COESIONE ITALIA 21-27
GIOVANI, DONNE E LAVORO

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MEASURING LOW-SKILLED ADULTS AND TRAINING PARTICIPATION IN THE DIGITAL AGE

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PANEL *"Continuing Vocational Training in Italy, Between Unresolved Issues and New Scenarios"*

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INAPP
ISTITUTO NAZIONALE PER L'ANALISI DELLE POLITICHE PUBBLICHE

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OVERVIEW

WHO ARE LOW-SKILLED ADULTS?

The low-skilled condition is a multidimensional status and a dynamic phenomenon not based *solely* on the level of educational attainment.

It is a dynamic phenomenon with economic, social, and psychological roots (Torlone, 2021).

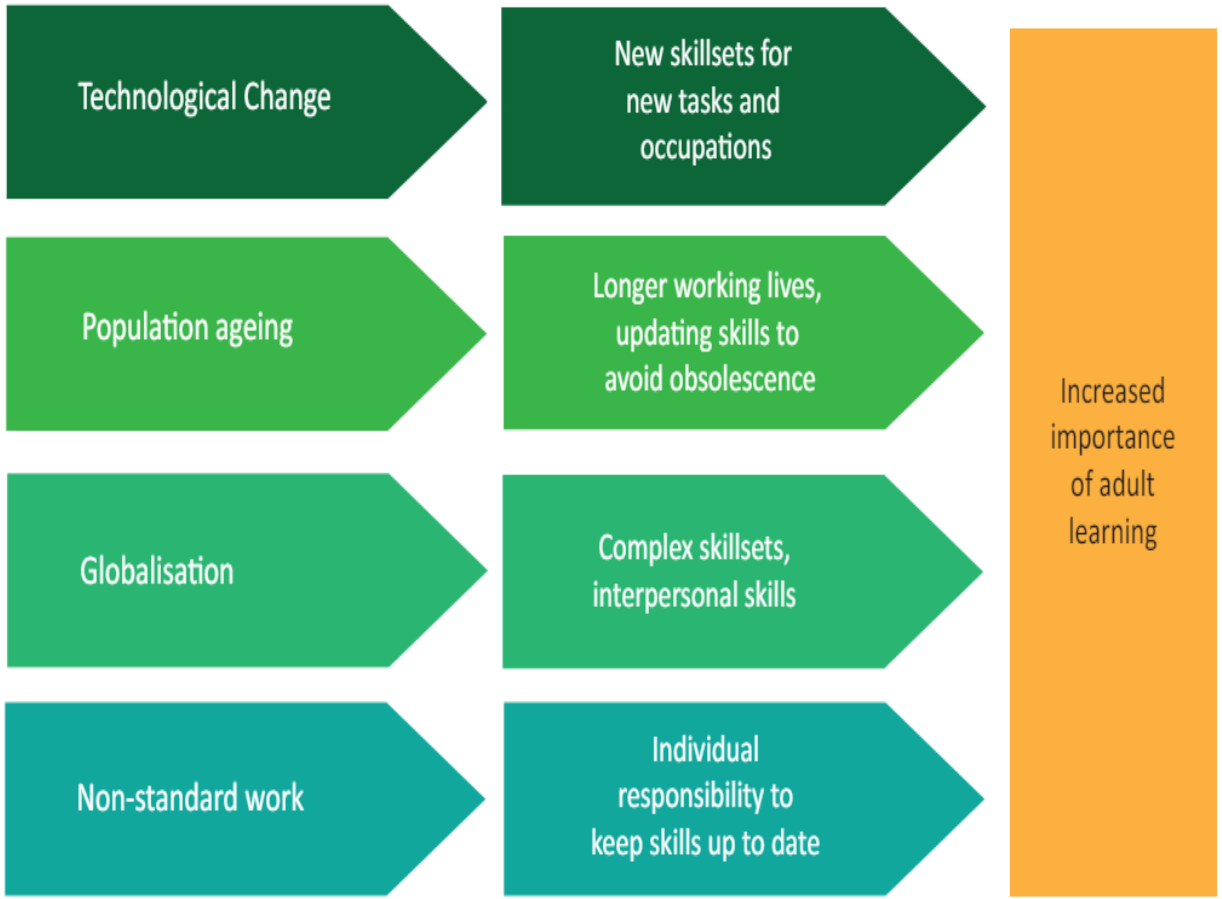
New technologies are increasingly **reshaping** the way people live, work and **learn**.

In a context of rapid economic changes and growing technological complexity (artificial intelligence, robotics, information and communication technologies) ***the role of skills and their updating*** in determining employability, social inclusion and active citizenship ***becomes crucial***.

A comprehensive approach to the phenomenon of low-skilled people should consider **several dimensions, including the level of different types of skills** and include those adults with specific skill gaps or obsolete skills.

OECD (2019), Getting Skills Right: Engaging low-skilled adults in learning

Megatrends affect the world of work



Adults with low skills are most affected by these changes

The growing digitalisation of large sectors of economic and social life has increased the risk of being excluded for individuals who do not possess the necessary skills.

Workers in lower-skilled 'routine' jobs are held to be most vulnerable to automation and more likely to struggle with digital skills (Cedefop 2016, Frey and Osborne 2017).

The age of the workers can also be a further dimension of risk, a dimension that has a close relationship with the possession and development of new digital skills (Martin 2018).

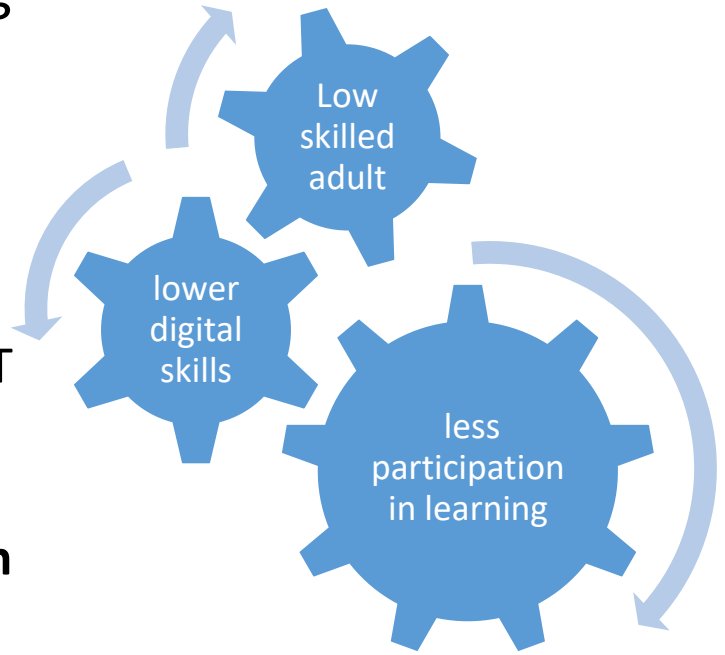
Paradox: today technology can reduce barriers to participation in lifelong learning related to the use of time and space, but inequalities and gaps in digital skills also profoundly influence access and participation in lifelong learning (James & Thériault, 2020).

The evidence suggests that..

..where adult participation in learning is greater, there are greater ICT literacy skills among the general population (Martin 2017).

..Low-skilled adults are less likely to participate in training than adults with higher skill levels (OECD, 2021).

..Differences in motivation to learn and differences in cultural capital are at the heart of existing differences in participation between low- and high-skilled adults (Cincinnato, 2014).



'low-skill trap'

The main international surveys and classifications unanimously agree in including, beyond educational attainment, *skills* among the defining characteristics of a skilled or, conversely, low skilled population.

Low Skilled OECD (2019)
(a) Adults with a low level of education (ISCED 0-2)
(b) Adults with low levels of cognitive skills: literacy and numeracy
(c) Poor digital skills, obstacle to social and economic participation

Low skilled Cedefop (2020)
(a) educational attainment level;
(b) computer and digital skills;
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adults (25-64) with medium and high education levels, working in elementary occupations, as a proxy for people in potential risk of skill obsolescence and skill loss

Key competences for lifelong learning (2018)
- Literacy competence
- Multilingual competence
- Mathematical competence and competence in science, technology and engineering
- Digital competence
- Personal, social and learning to learn competence
- Citizenship competence
- Entrepreneurship competence
- Cultural awareness and expression competence

OBJECTIVES

The primary aim of this study was to construct a specific multidimensional composite indicator for low-skill adults in Italy (aged 18-64 → later 29-64).

Once the index was developed, through various aggregation methods, the analysis examined the educational behaviors of this target group. The analysis was based on 2022 Indaco Adulti data and represents an evolution and update compared to previous studies (Angotti, Di Castro, 2023).

The hypothesis of our study was that the participation in training among this target group of individuals, in line with the indications of the literature, would be significantly lower.

In particular, we hypothesized that lower participation would be especially evident in the attendance of "distance training courses" - *increasingly widespread* - for which an adequate level of digital skills is also indispensable

INDACO ADULTI – The Survey on Adult Learning Behaviors (2022, Third Edition)

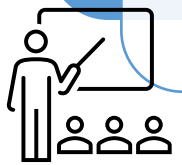
The survey is provided for in the National Statistical Plan of the SISTAN under the code IAP-00003

Objective: reconstruct the picture of the diffusion of lifelong learning for adults

Data collection technique: mixed CATI /CAPI

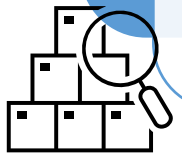
Sample size of 40,000 individuals aged 18-64 years

It provides an estimate of the **formal, non-formal and informal training participation of adults** (both in work and non-work contexts) **and socio-demographic, cultural and occupational gaps in educational access**.

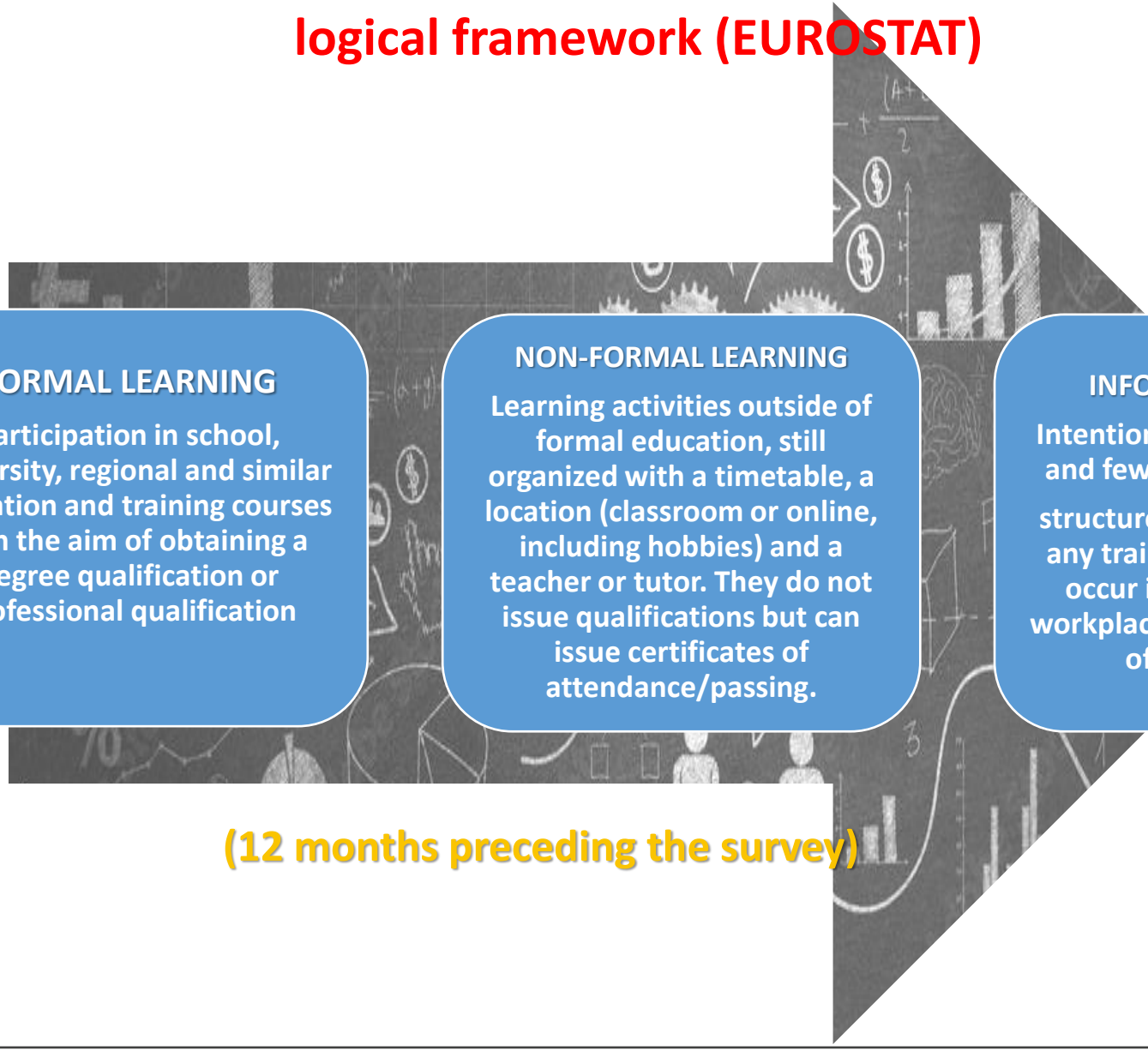


It also produces information on:

- characteristics of the learning activities, volume of courses
- reasons for and obstacles to participation
- micro-learning
- employer financing and costs of learning
- self-reported skills: language, cognitive, soft, digital
- intergenerational learning
- remote working



In accordance with the Adult Education Survey logical framework (EUROSTAT)



FORMAL LEARNING

Participation in school, university, regional and similar education and training courses with the aim of obtaining a degree qualification or professional qualification

NON-FORMAL LEARNING

Learning activities outside of formal education, still organized with a timetable, a location (classroom or online, including hobbies) and a teacher or tutor. They do not issue qualifications but can issue certificates of attendance/passing.

INFORMAL LEARNING

Intentional, but less organized and fewer learning activities

structured, not recognized by any training entity. They can occur in the family, in the workplace, and in the daily life of every person.

(12 months preceding the survey)

METHODOLOGY

Dimensions constituting the indicator have been identified (based on the Indaco 2022 questionnaire).

For the construction of the indicator, we did not consider a fixed condition, but rather a series of potential "risk" characteristics for falling into the low skilled condition, among those for which there is greater evidence in the literature and based on our research experience (INAPP).

We have thus included in our model:

- Level of education
- Cognitive, digital, and soft skills
- Citizenship
- Advanced age

Relationship between the dimensions identified and the main international indications

Potential "risk" factors for being in a low-skilled condition

Level of education: generally, adults with a low level of education (ISCED 0-2) are in this category.

Skills:

- **cognitive skills** such as literacy and numeracy are crucial.
- Increasingly, the level of **digital skills** possessed is indispensable for learning at work and for participation in society.
- **foreign language literacy** the benefits of foreign language learning can be divided into three categories: intercultural understanding; economic benefits; and cognitive benefits (OECD 2021).
- there is a growing importance of so-called "**soft" skills**. Following the increasing technologization of many technical tasks (such as the advent of A.I., robotics, etc.), soft skills are becoming increasingly central.

Citizenship: Currently, adults with foreign citizenship are more likely to fall into a low-skilled condition due to a series of interrelated factors. They include a higher concentration in low-skilled professions, greater likelihood of temporary employment, language barriers, limited access to education, differences in social capital, discrimination, and so forth.

Age (over 55): Considered a proxy for skill loss or obsolescence

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Composite indicator

The indicator we constructed consists of two sub-indicator.

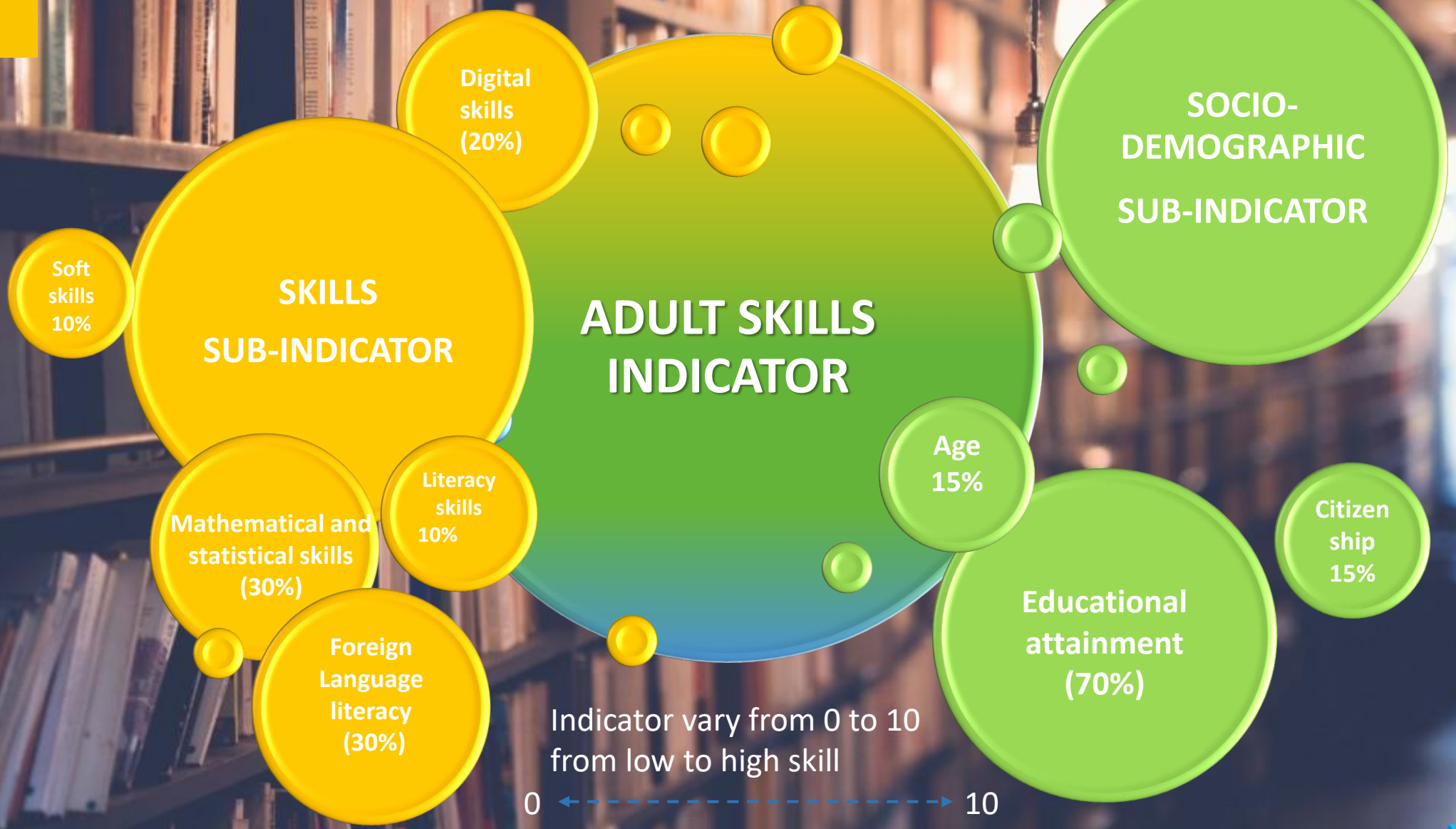
The first sub-indicator concerns skills specifically: soft skills (interpersonal skills, problem-solving, teamwork, effective time management and identifying priorities); literacy; numeracy; digital skills; foreign language literacy;.

Regarding the weights of these skills, the most important role is played by mathematical and statistical skills (30%), as well as foreign language proficiency (30%). Subsequently, digital skills (20%), literacy (10%), and soft skills (10%) follow.

The second sub-indicator consists of socio-demographic characteristics such as level of education, age, and citizenship. Specifically, the level of education accounts for 70%, citizenship for 15%, and age for 15%.

The normalization method for the sub-indicators is rescaling (minimum-maximum). Thus, the two sub-indicators vary from 0 to 10. The aggregation method between the two sub-indicators is the simple average; therefore, the final composite indicator also ranges from 0 to 10. The direction is positive, so individuals with higher skills reach 10.

Adults aged 29-64

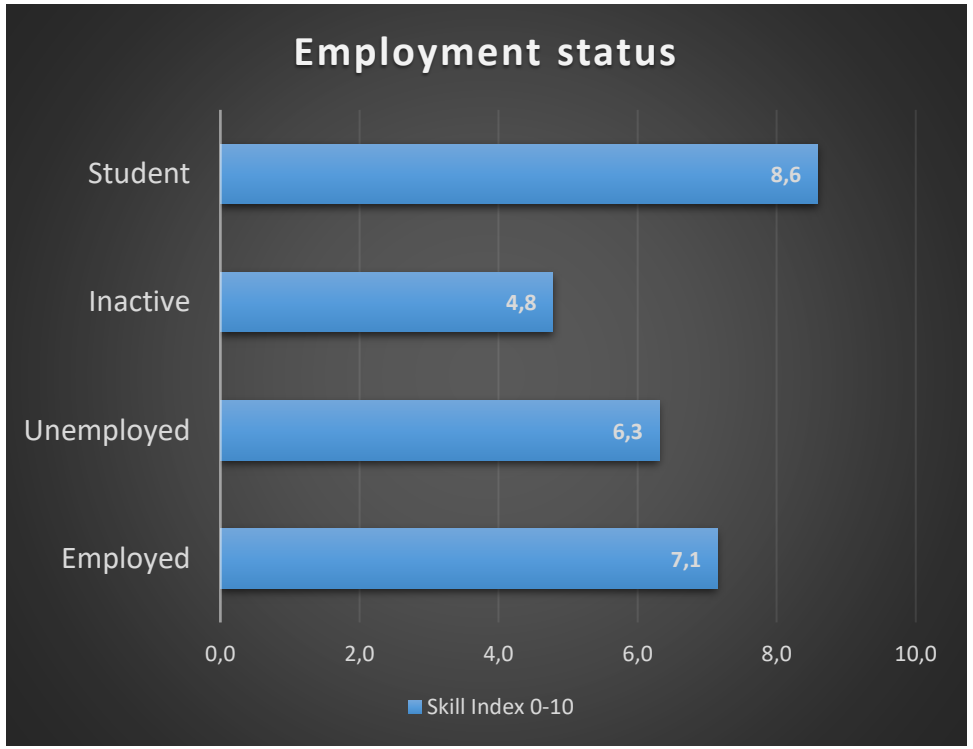


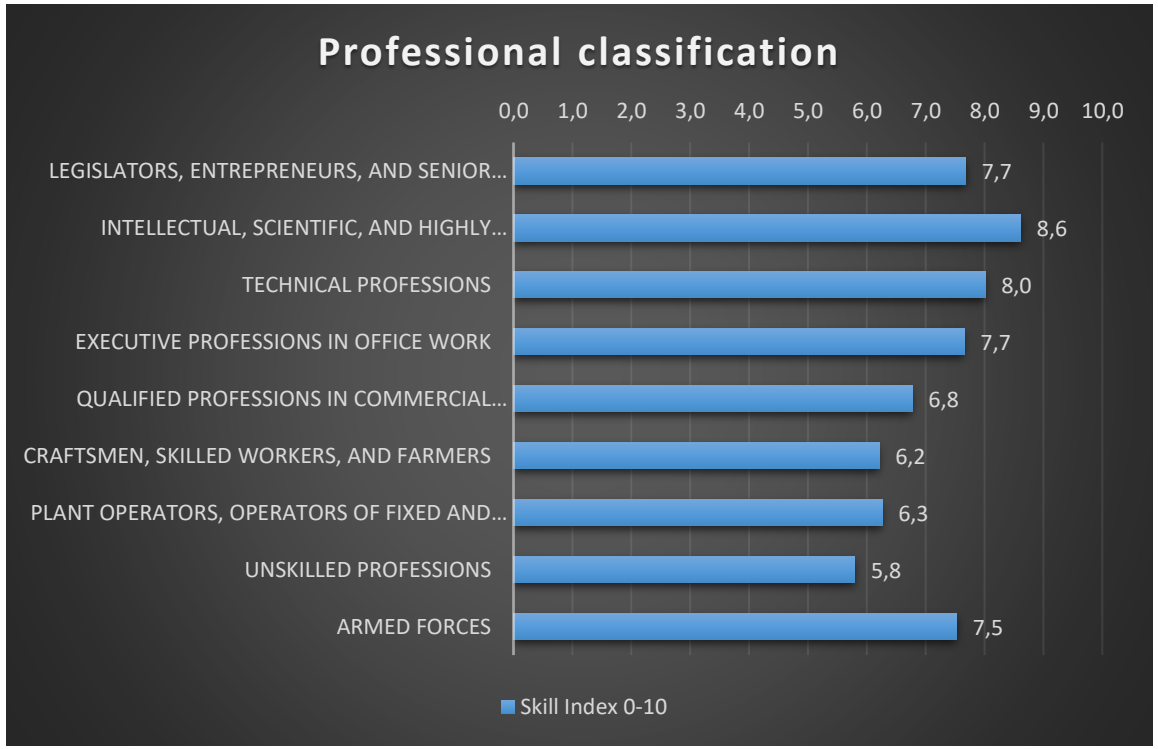
Indicator vary from 0 to 10
from low to high skill

0 ⟷ 10

MAIN FINDINGS

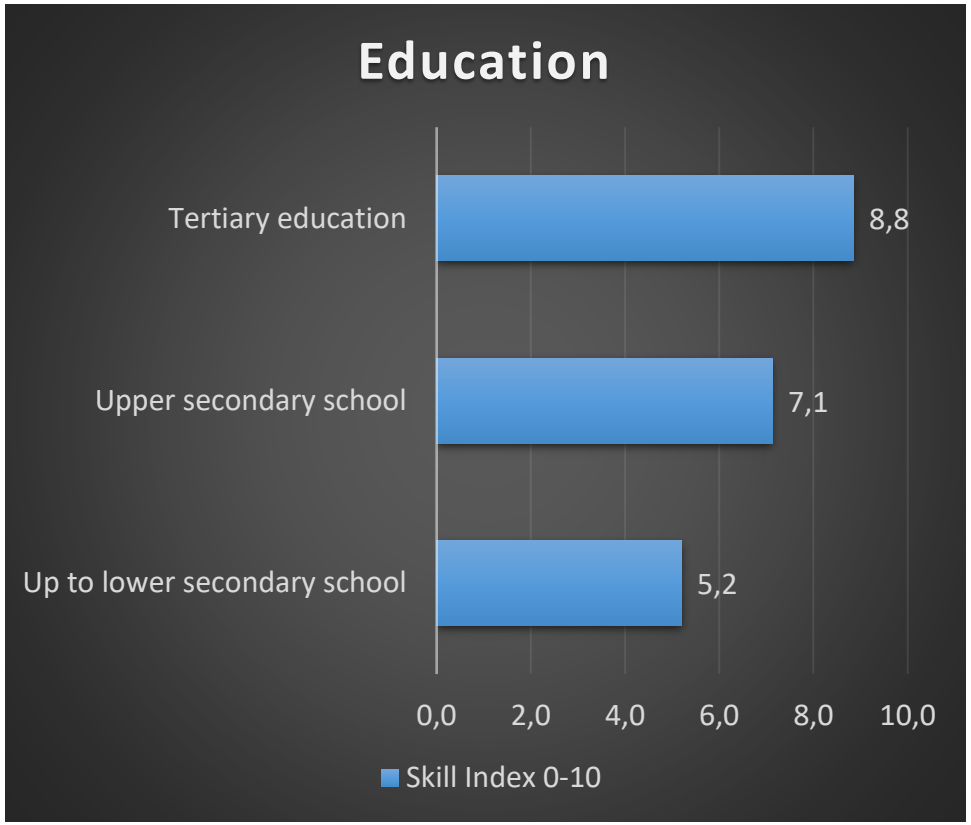
Main descriptive statistics

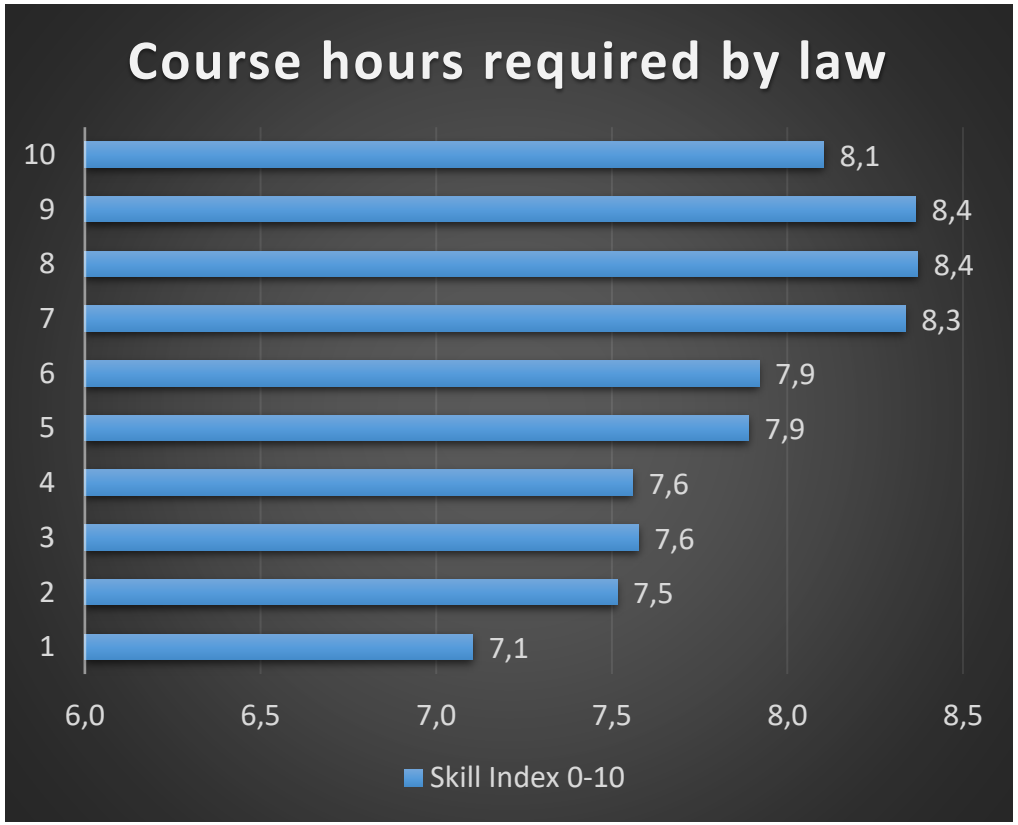




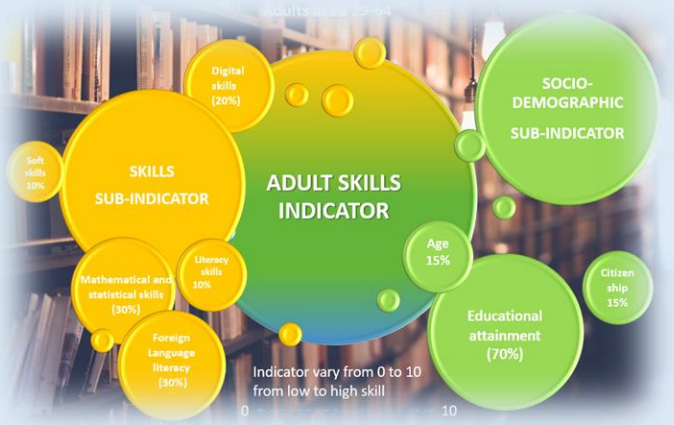
The indicator varies significantly in relation to the targets represented here: professional classifications and employment status.

Main descriptive statistics



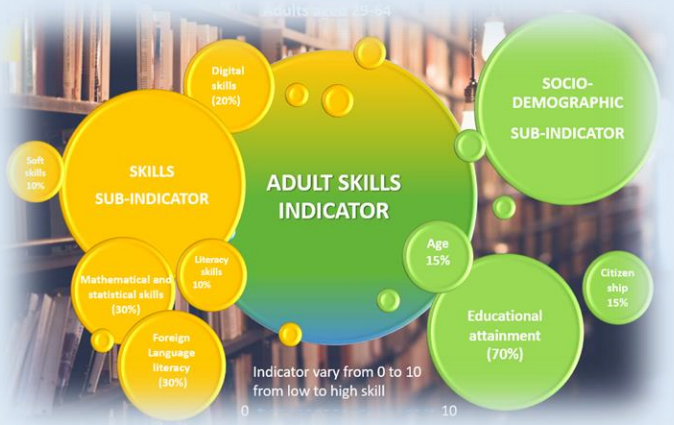


…in relation to level of education and hours of legally required courses attended (from 1 to 10)



	PROFESSIONAL COURSES			
	Yes/no	**n. of courses**	**total hours**	**hours of online courses**
Adult skills indicator	0.02***	0.053***	0.78	1.7***
P value	0.000	0.000	0.124	0.000
Other checks	Yes	Yes	Yes	Yes

	COURSES FOR PERSONAL REASONS			
	Yes/no	**n. of courses**	**total hours**	**hours of online courses**
Adult skills indicator	0.014***	0.05***	1.235***	0.489**
P value	0.000	0.000	0.006	0.052
Other checks	Yes	Yes	Yes	Yes



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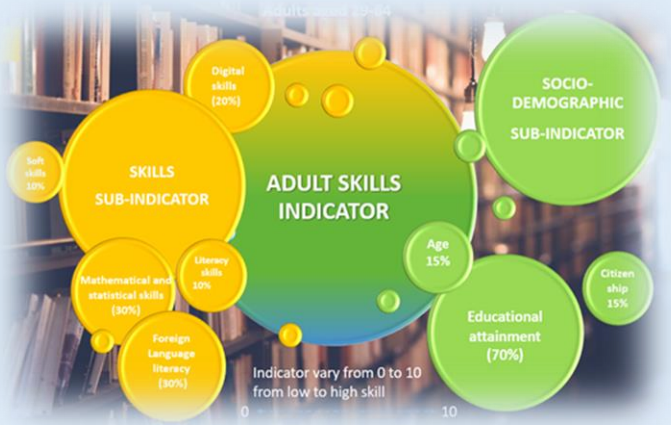
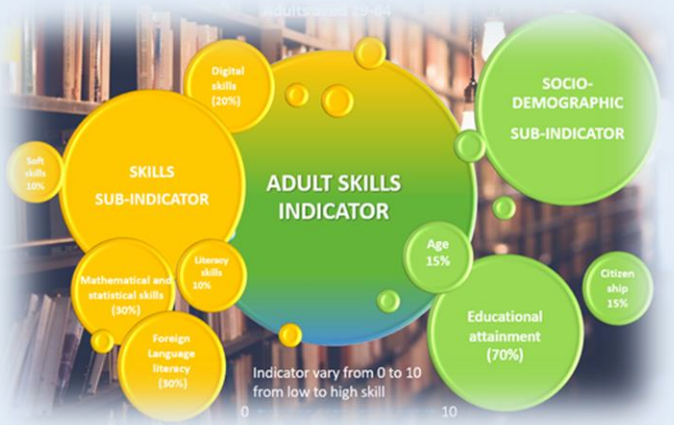
The results indicate that the adult skill indicator is a good predictor of participation in professional courses and the number of courses attended, and **above all the hours dedicated to online courses.**



	IMPORTANCE OF TRAINING	WILLINGNESS TO INVEST TIME IN TRAINING	INTENTIONAL INFORMAL LEARNING USING DIGITAL TECHNOLOGY
Adult skills indicator	0.03***	0.039***	0.058***
P value	0.000	0.000	0.006
Other checks	Yes	Yes	Yes



	IMPORTANCE OF TRAINING	WILLINGNESS TO INVEST TIME IN TRAINING	INTENTIONAL INFORMAL LEARNING USING DIGITAL TECHNOLOGY
Adult skills indicator	0.03***	0.039***	0.058***
P value	0.000	0.000	0.006
Other checks	Yes	Yes	Yes

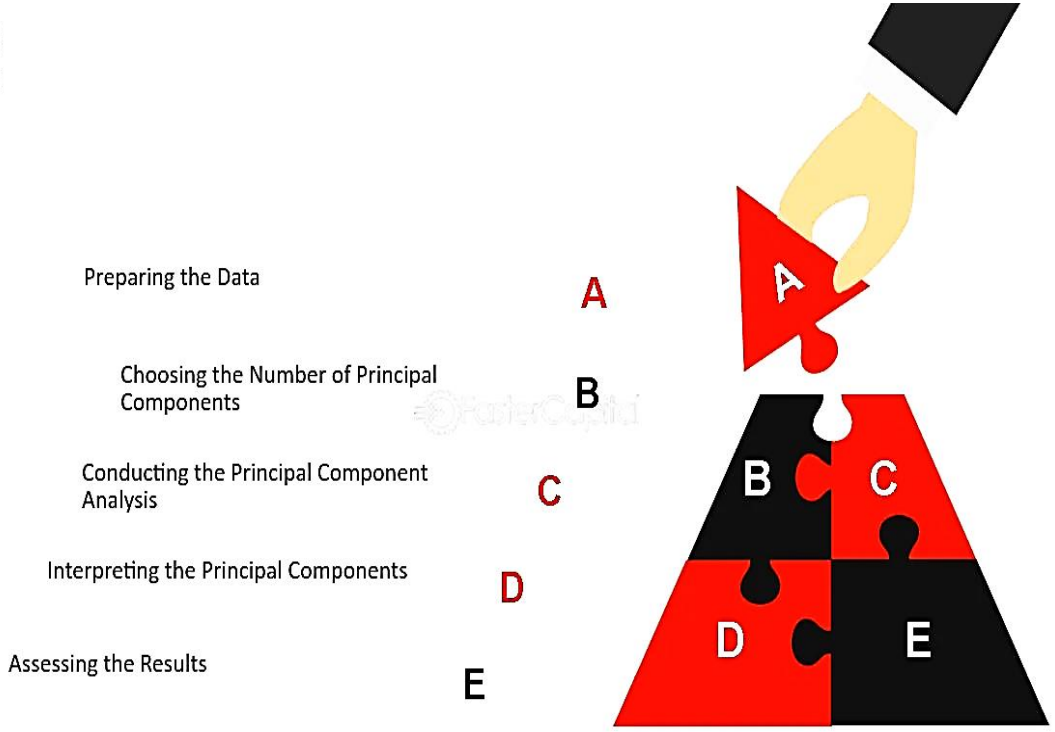
The results indicate a **significant positive relationship between the skill indicator and** the **motivation** to do training, and between the indicator and **informal learning through digital technologies.**

Test of robustness of the index

We subsequently conducted a principal component analysis (PCA) to perform a robustness test of our indicator and the weights assigned to the various dimensions.

The PCA confirmed the validity of the dimensions we identified.
(*The results of this analysis are not the subject of this presentation*)

We are currently carrying out further multivariate analyses based on this indicator, our study is ongoing…



CONCLUSIONS

The digital transition, accompanied by the growing demand for specific skills and flexible, personalised learning methods, is redefining the approach to continuing training (Pedone 2024)

Following the Covid 2020 emergency, **digital literacy has become a central dimension** in promoting employability, citizenship and social inclusion, as well as **in making a person more or less skilled**. **Although the level of digital skills in Italy today is still very low** (only 26.4% % of people aged 25-54 with ISCED 02 have "at least basic" digital skills, EUROSTAT 2023).

The **PNRR** has allocated approximately **21.05% of investments to digitalisation**, to interventions to support the digital skills of the segments of the population at greatest risk of suffering the consequences of the digital divide.

We constructed an indicator by considering the dimensions that most impact a person's level of skill, and we analyzed adult participation in training programs based on the Indaco 2022 data

The results indicate that the **adult skill indicator is a good predictor of participation in training**, in particular in **non-formal or informal learning activities carried out through digital technologies** (e.g. online).

This also indirectly confirms the good construction of the indicator, since it is able to capture significant variations in the educational behavior of adults.

The research results highlighted significant disparities in access to training for the target group with low index levels.

These disparities are **particularly pronounced in access to distance or online training courses**, which we know to be a rapidly growing educational offering.

The penalization of low-skilled adults in an educational and training perspective remains very widespread after years of policies and **disparities risk widening due to the growing digitalisation** that characterizes all sectors of the economy and society **but also the world of education**.

Our study, in addition to contributing to research in this field of study, aims **to providing a solid evidence base for policy makers who want to design profiling tools specifically aimed at those targets who need training**, in order to guarantee fair and effective on the labor market.

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THANKS FOR YOUR ATTENTION

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