX

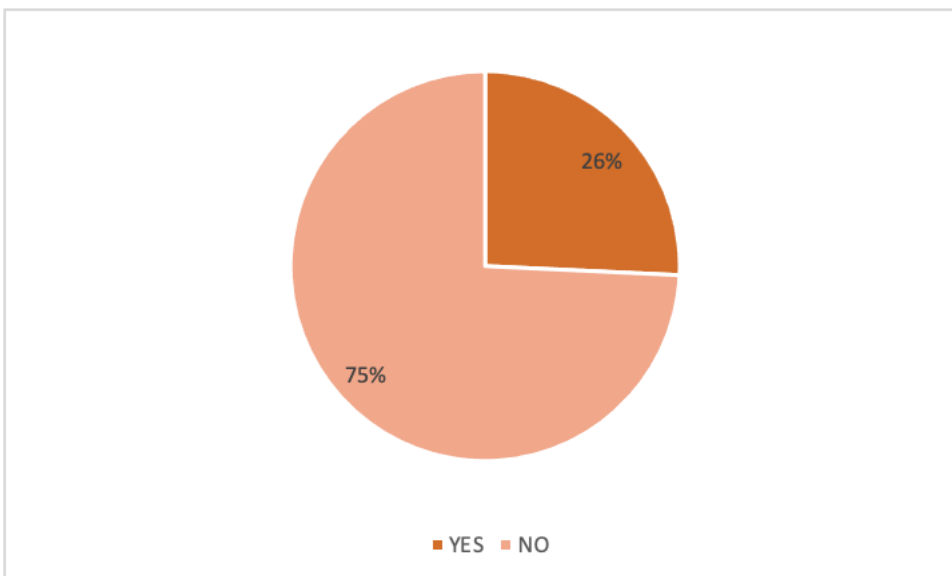
Another aspect that sheds light on how adult education organisations and educators can approach the identified implementation barriers is by taking a closer look at the self-perceived learning needs of seniors. This is because a strong desire or a need to learn something about digital devices and how to use them, can motivate, inspire and activate seniors into undertaking digital literacy training despite a certain amount of "implementation barriers" standing in the way!

In terms of learning needs, it is interesting to note that 73% of the interviewed seniors declared that they have received information regarding the advantages of using digital devices while a third has not, and only 75% have previously been offered the chance to participate in training courses.

GRAPH 7 – HAS ANYONE EVER EXPLAINED TO YOU THE ADVANTAGES OF USING DIGITAL DEVICES?

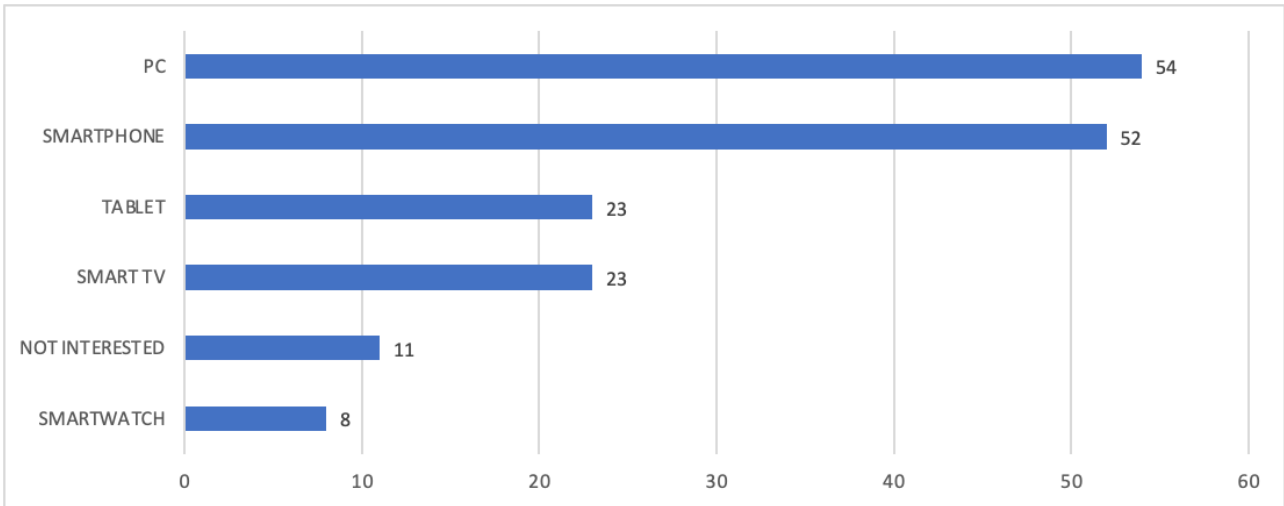


GRAPH 8 – HAVE YOU EVER BEEN ASKED TO PARTICIPATE IN A DIGITAL TRAINING COURSE?

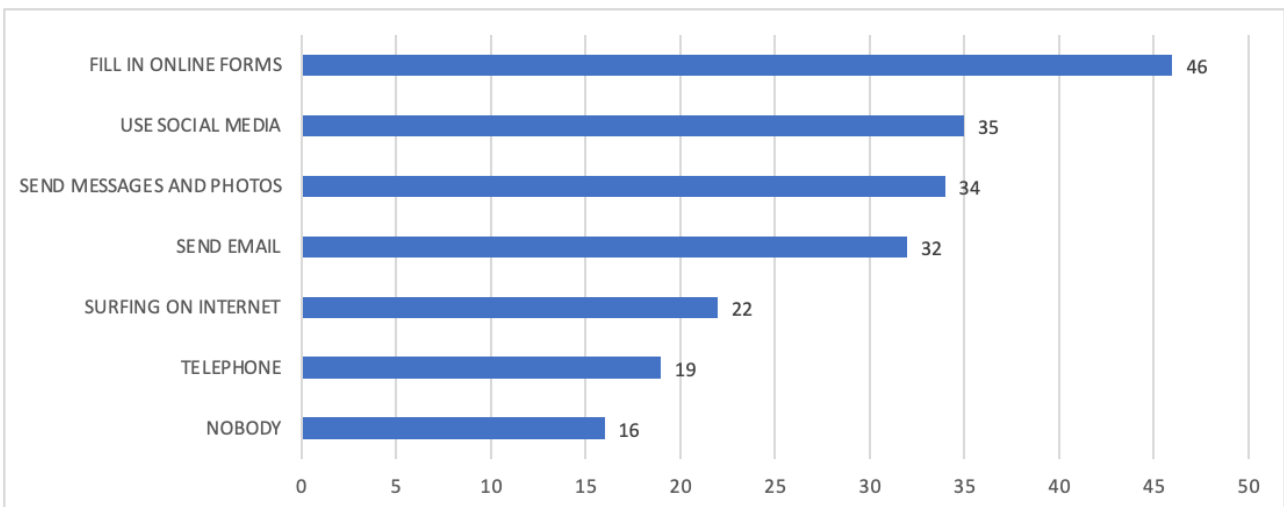


Questioned about that they would like to learn in a digital training course, most interviewed seniors mentioned learning how to use PCs and smartphones better, especially the ability to fill in online forms, using social media, and sending photos and messages to relatives and friends.

GRAPH 9 – WHICH OF THESE DEVICES WOULD YOU LIKE TO LEARN HOW TO USE?

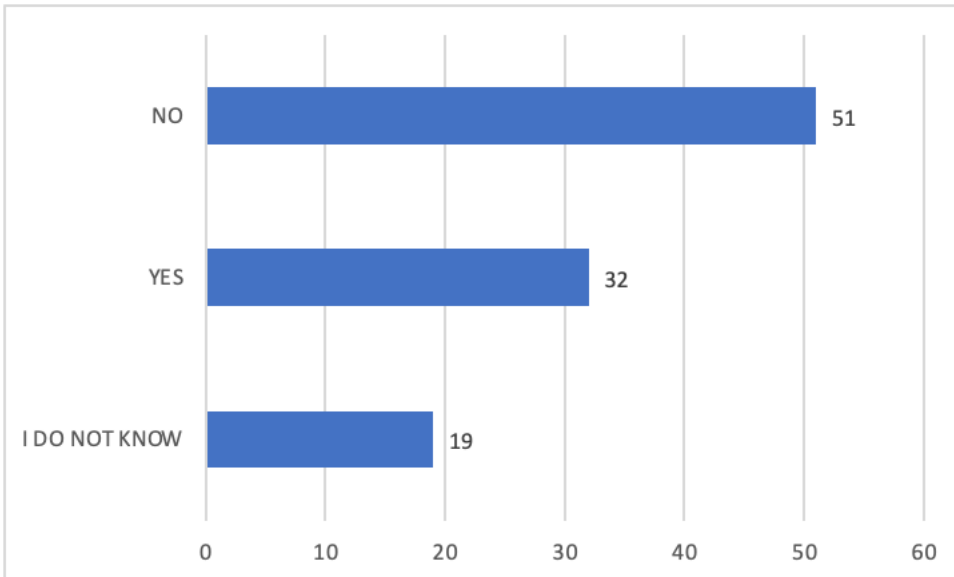


GRAPH 10 – WHICH OF THESE FUNCTIONS WOULD YOU LIKE TO LEARN TO USE?

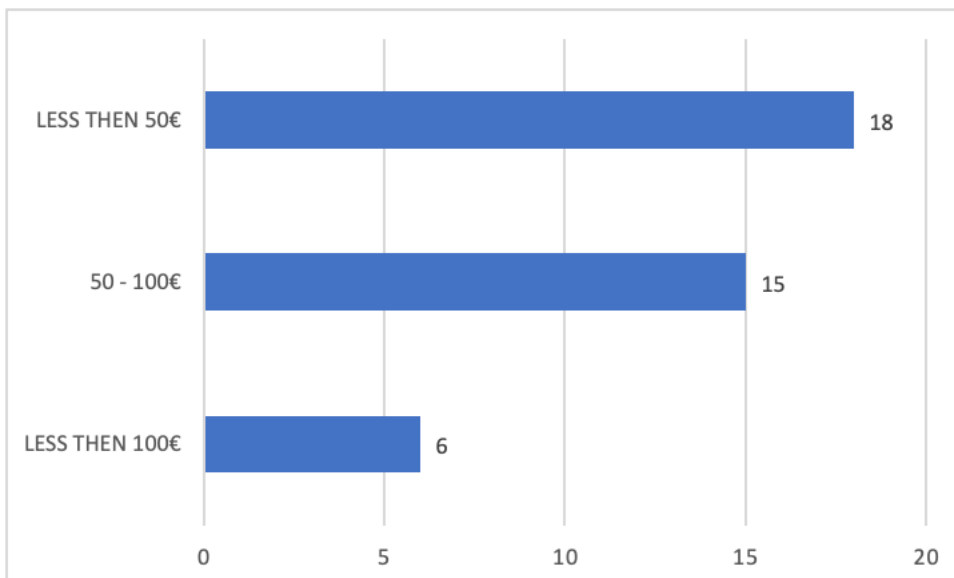


Cost is another factor that is strongly related to learning needs. Despite having clear learning needs, only a third of the seniors declared themselves willing to participate in training courses costing more than €100.

GRAPH 11 – WOULD YOU BE WILLING TO INVEST MONEY ON A TRAINING COURSE?



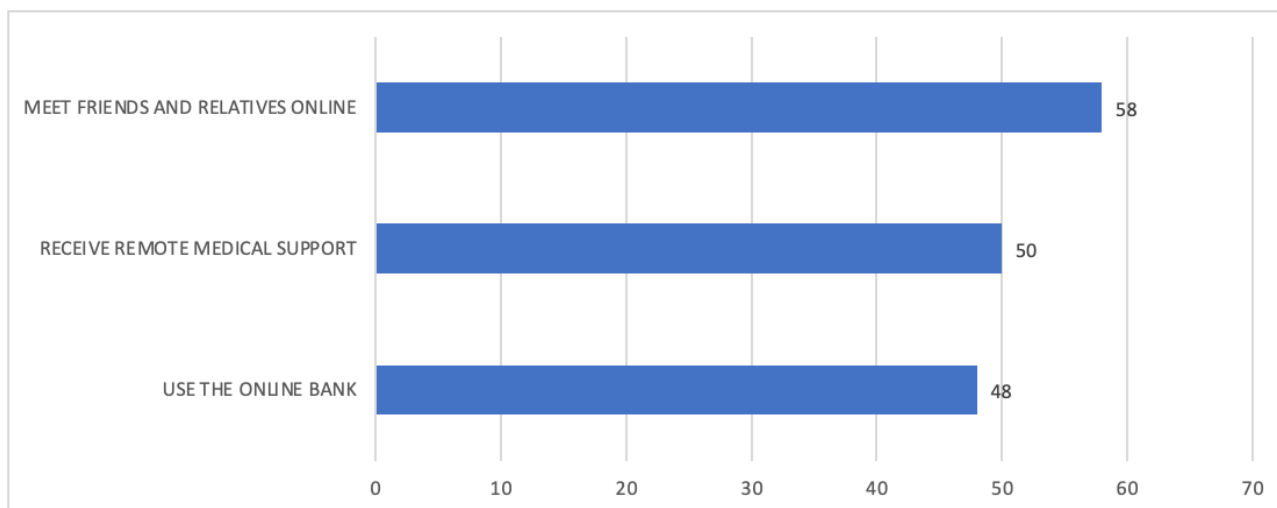
GRAPH 12 – IF YES, HOW MUCH?



Also closely related to learning needs is the size and location of offered programmes: 49 respondents said they would appreciate individual courses or small groups (37 respondents) and 33 seniors wanted to be accompanied to the place of training; only 13 seniors said they would appreciate courses at their own home. This reflects a number of identified implementation barriers:

Seniors were interested in learning how to use the devices mainly to receive remote medical support (50), carry out online banking activities (49) and relate to local authorities (38).

GRAPH 13 – LEARNING NEEDS-TOP THREE



What are the main digital learning needs?

The following list of learning needs provides an overview of the results derived from the conducted survey. To facilitate this overview, digital learning needs were categorised into 3 groups: 1) needs related to combatting loneliness and alleviating isolation; 2) needs related to the promotion of health and well-being; and 3) needs related to carrying out everyday tasks.

OVERVIEW	LEARNING NEEDS	NR	%
COMBAT LONELINESS AND ALLEVIATE ISOLATION	MEETING FRIENDS/FAMILY ONLINE	58	56,9
HEALTH PROMOTION	RECEIVING MEDICAL SUPPORT REMOTELY (TELEMEDICINE, ETC.)	50	49,0
EVERYDAY TASKS	ONLINE BANKING	48	48,0
EVERYDAY TASKS	LOCAL AUTHORITIES (MAKING APPOINTMENTS, RENEWING PASSPORTS, ETC.)	38	37,3
EVERYDAY TASKS	TRAVEL (MAKING RESERVATIONS, FINDING HOTELS, BOOKING TOURS, ETC.)	37	36,3

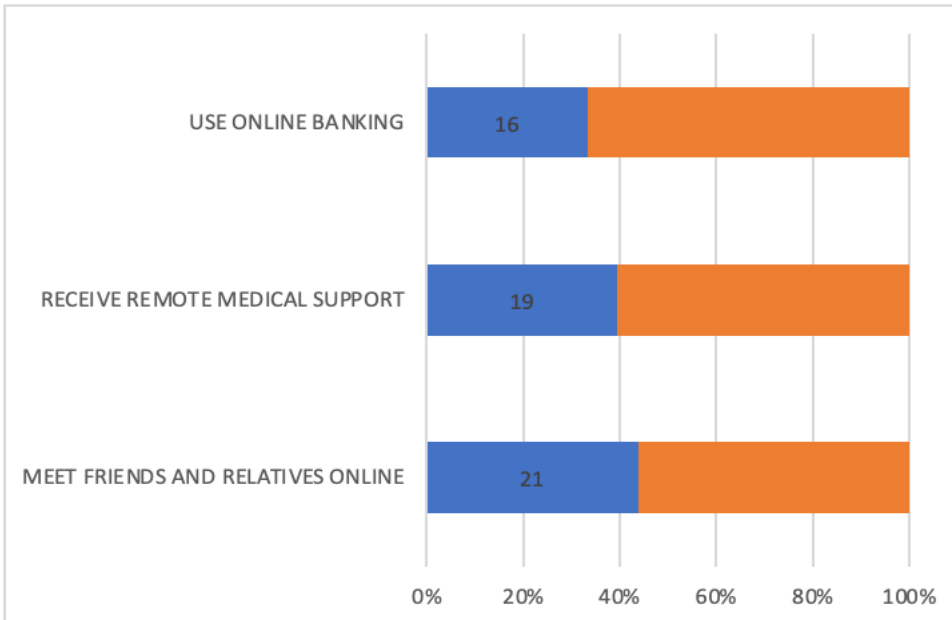
EVERYDAY TASKS	SHOPPING (ONLINE SHOPPING, FINDING OPENING HOURS OF STORES, ETC.)	33	32,4
HEALTH PROMOTION	USING HEALTH APPS	32	31,4
HEALTH PROMOTION	FINDING INFORMATION ABOUT ILLNESSES	32	31,4
EVERYDAY TASKS	FINDING RECIPES	28	27,5
HEALTH PROMOTION	FINDING DOCTORS' OFFICES	27	26,5
HEALTH PROMOTION	ORDERING SUPPLEMENTS OR MEDICINES ONLINE	17	16,7
EVERYDAY TASKS	INSURERS	13	12,7
EVERYDAY TASKS	TICKET SALES	9	8,8
COMBAT LONELINESS AND ALLEVIATE ISOLATION	PLAYING ONLINE GAMES	8	7,8

Is there a correlation between the 3 main implementation barriers and the 3 main learning needs?

If we correlate the three major implementation barriers with the three main needs that we identified, we can observe that:

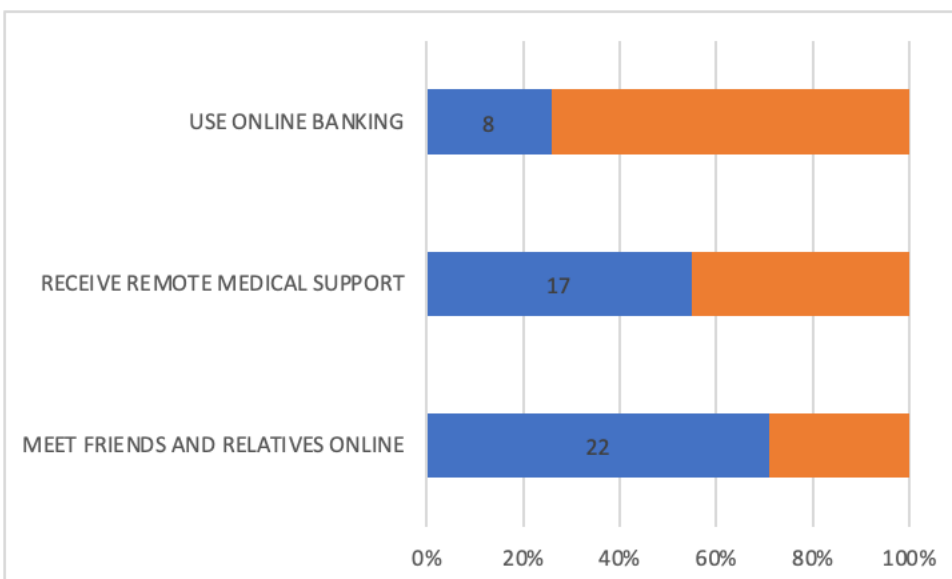
Of the 48 seniors who do not speak English well and therefore find it difficult to participate in training courses on the use of digital devices, 21 would like to learn how to use digital technologies to meet friends and relatives online, 19 to receive online medical support and 16 to use online banking services.

GRAPH 14– BARRIER: I DO NOT SPEAK ENGLISH WELL ENOUGH (48 PEOPLE)



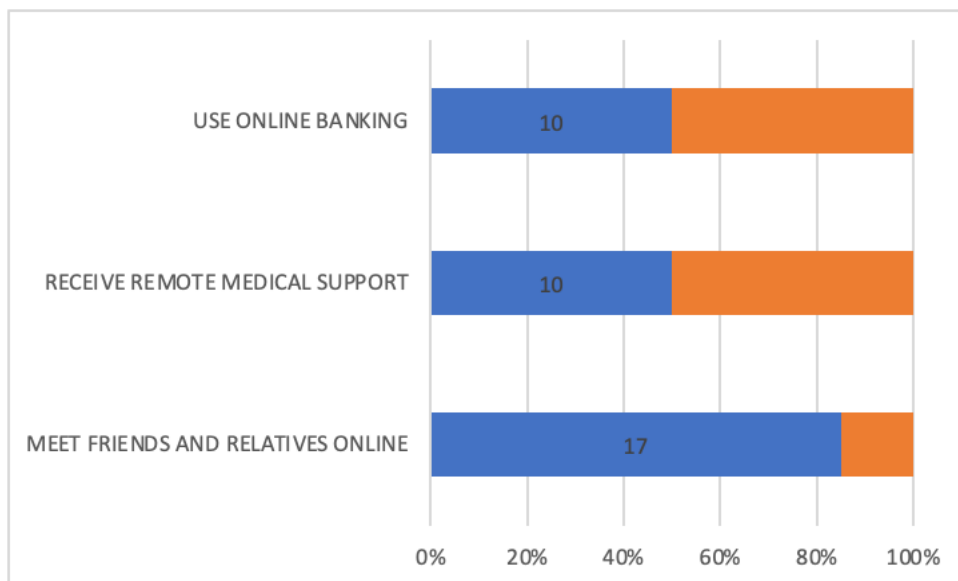
Of the 31 seniors who have difficulties to pay a fee to participate in training courses on the use of digital devices, 22 would like to learn how to use digital technologies to meet friends and relatives online, 17 to receive online medical support and 8 to use online banking services.

GRAPH 15– BARRIER: I HAVE TO PAY A FEE TO PARTICIPATE (31 PEOPLE)



Of the 20 seniors who have difficulties to participate in training courses on the use of digital devices, almost everyone (17) says they have too many care commitments in looking after grandchild and other family members, 17 would like to learn how to use digital technologies to meet friends and relatives online, 10 to receive online medical support and 10 to use online banking services.

GRAPH 16– BARRIER: I HAVE TO LOOK AFTER GRANDCHILD OR OTHER FAMILY MEMBERS (20 PEOPLE)



What do the barriers and learning needs tell us about the fragility of seniors?

We have constructed two different indices to evaluate the risks that seniors may encounter in learning how to use digital technology.

Firstly, these risks concern the barriers that prevent seniors from acquiring skills in the use of digital tools such as ‘not being able to speak English well enough’, ‘having to pay a fee’, or the necessity to look after grandchildren; if one or more of these conditions occurs, seniors are more exposed and therefore more VULNERABLE.



On the other and there are risks linked to learning needs such as: wanting to learn about digital skills in order to be able to meet friends online, receive medical support remotely or conduct line banking. One can say that it is likely that every expressed need underlies a fragility of seniors.



How fragile are seniors in relation to their learning needs?

To analyse how fragile seniors were in relation to their learning needs we created a fragility index. The following survey questions related to digital learning needs were analysed to develop the fragility index:

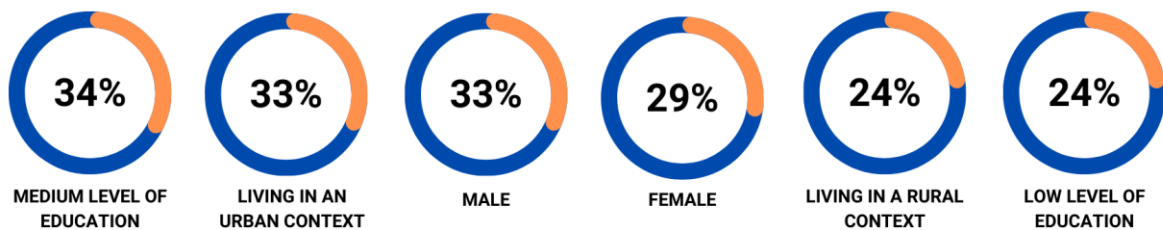
- For which of these **health promotion activities** would you be interested in learning how to use digital devices?
- For which of these **everyday tasks** would you be interested in learning how to use digital devices?

- For which of these activities to **combat loneliness and alleviate isolation** would you be interested in learning how to use digital devices?

Analysing the survey responses pertaining to seniors' learning needs reveals crucial insights into their technological needs and, subsequently, underscores the fragility that many seniors experience in relation to digital device usage.

The first set of questions inquired about participants' inclinations towards harnessing digital devices for health promotion activities. These responses shed light on a specific aspect of technology's potential impact on health and well-being, showing that the majority of seniors interested in health promotion activities had medium levels of study, lived in an urban context and were male:

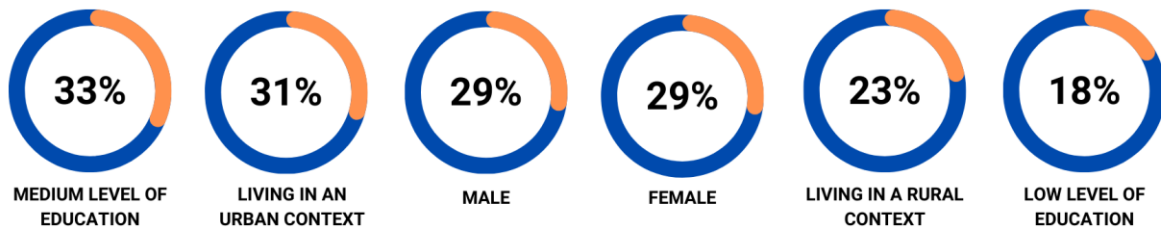
HEALTH PROMOTION FRAGILITY INDEX



- Receiving medical support remotely
- Using health Apps
- Finding information about illnesses
- Finding doctors' offices
- Ordering supplements or medicines online

The second set of survey questions delved into participants' preferences for using digital devices to do daily tasks, showcasing the broad spectrum of opportunities technology can offer in enhancing the efficiency of their everyday life. This showed that the majority of seniors interested in using digital devices to do daily tasks, again where those with a medium level of study, who lived in an urban context and were male:

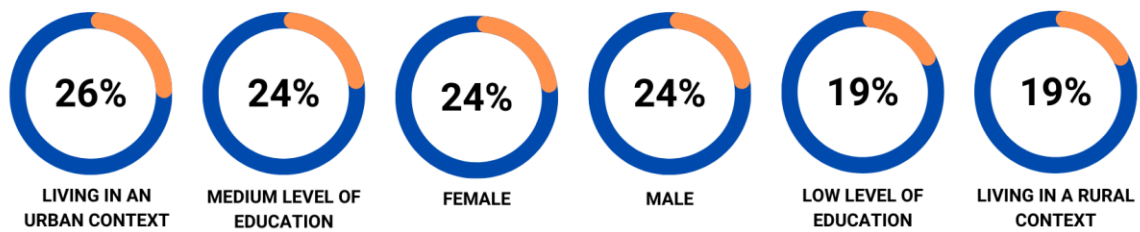
EVERYDAY TASKS FRAGILITY INDEX



- Online banking
- Travel
- Ticket sales
- Insurers
- Shopping
- Finding recipes
- Local authorities

The third set of survey questions addressed the profound issues of loneliness and isolation, particularly relevant in the context of the demographic change and the ongoing digital revolution. Participants' receptivity to learning how digital devices can help combat loneliness underscores the increasingly vital role technology plays in fostering connections and alleviating feelings of isolation in today's society. This showed that the majority of seniors interested in using digital devices to combat loneliness were those who lived in an urban context, had a medium level of study and were female.

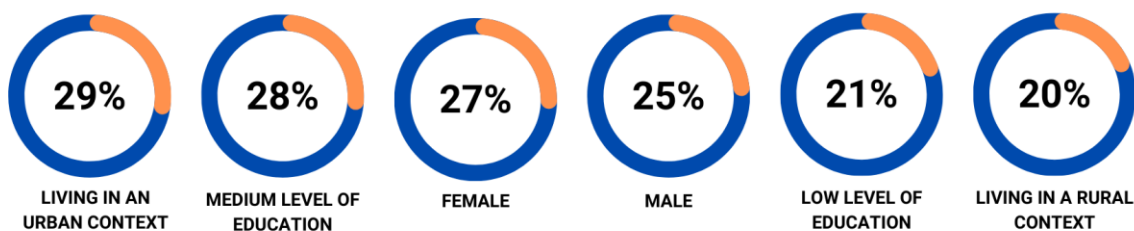
LONELINESS FRAGILITY INDEX



- Meeting friends/family online
- Playing online games
- Participating in online discussion fora

The following fragility index was meticulously constructed, synthesizing the participants' responses across the three survey categories. It lays out the main areas of fragility:

FRAGILITY INDEX



This fragility index serves as a quantitative representation of the fragility seniors experience concerning digital device utilisation. Particularly, it reveals a prevailing trend: those living in urban environments, possessing a moderate level of education, and identifying as female exhibit a higher overall fragility in their relationship with digital devices.

The observation carries significant implications for crafting targeted training interventions aimed at reaching out to, empowering and educating seniors to harness the full potential of digital technology. By understanding the nuance of fragility, adult education providers and educators can tailor educational strategies to address these fragilities better and ensure reasonable access and utilisation of digital resources, thus fostering a more inclusive and connected society.

4. CONCLUSION

The "Models for Advancing the Digital Inclusion of Seniors" (MADIS) project sheds light on the pressing need to improve digital literacy among seniors. The senior population in the European Union is growing, and digital skills have become indispensable for social participation, healthcare access and daily tasks. However, implementation barriers hinder seniors' engagement in digital training courses. This report offers valuable insights for the adult education sector on how to address and overcome these implementation barriers, aiming to bridge the digital divide for seniors.

Ranked according to prevalence, the main implementation barriers identified by seniors that hinder their participation in digital training courses are:

- Language barriers related to understanding English commands and guidelines used to explain digital devices, pose a significant hurdle for many seniors. Addressing language barriers through language support resources is essential.
- Fees associated with digital training courses deter seniors, especially those with limited financial means. Exploring options to reduce or waive course fees is recommended to enhance accessibility.
- Family commitments, such as looking after grandchildren or other family members, prevent some seniors from participating in training courses. Collaboration with organisations to provide childcare services can help alleviate this barrier.
- Physical barriers, including limited mobility, hearing impairment and vision impairment, hinder some seniors from engaging in training activities. Ensuring course materials and facilities are accessible and providing information about transportation options is essential.
- Personal barriers like a lack of familiarity with attending training courses and uncertainty about attending further deter seniors. To address these barriers, courses should be tailored to the specific needs and preferences of seniors.
- Organisational barriers such as admission tests and the need to bring personal devices discourage participation. Simplifying admission requirements, offering loaner devices and exploring flexible learning formats can mitigate these challenges.

Seniors expressed a strong interest in acquiring digital skills for practical purposes, such as communication with family and friends, accessing healthcare services and performing daily tasks like online banking. Digital training courses should align with these learning needs.

The fragility index revealed that seniors residing in urban areas, those with moderate education levels and females exhibit higher fragility in their relationship with digital training. Targeted strategies are essential to address the unique needs and barriers faced by these demographic groups.

To facilitate the digital inclusion for seniors, adult education providers should, among other things:

- develop tailored communication and outreach strategies that address the specific needs and interests of seniors based on demographic factors like gender, needs outlined in this report;
- forge partnerships with local organisations, such as libraries education level, and place of residence;
- emphasise the practical benefits of digital training courses, highlighting improved communication, healthcare access and daily life efficiency as per the learning
- and cultural centres, to promote digital training opportunities, especially in rural areas; and
- develop training programmes designed to meet the unique requirements of seniors by addressing the identified implementation barriers. This includes: shorter durations to prevent overwhelm; smaller class sizes for personalised instruction; free or low-cost options to enhance accessibility; language accessibility to accommodate diverse language proficiencies; proximity to seniors' homes for convenience; and flexible scheduling to accommodate varying

availability, particularly for women with family commitments. In addition, training programmes should prioritise practical skills such as using PCs, smartphones and tablets for effective communication, accessing healthcare services, and managing daily tasks like online banking.

By tailoring their digital training courses to address these implementation barriers, adult education providers and educators can empower seniors - including the ones being affected the most by barriers such as seniors in rural areas with limited education and predominantly women - to enhance their digital literacy, improve their quality of life and participate more fully in today's digitally-driven society.

ANNEX I

1.1 REFERENCE DOCUMENTS

Council Recommendation on Key Competences for Lifelong Learning

The Recommendation identifies eight key competences needed for personal fulfilment, a healthy and sustainable lifestyle, employability, active citizenship and social inclusion:

- Literacy
- Multilingualism
- Numerical, scientific and engineering skills
- Digital and technology-based competences
- Interpersonal skills, and the ability to adopt new competences
- Active citizenship
- Entrepreneurship
- Cultural awareness and expression

The Digital Competence Framework for Citizens (DigComp)

DigComp provides a common understanding of what digital competence is. DigComp also provides a basis for framing digital skills policy. The DigComp framework identifies the key components of digital competence in 5 area:

1. Information and data literacy
2. Communication and collaboration
3. Digital content creation
4. Safety
5. Problem solving

1.2 THE TARGET

The survey was carried out among a minimum of 30 elderly persons per partner country (DE-GR-IT), for a total of 90 elderly persons.

1.3 THE SAMPLE COMPOSITION

The purpose of the survey was to investigate a specific topic in depth, and not to generalise the results for an entire population, therefore fewer subjects chosen based on representativeness were involved. In our case we aimed to interview 40% males and 60% females, dividing them into three age ranges: 50% (65-70 years) + 30% (70-75 years) + 20% (+75 years).

1.4 OUTREACH METHODS

Interviewees were approached through the following channels: adult education organisations, universities of the Third Age, community centres (recreational/sports), voluntary associations, trade unions, housing facilities for the elderly, others.

1.5 DATA COLLECTION AND ANALYSIS

The questionnaire was filled in both in-person or via an interview.

The collected data was processed through Excel and Google Data Studio by analysing the main research questions (considering closed and open-ended ones), and by applying cross-tabulations and filters to the results. Results were shown quantitatively (numerically via graphs, etc.) and qualitatively (descriptively).

The analysis led to 3 national evaluations (one for each partner country) which was then merged into this report as a single evaluation presenting the most relevant and significant information.

1.6 THE PROCEDURE

The person carrying out the survey within each MADIS partner country followed the following steps:

- identification of potential interviewee (considering the composition of the sample)
- contact with potential interviewee
- filling in the questionnaire in assisted mode
- data entry in the eForm provided

1.7 THE QUESTIONNAIRE

The questions that made up this questionnaire provided for multiple, semi-closed answers and open answers. We choose a quasi-structured questionnaire - a type of survey that combines elements of both structured and unstructured questionnaires. It is more flexible than a structured questionnaire, allowing for more open-ended questions and allowing respondents to provide more detailed answers. However, it still provides some structure by providing a set of predetermined questions and response options.

The questionnaire was structured into 4 parts:

I° PART - STRUCTURAL DATA

II° PART – DIGITAL LITERACY

III° PART – BARRIERS TO DIGITAL TRAINING ACTIVITIES

IV° PART – LEARNING NEEDS

Overall, the questionnaire contained 32 questions

1. Gender
2. Age
3. Marriage Status
4. Education
5. Previous job
6. Living arrangements:
7. Mobility: (tick box if yes)
8. Do you have access to adequate public transport opportunities?
9. Place of residence:
10. Which of these devices do you own, and how often do you use them?
11. What is your relationship with these devices?
12. If you have a technical problem with a digital device, whom do you turn to?
13. (Only if you answered "NONE OF THESE") If you DON'T own any device, why?
14. Have you ever attended training courses on the use of any digital device (smartphone, pc/tablet, ...)?
15. If YES, could you give us some information?
16. If YES, how satisfied were you?
17. If YES, what did you like most?
18. Which of these social conditions could prevent you from attending a training course on the use of digital devices?

19. Which of these personal conditions could prevent you from attending a training course on the use of digital devices?

20. Which of these physical conditions could prevent you from attending a training course on the use of digital devices?

21. Which of these organisational characteristics could prevent you from attending a training course on the use of digital devices?
22. Has anyone ever explained to you the advantages of using digital devices?
23. Have you ever been asked to participate in a digital training course?
24. Which of these devices would you like to learn how to use?
25. Which of these functions would you like to learn how to use?
26. For which of these health promotion activities would you be interested in learning how to use digital devices?
27. For which of these everyday tasks would you be interested in learning how to use digital devices?
28. For which of these activities to combat loneliness and alleviate isolation would you be interested in learning how to use digital devices?
29. How much time per week would you be willing to put in to learn?
30. Would you be willing to invest money on a training course?
31. If YES, how much?
32. What would be the ideal conditions for you to participate in a training course (max 3 answers)?

1.8 THE SAMPLE

A total of 102 people participated in the survey, the majority of whom were female; the most represented age group was between 65 and 70 years, which for our target group represented the youngest age group.

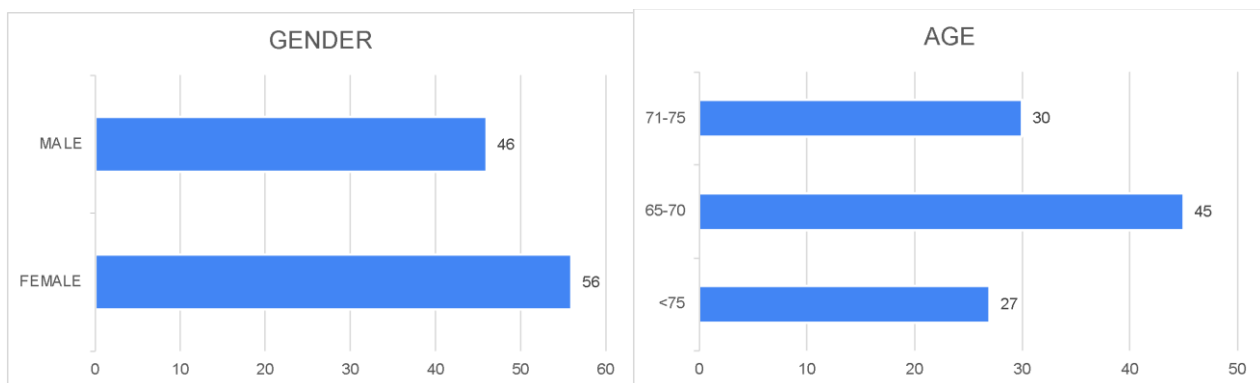
More than half of the respondents were married while 24 people were widows, 12 single and 10 divorced.

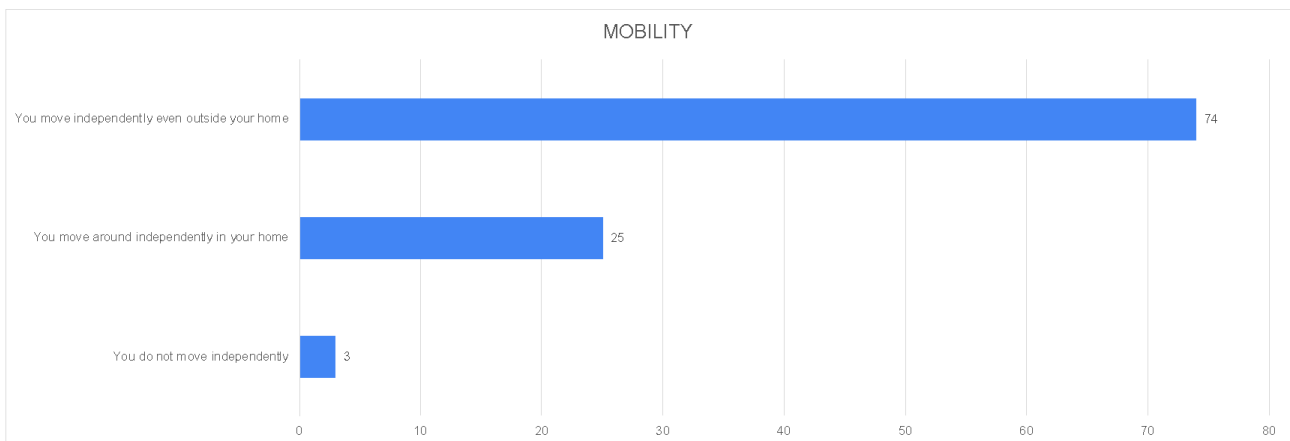
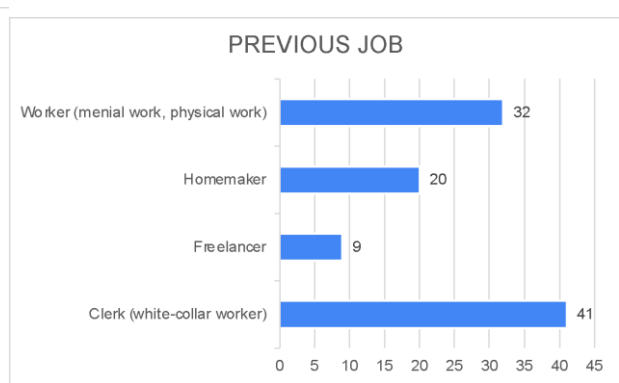
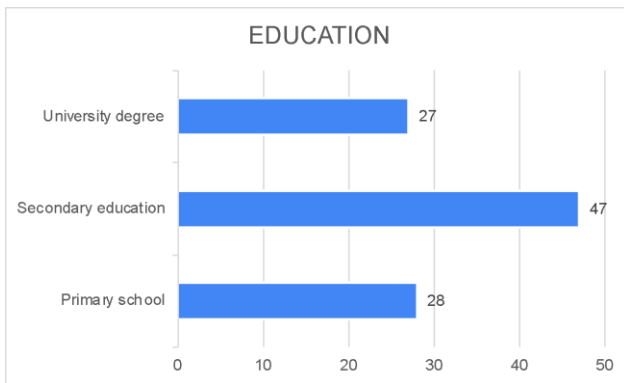
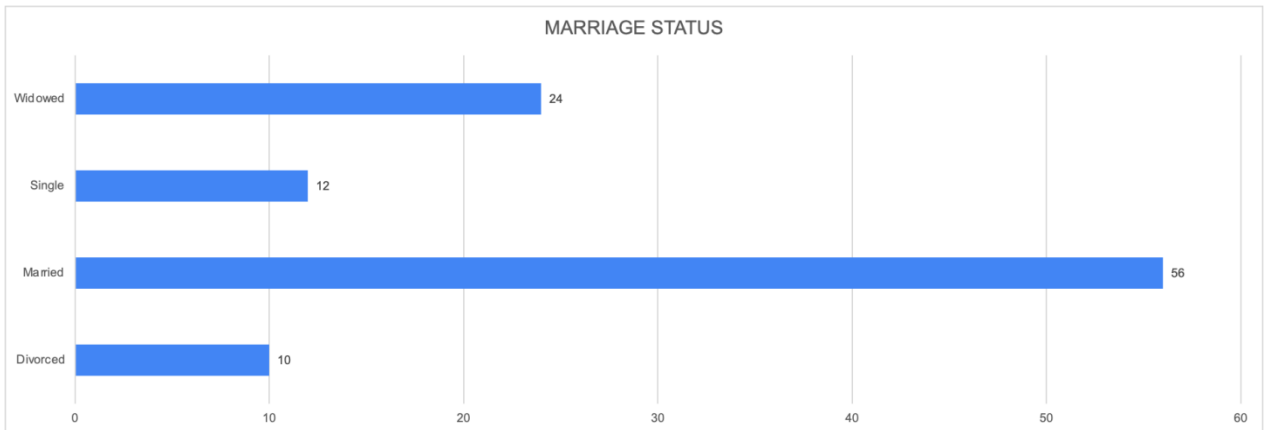
The situation is different when considering the cohabiting nucleus and we observed that 43 people live as a couple, 27 live in a larger nucleus, 26 lived alone and 6 people lived with a caregiver or in a senior care home. Over 70% declared themselves capable of moving independently both at home and away from home, 25 seniors declared that they feel autonomous in the home environment and only 3 seniors defined themselves as non-autonomous. Only 21 seniors believed they cannot access adequate mobility services.

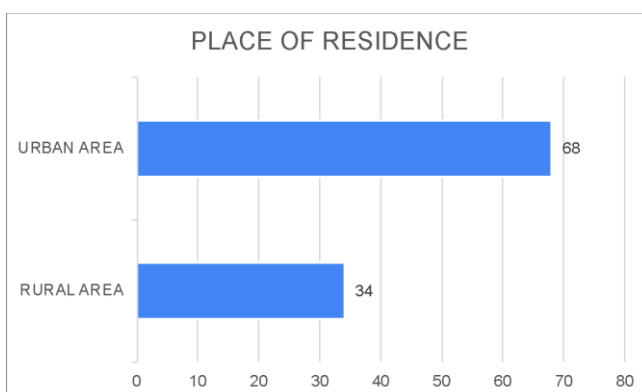
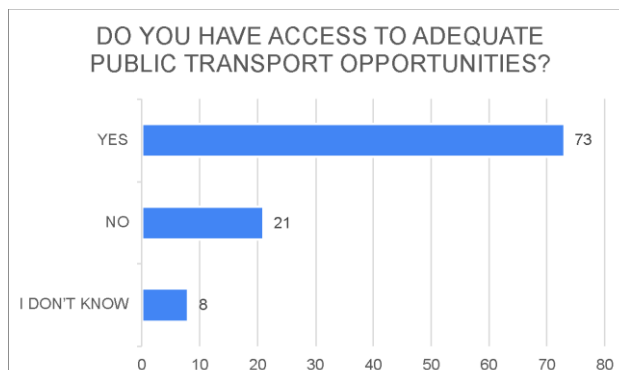
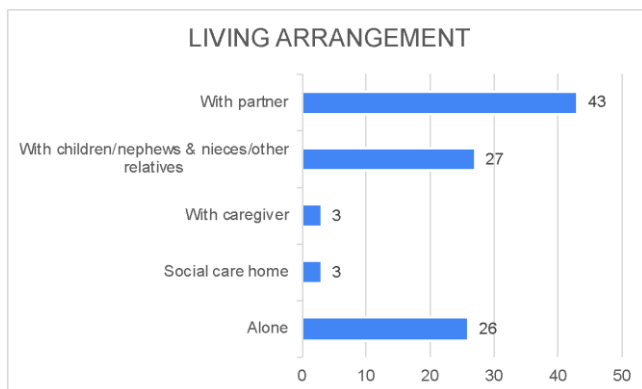
Considering the level of education, the sample considered mainly had a medium-high level of education (secondary education + university degree).

Two thirds of the seniors interviewed lived in an urban area while the rest in a rural area.

By examining only the prevailing characteristics, we defined an identikit of the person who took part in the survey: these were women aged between 65 and 70, who lived in urban areas, were married and lived together with their partner; they graduated from high school and held office jobs. They are autonomous people both at home and outside and they have adequate access to public transport opportunities.







2.1 DIGITAL LITERACY

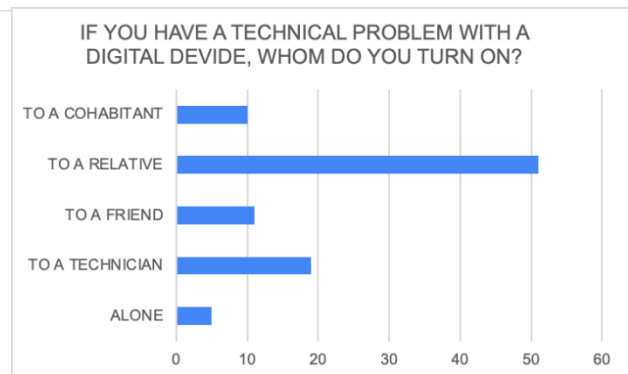
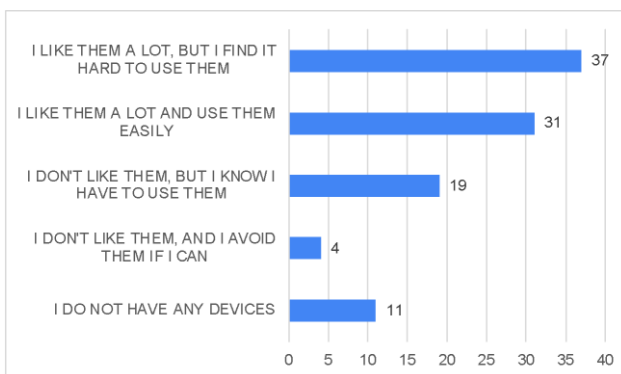
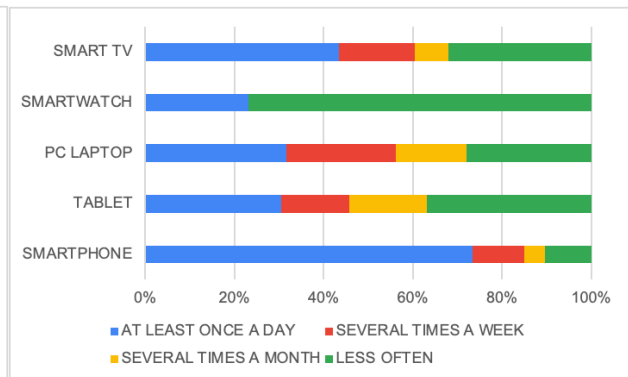
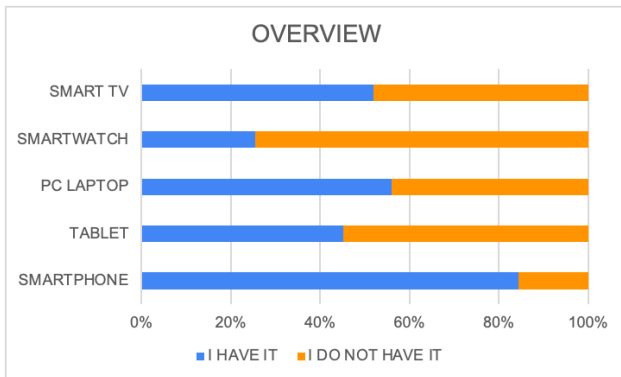
The majority of interviewed seniors owned a smartphone, followed by computers and smart TVs, while tablets and smartwatches were the least owned by our interviewees.

Compared to the frequency of use, the smartphone was used by almost everyone at least once a day while the PC, despite being in many homes, was not used with the same frequency.

Eleven people declared that they do not own any devices. 23 people did not like using these tools even though 19 said they know they have to use them and 4 avoided using them. The majority (68 respondents) claimed to use them with pleasure even if 37 found it difficult.

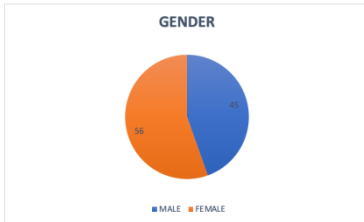
In case of difficulty, 70 seniors turned to friends and relatives, 16 relied on a technician and only 5 claimed to have the skills to solve the problem on their own.

In summary, the sample considered mainly owned smartphones, smart TVs and computers, but they only used smartphones and smart TVs quite frequently, even if they found their use a bit complex and, whenever necessary, they turned to friends and relatives.



ANNEX II

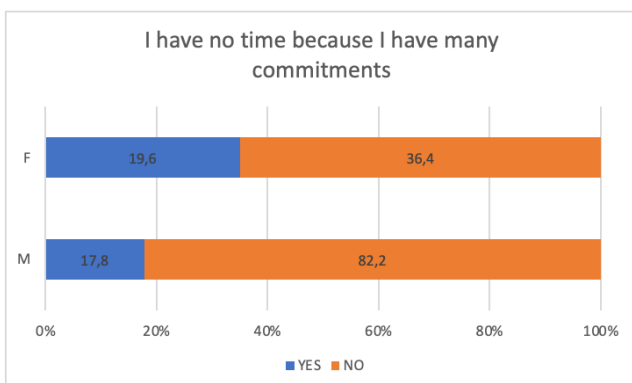
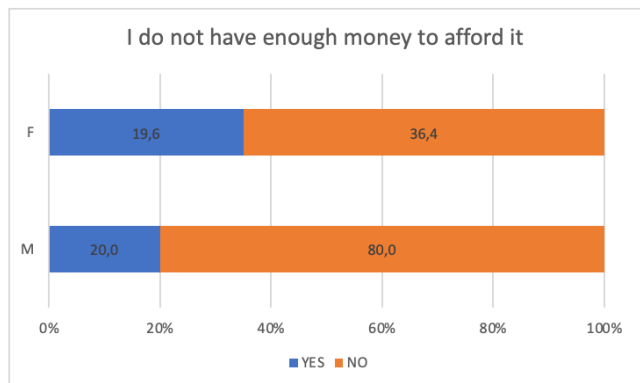
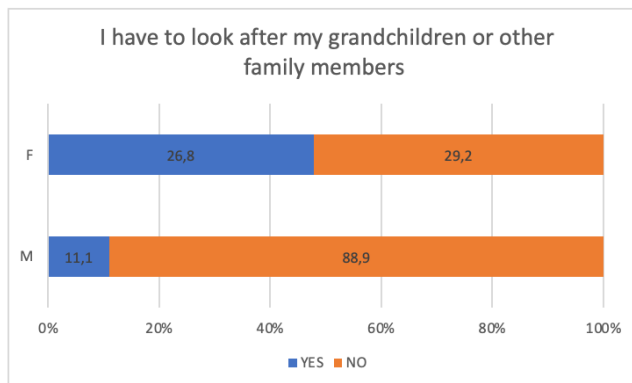
2.1 FOCUS ON GENDER



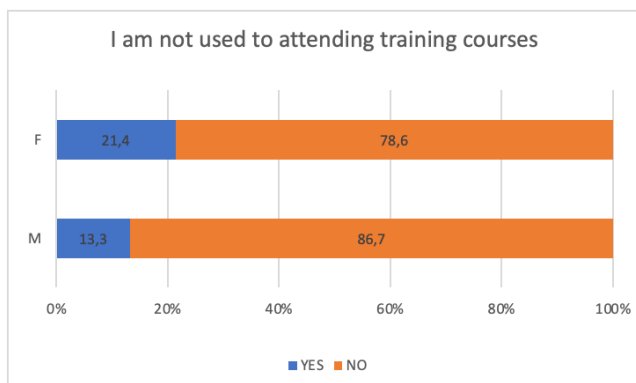
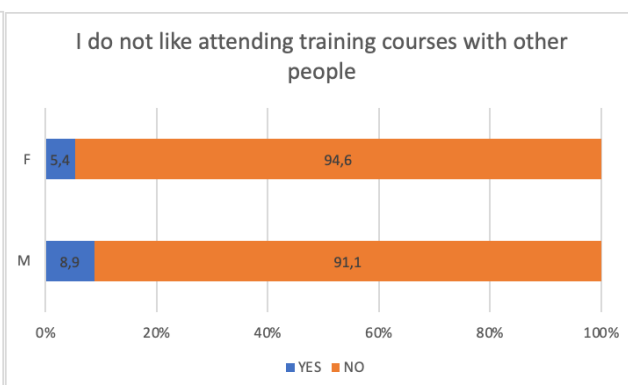
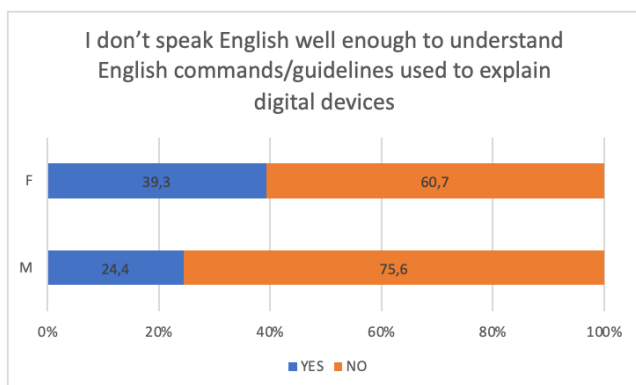
In the following tables we try to understand how gender influences the implementation barriers. The tables show the number of choices for each item divided by gender, and respondents could choose one or all of the available options.

The graphs show the percentages for each item, calculated based on the total number of males (45 people) and females (56 people) involved in the survey.

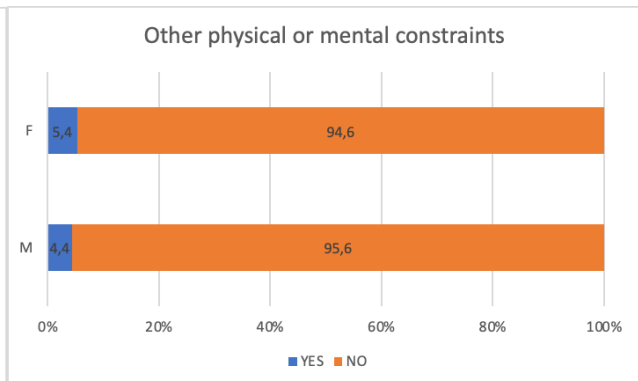
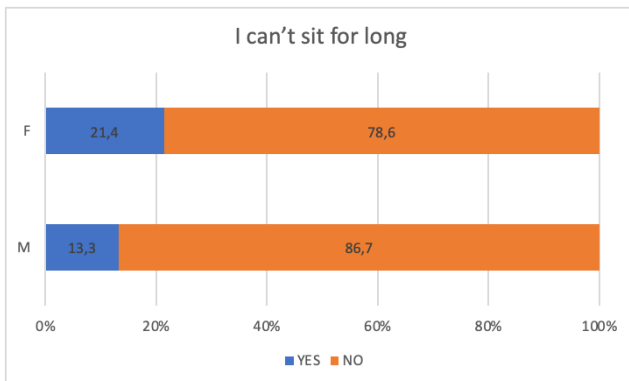
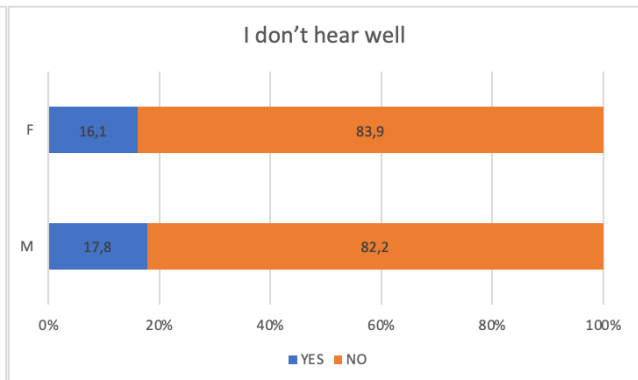
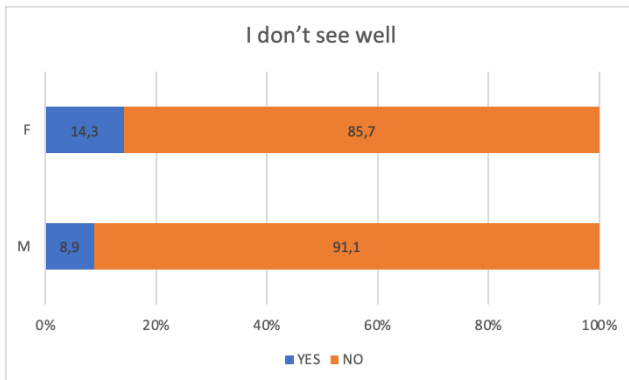
Which of these social barriers could prevent you from attending a training course on the use of digital devices?	TOTAL	
	M (45)	F (56)
	NR	NR
I have to look after my grandchildren or other family members	5	15
I do not have enough money to afford it	9	11
I have no time because I have many commitments	8	11



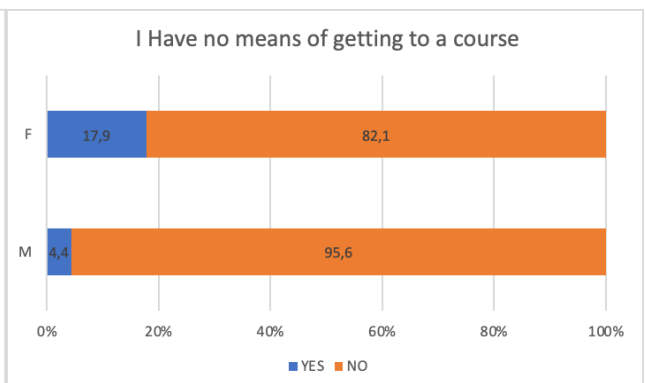
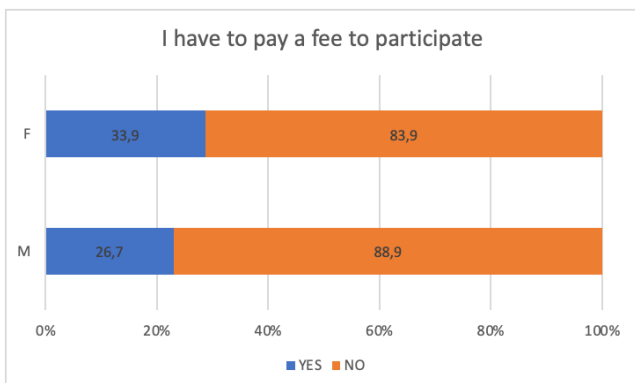
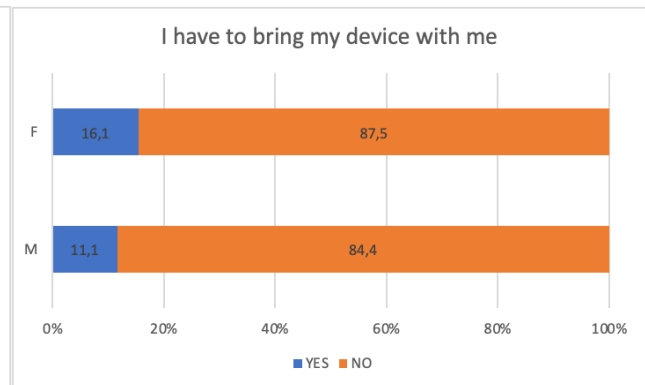
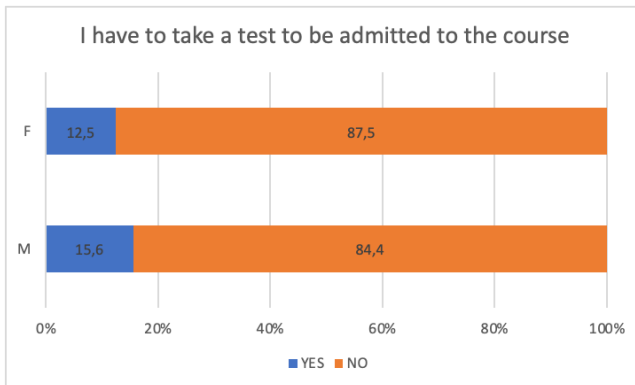
Which of these personal barriers could prevent you from attending a training course on the use of digital devices?	TOTAL	
	M (45)	F (56)
	NR	NR
I do not like attending training courses with other people	4	3
I am not used to attending training courses	6	12
I do not know if I am able to attend training courses on these topics	5	10
I don't speak English well enough to understand English commands/guidelines used to explain digital devices	11	22



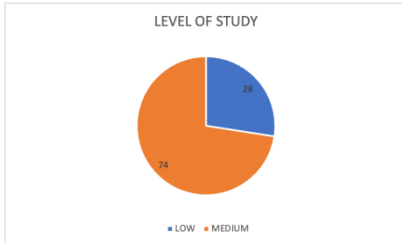
Which of these physical barriers could prevent you from attending a training course on the use of digital devices?	TOTAL	
	M (45)	F (56)
	NR	NR
I don't see well	4	8
I don't hear well	8	9
I can't sit for long	6	12
Other physical or mental constraints	2	3



Which of these organisational barriers could prevent you from attending a training course on the use of digital devices?	TOTAL	
	M (45)	F (56)
	NR	NR
I have to take a test to be admitted to the course	7	7
I have to bring my device with me	5	9
I have to pay a fee to participate	12	19
I Have no means of getting to a course (no access to public transport, no driver's license, no one to drive me there, etc.)	2	10



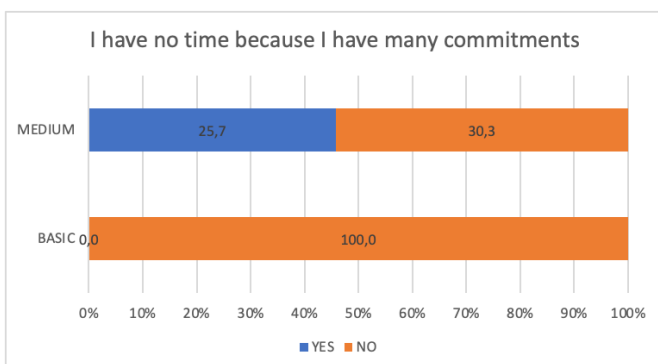
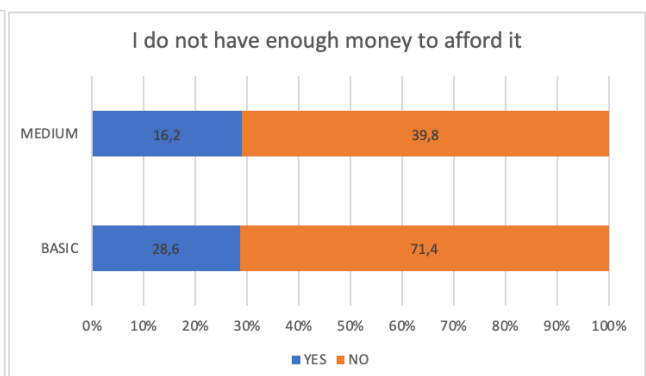
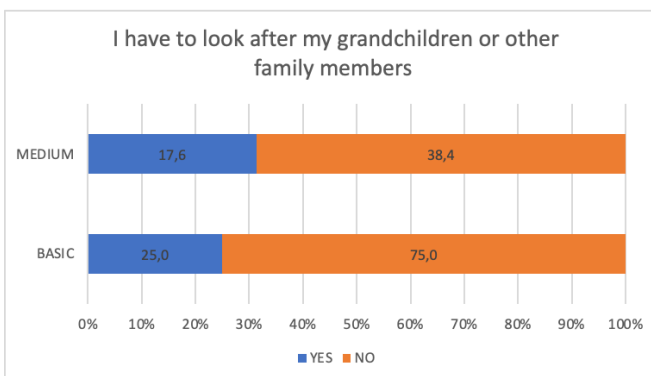
2.2 FOCUS ON EDUCATIONAL LEVEL



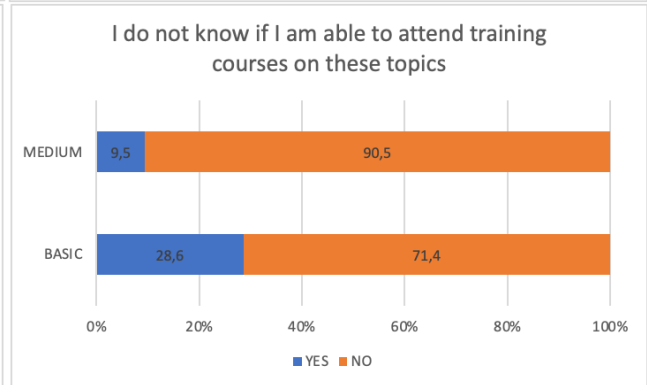
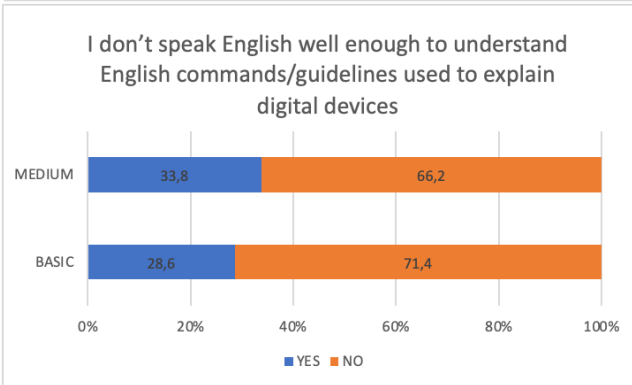
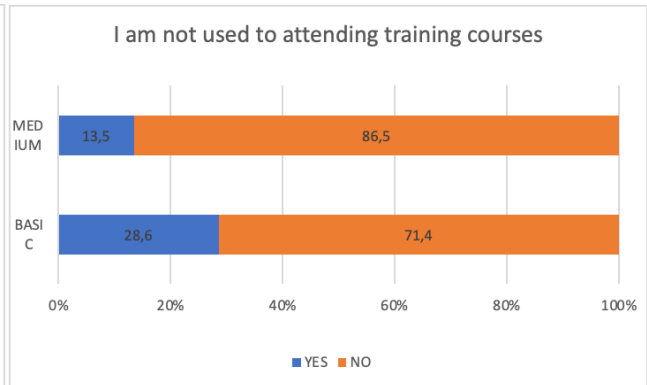
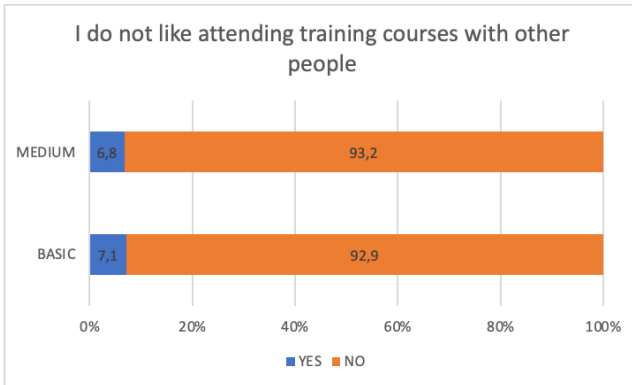
In the following tables we try to understand how the level of study influences barriers. The tables show the number of choices for each item divided by level, seniors could choose one or all of the available options.

The graphs, on the other hand, show the percentages for each item, calculated on the total number of respondents with a low level of study (28) and seniors with a medium-high level of study (74) involved in the survey.

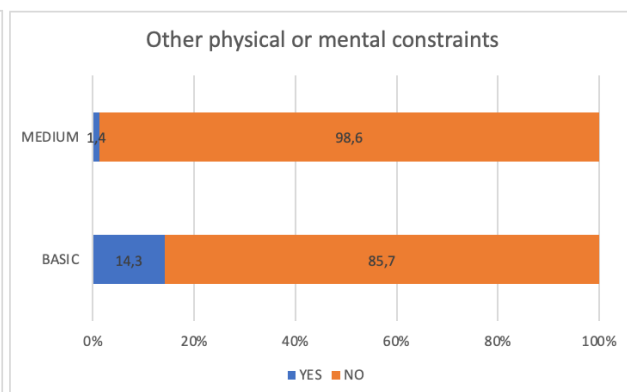
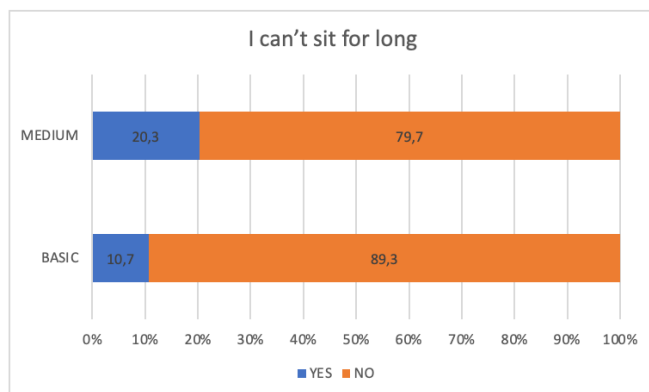
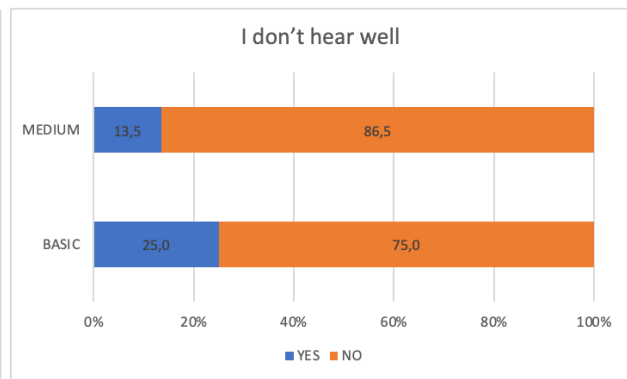
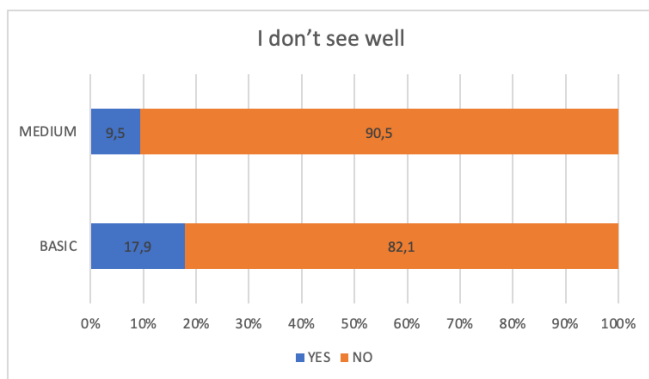
Which of these social barriers could prevent you from attending a training course on the use of digital devices?	TOTAL	
	LOW (28)	MEDIUM (74)
	NR	NR
I have to look after my grandchildren or other family members	7	13
I do not have enough money to afford it	8	12
I have no time because I have many commitments	0	19



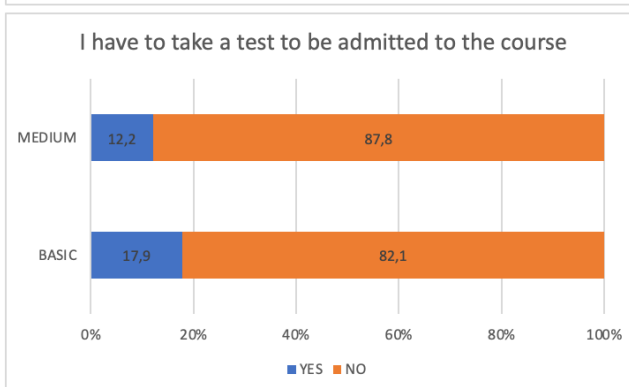
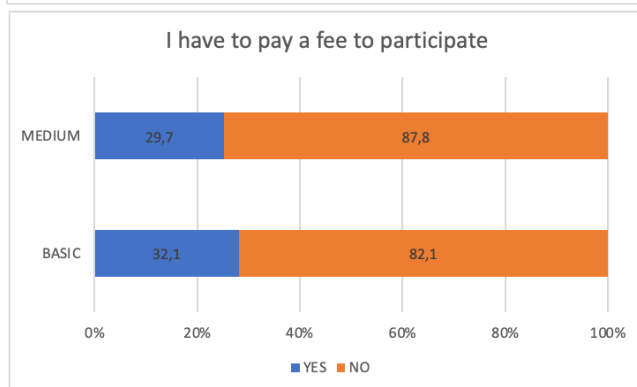
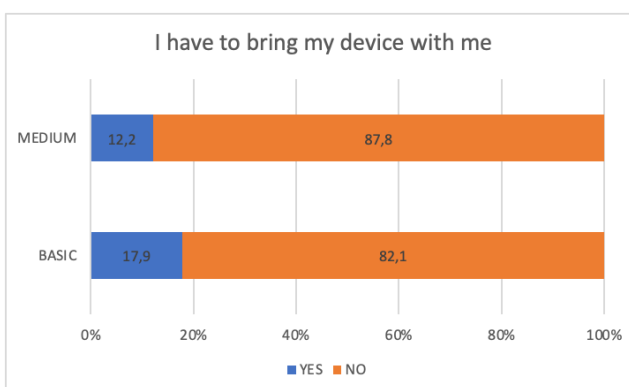
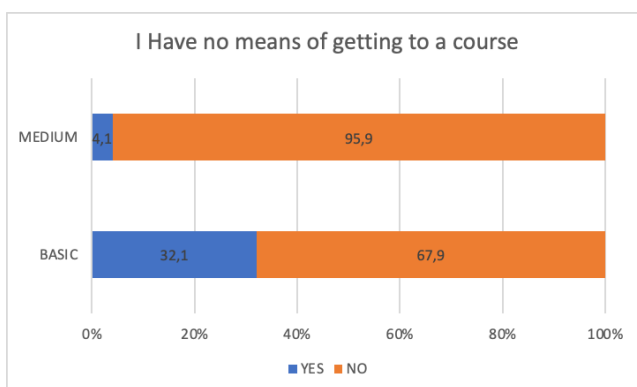
<p>I don't speak English well enough to understand English commands/guidelines used to explain digital devices</p>	<p>8</p>	<p>25</p>
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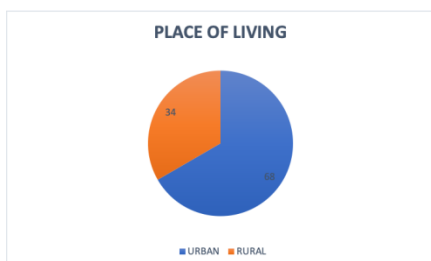
Which of these physical barriers could prevent you from attending a training course on the use of digital devices?	TOTAL	
	LOW (28)	MEDIUM (74)
	NR	NR
I don't see well	5	7
I don't hear well	7	10
I can't sit for long	3	15
Other physical or mental constraints	4	1



Which of these organisational barriers could prevent you from attending a training course on the use of digital devices?	TOTAL	
	LOW (28)	MEDIUM (74)
	NR	NR
I have to take a test to be admitted to the course	5	9
I have to bring my device with me	5	9
I have to pay a fee to participate	9	22
I have no means of getting to a course (no access to public transport, no driver's license, no one to drive me there, etc.)	9	3



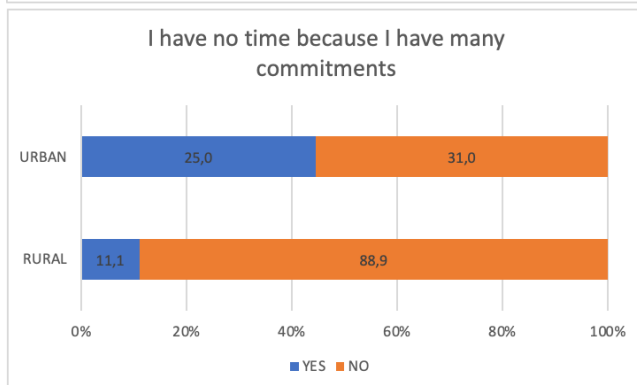
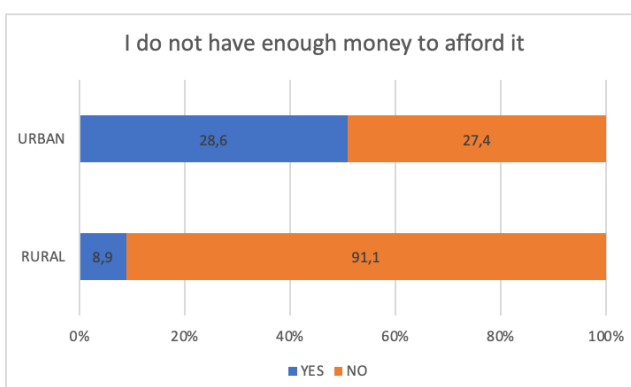
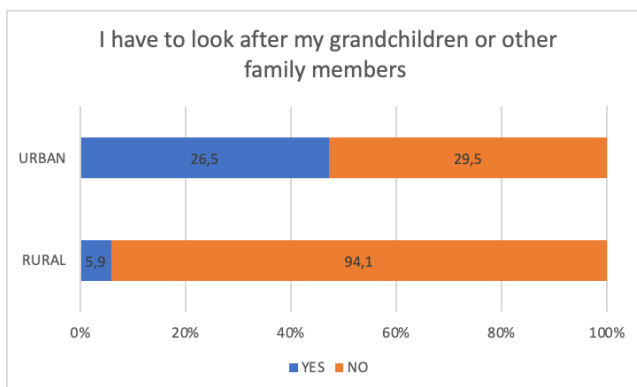
2.3 FOCUS ON PLACE OF LIVING



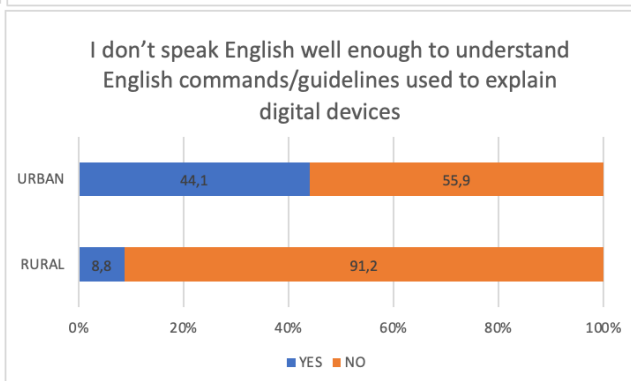
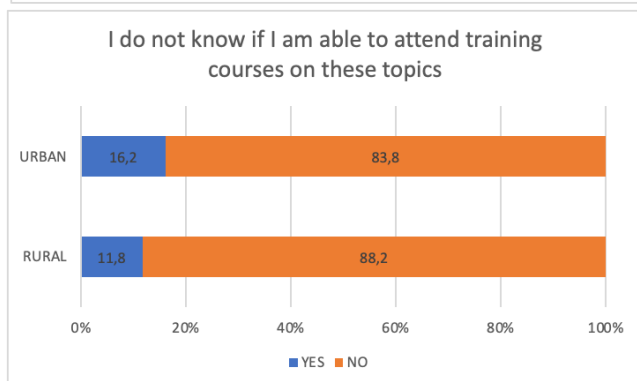
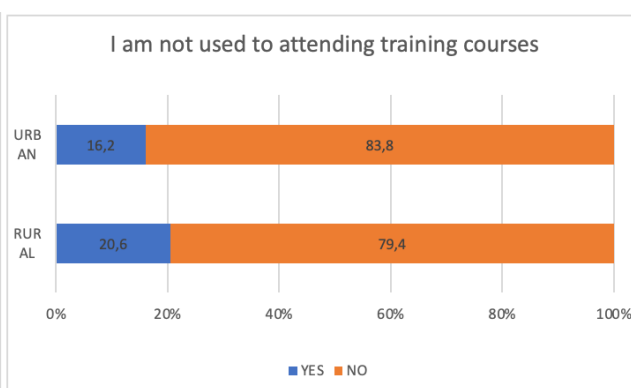
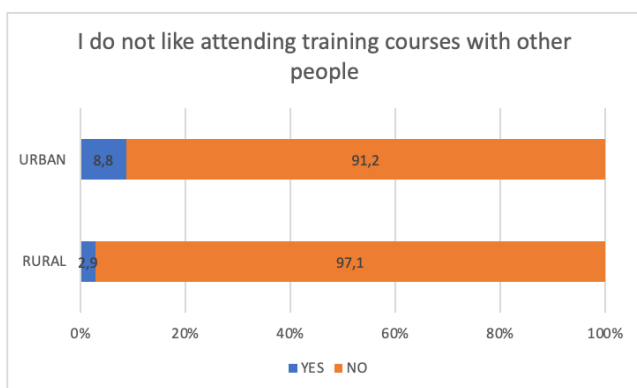
In the following tables we try to understand how the place of living influences barriers. The tables show the number of choices for each item divided by level, seniors could choose one or all of the available options.

The graphs show the percentages for each item, calculated based on the total number of respondents who are living in a rural area (34) and seniors who are living in an urban area (68).

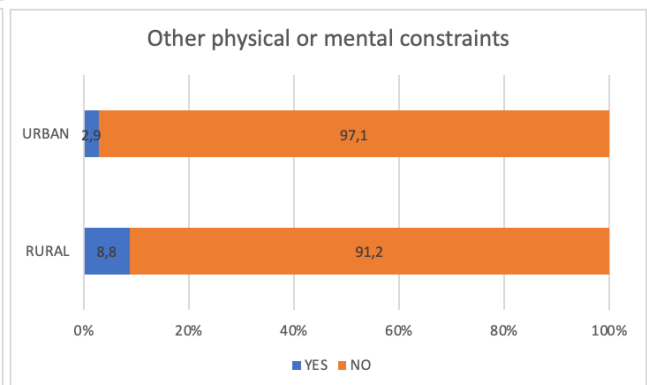
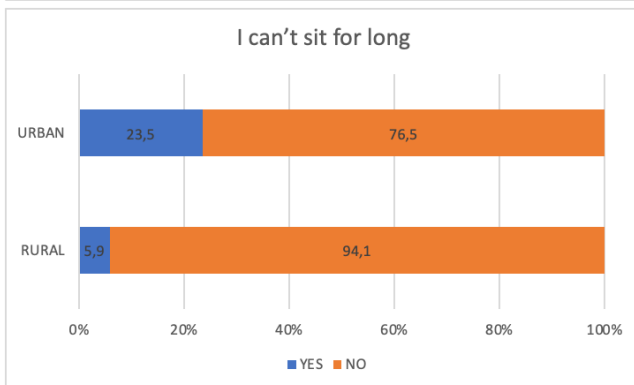
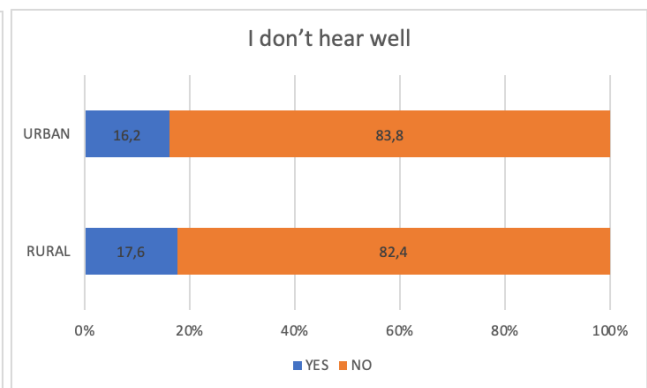
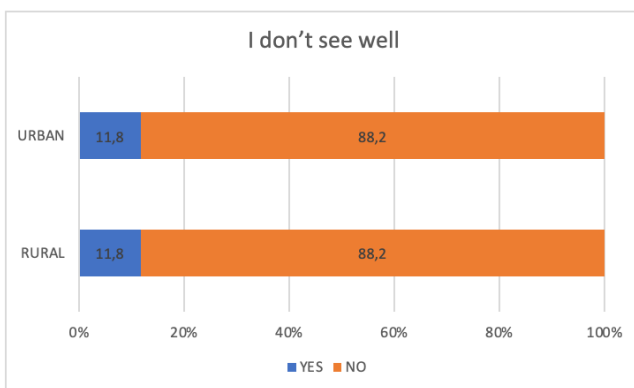
Which of these social barriers could prevent you from attending a training course on the use of digital devices?	TOTAL	
	RURAL (34)	URBAN (68)
	NR	NR
I have to look after my grandchildren or other family members	5	15
I do not have enough money to afford it	9	11
I have no time because I have many commitments	8	11



Which of these personal barriers could prevent you from attending a training course on the use of digital devices?	TOTAL	
	RURAL (34)	URBAN (68)
	NR	NR
I do not like attending training courses with other people	1	6
I am not used to attending training courses	7	11
I do not know if I am able to attend training courses on these topics	4	11
I don't speak English well enough to understand English commands/guidelines used to explain digital devices	3	30



Which of these physical barriers could prevent you from attending a training course on the use of digital devices?	TOTAL	
	RURAL (34)	URBAN (68)
	NR	NR
I don't see well	4	8
I don't hear well	6	11
I can't sit for long	2	16
Other physical or mental constraints	3	2



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DIGITAL IDEA (EL) - Ilias Tanos, Kostas Kitsakis

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