

Health & Care Cluster

of Large Scale Pilots

PARTICIPATING PROJECTS



HEALTH AND CARE CLUSTER

FACILITATED BY



RADICAL HEALTH FESTIVAL Helsinki
12 June 2023

Creating an open ecosystem to bring digital health services at scale to support Active and Healthy Living policies

Personalized services to foster active ageing: what needs to change to upscale and make it sustainable?

Lessons Learned from the Italian Pilots

University of Florence – Department of Industrial Engineering

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Helsinki, June 12th ,2023



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Pharaon Pilot Sites



CALL: Societal Challenges – Health, demographic change and wellbeing
Trusted digital solutions and Cybersecurity in Health and Care
Focus Area on Digitising and transforming European Industry and services

Project Coordinator: **Prof. Filippo Cavallo (UNIFI)**

[Dec 2019 – Nov 2023]

Total Budget: **21.3 M€** (funding budget 18.8M€)



Target: 3400 Users

Presentation and description of the italia pilot: The two Pilot Sites

The objective of the Italian pilot is to: Propose personalized Integrated care for frail older adults



UNIVERSITÀ
DEGLI STUDI
FIRENZE

DIEF
DIPARTIMENTO
DI INGEGNERIA
INDUSTRIALE

ERICSSON
Ericsson Nikola Tesla d.d.



CO-ROBOTICS
THE WORKFORCE MULTIPLIER



TUSCANY
**UMANA
PERSONE**

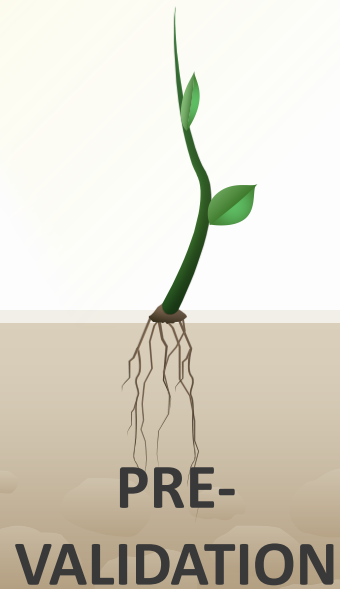
IMPRESA SOCIALE RICERCA E SVILUPPO



APULIA

Methodology


Pharaon Methodology is based on 4 main phases



What do we need to do to let our pilots grow?



**NEEDS
ANALYSIS**



**PRE-
VALIDATION**



**LONG
DEPLOYMENT**



**SUSTAINABILITY &
IMPACT**

The italian services



SERVICES' OBJECTIVES

HEALTH MONITORING

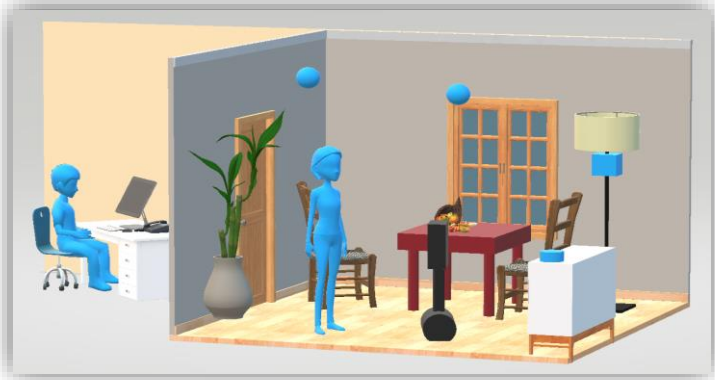
SECURED

LESS STRESSED

SOCIALLY EMPOWERED

INVOLVED

TECHNOLOGY CONTROL

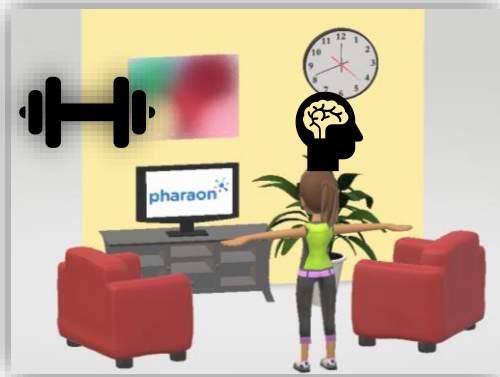


Monitoring Health

Environmental sensors & smart watch

Telepresence robot

Caregiver dashboard & data analysis engine



Physical & cognitive stimulation

wearable sensors

Personal device

Caregiver dashboard & data analysis engine



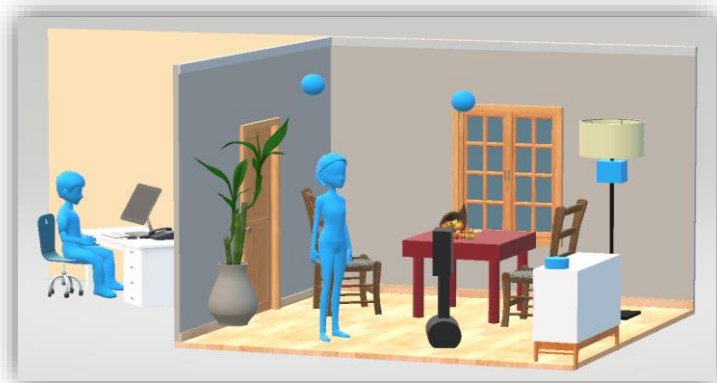
Socialization

TV Box

Personal device

Caregiver dashboard & data analysis engine

The pilot in numbers: People recruited



Italian Pilot	Older Adult	Informa Caregiver	Formal Caregiver	Total
Needs	22	22	17	61
Pre-Validation	27	26	14	67
Deployment	250	250	66	572
Total	299	298	97	700



MEASURES

User profile

- Cognitive profile
- Technostress
- Loneliness
- Quality of Life/Quality of Care
- Living Condition

Acceptance

- Usability
- Acceptability
- User Experience
- Training Efficacy
- Emotional perception

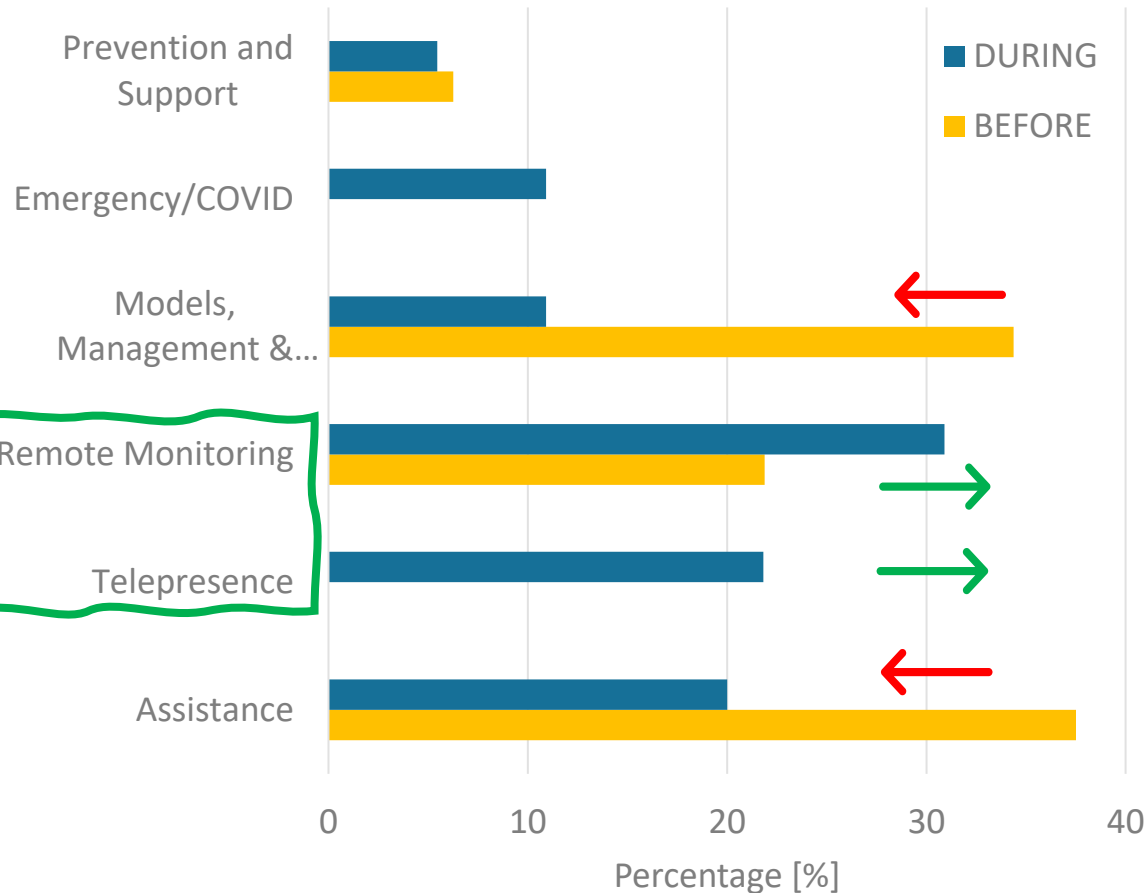
Efficacy of the service

- Deep interviews
- Log data
- Willingness to pay

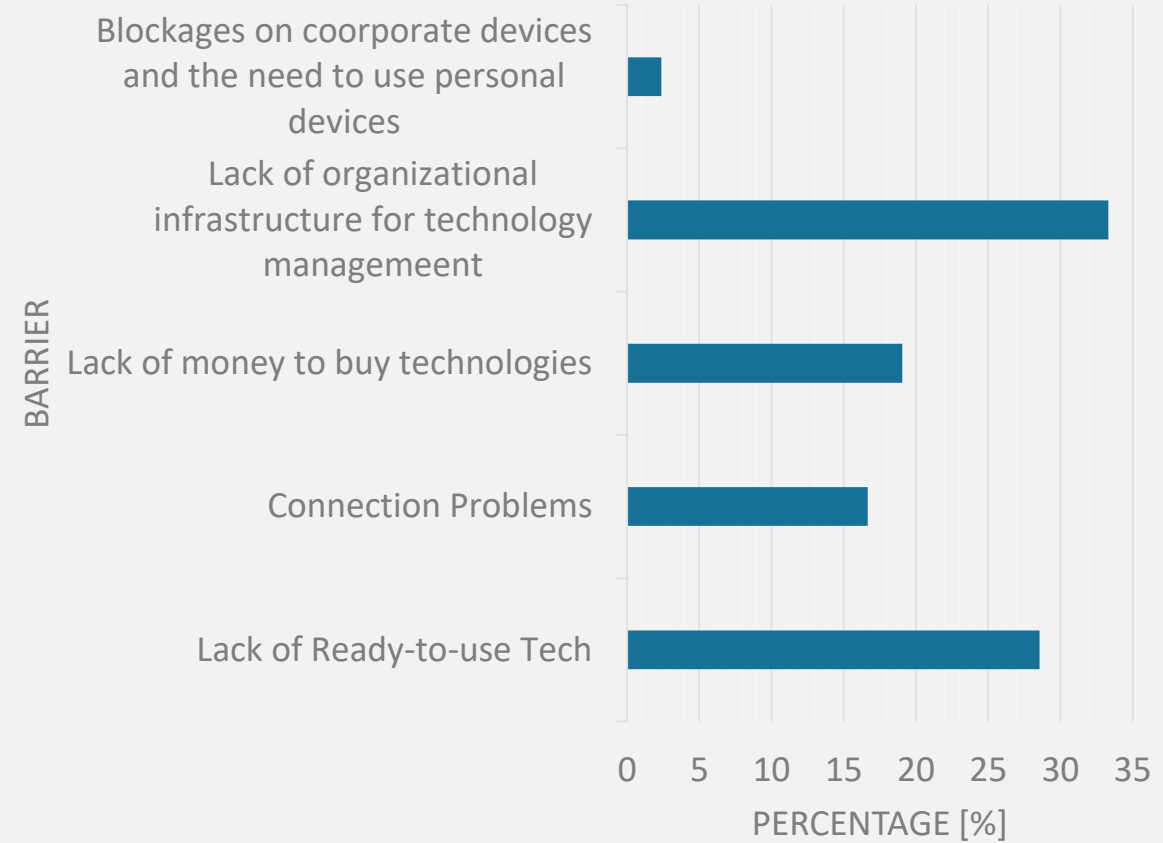


Pre- and post- covid-19 emergency: barrier and limitation on the use of the technology

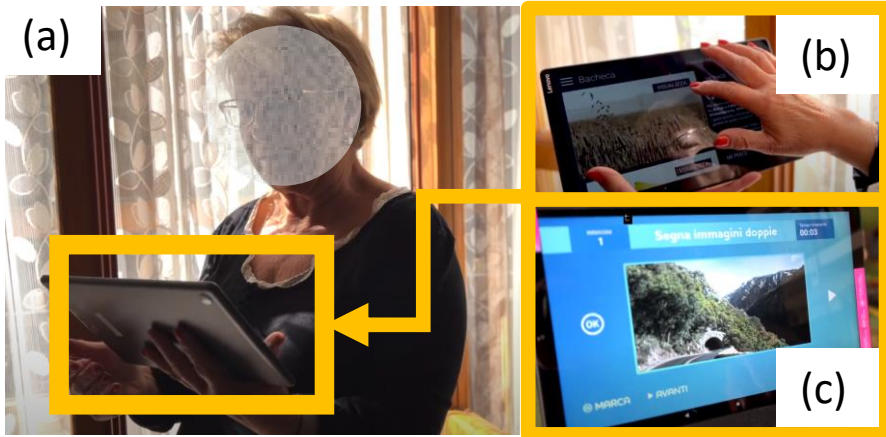
EXPECTATION & NEED



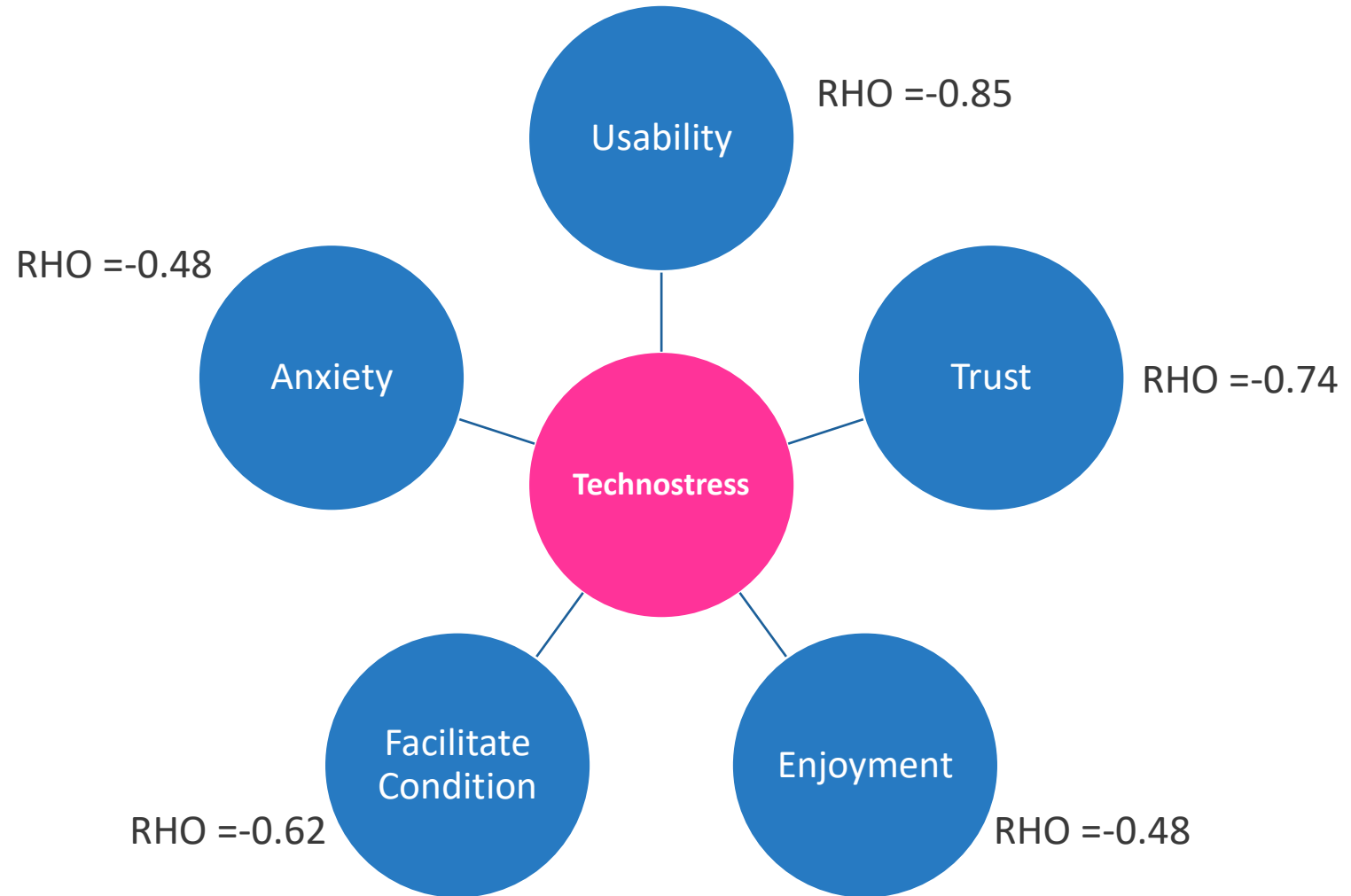
BARRIERS



Stress related to the use of the technology could represent a barrier



- Service: Socialization (Tablet or TV boxes)
- Participants: 20 Older adults
- At the beginning of the experiments

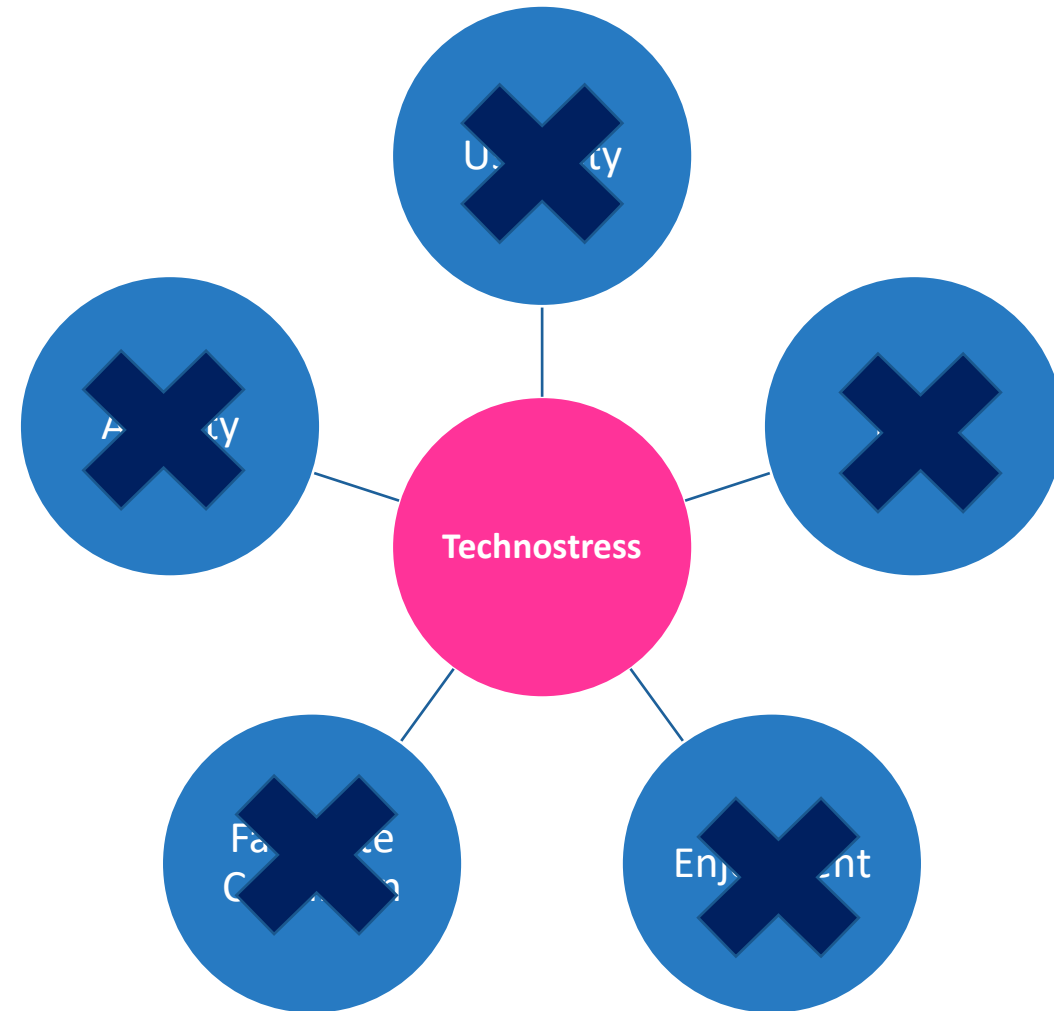


Stress related to the use of the technology could represent a barrier



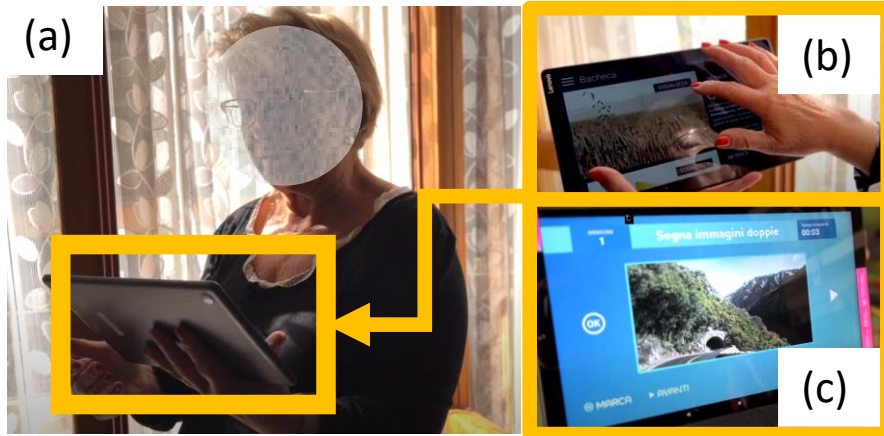
- Service: Socialization (Tablet or TV boxes)
- Participants: 20 Older adults
- At the beginning of the experiments
- **After 6 months of use**

Preliminary results will be presented at EMBC 2023 Conference



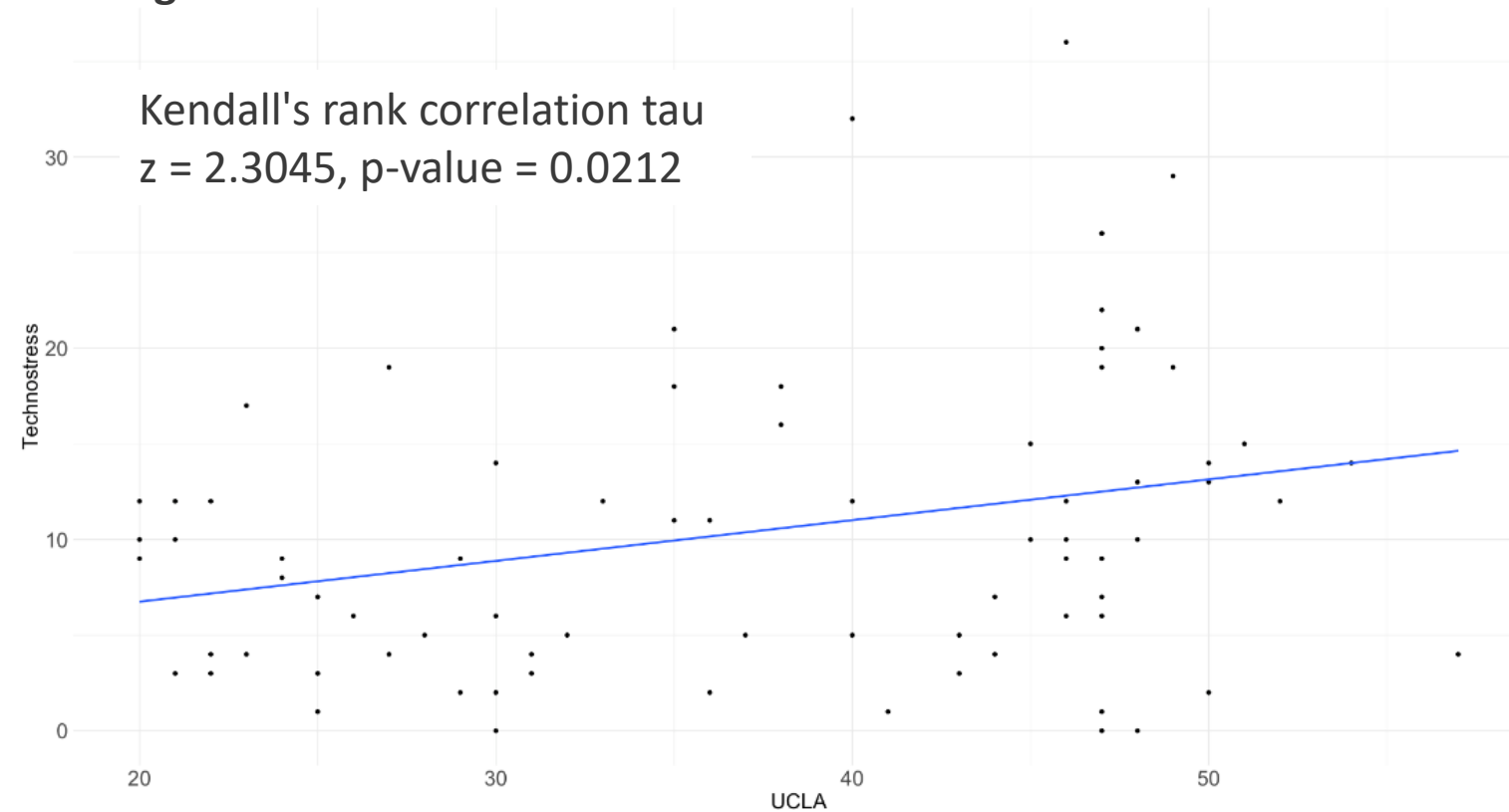


But technostress is also correlated with loneliness and cognitive profile



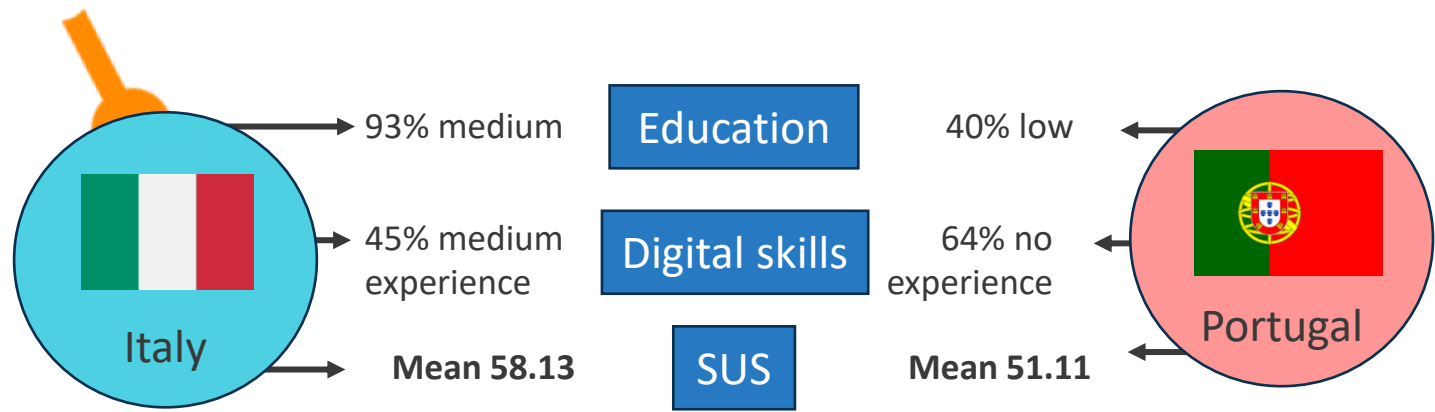
- Participants: 77 Older adults
- At the beginning of the experiments

Regression between the Loneliness and technostress



Therefore, we can propose some concrete actions that can mitigate the perception of loneliness

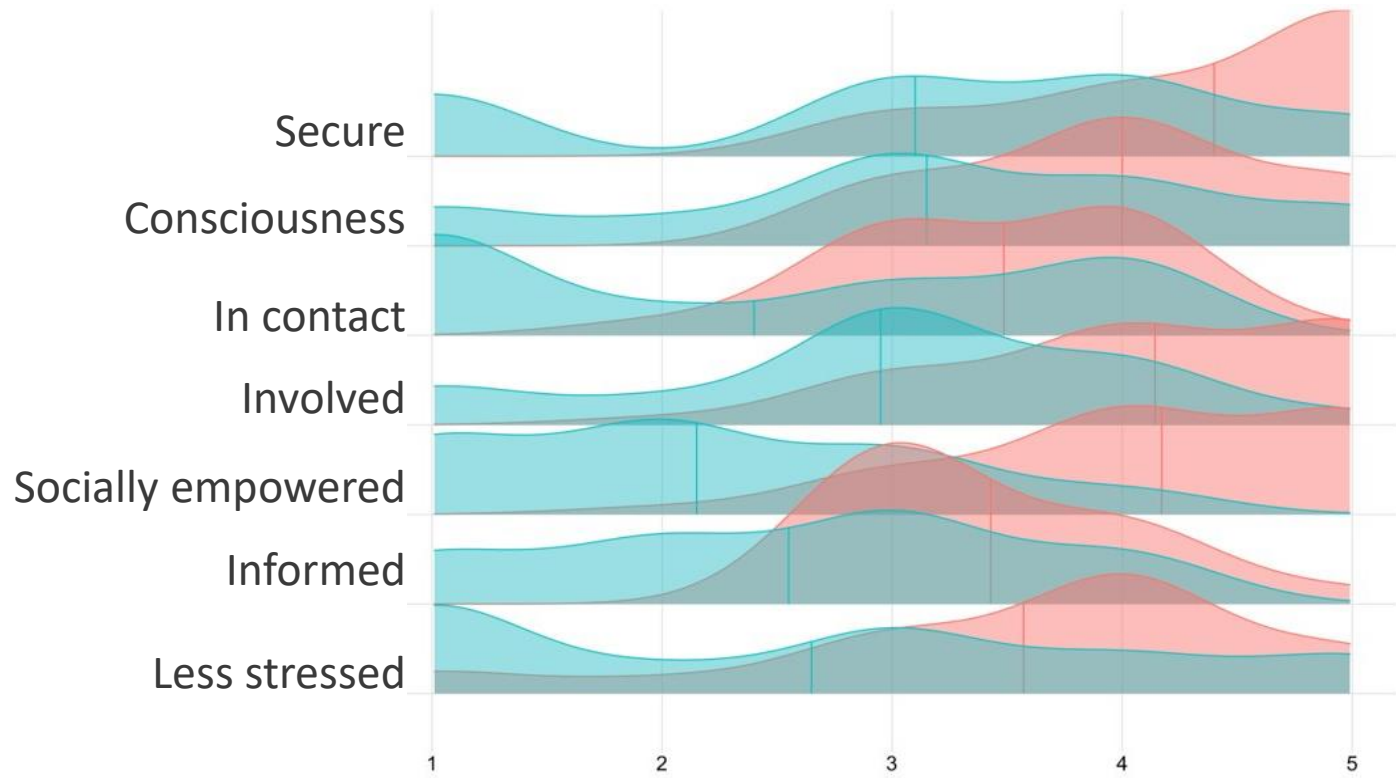
Digital skills, education and living conditions can play a role on the service perception



- Service: socialization
- 20 ITA older adults
- 27 PT older adults
- After 6 months of use

Differences between pilots raised during the discussion:

- Different Methodology/Different Training –
- Living area/conditions PT OA are living in rural area and they are isolated with low educational level (especially Amadora Area), IT OA are living in urban area and are in general more educated
- Digital Skills IT OA seems to be more digital skilled than PT OA



1 = strongly disagree; 5= strongly agree

SUS	Portugal	Italy	sig
I think that I would like to use this system frequently.	4 (1)	4 (0.25)	
I thought the system was easy to use.	3 (1.75)	4 (1)	
I think that I would need the support of a technical person to be able to use this system.	5 (1)	2 (2)	*
I needed to learn a lot of things before I could get going with this system.	4 (1.75)	2 (1)	*

Participants training and attitude of the caregiver is important



- We understand that the role of the caregiver is crucial. If they are active the service is well perceived.
- We provide a common training to pharaon system
- Older adults has low digital literature, but they are available to learn.
- Change the way we did training thus to achieve average training score > 3.5



Organize **training sessions** for caregivers and involve them in the **process of innovation**

Citizens need some trustworthy and easy of use technology



- In Tuscany pilot we are running a feasibility pilot using **the telepresence robot** (as action after covid-19) involving 5 older adults and their ecosystem of caregiver.
- We are collecting **very positive feedback from informal caregivers**, they asked to stay in the project more (they also would like to pay)
- Telepresence robot seems to be more effective with people with slight dementia
- The robot is easy to be used for the older adults, only caregivers should do something.

More quantitative and qualitative data are coming

Take home message

What we need to make our pilots sustained



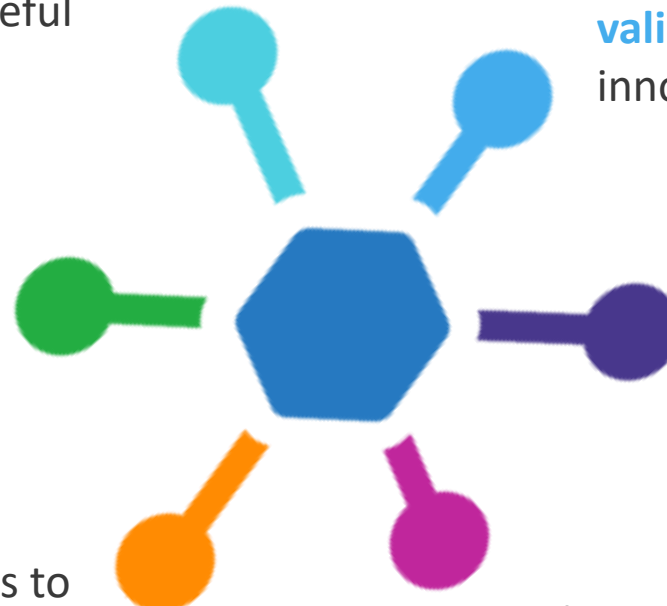
Organize **reflection meeting with different stakeholders** to identify barriers and limitations so to define useful services



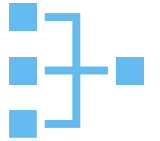
Develop interoperable, **reliable and trustworthy technologies**



Strong synergies with local entities to **exploit the results proposing new service models**



Plan reasonable pilot sessions to **pre-validate and validate** tech-based innovative services



Organize **training sessions** for older adults and caregivers and involve them in the **process of innovation**

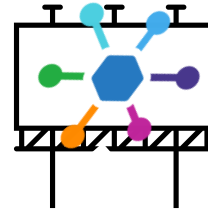


Educate older adults **to reduce the digital divide and the stress related to technology**



Consider also Ethical Aspects

Thank you for your attention



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Pharaon Project <https://www.youtube.com/channel/UCQJEJv9C3T--xLXCIdYaBWeQ>

Questions?

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