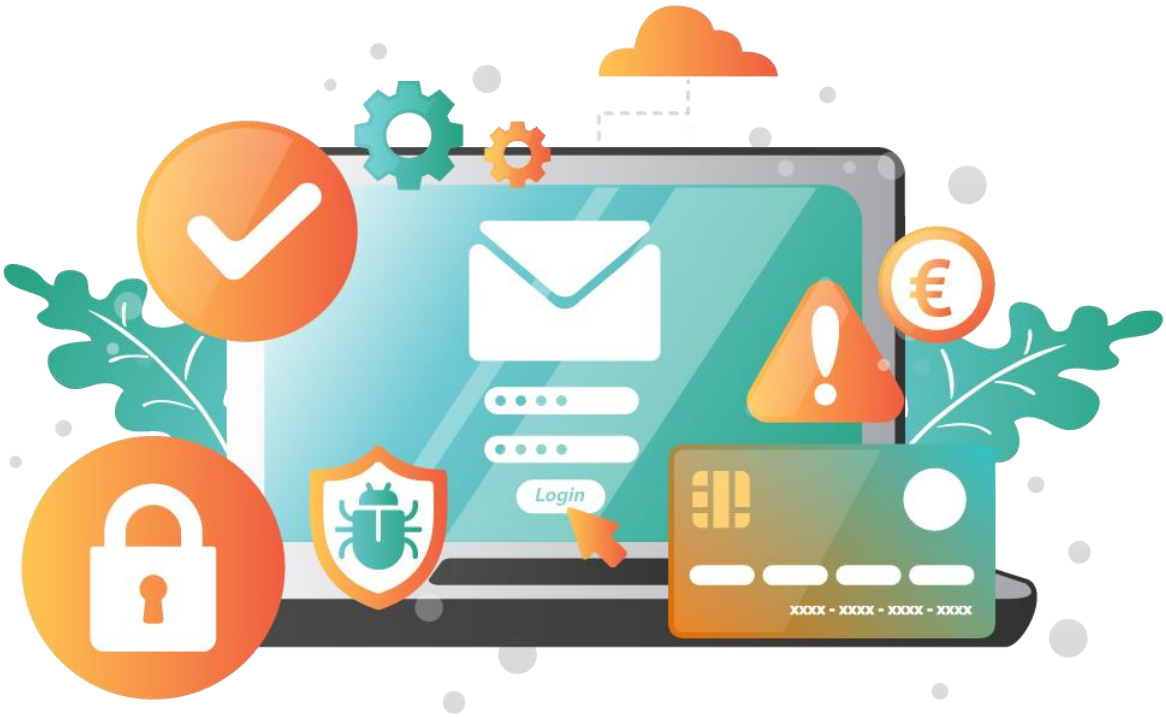
e-protect

e-Protect project



Competency Scale for consumer and data protection skills for the elderly people

Transnational Report

Co-funded by the Erasmus+ Programme of the European Union

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Project Number: 2020-1-CY01-KA204-065949

Partnership

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KMOP	www.kmop.gr
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Introduction

As it has been evidenced by various European reports, there is a strong need to educate EU citizens and the elderly on how to access and engage in online activities by experiencing safe activities. E-protect project aims to address the consumer and data protection needs during the internet use of the elderly people. This will be achieved through elders' familiarization with the use of ICT tools, and by providing them tailored training opportunities that will meet the aforementioned challenges. The project objectives are:

- Enhance capacity building and professionalization of adult educators in regard to training elderly people for consumer and data protection during online activities
- Address the consumer and data protection needs during internet use of the elderly people through their familiarization with the use of ICT tools, by providing them tailored training opportunities
- Improve the overall quality of adult education and specifically of the elderly in the participating countries informed by educational, cognitive, and technological research
- Strengthen the educational practices and reduce inequalities in access to education services for elderly.

This transnational report presents the results of the threefold research approach implemented in all partner countries[1] (i.e., Austria[2]), Cyprus, France, Greece, Ireland, Switzerland). The purpose of this report is to depict in detail the current situation and profile of the target group, identify their needs and learning gaps, and explore training opportunities. As it is evidence in the pages of this report, rich information and findings advocate on confident results and recommendation which will guide the next steps of the project.

The first intellectual output of the project e-protect refers to the development of a Competency Scale for consumer and data protection skills for the elderly during the internet use. These competences which are presented in the last section of this report, were derived from the triangulation of three types of research data (desk research, interviews, questionnaires) to ensure that the scale is reliable and addresses the real needs of the target group.

[1] Specific information for each of these countries is also available at the project website as country reports.
[2] Austria participated in this report only through the desk research.

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1. Profile of the elder society in Europe

Demographic ageing is becoming an issue of major significance in European Union (EU). The consistent low birth rates and life expectancy increase during the last decades, are transforming the European age pyramid towards a much older population structure. Estimations for the coming decades indicate that this trend will continue with several implications and consequences in many areas. For example, it is a major concern for nations to manage social expenditure while working groups diminish and retirees expand steadily.

In 2019, more than one fifth (20.3 %) of EU-27 population was aged 65 and over, a result of 2.9% increase during the last decade. In addition, the share of people aged 80 years old and above of Europe's population is projected to have a two a half fold increase between 2019 and 2100, from 5.8 % to 14.6 %! The median age in Europe now is 43.7 years, meaning that half of the population is above this age (Eurostat, 2020).

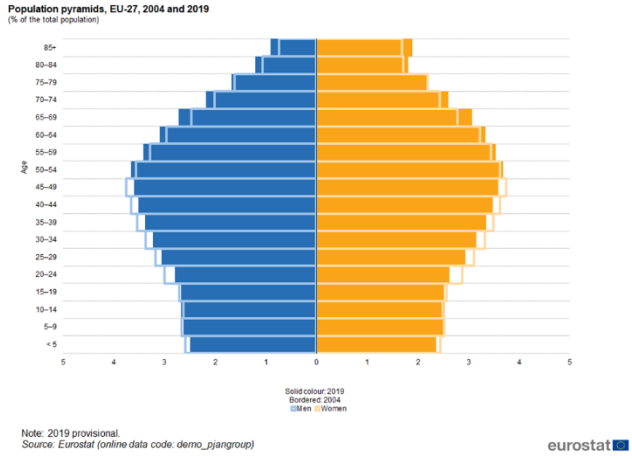

Figure 2. Population pyramid, EU-27, 2004 and 2019 (Eurostat, 2020)

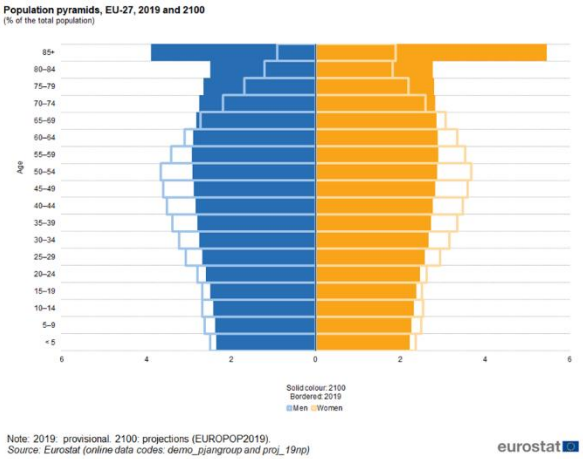

Figure 1. Population pyramid, EU-27, 2019 and 2100 (Eurostat, 2020)

In 2015, Eurostat published an extensive report to make a snapshot on European people and their way of living. Considering the current ageing trend, a chapter was dedicated to the elderly allowing to investigate further e-Protect's target group, understand their profile and make cross-country comparisons (Eurostat, 2015). The data presented below were updated in 2017. In Europe, people reaching 65 years old are expected to live 21.2 and 17.9 years more for women and men, respectively. However, data shows that both genders expect to live the same amount of healthy life years i.e., 9.4.

Regarding project's partner countries, Greece is the only country with a share of elderly above the EU-28 average. This percentage reached 21.3% in 2017 and 22.0% in 2019 of the total national population. On the other hand, Ireland is the country with the lowest percentage of elderly in Europe with just 13.2% in 2017 and 14.1% in 2019. Cyprus has a

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relatively low share as well; however, it is obvious that this age group is increasing in all countries.

Although in Europe one out of three seniors live alone, in Cyprus and Greece there is different trend. In these counties, percentages are well below the EU-28 average, indicating that elderly live alone more rarely. In France, elderly seem to be more independent, with a percentage reaching 37.5%.

In Switzerland, many seniors maintain their economic activity after their retirement, presenting one of the highest percentages in Europe at 18.5% while the average is 9.5%. Similarly, Irish seniors are generally more economically active compared to the rest of European countries. On the contrary, France and Greece present two of the lowest percentage of elderly still working, with 5.0% and 6.1% respectively, indicating that they mostly rely on their retirement.

Elderly's activity is not limited only at work but also in travel. Swiss, French and Irish seniors are markedly more prompt to travel that their counterparts in other European countries, with namely 70.5%, 64.0% and 62.9% correspondingly. In Greece, this share is distinctly well below the EU-28 average at just 22.5%.

Although more information about the internet use will be given in the following section, it is here noted that almost half of the elderly in Europe (45.0%) used the internet at least once a week in 2015. While in Switzerland, France and Ireland elderly appear to be more familiar with the use of internet, in Greece and Cyprus they seem more hesitant. However, these shares are expected to increase more every year.

	EU-28	Cyprus	Greece	Ireland	France	Switzerland
Share of the elderly (65 or over) in 2017	19.2	15.1	21.3	13.2	18.8	18.0
Share of the elderly (65 or over) in 2019	20.3 (EU-27)	16.1	22.0	14.1	20.1	18.5
Share of the elderly who live alone	32.1	17.6	23.9	29.1	37.5	33.5
Share of the elderly aged 65 to 74 years who are economically active	9.5	10.4	6.1	15.7	5.0	18.5
Share of the elderly who travel	48.8	42.8	22.5	62.9	64.0	70.5
Share of the elderly who use the internet at least once a week	45.0	26.0	14.0	40.0	55.0	N/A

Table 1. A look at the lives of the elderly [data updated in 2017] (Eurostat, 2015)

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2. The use of the internet and digital devices among the elderly

Whether at work, school, home or on the move, we often depend on our digital devices and spend a considerable amount of time. Similarly, elderly become every time more familiar with the use of these technologies, which makes us wonder how much they are in control of an appropriate and safe use. Eurostat (2018) released a report titled *Digital Economy & Society in the EU* presenting data that are yearly updated on several aspects of internet use. Browsing, chatting, and online shopping are central thematic areas on this report, considering our everyday activities using information and communication technologies (ICT). This report also covers more specific aspects such as digital skills level and consumer behaviour. Eurostat dataset also allows to look for information by age group and make cross-country comparisons.

Internet users

It is apparent that the number of elder internet users increases every year with fast and stable rates in all partners countries, as well as in Europe in general. Switzerland appears to be the pioneer of the consortium with 84% of the elderly using the internet at least once a week. In Greece, seniors present the lowest percentage accessing internet so often, with just 32%, while Cypriot elderly reached the EU-27 average last year at 57%. In France and Ireland, elderly appear more frequent users of the internet than the average European senior, with 65% in 2019 and 74% in 2020, respectively.

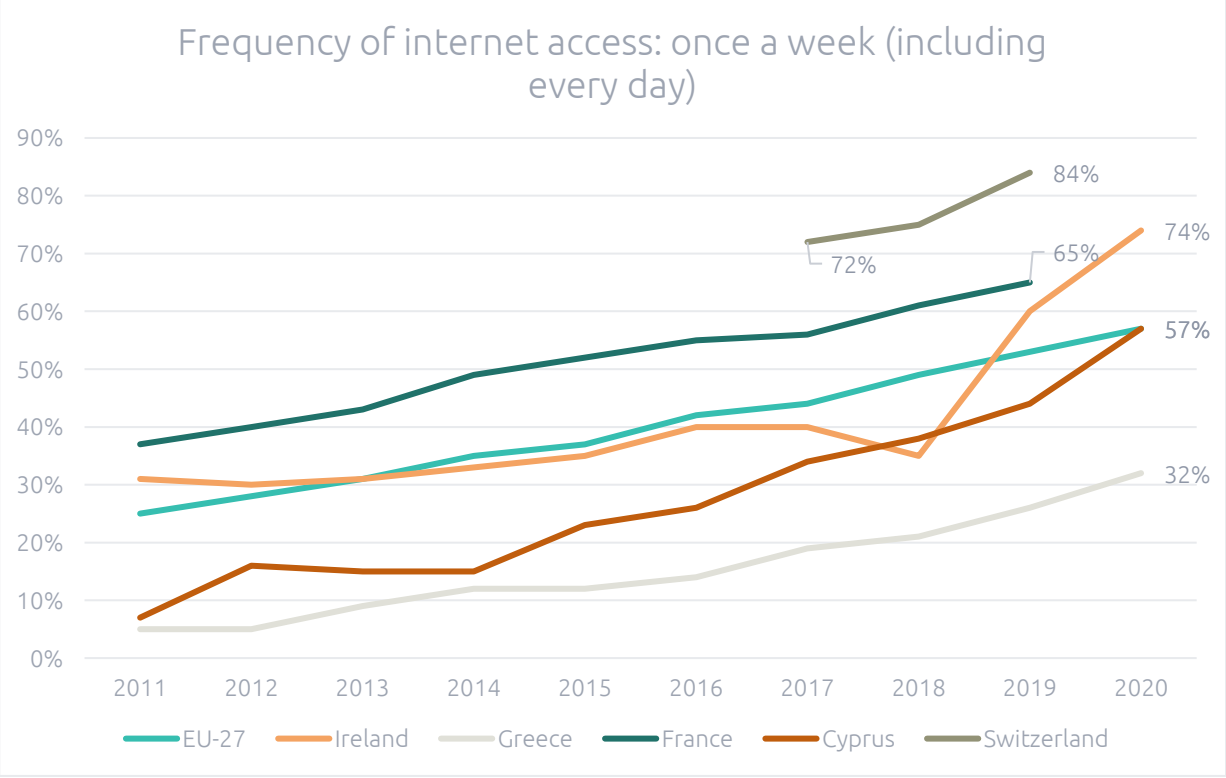

Figure 3. Frequency of internet access: once a week (including every day) (Percentage of individuals 65 to 74 years old) (Eurostat, 2021a)

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Households with internet connection

More and more houses are equipped each year with internet connection in Europe. Figure 4 depicts the percentage of households with internet access in each partner country and EU-27 in three time periods. Only Greece remains below EU-27 average with 79% coverage indicating that less people have access to the internet than the other countries at the moment. Regarding Ireland, France and Cyprus, nine out of ten houses have some type of internet connection today, while in Switzerland almost all residents can go online from home.

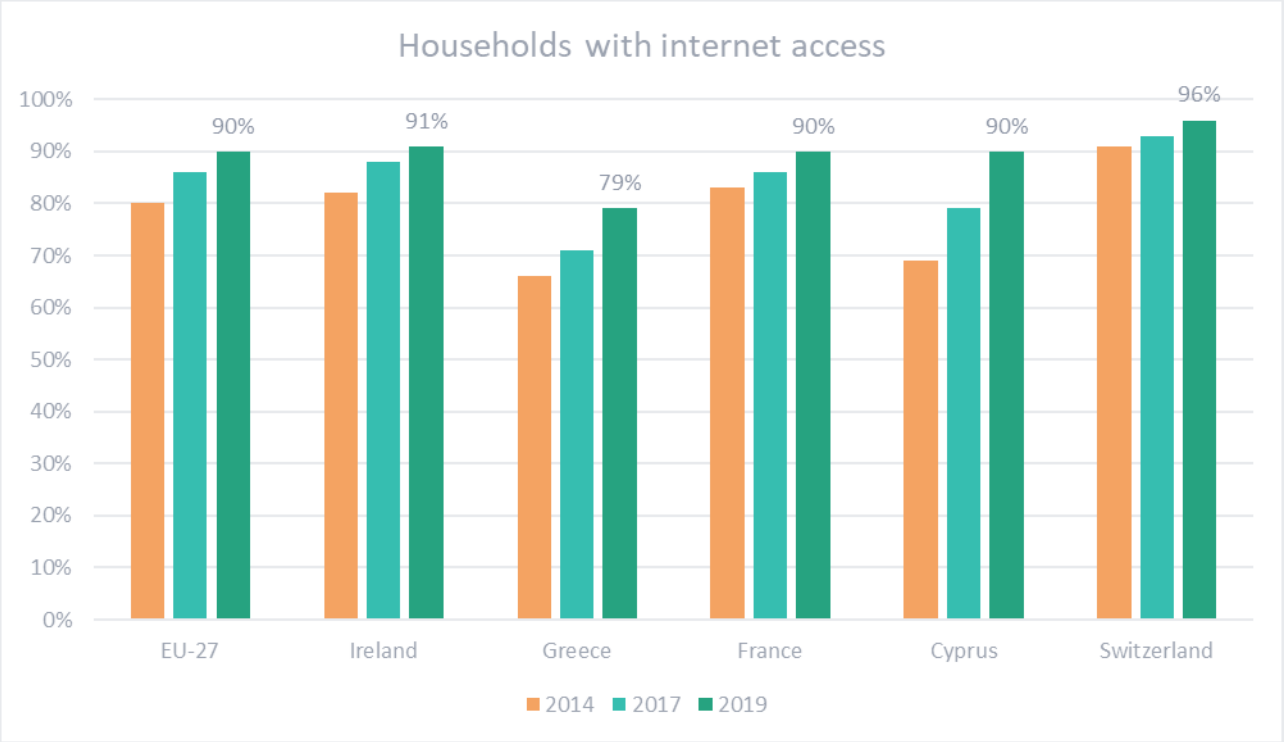

Figure 4. Households with internet access (Percentage of households) (Eurostat, 2021b)

Devices used to access internet

In general, European elderly used to go online from their personal computers than their mobile phones. As shown in figure 5[3], nine out of ten individuals aged 65 to 74 years old who used internet in the last 3 months, use desktop computers, laptops, netbooks, or tablets to access internet. On the other hand, just half of them go online from their smart phone or mobile devices. While the above applies for the EU-27 average, Ireland, Greece and France, this is not the case for Cypriot elderly. In Cyprus, a noticeable larger share of elderly use mobile devices to access internet than the other countries, namely 83% of those who went online in the last 3 months. Accordingly, those who used personal computers were less than their counterparts from the other countries.

[3] Data for Switzerland are not available.

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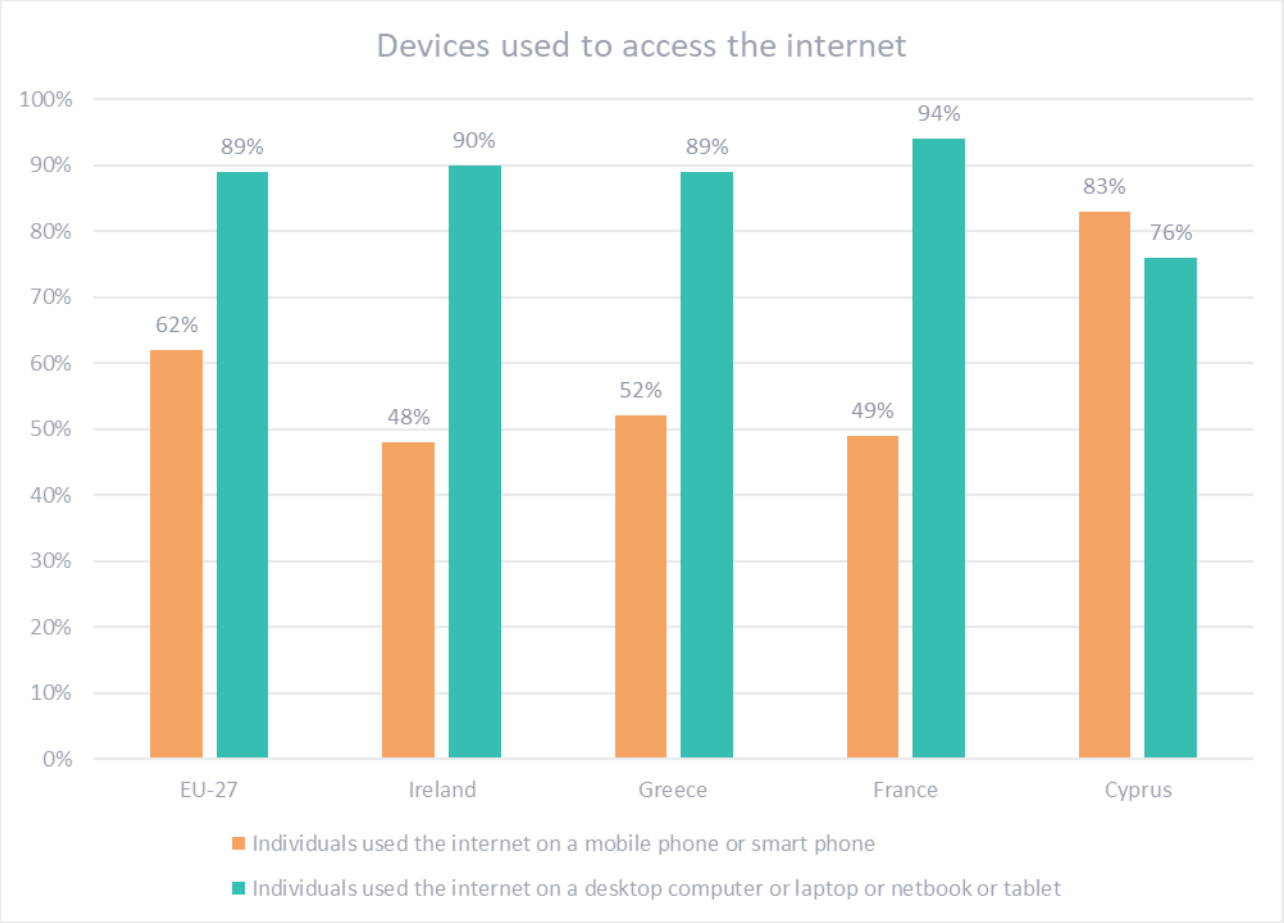

Figure 5. Devices used to access the internet in 2018 (Percentage of individuals 65 to 74 years old who used internet in the last 3 months) (Eurostat, 2021c)

Internet activities

Elderly in each country have different reasons to access internet. Figure 6 presents internet activity of the elderly for 2019 in each partner country, focusing on sever major activities. In France, the most appealing reason for seniors to access internet is sending/receiving emails (86%), while they also acknowledge more than their counterparts the facility to manage their financial and other bank services online (66%). Swiss elderly use to go online for the same reasons (88% and 58% accordingly), but they are also prompted to look for information about goods and services (79%) and read news (75%). A similar pattern is observed in Ireland and EU-28 average, where elderly access internet mostly for sending/receiving emails and finding information about goods and services. In Greece and Cyprus, the most usual internet activity is reading news (84% and 83% respectively) and finding commercial information as well. However, we also observed a higher percentage of Cypriot seniors than other countries, going online for telephoning and video calls (66%) and for participating in social networks (55%). Moreover, Greek elderly seem to appreciate internet more than the other countries for listening to the music (48%). Therefore, different reasons drive elderly in each country going online, in some cases more professional (such as in France, Switzerland and Ireland) and others more personal (such as in Greece and Cyprus).

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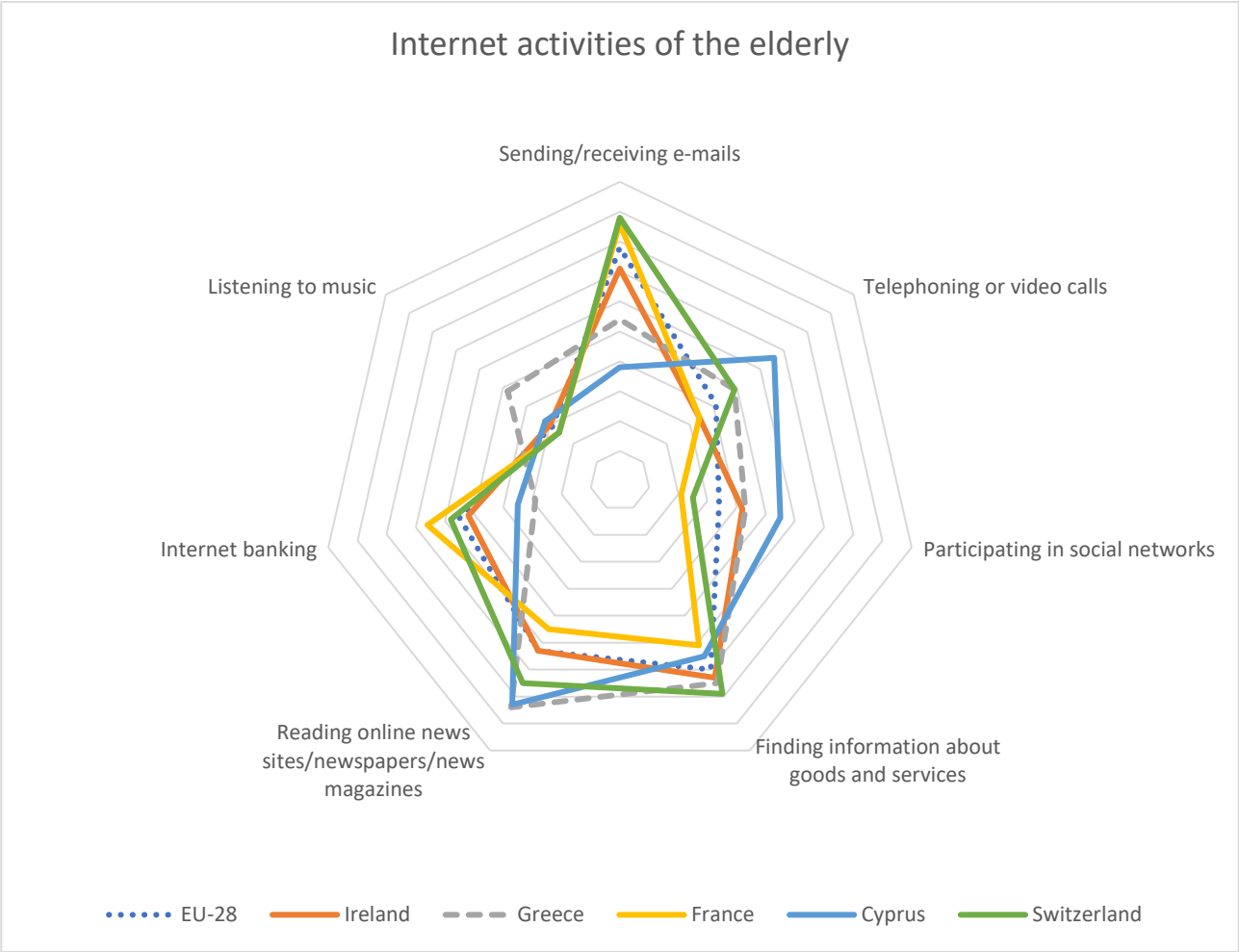

Figure 6. Internet activities in 2019 (Percentage of individuals, 65 to 74 years old, who used internet in the last 3 months) (Eurostat, 2021d)

Internet purchases

Getting into the online shopping habits, more similarities and differences are displayed among elder societies of partner countries. Figure 7 presents the percentage of elder internet users that ordered goods and services online under seven major categories. First, there is a common tendency to purchase services for *travel and accommodation*, which appears the most usual reason in all countries except Greece. The most preferable shopping habit in Greece are ordering *clothes and sports goods*, which is a usual purchase in other countries as well. In Switzerland and Ireland buying *tickets for events* online is a usual activity, however this is not the case for Greece, France and Cyprus. Electronic equipment in Switzerland, France and Ireland is not a typical online purchase but Greek and Cypriot elderly do not hesitate to make such orders. *Households' goods* and *books/magazines/newspapers/e-learning material* appear to be regular purchases in France and Switzerland, however, in the other countries such purchases have a more moderate frequency. Last, ordering *food and groceries* is the rarest purchase in all partner countries.

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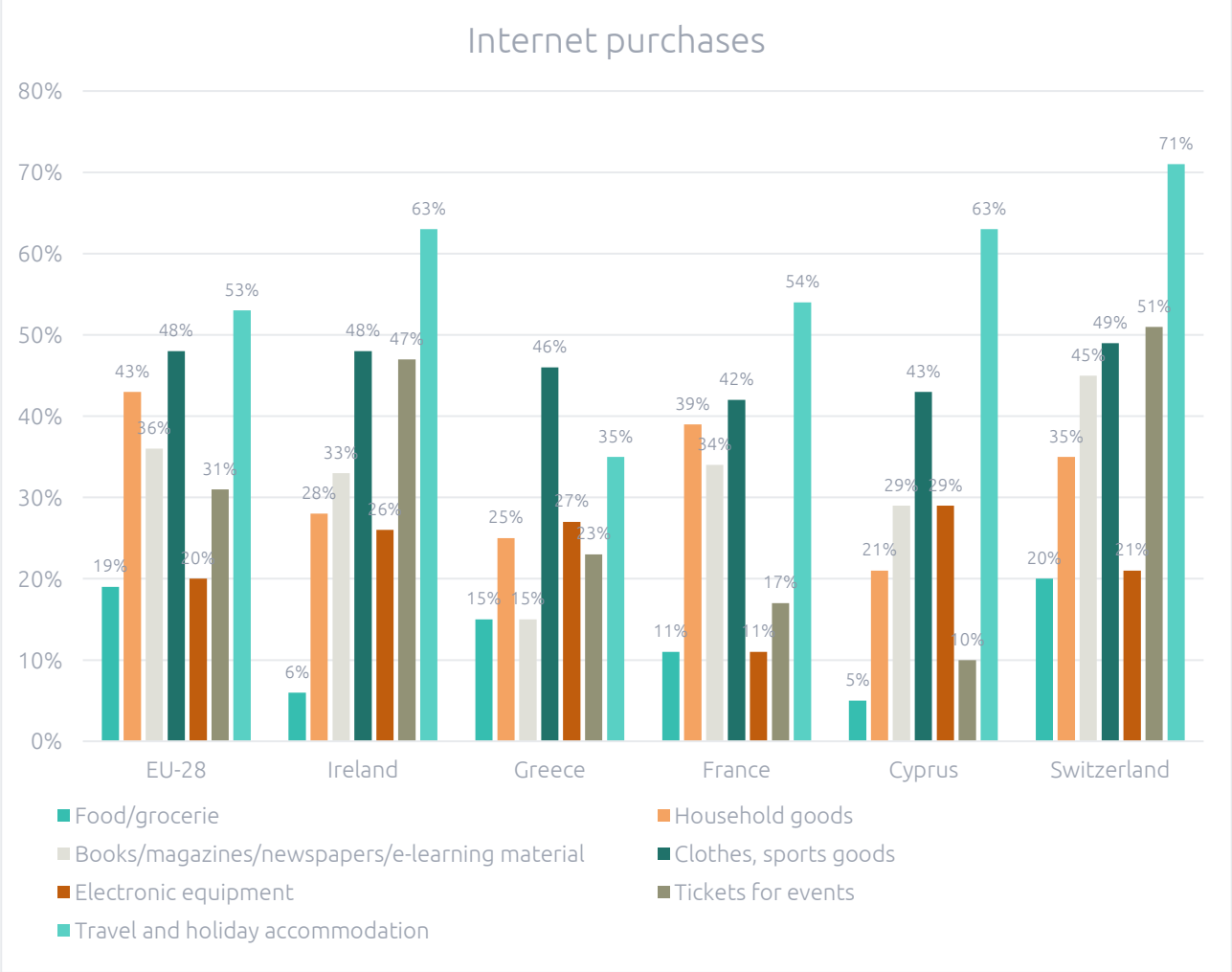

Figure 7. Internet purchases in 2019 (Percentage of individuals 65 to 74 years old, who ordered goods or services, over the internet, for private use, in the last year) (Eurostat, 2021e)

Reasons for not buying over the internet

Figure 8 depicts the reasons given from the elderly for not making purchases online during the last year. The main reason in all partner countries was their preference for shopping in person in order to see the products before purchasing them, out of loyalty to shops or by force of habit. Another common barrier was the concern of payment security when buying online, as well as the lack of relevant digital skills. A less reported factor were concerns on trusting receiving or returning goods, and relevant complaint/redress concerns. These barriers are more visible in Cyprus and Switzerland. Elderly in these two countries face another barrier which was not reported in other countries, and it deals with not possessing a payment card to initiated online purchases.

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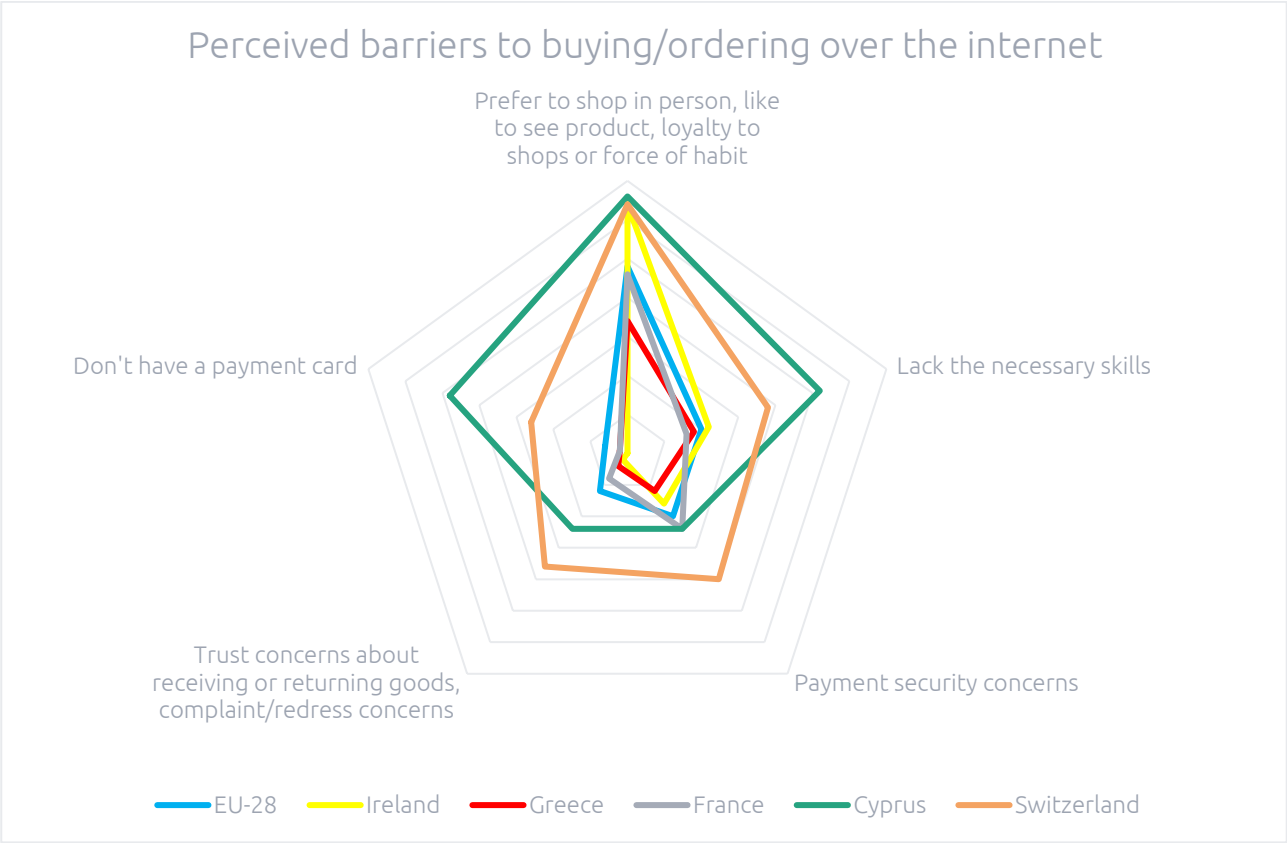

Figure 8. Perceived barriers to buying/ordering over the internet in 2019 (Individuals, 65 to 74 years old) (Eurostat, 2021f)

Reasons for not using the internet

The main reason elderly does not use mobile internet in EU-28 is because they do not need it away from home (82%). Moreover, another important factor relates to lack of competence in using mobile internet because they feel it is too complicated (17%). Less often reported reasons acting as barriers on using mobile internet are high costs and the inconvenience of small screens, with 14% and 10% respectively. However, these results rely on data collected in 2012 and more recent information is not available.

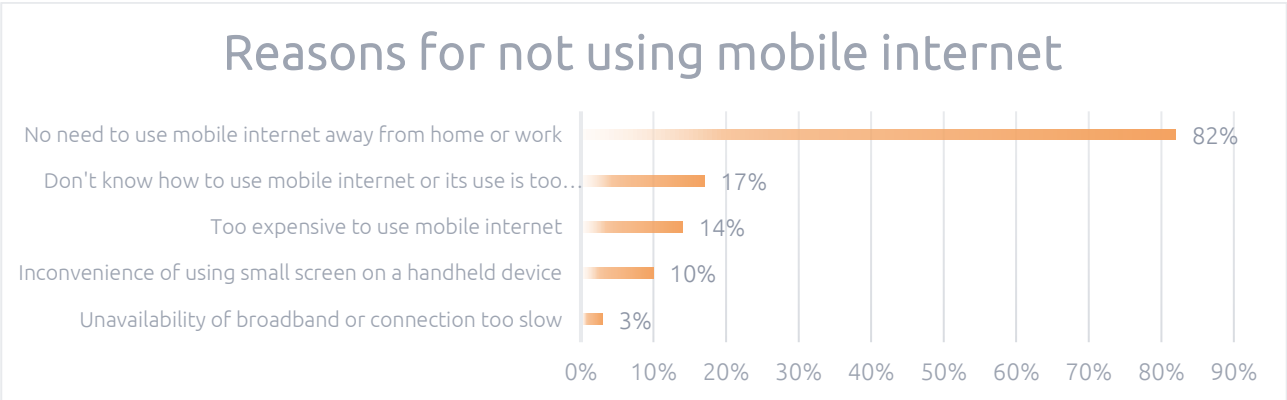

Figure 9. Reasons for not using mobile internet in 2012 (% of individuals, 65 to 74 years old of EU-28, who didn't use a handheld device or portable computer to access internet) (Eurostat, 2021g)

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3. Common threats using the internet

While using the internet is quite beneficial for the elderly people, it also hides a plethora of dangers for the users. Computer security threats are very common nowadays and those who try to exploit the users are very inventive and persistent. According to a recent international survey on cyber safety (The Harris Poll, 2020), almost 500 million consumers have been victimized of cyber-crime in ten countries. Moreover, 43% of them have lost money because of the cybercrime committed. Elder consumers, given the lower extend of familiarity with digital devices and internet in general, are understandably concerned about security and safety issues.

Security threats for consumers

eCommerce sector is literally booming worldwide with b2c sales reaching as far as almost $5 trillion today (Statista, 2020). Retailers and consumers are obliged to provide personal and payment details through the web to initiate the sale. This attracts numerous cyber-criminals to exploit security gaps and invade both parties.

Payment card fraud

This is a method of cyber criminals to invade eCommerce websites aiming to intervene among transactions and produce fake information (e.g., billing address, unsuccessful order, IP addresses etc.). This often takes place on websites that are not well protected and do not have strong verification measures.

Malware

The term Malware is derived from the words “malicious software”. It is very dangerous for any computer that is exposed to it. Malware is pieces of software designed to gain access, or cause damage to a computer network and it comes in several forms: viruses, worms, Trojans etc. Usually, our devices stay protected against malware by using an antivirus software.

E-skimming

E-skimming is sued by hackers to steal personal data (e.g., credit card details) misguiding consumers to external links and portals to pay. This gives them access in real-time as soon as the customer initiates the payment.

Phishing

Phishing is the attempt to obtain personal information (e.g., usernames, passwords, credit card details etc.) by directing users to fraudulent websites that look legitimate. These attempts are usually carried out by emails, text messages, or calls.

Spam

Spam came to mean Unsolicited Bulk Email. Unsolicited means that the Recipient has not given permission for the message to be sent. Bulk means that the message is sent as part of a larger collection of messages, all having substantively identical content. Although it is usually harmless, it can also hide malicious software.

Computer worm

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Computer worms are very dangerous because they can replicate themselves and spread rapidly in a computer or network without requiring human interaction. Worms usually trick internet users and exploit software security holes. A worm, if it infects a device, can corrupt files, steal data, give access to the device to cybercriminals.

Botnet

Hackers launch a specific malware to a computer to be able to control it remotely without your knowledge. They recruit several devices and form a network of computers, which is called botnet, from the words "robot network". With this power hackers can attack corporate or government sites and perform a great number of requests simultaneously, which is also known as a distributed denial of service (DDOS) attack. As a result, the site either goes offline or presents long lag time and consequently cost a lot of money to the corporate by causing loss of customers.

Personal data and privacy

Internet users face threats regarding the protection of their personal data. However, this is not always clear when providing information online. The oldest age groups appear less aware and careful in protection measures and activities. Meanwhile, they are more concerned with higher levels of suspiciousness and/or lower digital competence. On the other hand, newer generations that are more familiar with technology, computers, or smartphone might feel more competent to safely use the internet. However, because they spend daily more hours online it is more likely to expose themselves to online dangers and threats. As shown in the table 2 below, almost half the elderly provided personal information and contact details over the internet. One third of them also provided personal details such as name, date of birth, or identity card number and of course payment details. Considering elderly's level digital literacy and awareness on security threats, there is an imperative need to ensure that they safely navigate through the internet, and they are protected from risks.

	EU-28	Ireland	Greece	France	Cyprus
Individuals provided personal details over the internet (name, date of birth, identity card number)	**38%**	45%	36%	26%	31%
Individuals provided contact details over the internet	**49%**	50%	53%	46%	26%
Individuals provided payment details over the internet	**32%**	45%	23%	32%	20%
Individuals provided other personal information over the internet (e.g., photos, current location, information related to health, employment, income)	8%	5%	7%	6%	15%
Individuals provided personal information over the internet	**57%**	56%	55%	54%	38%

Table 2. Privacy and protection of personal information (in 2016) (% ofIndividuals, 65 to 74 years old who used internet within the last year) (Eurostat, 2021h)

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4. Strategies, policies and programmes for providing relevant education and training

European Commission acknowledges that digital technology can offer significant advantages to the elderly to maintain health, independency, and active citizenship with positive implications to their quality of life. For this reason, it created initiatives towards the digital transformation of individuals, as well as businesses, to strengthen our potential to meet modern society's challenges. One of the main pillars of the Europe 2020 strategy, which set objectives for the growth of European Union, is the Digital Agenda. The Digital Agenda aims to exploit the potential of ICTs to foster innovation, economic growth and progress.

Digital Single Market strategy is a relevant policy consequently built under the Digital Agenda, aiming to open new opportunities and remove barriers of online and offline activities between member states. It strives to ensure a fair, open and secure digital environment for all, and the main priorities highlighted under this policy are:

1. To improve access to digital goods and services
2. To create an environment where digital networks and services can prosper
3. To maximize the potential of digitalization for growth

European Commission also provides funds under Horizon 2020 and Erasmus+ programmes to promote research and innovation for more targeted sections.

The Digital Economy and Society Index (DESI) is an initiative under the umbrella of the Digital Agenda policies, created to evaluate digital competitiveness of EU member states summarizing relevant indicators of their performance. It mainly combines data and information on digital public services, integration of digital technology, use of internet services, human capital, connectivity. For this effort to put pressure for digital transformation, it also utilizes datasets and trends from countries outside the EU forming the International Digital Economy and Society Index (I-DESI).

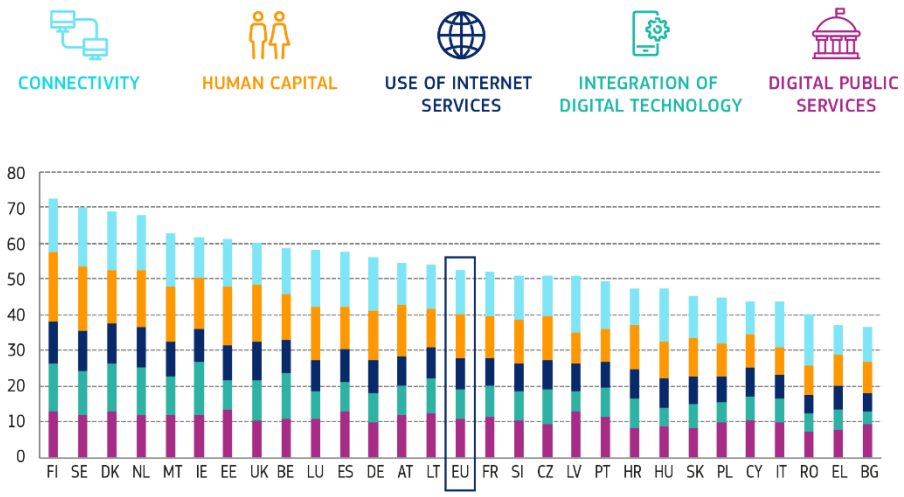

Figure 10. Digital Economy and Society Index (DESI) 2020 (European Commission, 2020)

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The Online Dispute Resolution (ODR) platform is created to support consumers according to legislations on privacy and data protection, in an effort to make online shopping safer and fairer. It can be used by anyone for free to solve resolutions between consumers and online traders. The platform is translated in all EU languages, and it is a great way to get informed about consumer rights, trader responsibilities, discuss solutions directly with sellers or call for the resolution body to handle the case and relevant complaints.

Under the cluster of Digital Single Market initiatives, the European Commission proposed political measures targeted to the elderly, which form the Policies for Ageing Well with Information and Communication Technologies (ICT). It is supported that digital technology can help older people to stay healthy, independent and active in their civil and professional life. The Communication on Digital Transformation of Health and Care aims to empower citizen and build a healthier society underlining three priorities:

a) Secure access to their health data
b) Personalised medication
c) Digital tools for health care

Silver Economy strategy considering the ageing trend of Europe's population, strives to seize the emerged opportunities for economic growth. Silver Economy represents the European economy of the population over 50 years old, which according to its continuous growth, is expected to contribute with over €5.7 trillion. Therefore, demographic change offers unexplored ground for economic potential if it is supported with the right incentives and support measures. Concrete examples that lay out promises of economic growth and jobs creation due to active ageing is travel, work and education for more years, as well as independent living or electronic health systems.

National strategies and synergies in the internet safety

Cyprus

The dangers of cyberspace are vast and creating a cybersecurity culture is one of the thematic areas of the Cybersecurity Strategy of the Republic of Cyprus, which is currently being reviewed. However, this strategy is directly targeting children, educators, and parents, intending to help children make better use of the internet and develop children's horizontal skills (Digital Security Authority, 2021; Deputy Ministry of Research, Innovation and Digital Strategy, 2020).

For increasing awareness and providing easier access to resources on the internet safety, a website has been created where people can access documents and audio-visual material to find out how they can navigate the internet more safely. The website also includes regulations and strategies on cybersecurity, events, videos, a free line for help and complaints, and any other relevant news (Cyprus Pedagogical Institute, 2021).

France

National campaigns regarding internet safety are very well developed in France. Citizens can call a special number in case they are victim of an online fraud. Citizen can find more information and further details on the relevant website developed by the French

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government. There is also a governmental campaign aiming to raise awareness on cyberbullying prevention and provide assistance to young cyberbullying victims. However, this campaign is targeted to young people and not seniors per se.

Private campaigns also exist, notably led by senior retirement homes. One example is this campaign led by Senectis giving seniors information on their rights online, data protection and safety. This includes advice on safe password, on shopping online and on avoiding spams.

Campaigns are mostly implemented online without utilizing other media (e.g., television, radio, newspaper, flyers). National campaigns target citizens in general or youngsters but not seniors in particular. Nevertheless, the fact that senior retirement homes are very active in this domain is seen as a positive element.

Greece

Greece has designed a National Strategy for Cybersecurity 2020-2025, which includes the measures to effectively protect digital governmental infrastructure from online threats, as well as the security of citizens and businesses. The interventions planned refer to 5 main aspects:

- Functional cybersecurity governance system
- Fortification of critical infrastructure, security, and latest technologies
- Optimization of incident handling, fight against cybercrime and privacy protection
- Modern investment environment with emphasis on research and development
- Skill development and promotion of awareness

Switzerland

In Switzerland, the majority of existing offers to promote basic ICT skills are supported within the framework of special national laws and are therefore, co-financed by the Federal Government and the cantons. The "Adult Education Act" has been in effect in Switzerland since the beginning of 1 January 2017. On the basis of this law, the Swiss state offers financial support for Adult Education-programmes in the area of basic skills, which includes ICT skills.

Beyond the legal, goals and measures have been formulated in the Federal Council's "Digital Switzerland" strategy and the “e-Inclusion action plan”. Both have a recommendatory character and do not provide resources for implementation.

- “Digital Switzerland is a strategy, where the Federal Council formulates goals in order to consistently use the opportunities of digitalisation in all areas of life. The Swiss population should be made fit for digitalisation, which is why the education system is assigned a central role in imparting these skills.
- e-Inclusion Action Plan: The e-Inclusion Action Plan 2016-2020 of the "Digital Inclusion Switzerland"-network defines various fields of action to promote equal opportunities and the participation of all. One field of action is the promotion of ICT skills. The measures proposed

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Austria

The National ICT Security Strategy Austria 2012 defines Austria's position and commitment to the sustainable development of ICT security within a European context. Overall, the strategy seeks to ameliorate Austrian ICT infrastructures and structures to strengthen cybersecurity competence through a network of stakeholders as well as increase awareness among Austrian citizens (Digital Austria, 2012).

Education and Research includes ICT education at school and considers ICT security an important element of adult education. The elderly populations as defined in the e-protect project are also listed as a key target group: the 65+ generation (Digital Austria, 2012).

Consumer and data protection national policies

Cyprus

In line with EU regulations, in 2018, Cyprus published a law that protects natural persons regarding processing their data and the free movement of those data. The Commissioner for Personal Data Protection is an independent and public body that monitors the implementation of GDPR and other relevant laws and offers relevant information to the public and data controllers. It provides information regarding laws, guidelines, and data breaches among other things, and it is also a representant of the Republic of Cyprus at various EU Committees (Commissioner for Personal Data Protection, 2021).

France

National campaigns regarding data protection and consumer rights online are very well developed in France. French government attempts to give internet users information about their rights under the European regulation GDPR.

Regarding data protection and privacy, the national authority for data protection (CNIL) is very active. Through its relevant campaign aims to provide advice to the public for data protection & privacy online, including how to manage emails, photos, videos, how to communicate online, how to manage browser history, how to verify information about yourself, how to use pseudonyms etc.

Another campaign provides an overview of online consumers' rights including issues of buying in UK websites after the Brexit, ordering products online, deliveries by the post, labels applied to online platforms, litigation with an online platform, online service provision and the right of withdrawal. It also compiles information of all the European and national laws regarding online shopping and consumer rights.

Finally, a private campaign, organized by the producers' syndicate UNIFAB raises awareness on intellectual property rights and counterfeited products.

Greece

Regarding the protection of citizens' data, Greece follows the European regulation GDPR. This legislation guarantees the protection of personal data wherever these are collected and preserved. All private companies and public institutions are obligated to abide these

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rules if they are based or offer services inside the European Union's borders. Every time a company or institution in European Union asks for, uses, reuses, or processes personal data must ask the person, whose data are asked, to give his/her clear permission.

Switzerland

The "Federal Data Protection Act" regulates data protection for the federal authorities and for the private sector. At the level of the cantons, the respective cantonal data protection law applies. Compliance with the Federal Data Protection Act is monitored by the Federal Data Protection and Information Commissioner and their secretariat. However, the legal level of data protection in Switzerland is insufficient compared to the European environment. The data protection Act was valid up to August 2020, dated from 1993. This explains the inaccuracy addressing the problems prevailing today in the area of the internet and digital communication. In September 2020, the Swiss Parliament passed the revision of this law adapting it to the EU-level and to the modernised data protection convention of the Council of Europe.

While in other countries consumer protection organisations are often substantially supported by the state, in Switzerland private organisations represent the interests of consumers vis-à-vis business, politics and the public. Their activities are self-financed to a large extent (through membership fees, donations or own publications). In recent years, the organization "Consumer protection" has increasingly addressed data protection concerns and advocated for strong and enforceable rights for consumers regarding their personal data on the internet.

Austria

The National ICT Security Strategy Austria 2012 proposed campaigns using the following themes:

- Safe online banking
- Internet guide for senior citizens
- Consumer protection on the Internet
- Data protection provisions for customers

The Strategy also seeks to standardise minimum security standards for ICT security and data protection to ensure effective security and establish that present requirements are mutually understood by relevant stakeholders (Digital Austria, 2012).

Best practices and good examples at a national level

Cyprus

A good example of actions taken to ensure internet security in Cyprus is the CyberSecurity project. CyberSecurity offers information about internet safety, a helpline for questions, and a hotline where people can report issues.

ProADAS is another European project which aims to enhance the digital competences and skills of the elderly, by offering educational practices and learning materials to professionals working with them.

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CSICY is a recent project co-funded by the European Commission that proposes the design and development of an inclusive, interactive, and user-friendly digital platform to equip and improve digital health literacy for the elderly European population (over 50 years old).

France

The association *We Tech Care*, active in the domain of ICT education towards the general public, has created a website, Les Bons Clics, with online resources and material. A particular page is dedicated to online security and another is dedicated to data protection.

Greece

To educate and effectively protect citizens during internet use, several bodies implement online courses free of charge available to all. Some indicative examples are:

Digital citizen's academy is an initiative implemented by the Ministry of Digital Government and it intends to improve citizen's digital skills.

Edu-gate is a website of the Ministry of Education and Religions' Education Portal that offers educational material for a variety of subjects, including online safety.

Greek Safer Internet Center is a center operating since 2016 under the auspices of the Foundation for Research & Technology founded by the Ministry for Education. The center offers extensive material regarding the use of internet and online safety.

Switzerland

In Switzerland, there are several organisations that offer regional digital literacy courses with different levels of difficulty:

Pro Senectute is the largest professional and service organisation for seniors in Switzerland. It offers introductory courses for seniors in the use of computers, mobile phones, smartphones or tablets and the use of the internet.

The Adult Education Centres are central pillars in Swiss adult education. Since summer 2014 they have explicitly focused on the basic skills of adults such as ICT-Skills. Correspondingly, the Adult Education Centre in Basel offers computer courses for seniors.

The volunteer organisation "Internet and Computer Corner" is an open computer instruction offer for residents of the retirement centres of the city of Zurich and other interested senior citizens of the corresponding neighbourhood.

The private company SurfingSenior offers different computer courses for senior citizens. They only work in small groups to ensure the greatest learning effect.

Austria

The Digitalisation Strategy for Austria has specific priorities, a timetable, a monitoring system, and key indicators. Moreover, several public and private sector organisations signed the Digital Competence Pact to foster the digital skills of numerous target groups including seniors above 60. Austria's electronic identification systems comply with high technical and legal security standards (OECD, 2019).

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Various projects beneficial to building ICT competencies within the elderly population have taken place (Winkler & Spreitzer, 2017), such as:

- training courses for tablet computer use (Vorarlberg),
- "Aktion Dialog", free Internet courses (Upper Austria) for senior citizens,
- computerias, meeting points where secondary school students offer Internet courses to senior citizens,
- intergenerational ICT courses known as 4everyoung as well as "Grandma's surfing, Grandpa's googling".

The Ministry for Transport, Innovation and Technology has pursued a broadband campaign to make ultrafast broadband internet access available across Austria, aiming to overcome the urban-rural digital divide and ensure digital inclusion, particularly for senior citizens. The Federal Chancellery's project Seniorkom – connecting generations, supports free courses which facilitate internet use by older persons (Winkler & Spreitzer, 2017).

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5. Field research

As stated before, partner countries conducted a field research to capture the current situation in their country on the project topics, acquiring real and handful results. For this reason, a brief questionnaire has been distributed to adult educators/trainers to identify the training needs of the elderly, and a series of interviews with adults over 65 to better explore their attitudes and beliefs on topics related to online consuming and data protection. The cumulative results from all countries are presented below. Specific information for each country can be found in the country reports (available here).

Questionnaires (Quantitative data)

E-protect project partners distributed a questionnaire (Annex 1) to **122 adult trainers** and educators who work directly with people over 65 years old (completion rate: 86%). It is noted that during the effort to approach the sample, the age range of their learners has been widened up to adults, in order to reach the large target number of responses. The purpose of the questionnaire was two-fold. On the one hand, it attempted to identify the training needs and challenges that the elderly people face when it comes to training and education using digital means as they are perceived from their educators. On the other hand, through the questionnaire another attempt was to identify the competences and practices of adult educators with a clear and regular enough statements on how to guide educational action. The questionnaire was distributed online in five countries: Ireland, Switzerland, France, Greece, and Cyprus. In this report, the results are presented based on the aggregated data representing the sample on its total. National-specific results can be found in National Reports. As shown in figure 11, due to the fact that two partners from Cyprus are part of the consortium, Cyprus respondents formed the one third of the sample (40 responses).

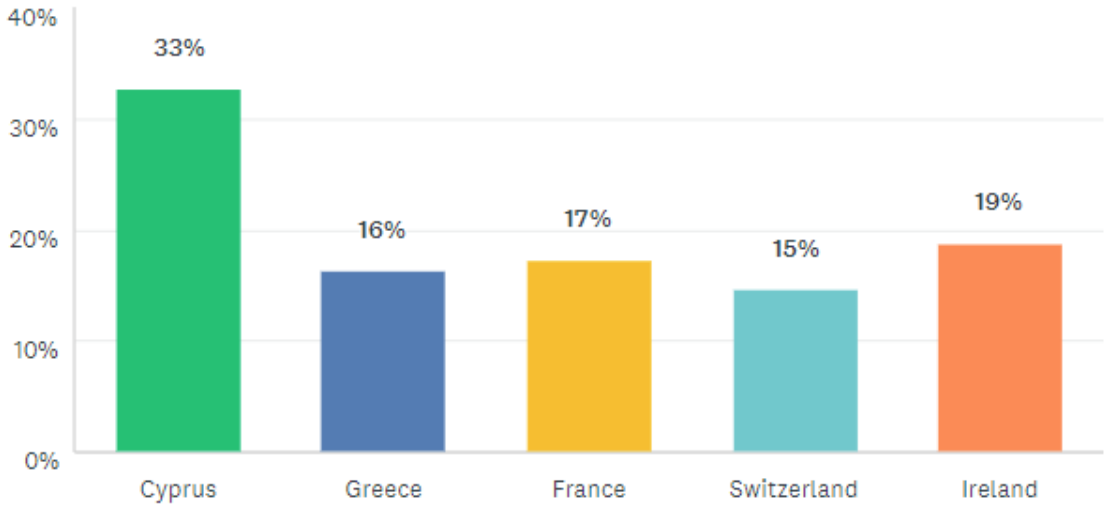

Figure 11. Please select country

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Respondents include professionals from numerous sectors. Many of them work in more than on field forming a diverse sample offering a variety of training and services to the elderly. Participants were able to select more than one category of training. However, as shown in figure 12, the majority are practitioners in lifelong learning development (50%) which is broad category of training. Another large share offers digital skills training (43%), which is the focus of the project therefore their contribution to the data collection have been valuable. Other popular categories of education and services offered by the sample are leisure activities (tours, travels, events), skills training (e.g., music, art, crafts, sewing etc.), personal care, health (health, nursing, rehabilitation), and entertainment (sports, theatre, dance, yoga, etc.).

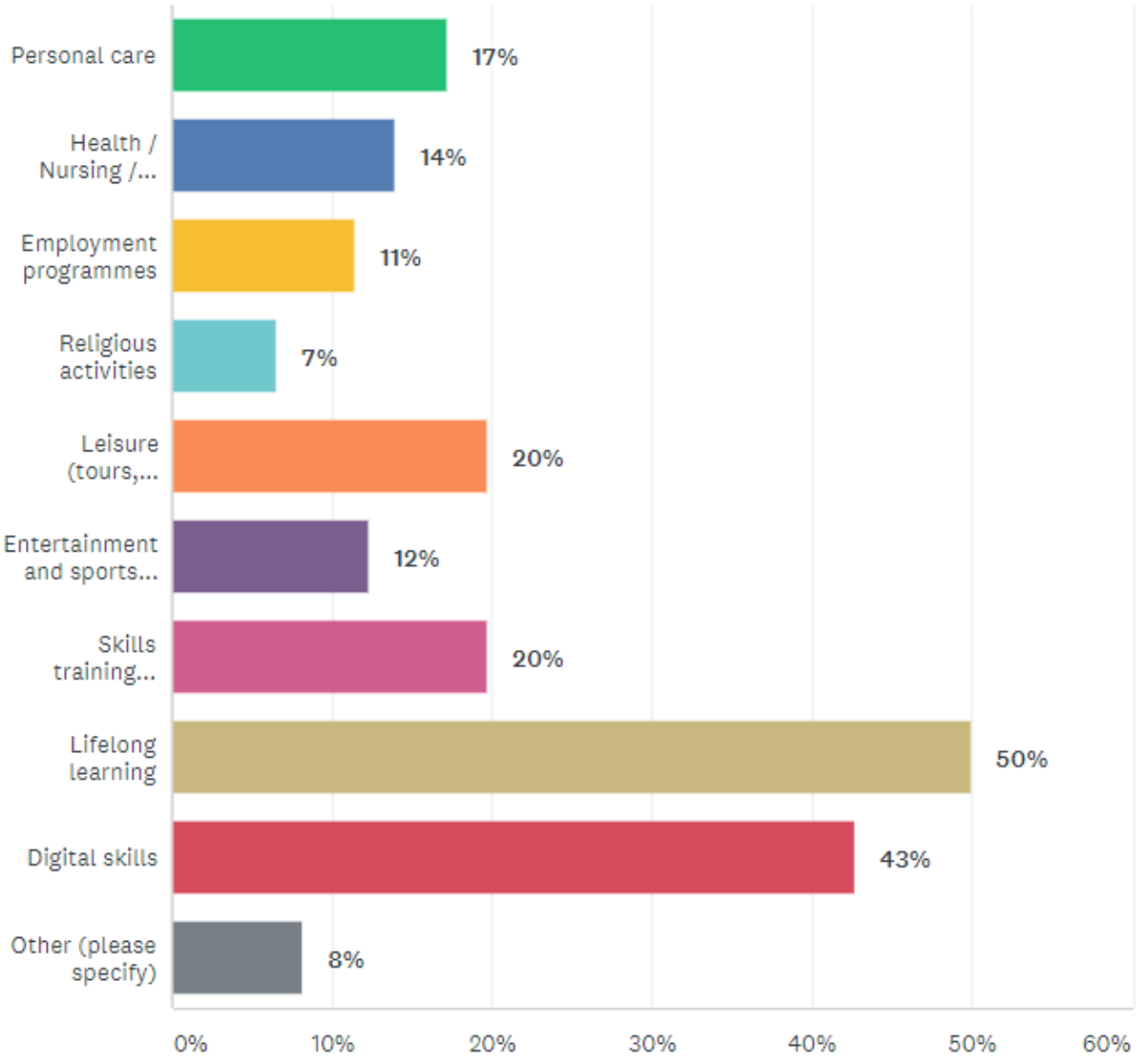

Figure 12. What kind of education/training do you offer to the elderly? (Select all that apply)

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In line with the primary goal of the questionnaire, participants were asked about the most important challenges of the elderly that might affect their participation in digital skills training (on a list of items with a 5-point Likert scale). The most important factors according to adult trainers, as shown in figure 13, is elderly's lack of self-competence in digital settings ($\bar{x} = 3.97$) and low level of education/basic skills ($\bar{x} = 3.47$). These two factors are interconnected in some way, indicating a multidimensional issue addressing not only that they are not familiar with new technologies, but also that they do not have the appropriate basis in terms of skills and knowledge to build upon. Such issues in combination with their lack of motivation ($\bar{x} = 3.04$), are not easy to be combated as upskilling is a process that required simultaneous steps from more than one levels (e.g., individual, educators, policies etc.). Interestingly, the next challenge that affects elderly's participation in digital skills training is its low perceived usefulness ($\bar{x} = 3.28$), meaning that they do not value that much any knowledge and skill for the digital world. Health-related issues were also a concern of adult educators forming a group of limitations, such as age-related issues (e.g., eyesight and hearing; $\bar{x} = 3.26$), health issues (e.g., diseases; $\bar{x} = 3.11$) and physical mobility limitations ($\bar{x} = 2.93$). As all answers, social isolation had also received a relatively high weighted average ($\bar{x} = 3.15$) giving the sense that all the reasons addressed are important barriers for elderly's participation in such trainings.

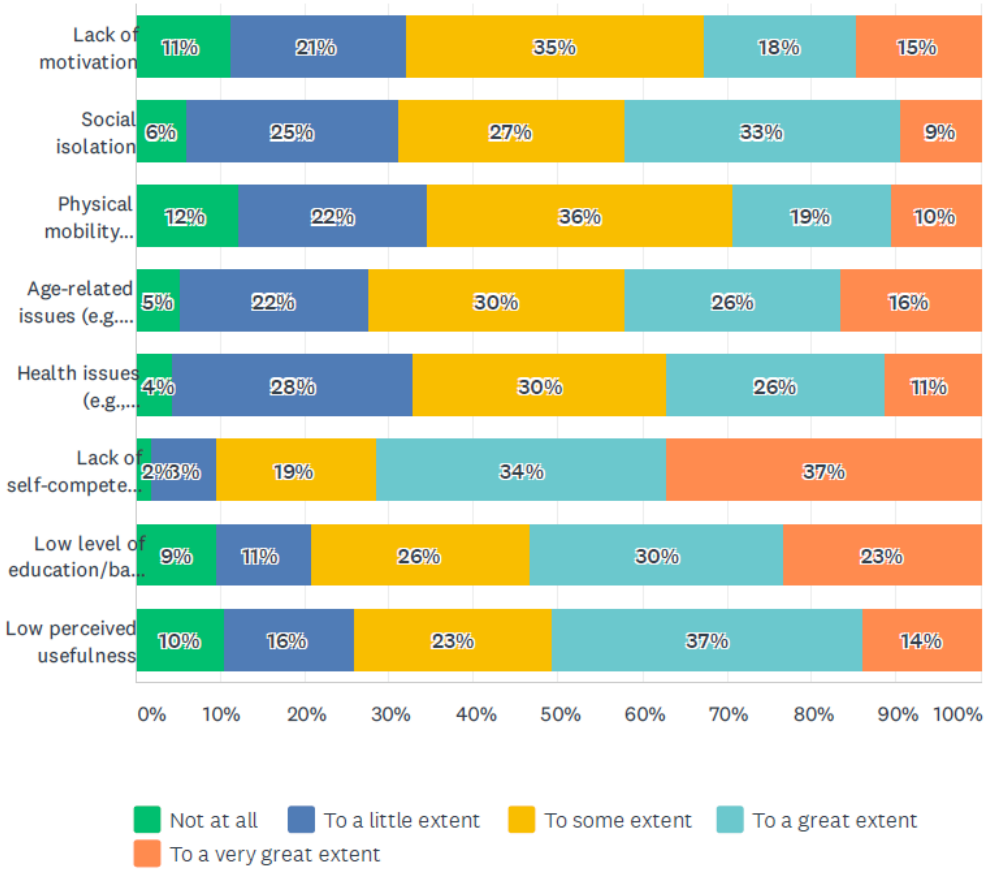

Figure 13. To what extent the following challenges affect the participation of the elderly in digital skills training?

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Next, adult trainers were asked to mark on a 5-item Likert scale to what extent the following teaching practices respond to the needs of the elderly. As shown in figure 14, step-by-step demonstrations ($\bar{x} = 4.52$) were considered most effective, along with hands-on approaches ($\bar{x} = 4.30$), learning linked to real-life experiences ($\bar{x} = 4.29$), and individual support ($\bar{x} = 4.27$). Similarly, the encouragement of active participation ($\bar{x} = 4.10$) is considered important to engage them during trainings. Taking into consideration elderly's level of basic skills, adult educators also agreed on using approaches such as scaffolding (build with small, manageable steps) in order to support better the progress during lessons ($\bar{x} = 3.93$). On the same spirit, adult learning principles (some of them already included in the given list) were also consider a good resource to have in mind when teaching people over 65 years old, as a helpful method during the accumulation of new knowledge ($\bar{x} = 3.59$). On the other hand, online and blended learning are not perceived very effective ways of learning according to adult trainers ($\bar{x} = 2.71$ and $\bar{x} = 3.15$ respectively).

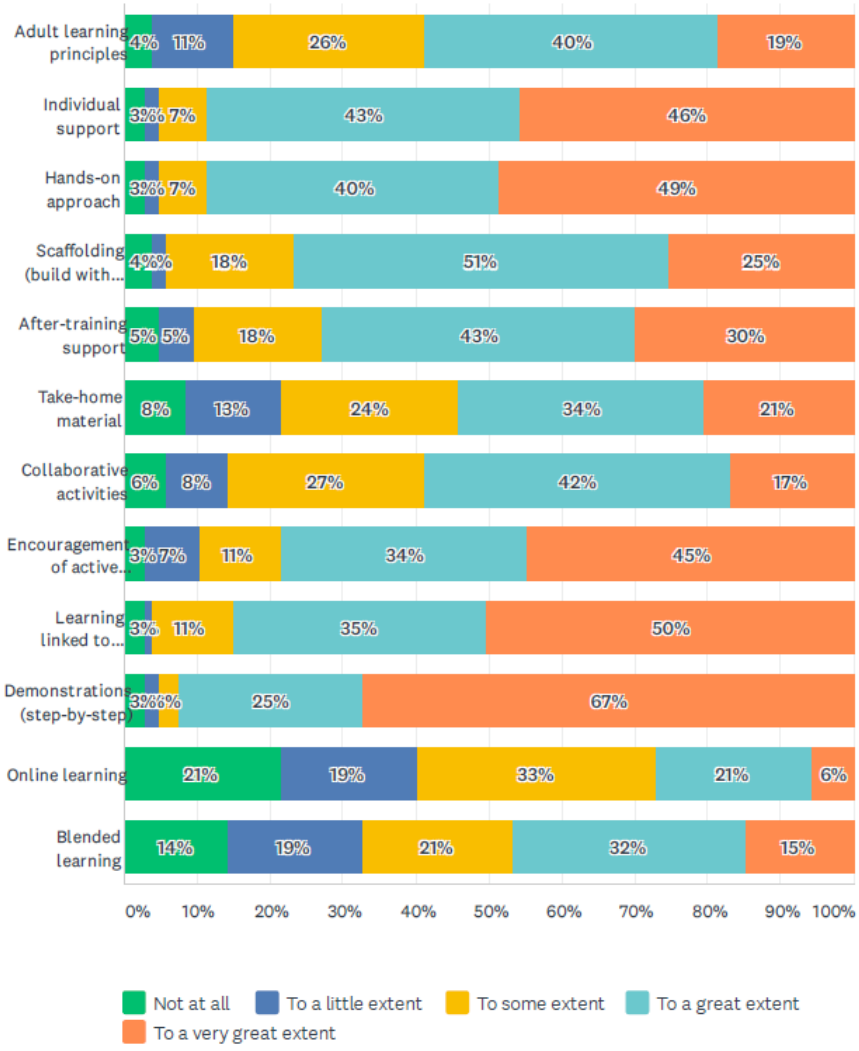

Figure 14. To what extent the following teaching techniques/practices respond to the needs of the elderly during digital skills training?

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Regarding the required competences of trainers that facilitate the offering of digital skills training, all given options were considered important. All options aggregated means above 4 on a 5-point Likert scale ($\bar{x} > 4.00$). As shown in figure 15, soft skills such as patience, communication skills, empowerment, and compassion were given the most merit. Furthermore, content-oriented skills (digital skills and subject specific knowledge) are also beneficial. However, it is clear that interpersonal skills are valued much more than the technical ones during the trainings with elderly. But in no case, any other skills should be considered uncritical.

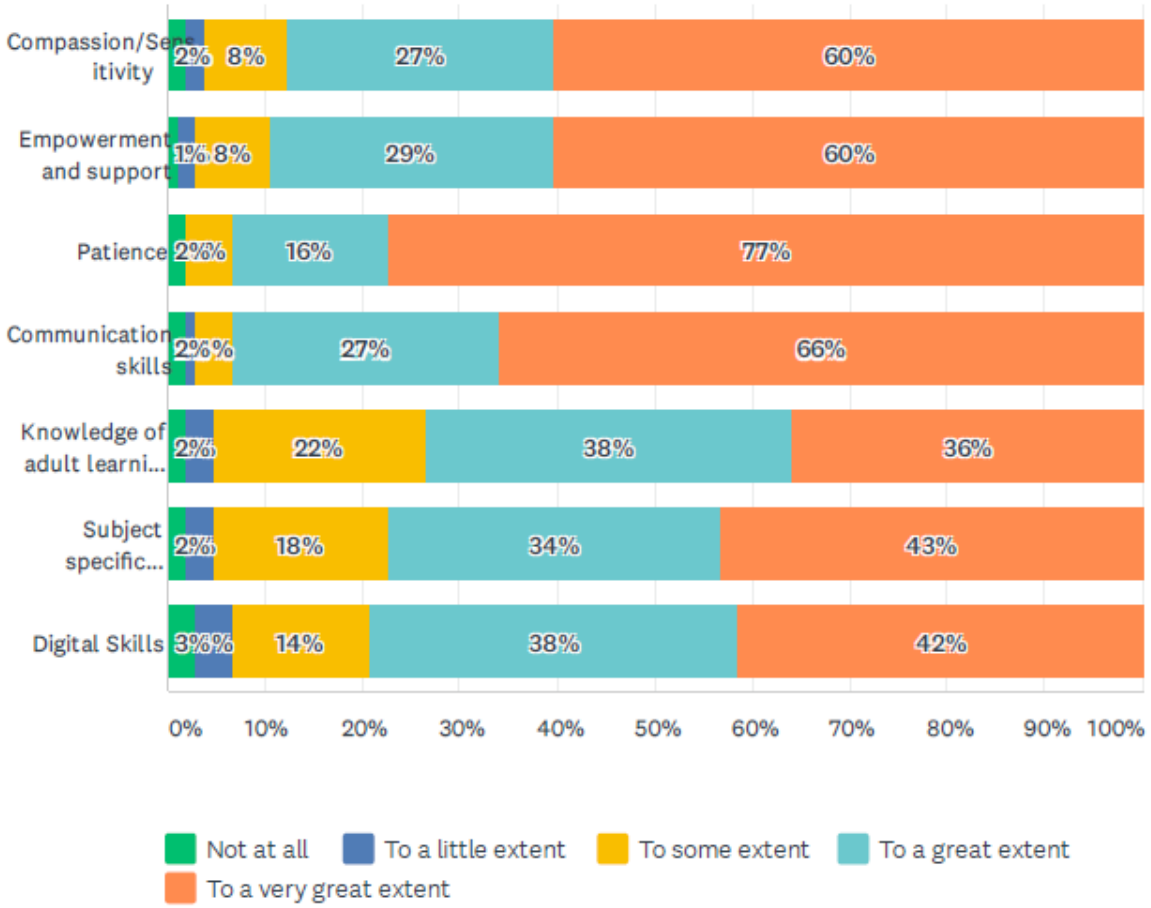

Figure 15. To what extent are the following competences of trainers necessary during digital skills training for the elderly?

The questionnaire included two more questions regarding the competence of adult trainers and the elderly on the three thematic areas of the project (i.e., Online consumer behaviour and protection, Online payments and transactions, and Online data protection, privacy and security). In the case of themselves, respondents feel more competent on payments and transactions compared to the other two categories ($\bar{x} = 3.64$). However, as shown in figure 16, around half of them is competent in all areas. In the case of the elderly, as shown in figure 17, adult trainers believe that they do not have a high level of skills in none of these areas. Most unknown field was reported data protection, privacy and security ($\bar{x} = 1.88$) probably because it involves some level of unclarity and complexity.

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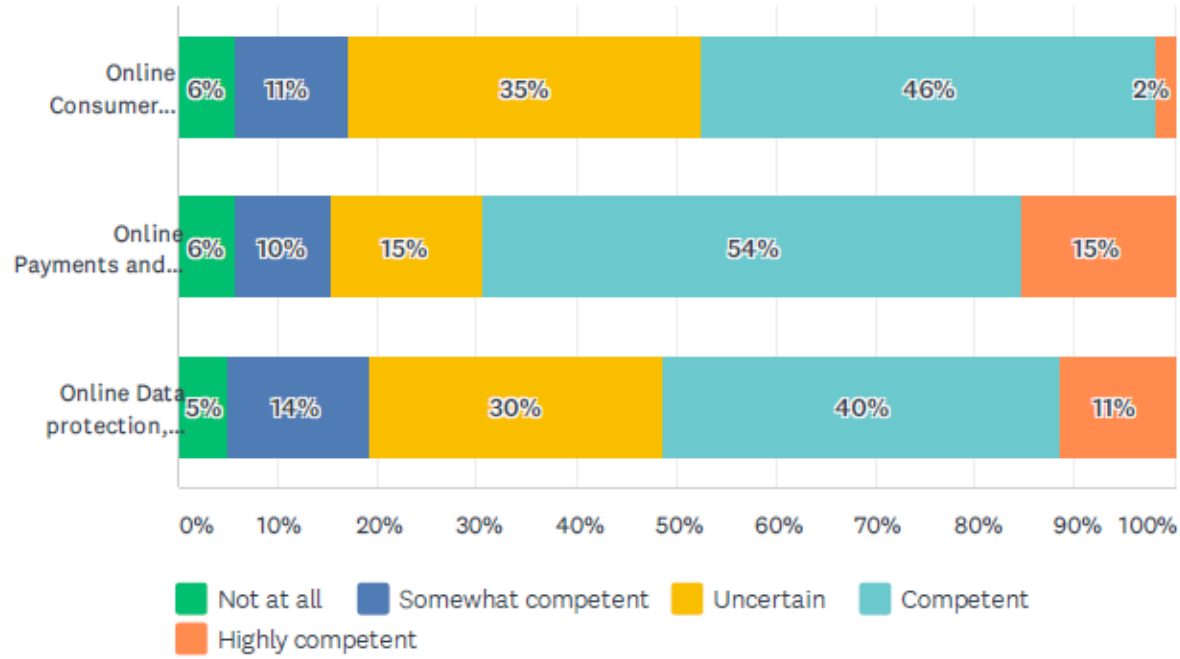

Figure 16. How competent are you in?

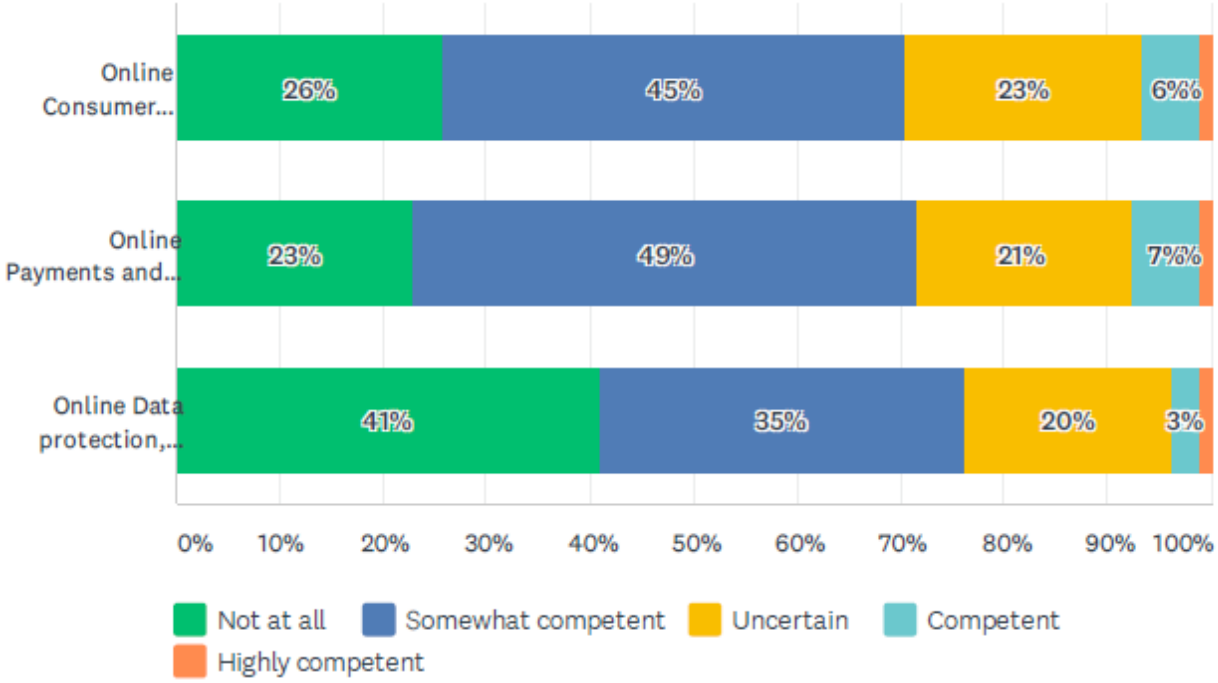

Figure 17. How competent do you think elderly are in?

Last, participants were given the opportunity to state any recommendations that need to be considered during the digital skills training of the elderly in an open question. The collected answers from all partner countries are presented below:

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English comments

«Older people» is a very generic term and the age range within this group is quite wide 60+ to 80+ - therefore the level of skill, motivation and professional application can be huge within this target group.

Training needs to take account of the many digital devices used by older people.

Motivation and making sure older people feel included is very important.

We must not underestimate the skills of older people and also their desire to continue to learn once we start. Any training offered should build in progression for older people moving from basic skills to more advanced skills development.

When working with older people it's important to be patient and always allow time for questions regarding the topics covered during the class

It needs to be simple at the start and offer opportunities to build skills as some older people really take to digital training and are always keen to learn more and do more. At the start training needs to be face-to-face - online training does not work as they are non-liners and can't even get online in the first place.

Longer training programme - follow up training sessions after the initial training

Repetition is key to ensuring the skills are learned. You need to deliver training free from jargon and overly technical terms. Step-by-step instructions with images are also very important. Find topics and interests amongst the learners and center on this to learn new skills.

Greek comments

Ασφάλεια στη χρήση των Social media; διαδικτυακές αγορές; taxis net κ.λπ. και να ερωτηθούν τα άτομα σε τι θα ήθελαν να εκπαιδευτούν.

Πολλοί ηλικιωμένοι έχουν προβλήματα υγείας που τους επηρεάζουν στην εκπαίδευση όπως μειωμένη όραση και ακοή, κινητικά προβλήματα, Parkinsons

Ατομική εκπαίδευση – πρακτική

Χρειάζονται πολύ πρακτικά παραδείγματα και ασκήσεις

Ψυχολογική υποστήριξη και ενθάρρυνση

Η εκπαίδευση ατόμων μεγαλύτερης ηλικίας από μη κατάλληλα εκπαιδευμένους εκπαιδευτές και σε ακατάλληλο περιβάλλον που δεν λαμβάνει υπόψη τα

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ιδιαίτερα χαρακτηριστικά των ατόμων μεγαλύτερης ηλικίας π.χ. όραση, ακοή, έχει σαν αποτέλεσμα τα άτομα μεγαλύτερης διαδικασίας να αποθαρρύνονται και να ενισχύονται τα στερεότυπα που αφορούν τα άτομα μεγαλύτερης ηλικίας και τις νέες τεχνολογίες.

Να υπάρχει ο εξοπλισμός.

French comments

État de santé en général (par exemple, gérer la souris pour un senior atteint de tremblements)

Lecture auditive pour les malvoyants

Prendre en compte l'apprentissage mixte : en ligne et face-à-face

German comments

Ausgangspunkt muss der reale Bedarf sein. Kleingruppen. Viel Zeit. Die Handhabung von Software muss man jedem einzeln zeigen.

Klare Methode und visuelle Veranschaulichung

Schlechte Hörfähigkeiten

Welche persönliche Erfahrung hatten Sie schön mit digitalen Medien (surfen in Internet, Videogespräche (Whatsapp, usw.), Chat-Benutzung? Wie Alt sind Sie? (zwischen > 65 und >80 gibt es Welten!) Warum möchten Sie lernen? (Motivation)

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Interviews (Qualitative data)

In total, there were implemented 30 interviews to people over 65 years old in all partner countries. Questions were formulated in a semi-structured interview guide (Annex 2) to allow in-depth discussions on their everyday life issues. Using this approach, respondents were also encouraged to reflect on their past experiences, opinions and suggestions on topics related to the project. The guide also provided information to partners on the code-of-conduct and personal data protection. All interviews were recorded to facilitate the extraction of accurate and appropriate data, but no personal details were asked during the recordings. In the cases of face-to-face interviews, participants signed a particular consent form (Annex 3). When interviews were implemented by phone or online, participants declared their consent verbally at the beginning of the recording after the facilitator had read the form aloud.

The structure of the interviews followed three main thematic areas; however, facilitators were encouraged to add any other questions they considered necessary, relevant or important. They were also allowed to modify or exclude any questions that were not easily understandable by respondents. The thematic areas were: Consumer behaviour and protection, Online payments and transactions, Data protection and privacy. The purpose of the interviews was to investigate the real-world issues of the elderly on these areas. The main research questions that guided the process were:

1. What are elderly's habits and challenges during online consuming and data protection?
2. What are the key competences and areas where they need more training?
3. What are their main training needs on these topics?

After completing the interviews, each partner provided a summary of their country results. This information is available in the country reports, which can be accessed through project website. The combination and interpretation of all (30) interviews from all partner countries are presented below. It must be noted that results might not be representable to countries' populations, as interviewees were approached based on convenient sampling and they could form a more technology savvy part of the target group.

Internet use and familiarity with digital world

The elderly appeared well equipped with digital devices in all countries. The vast majority uses a smartphone on a daily basis, while many of them own a computer/laptop or tablet as well. Internet access is yet a habit, either because they like or need it. The reasons of accessing the internet vary among countries. Communication is a basic idea that digital world can offer, and elderly seem to recognise it, mentioning several digital channels (e.g., email, social media, WhatsApp, Viber etc.). They also used to read the news online or search different topics of their interest (e.g., literature, recipes, history, plants, traveling etc.), book hotels or transportation tickets (e.g., plane or train), watch movies or series, and in some cases, make purchases. The current situation of the pandemic (covid-19) increased in some extent their online activity, emphasizing the need to contact with family members and friends due to social isolation, and purchase their daily groceries. Some of

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them also noted the facility online banking offers in administering basic financial obligations (e.g., tax declaration).

> *Participant: When used the right way, internet is extremely useful because I can communicate with my relatives and friends. In this way, internet is a blessing these times.*

Online purchases

In some countries, elderly appear to be more familiar with online purchases than others, however, in all cases the preference to buy products in person and being able to physically touch them, was obvious. As they form one of the last non-digital native generation, they trust human interaction more than online interactions, which contributes to a closer buyer-consumer relationship. They generally appeared more prompt to make online purchases only when necessary (e.g., during lockdown) and for specific standardized products or brands (e.g., books, garden products, flights etc.). Moreover, expanding on their consumer behaviour, different opinions arose on which products are trustworthy to buy online. For example, some supported that clothes and shoes need to be tried before bought, while others said that this is not a limitation for them. Some discovered an opportunity to find cheap technological gadgets in the web, while others stated that price is not a convincing factor for them. Some use to buy second-hand products, while others are very thoughtful about the situation and the quality of products they see only in photos. When asked to expand on the trading rules of digital marketplaces, safety measures, and possible frauds, only those who appeared more familiar with these topics, were also the most active online consumers. However, they admitted no full awareness because critical information (e.g., buyer rights and seller responsibilities, marketplace policy, terms and conditions etc.) is presented in a complex way, and each time differ according to the website or the retailer. Generally, they did not appear able to defend their rights in case of breach. For this reason, they allow some risk to their purchase, because they "can't know and find everything" and it is out of their control. Apart from the information directly given to them on websites (that they do not usually read in full) they do not know about European legislations or regulations, especially in the traveling sector. A common practice that appeared is using websites they know and trust for their online purchases due to prior positive experiences or suggested by friends.

> *Participant: I would not dare to buy shoes or pants online. I want to try them first. But I could buy the battery of the grass machine if I find the same brand, model, and code.*

Online payments

Regarding online payments, participants interestingly presented particular interest on making online payments and managing relevant financial services. They seem to recognize the benefits of pay off their obligations through the internet rather than the traditional way. They also admitted that sometimes they fear of making any mistakes and expressed suspiciousness on the safety provided during payments. In all cases, they were not able to categorize or name any of those threats. Those who feel more competent to make online transactions expanded more on methods to manage risks and referred to several security

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measures. There were also some misconceptions stated during the interviews such as 'all online retails are probably valid', or 'frauds are coming from third-world countries and not from European websites. In France, seniors take the basic precaution and know about double authentication. They only use trusted websites and verify that the "green lock" is present. They trust online payments overall but some of them are still interested in knowing more details about it and feeling even more secure. If some seniors know solutions such as PayPal, others are open to discovering it.

Privacy and data protection

Keeping privacy and data protection was a major issue during the interviews. A large part of the interviewees is informed about the risks of spams, scams and phishing; however, they were not always competent to maintain privacy. In many cases, it has been demonstrated that they do not know what cookies are and how to manage them. Most of them admitted that they are not competent to manage privacy, therefore they were all hesitant on providing personal information online. Others, prefer to limit their activity (e.g., certain websites) to reduce risks, instead of agreeing to unknown 'terms and conditions'. One senior noted how it would make things easier if there was an option where one could simply accept the most necessary ones. They also appeared ambivalent on the intentions of websites and the privacy policies they declare. Moreover, most of the interviewees have account in one or more social media (mostly facebook or twitter), but not all of them could thoroughly state security measures to protect their accounts, such as saving passwords and authentication controls. Regarding measures and regulations, some seniors were more informed than others. If some of them have heard a lot of information on GDPR (or related concepts e.g., privacy by design, right to be forgotten, consent, data minimization), other do not know what it is.

Digital skills

This lack of practice was elaborated on in different contexts. When asked what the needs could be where a senior person might need more training, they addressed various topics. First, numerous words related to the digital world are in English, which is a non-digital barrier but an important difficulty. Others, referred to the so-called basic skills in relation to cybercrime. They explained how, especially nowadays, the spam-emails are presented in a very credible way and how hard it could be for anyone to differentiate between fake and real. Therefore, they concluded that the ability to differentiate between fake and real should be a basic skill within IT-skills in general. Moreover, their training needs relate more to information and practical advice on tools to use in their everyday lives and who to turn to in case of a breach to their rights. On the other hand, a large part of the participants, when asked what sort of training they needed, denied any need for further education on their ICT skills. Most of them stated to get through everyday life with what they know already and how it should suffice for now. In brief, it was also evidenced that elders' level of competence and daily practices regarding consumer and data protection varies among partner countries. However, this is a great opportunity to collect ideas and recommendations from different scopes and create the Competency Scale following a stepped approach.

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6. Challenges on addressing the gaps

Challenges and main areas for training

While the number of daily and annual internet users is constantly increasing, the biggest challenge may lie in uncovering why elderly individuals do not use the internet, as existing data only reveal why they did not use mobile internet. That data will be the foundation of this section, but it must be recognized that more research is required to present a comprehensive picture. Although there is no need to force them to use the internet, there is a need to identify opportunities and convenient solutions to cause a positive impact on their lives.

Some countries (i.e., Cyprus, Greece) appear more traditional in their consumer habits as shown by their tendency to avoid online purchases. However, with the recent situation due to COVID-19 all countries should consider alternative and more modern services to adjust with current trends. At the same time, considering elderly's low levels of digital competence, any training in these domains should be placed critically, informing them about all possible risks.

Another significant finding is the growing percentage of elderly that possess smart mobile devices. This makes internet and its services very accessible, however it implies several risks. The elderly need to be well informed about the threats that exist regarding the exposure of their personal information, as well as financial frauds.

An intriguing finding mainly extracted from the field research, is the lack of interest and awareness of the elderly in learning more about project's topic and develop their online consumer and data protection competences. The "non-participants" did not appear prompt to cope with and cultivate their basic ICT skills. Therefore, they do not see the need for action, nor the benefits of training results.

Effectiveness of existing programmes

As it is apparent by the above data, a high percentage of the elderly people in partner countries is afraid of using the internet without assistance. Although there are training programs regarding internet safety, these are general and not planned to address the unique needs of elderly people. Moreover, because of their reduced experience on using the internet they need more specialized guidance and educational material designed according to their pace of learning. They have suspicions and distrust regarding internet safety, and they lack practical knowledge on the technical aspects of privacy and data protection, legal framework, and possible threats to effectively protect themselves.

However, some countries (i.e., Switzerland, France) appear more precise than other on the provision of training in either consumer or data protection skills of elderly during internet use. In any case, there is need combination of both programs: including awareness campaigns on safety and data protection and the thematic of consumer rights online to the ICT courses targeting seniors.

Gaps in consumer and data protection skills

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The identified gaps relate to the need of a special program that simultaneously:

1. Targets the senior population who has very specific learning needs and learning pattern,
2. Specializes in the specific issue of data protection, safety and consumers rights only and not on ICT education for seniors in general,
3. Offers seniors a long term and individualized accompaniment,
4. Tailors offers to elderly needs and challenges,
5. Makes training affordable and approachable to them,
6. Informs the elderly about the existence of those programmes,
7. Compiles in the same place information on data protection, consumer rights and safety on the internet and acts as a “one stop shop” for all these issues.

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7. Recommendations

Key areas that can be transferred and adapted to the project

According to the findings of this report, several recommendations can be considered for the development of the educational material within the context of the e-protect project. Since strategies and initiatives are limited, there are important gaps identified regarding the engagement of the elderly in the online world to design more relevant educational material. In this effort, the European Digital Competence Framework for Consumers and OPLIS (privacy competency scale) could be used as compasses when designing the competence scale, as it includes the basic skills, that are crucial, in order to assess competencies regarding online security and privacy. Nevertheless, the skills mentioned could be further divided in sub-skills, in order to get a detailed picture of privacy competence.

Training form

- Targeted education and training to cater for elderly populations
- Involve OPLIS-style assessment to improve individuals' consumer and data protection skills
- Enable microlearning and self-paced training according to individual needs
- Assessment of existing and gained skills with a validation certificate
- Consider using Open Badges instead of paper or online certificates.

Competence areas

- Basic digital skills
- Digital devices and internet access
- The digital economy of the 21st century
- Online purchases and consumer behaviour
- Digital marketplaces – rules, regulations and legislations
- Digital marketplaces – rights and responsibilities of sellers and buyers
- Online safety, threats and frauds
- Digital marketing and advertisement practices
- Online financial operations and transactions
- Personal data protection and privacy (regulations and procedures)
- Social media/digital communities and marketing

Key skills to be involved in the Competency Scale

In order to respond critically to the emerging requirements of digital practices regarding consumer and data protection skills, the elderly need to be equipped with a certain and comprehensive set of competences. This report suggests considering the below competences during the development of the educational material in the following activities of the e-protect project:

- Familiarity with digital devices and internet access
- Digital devices protection and risks avoidance
- Awareness of opportunities and threats while using the internet

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- Access of information in digital marketplaces
- Identification of legitimate purchase sources on goods and services
- Evaluation of the reliability of digital sources on goods and services
- Assessment and comparison of commercial offers and advertisements
- Recognition of digital marketing strategies and advertisement methods, as well as their influence
- Management of personal identity in digital marketplaces
- Adoption of a responsible and sustainable consumption
- Conscious and cautious use of digital marketplaces
- Recognition of different digital business models and their differences (e.g., c2c, b2c)
- Management of payments and finances
- Familiarity with copyrights, licenses, and contracts of digital marketplaces
- Effective use of protective measures (passwords, terms and conditions, privacy policies)
- Online management of personal data and privacy
- Secure Online banking
- Protection of identity
- Safe Social Networking
- Knowledge of security tools e.g., antiviruses, antimalware, firewalls etc.
- "Healthy" browsing behavior: right practices when using the internet.
- Basic knowledge on hardware and software

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8. Competency Scale for consumer and data protection skills for the elderly people

According to the main findings presented in this report, along with the professional frameworks around these areas "*The Digital Competence Framework for Consumers*" of the European Commission and "*The Online Privacy Literacy Scale*", the Competency Scale has been created using the levelled approach. The descriptors are presented in four levels of proficiency: Basic, Intermediate, Advanced and Expert. The Competences are divided into the three main thematic areas of the project: Consumer behaviour and protection, Online payments and transactions, Data protection and privacy. Each thematic area is divided in sub-categories forming **10 main Competence areas**. The table 3 below presents the mapping of competences for the creation of the Competency scale.

		Level			
Area	Competence area	Basic	Intermediate	Advanced	Expert
Consumer behavior and protection	Digital marketplaces	Access and navigate in digital marketplaces	Search for goods and services	Evaluate and compare results	Make decisions critically
	Buyer rights and seller responsibilities	Get informed on digital marketplace rules	Evaluate the reliability of sellers	Assert consumer rights	Provide support and redress
	Commercial advertisements	Recognize commercial communication	Evaluate marketing information	Interpret online advertising practices	Optimize direct marketing
	Responsible consumption	Understand the impact of consumer behavior	Evaluate the environmental impact of consuming choices	Applying socially responsible consumption	Advocate sustainable consumption
Online payments and transactions	Payments and finances	Know the available financial services	Access secure payment channels	Initiate safe payments	File transactions
	Online banking	Access online banking account	Manage bank accounts	Initiate money transfers and routine payments	Manage banking services
	Security measures and threats	Be informed on threats and frauds	Recognize online threats and attacks	Challenge fraudulent use	Redress and obtain reimbursement

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Data protection and privacy	Personal data and privacy	Understand how and why data are collected	Recognize privacy policy terms	Take measures to protect personal data	Manage given personal data
	Digital identity	Recognize the use of digital identity	Build digital identities	Manage preferences and interests	Enjoy the benefits of online profiles
	Safe social networking	Understand the dynamic of social media	Interact responsibly in digital communities	Adjust privacy settings on social media	Contribute positively through social media

Table 3. Formation of the Competences, Areas, and Levels derived from the results.

Figure 18. Illustration of Competency Scale.

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Annexes

Annex 1: Questionnaire to Adult Educators

e-Protect Project - Consumer and Data Protection Skills for the Elderly

e-Protect is a co-funded project from the European Commission which aims to enhance the consumer and data protection skills of the elderly when using the internet.

The purpose of this questionnaire is to identify the training needs and challenges of older people on acquiring digital skills and the competences and practices of adult educators in this process.

Completing the questionnaire will take approximately 5-10 minutes. Your responses will be confidential, and we are not collecting any identifying information.

Your participation in this research study is voluntary. You may choose not to participate. If you decide to participate in this research survey, you may withdraw at any time. Your information is confidential. All data is stored in a protected electronic format. To help protect your confidentiality, the surveys will not contain information that will personally identify you. The results of this study will be used for research purposes only. Your opinion is very important for the project and your feedback will be used in planning future actions.

1. I confirm that I have read, understand, and agree to the above:
   - ☐ I agree
   - ☐ I disagree

2. Select Country
   - Cyprus
   - Greece
   - France
   - Switzerland
   - Ireland

3. What kind of education/training do you offer to the elderly? (Select all that apply)
   - Personal care
   - Health / Nursing / Rehabilitation
   - Employment programmes
   - Religious activities
   - Leisure (tours, travels, events)
   - Entertainment and sports (theatre, dance, yoga, etc.)
   - Skills training (music, art, crafts making, sewing etc.)
   - Lifelong learning
   - Digital skills
   - Other: ……

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E-protect aims to build a training package to enhance the **consumer and data protection skills of the elderly during internet use**. Based on your experience:

4. To what extent the following **challenges affect the participation** of the elderly in digital skills training?

	Not at all	To a little extent	To some extent	To a great extent	To a very great extent
Lack of motivation					
Social isolation					
Physical mobility limitations					
Age-related issues (e.g., eyesight and hearing)					
Health issues (e.g., diseases)					
Lack of self-competence in digital settings					
Low level of education/basic skills					
Low perceived usefulness					
Other challenges					

5. To what extent the following **teaching techniques/practices respond to the needs** of the elderly during digital skills training?

	Not at all	To a little extent	To some extent	To a great extent	To a very great extent
Adult learning principles					
Individual support					
Hands-on approach					
Scaffolding (build with small, manageable steps)					
After-training support					
Take-home material					
Collaborative activities					
Encouragement of active participation					
Learning linked to real-life experiences					
Demonstrations (step-by-step)					
Online learning					
Blended learning					
Other techniques:					

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6. To what extent are the following **competences of trainers necessary** during digital skills training for the elderly?

	Not at all	To a little extent	To some extent	To a great extent	To a very great extent
Compassion/Sensitivity					
Empowerment and support					
Patience					
Communication skills					
Knowledge of adult learning principles/methods					
Subject specific knowledge					
Digital Skills					
Other competences:					

7. How competent are **you** in:

	Not at all	Somewhat competent	Uncertain	Competent	Highly competent
Online Consumer Behavior and Protection					
Online Payments and Transactions					
Online Data protection, Privacy and Security					

8. How competent do you think **elderly** are in:

	Not at all	Somewhat competent	Uncertain	Competent	Highly competent
Online Consumer Behavior and Protection					
Online Payments and Transactions					
Online Data protection, Privacy and Security					

9. Please state any other recommendations to be considered regarding the digital skills training of the elderly.

……
……..

10. If you want to receive updates about the project and get involved in future activities write your email below:

……
……..

Thank you very much for taking part in this survey!

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Annex 2: Interview guide

Introduction - Familiarity with internet use

- Do use the internet?
- How often do you go online and for what reasons (e.g., social media, news, emails etc.)?
- Do you have/use digital devices (e.g., smartphone, tablet, pc etc.)?
- How competent do you feel about using the internet?

Part 1: Consumers' competences

- Do you make online purchases?
- (If the participant makes online purchases)
  - In which cases do you prefer to buy something online (services and goods)?
  - How do you decide on which websites to buy? How do you evaluate the reliability of seller and its services (e.g., contact details, refund policy, delivery cost and time, protection of personal data and purchase details such as card number etc.)?
  - How do you compare products/services from different providers?
  - How do you get informed about your rights as a buyer and the responsibilities of sellers during online purchases? Can you state some? (e.g., inclusive of VAT, pre-ticked boxes, withdrawals, refunds, cancels, returns, complaints, labelling, retraction rights, reflection period, non-delivery etc.)
  - How do you recognize the influence of online advertisements?
  - Can you distinguish the rules that may apply during *b2c vs c2c* or *EU vs global* purchases?
- (If participant does not make online purchases)
  - What are the reasons that prevent you from making online purchases?
  - Are you aware about buyer rights and seller responsibilities during online purchases? Can you state some? (e.g., inclusive of VAT, pre-ticked boxes, withdrawals, refunds, cancels, returns etc.)
  - Can you state some benefits or threats of online purchases? (e.g., better deals, convenience etc. vs unreliable buyers, delays, uncertain quality etc.)

Part 2: Online Payments and Safety

- What is your opinion on online payments and financial services? How competent do you feel in making such activities?
- Can you explain some usual risks/frauds of cyber criminality (phishing, pharming attacks, malware, grazers, Trojan horse, antiviruses, firewalls etc.)?
- How do you manage the safety of your payment details and purchase data? (e.g., safeguarding passwords, pin numbers, authentications, pin codes, card details, bank account details, CVV code, 2-step authentication factor etc.)

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Part 3: Data protection competence

- What are the consequences of sharing personal data online and accepting "terms and conditions" (e.g., social media, search engines, web stores, and other websites)?
- How can we be protected while sharing personal information and details in digital marketplaces?
- How do you get informed on how your data are used during subscriptions?
- How do you get informed on data protection rights (privacy policies, GDRP regulations, profiling, rights of access, consent, right of withdrawal etc.)?

Conclusion – key areas and competences to be addressed

- In what areas would you like to learn more on consumer and data protection while using the internet?
- What knowledge and skills do you think are important or you need?

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Annex 3: Consent Form

e-protect project

Consent to Participate in the interview

I consent to take part in the interview expressing my experiences/opinions/recommendations. I also consent to be tape-recorded during this interview. My participation is voluntary. I understand that I am free to withdraw at any time. None of my experiences or thoughts will be shared with anyone outside of the e-Protect project partnership unless all identifying information is removed first (e.g., name, age, and any other personal details). Therefore, the information that I provide during the interview are anonymous. The results will be used for research purposes only and no direct quotations will be attributed to them by name. My answers will be grouped with answers from other people so that I cannot be identified.

- ☐ The purpose of the interview and the nature of the questions have been explained to me. By participating in the interview, I agree that sound recordings may be made of the interview. These recordings are for research purposes only and will serve no commercial purposes whatsoever.

_____

Participant's Name

_____ _____

Participant's Signature Date

_____

Researcher Name

_____ _____

Researcher Signature Date

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