Inclusion Policy Lab: Evaluation Results

Aragon: "Aragón Incluye"- Personalized pathways and Digital Skills

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The General Secretariat of Inclusion of the Ministry of Inclusion, Social Security, and Migration has prepared this report within the framework of the Inclusion Policy Lab, as part of the Recovery, Transformation, and Resilience Plan (RTRP). It has been funded by the Next Generation EU funds. The Government of Aragon has participated in the writing of this report as the organization responsible for implementing the project. This collaborating organization is one of the implementers of the pilot projects and has collaborated with the General Secretariat of Inclusion in the design of the RCT methodology, actively participating in the provision of the necessary information for the design, monitoring, and evaluation of the social inclusion itinerary. Likewise, their collaboration has been essential to gathering informed consent, ensuring that the participants in the itinerary were adequately informed and that their participation was voluntary.

A research team coordinated by CEMFI (Center for Monetary and Financial Studies) has substantially contributed to this study. Specifically, Miguel Almunia, professor at the University of CUNEF and Tom Zohar, professor at CEMFI, have participated under the coordination of Mónica Martínez-Bravo (until January 8, 2024) and Samuel Bentolila, professors at CEMFI. The researchers have actively participated in all phases of the project, including the adaptation of the initial proposal to the needs of the evaluation through randomized experiments, the evaluation design, the design of measurement instruments, data processing, and the performance of econometric estimations that lead to quantitative results.

The partnership with J-PAL Europe has been a vital component in the efforts of the General Secretariat of Inclusion to improve social inclusion in Spain. Their team has provided technical support and shared international experience, assisting the General Secretariat in the comprehensive evaluation of pilot programs. Throughout this partnership, J-PAL Europe has consistently demonstrated a commitment to fostering evidence-based policy adoption and facilitating the integration of empirical data into strategies that seek to promote inclusion and progress within our society.

This evaluation report has been produced using the data available at the time of its writing and it is based on the knowledge acquired about the project up to that date. The researchers reserve the right to clarify, modify, or delve into the results presented in this report in future publications. These potential variations could be based on the availability of additional data, advances in evaluation methodologies, or the emergence of new information related to the project that may affect the interpretation of the results. The researcher is committed to continuing exploring and providing more accurate and updated results for the benefit of the scientific community and society in general.

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Executive Summary

- The **Minimum Income Scheme,** established in May 2020, is a minimum income policy that aims to guarantee a minimum income to vulnerable groups and provide ways to promote their social and labor integration.
- Within the framework of this policy, the Ministry of Inclusion, Social Security and Migration (MISSM) fosters a strategy to promote inclusion through pilot projects of social innovation, which are conducted in the **Inclusion Policy Lab**. These projects are evaluated according to the standards of scientific rigor and using the methodology of **Randomized Controlled Trials** (*RTC*).
- This document presents the evaluation results and main findings of the project "Aragon Incluye - Personalized Itineraries and Digital Skills", which has been conducted by **the Department of Social Welfare and Family of the Government of Aragon and the Institute of Social Services (IASS),** in cooperation with the **MISSM**.
- This study evaluates the impact of a **digital skills training pathway** within inclusion programs. The project is aimed at beneficiaries of the MIS or the PACIMV, as well as people in situations of economic and/or social vulnerability residing in Aragon.
- A social or socio-labor inclusion itinerary adapted to the profile of each participant was implemented. Additionally, the treatment group received a comprehensive intervention consisting of 40 hours of digital skills training and support.
- The project was conducted across the three provinces of the Autonomous Region of Aragon: **Huesca, Zaragoza, and Teruel**. A total of 1,831 people agreed to participate, of whom 909 were assigned to the control group and 922 to the treatment group.
- 73% of the participants were women and 55% of the total had a nationality other than Spanish. Moreover, 90% were living below the poverty line prior to the intervention, with 41% facing objective employment barriers. In terms of digital proficiency pre-intervention, 55% had a basic level, 25% intermediate, and only 19% advanced.
- 94% of the participants who responded to the final survey attended at least 80% of the training hours. In addition, 86% of the people who agreed to participate in the project completed both the initial and final survey.
- The main results of the evaluation are as follows:
    - **The treatment increases digital skills:** the treatment has a strong positive effect on digital skills (53% increase compared to the control group). In addition, the treatment also has a positive impact on the level of handling of devices such as computers, tablets, and mobile phones.
    - **Improves interaction with Public Administrations through digital means:** the intervention increases the number of online activities and procedures implemented (32%), as well as knowledge of public administration sites and applications (13%).

1 Introduction

General Regulatory Framework.

The Minimum Income Scheme (MIS), regulated by Law 19/2021[1], is an economic benefit whose main objective is to prevent the risk of poverty and social exclusion of people in situations of economic vulnerability. Thus, it is part of the protective action of the Social Security system in its non-contributory modality and responds to the recommendations of various international organizations to address the problem of inequality and poverty in Spain.

The provision of the MIS has a double objective: to provide economic support to those who need it most and to promote social inclusion and employability in the labor market. This is one of the social inclusion measures designed by the General State Administration, together with the support of Autonomous Communities, the Third Sector of Social Action and local corporations[2]. It is a central policy of the Welfare State that aims to provide minimum economic resources to all people in Spain, regardless of where they live.

Within the framework of the National Recovery, Transformation and Resilience Plan (RTRP),[3] the General Secretariat of Inclusion (onwards, SGI by its acronym in Spanish) of the Ministry of Inclusion, Social Security and Migration (MISSM) participates significantly in Component 23 "New public policies for a dynamic, resilient and inclusive labor market", framed in Policy Area VIII "New care economy and employment policies".

Investment 7: "Promotion of Inclusive Growth by linking socio-labor inclusion policies to the Minimum Income Scheme", is among the reforms and investments proposed in this Component 23. Investment 7 promotes the implementation of a new model of inclusion based on the Minimum Income Scheme (MIS), which reduces income inequality and poverty rates. Therefore, the MIS goes beyond being a mere economic benefit and supports the development of a series of complementary programs that promote socio-labor inclusion. However, the range of possible inclusion programs is very wide, and the government decides to pilot different programs and interventions to evaluate them and generate knowledge that allows prioritizing certain actions. With the support of investment 7 under component 23, the MISSM establishes a new framework for pilot inclusion projects constituted in two phases, through two royal decrees covering a set of pilot projects based on experimentation and evaluation:

[1] Law 19/2021, of 20 December, establishing the Minimum Income Scheme (BOE-A-2021-21007).

[2] Article 31.1 of Law 19/2021, of December 20, 2021, establishing the Minimum Income Scheme.

[3] The Recovery, Transformation and Resilience Plan refers to the Recovery Plan for Europe, which was designed by the European Union in response to the economic and social crisis triggered by the COVID-19 pandemic. This plan, also known as NextGenerationEU, sets out a framework for the allocation of recovery funds and for boosting the transformation and resilience of member countries' economies.

- **Phase I: Royal Decree 938/2021**[4], through which the MISSM grants subsidies for the execution of 16 pilot projects of inclusion pathways corresponding to autonomous communities, local organizations, and the Third Sector of Social Action organizations. This royal decree contributed to the fulfillment of milestone number 350[5] and monitoring indicator 351.1[6] of the RTRP.
- **Phase II: Royal Decree 378/2022**[7], which grants subsidies for a total of 18 pilot projects of inclusion pathways executed by autonomous communities, local organizations, and the Third Sector of Social Action organizations. Along with the preceding Royal Decree, this one helped, the RTRP's monitoring indicator number 351.1 to be fulfilled.

To support the implementation of evidence-based public and social policies, the Government of Spain decided to evaluate the social inclusion pilot projects using the Randomized Controlled Trial (RCT) methodology. This methodology, which has gained relevance in recent years, represents one of the most rigorous tools to measure the causal impact of a public policy intervention or a social program on indicators of interest, such as social and labor insertion or the well-being of beneficiaries.

Specifically, RCT is an experimental method of impact evaluation in which a representative sample of the population potentially benefiting from a public program or policy is randomly assigned either to a group receiving the intervention or to a comparison group that does not receive the intervention for the duration of the evaluation. Thanks to the randomization in the allocation of the program, this methodology can statistically identify the causal impact of an intervention on a series of variables of interest and enables us to analyze the effect of this measure, which helps to determine if the policy is adequate to achieve the planned public policy objectives. Experimental evaluations enable us to obtain rigorous results of the intervention effect, i.e., what changes the participants have experienced in their lives due to the intervention. In addition, these evaluations provide an exhaustive analysis of the program and its effects, facilitating insights into why the program was effective, who has benefited

[4] Royal Decree 938/2021, of October 26, 2021, which regulates the direct granting of subsidies from the Ministry of Inclusion, Social Security and Migration in the field of social inclusion, for an amount of €109,787,404, within the framework of the Recovery, Transformation and Resilience Plan (BOE-A-2021-17464).

[5] Milestone 350 of the RTRP: "Improve the rate of access to the Minimum Income Scheme and increase the effectiveness of the MIS through inclusion policies, which, according to its description, will translate into supporting the socio-economic inclusion of the beneficiaries of the MIS through itineraries: eight collaboration agreements signed with subnational public administrations, social partners and social action entities of the third sector to conduct the itineraries. The objectives of these partnership agreements are: (i) to improve the MVI access rate; ii) increase the effectiveness of the MVI through inclusion policies."

[6] Monitoring indicator 351.1 of the RTRP: "at least 10 additional collaboration agreements signed with subnational public administrations, social partners and social action entities of the third sector to conduct pilot projects to support the socio-economic inclusion of MVI beneficiaries through itineraries".

[7] Royal Decree 378/2022, of May 17, 2022, regulating the direct granting of subsidies from the Ministry of Inclusion, Social Security and Migration in the field of social inclusion, for an amount of €102,036,066, within the framework of the Recovery, Transformation and Resilience Plan (BOE-A-2022-8124).

most from the interventions, whether they have indirect or unexpected effects, and which components of the intervention work and which did not.

These evaluations have focused on the promotion of social and labor inclusion among MIS beneficiaries, recipients of regional minimum incomes and other vulnerable groups. In this way, the MISSM establishes a design and impact evaluation of results-oriented inclusion policies, which offers evidence for decision-making and its potential application in the rest of the territories. The promotion and coordination of 32 pilot projects by the Government of Spain has led to the establishment of a laboratory for innovation in public policies of global reference named as the Inclusion Policy Lab.

For the implementation and development of the Inclusion Policy Lab, the General Secretariat of Inclusion has established a governance framework that has made it possible to establish a clear and potentially scalable methodology for the design of future evaluations and promoting of decision-making based on empirical evidence. The General State Administration has had a triple role as promoter, evaluator and executive of the different programs. Different regional and local administrations and the Third Sector of Social Action organizations have implemented the programs, collaborating closely in all their facets, including evaluation and monitoring. In addition, the Ministry has had the academic and scientific support of the Abdul Latif Jameel Poverty Action Lab (J-PAL) Europe and the Centre for Monetary and Financial Studies (CEMFI), as strategic partners to ensure scientific rigor in the assessments. Likewise, the Social Policy Lab has an Ethics Committee[8], which has ensured the strictest compliance with the protection of the rights of the people participating in the social inclusion itineraries.

This report refers to the pilot project "Aragón Incluye - Personalized pathways and Digital Competencies," implemented under Royal Decree 938/2021[9] by the Department of Social Welfare and Family of the Government of Aragón and the Aragonese Institute of Social Services (AISS). This report contributes to the fulfillment of milestone 351 of the PRTR, "Following the completion of at least 18 pilot projects, publication of an evaluation on the coverage, effectiveness, and success of the IMV, including recommendations to increase application rates and enhance the effectiveness of social inclusion policies".

Context of the project

Social exclusion represents a multifaceted challenge impacting millions globally, encompassing not only insufficient economic resources to fulfil basic needs like sustenance, shelter, and healthcare but

[8] Regulated by Order ISM/208/2022, of March 10, 2022, which creates the Ethics Committee linked to social inclusion itineraries, on 20/05/2022 it issued a favorable report for the realization of the project that is the subject of the report.

[9] On the 16th of december, 2021, an Agreement was signed between the General Administration of the State, through the SGI, and the Autonomous Region of Aragon for the implementation of a social inclusion project within the framework of the Recovery, Transformation, and Resilience Plan, which was published in the Official State Gazette on February 1,, 2022 (BOE No. 27).

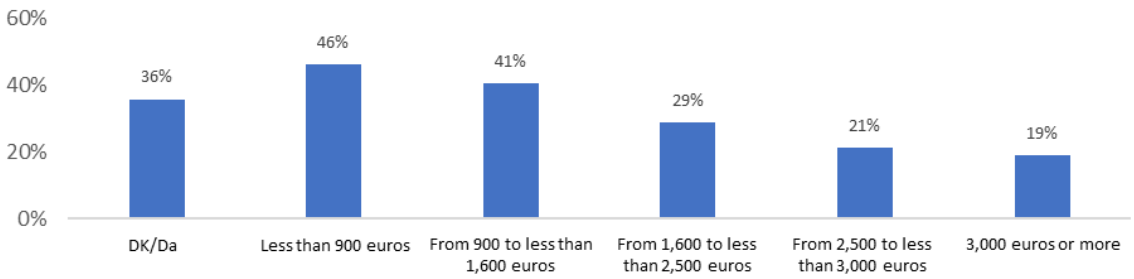
also the denial of educational, employment, and social opportunities vital for holistic human development and societal integration.

The report "Report on the World Social Situation 2016: Leaving no one behind: the imperative of inclusive development," prepared by the Department of Economic and Social Affairs (DESA) of the United Nations (UN), highlights the multidimensional nature of the issue, identifying various causes. These include poverty, inequality, limited employment prospects, discriminatory practices, and entrenched social, cultural, and political norms.

The 13th Annual Report on Poverty in Spain, prepared by the European Anti-Poverty Network (EAPN), reveals a concerning reality about social exclusion in the country. In 2022, approximately 26% of the population, roughly 12.3 million individuals, face risk of poverty and/or social exclusion. These findings underscore the persistent challenge of extreme poverty and exclusion rates, suggesting deep-seated structural issues requiring comprehensive attention.

Individuals facing the risk of social exclusion frequently confront deficits in fundamental personal and digital competencies, heightening their vulnerability by constraining their access to essential government services, educational materials, employment prospects, and healthcare facilities. For instance, in Spain, as per the Survey on Equipment and Use of Information and Communication Technologies in Households administered by the National Institute of Statistics (INE), 46% of individuals earning monthly net incomes below 900 euros exhibit low or inadequate digital proficiencies, with this percentage escalating among those with lower educational attainment levels.

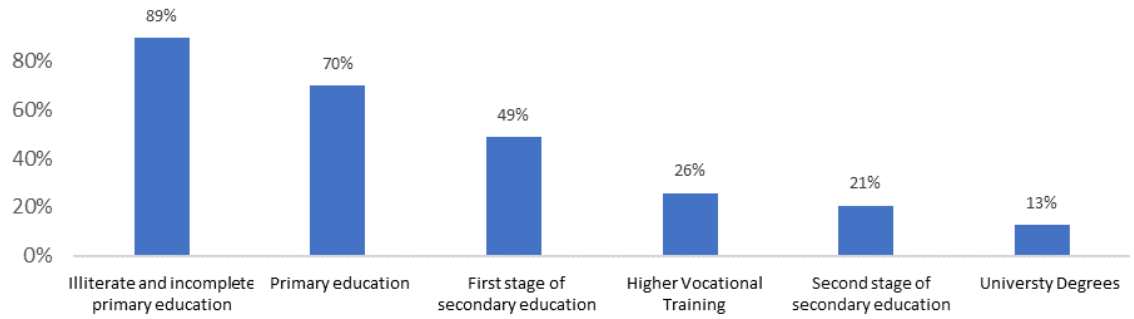
Figure 1: Percentage of individuals (aged 16 to 74) with low or insufficient Digital Skills based on monthly net household income[10]



Source: Survey on Equipment and Use of Information and Communication Technologies in Households, INE

[10] Digital competence is based on the Eurostat methodology. Only individuals who have used the Internet in the last three months are considered, and it establishes four types of skills: no skills, low skills, basic skills, and advanced skills. These are constructed based on the level of proficiency in Information, Communication, Problem-solving, and ICT competencies.

Figure 2: Percentage of individuals (aged 16 to 74) with low or insufficient Digital Skills based on academic level



Source: Survey on Equipment and Use of Information and Communication Technologies in Households, INE

In this context, the Autonomous Region of Aragon could obtain significant benefits from an intervention focused on basic and digital skills training for the most vulnerable individuals. From a socio-economic perspective, data from EAPN reveal that the community exhibits a poverty or social exclusion risk rate (AROPE indicator) of 19.1%, with 251,004 individuals in this situation. The digital landscape in this region presents considerable challenges, with 38.5% of users possessing low or insufficient digital skills, compared to 35.4% at the national level.

Normative framework associated with the project and governance structure

The issue of social exclusion has been addressed by a wide range of public bodies. For instance, at the European level, the 2021 action plan for the social economy was approved, aiming to complement the actions of Member States in providing quality social services cost-effectively and integrating disadvantaged groups into the labor market and society at large. In the Spanish context, the reference document is the National Strategy for the Prevention and Fight against Poverty and Social Exclusion, which reflects the Spanish Government's commitment to maintaining and developing the Welfare State to respond to social challenges, especially for the full social inclusion of the most vulnerable individuals.

Regarding diversity in access to digital technologies, the UN has emphasized the importance of closing this gap since the World Summit on the Information Society, highlighting the need for investments in digital infrastructure and skills. On the European level, two key initiatives have emerged to address this issue. Firstly, the Digital Education Action Plan 2021-2027 aims to improve the quality and accessibility of digital education in Europe, promoting a high-performance digital education ecosystem and enhancing digital skills. Secondly, the European Digital Decade, with the goal of ensuring that technology and innovation benefit everyone, sets specific targets in areas such as connectivity, digital skills, and digital public services.

Moreover, the Government of Spain has contributed with initiatives such as Spain Digital 2026, a roadmap aimed at driving the digital transformation of the country to achieve equitable economic growth. The National Digital Skills Plan, part of the Digital Agenda 2026 and the Recovery,

Transformation, and Resilience Plan, aims to promote digital training and inclusion of the population in general and of workers in particular, with an investment of 3.75 billion euros for the period 2021-2023.

Finally, all European and national regulations are in line with the framework established in the 2030 Agenda and the Sustainable Development Goals (SDGs). The pilot project addressed in this report is aligned with European and national strategies in the field of social inclusion policies, as well as with the 2030 Sustainable Development Agenda, specifically contributing to SDGs 1, 4, 8, and 10.

Given the close relationship between economic poverty, low educational attainment, and high digital-skill gap, the Government of Aragon has conceived a project aimed at improving the social and labor inclusion of vulnerable individuals.

The main scientific objective is to evaluate the acquisition of digital skills and their impact on autonomy and interaction to seek employment and access to health, education, social services, financial market, and products/services.

The governance framework configured for the proper execution and evaluation of the project includes the following actors:

- **The Department of Social Welfare and Family of the Government of Aragon and the Aragon Institute of Social Services (IASS)**, as the entity responsible for project execution. The Department of Social Welfare and Family of the Government of Aragon is tasked with planning, executing, and overseeing policies to support and protect family structures, as well as managing a public system of social services to protect various vulnerable populations. On the other hand, the Aragon Institute of Social Services is an autonomous body attached to the Department of Social Welfare and Family responsible for ensuring public responsibility in social services.
- **The Ministry of Inclusion, Social Security, and Migration (MISSM)**, as the project financier and responsible for the RCT evaluation. Therefore, the General Secretariat of Inclusion assumes a series of commitments with the Government of Aragon:
    - Provide support to the beneficiary entity for the design of actions to be implemented, for the execution and monitoring of the grant's purpose, as well as for profiling potential participants in the pilot project.
    - Design the randomized controlled trial (RCT) methodology of the pilot project in coordination with the beneficiary entity and scientific collaborators, in addition of conducting the project evaluation.
    - Ensure strict compliance with ethical considerations by obtaining approval from the Ethics Committee.
- **CEMFI and J-PAL Europe**, as scientific and academic institutions supporting MISSM in the design and RCT evaluation of the project.

Taking all the above into account, this report follows the following structure. **Section 2** provides a **description of the project**, detailing the issue to be addressed, the specific interventions implemented, and the target audience for the intervention. Next, **Section 3** contains information regarding the **evaluation design**, defining the Theory of Change linked to the project and the hypotheses, sources of information, and indicators used. **Section 4** describes **the implementation of the intervention**, analyzing the sample, the results of randomization, and the degree of participation and attrition in the intervention. This section is followed by **Section 5**, which presents the **evaluation results,** with a detailed analysis of the econometric analysis conducted and the results for each of the indicators used. The general **conclusions** of the project evaluation are described in **Section 6**. **The Economic and Regulatory Management appendix** provides additional information on project management instruments and governance.

Ethics Committee linked to Social Inclusion Itineraries

During research involving human subjects in the field of biology or the social sciences, researchers and workers associated with the program often face ethical or moral dilemmas in the development of the project or its implementation. For this reason, in many countries it is common practice creating ethics committees that verify the ethical viability of a project, as well as its compliance with current legislation on research involving human beings. The Belmont Report (1979) and its three fundamental ethical principles – respect for individuals, profit and justice – constitute the most common frame of reference in which ethics committees operate, in addition to the corresponding legislation in each country.

With the aim of protecting the rights of participants in the development of social inclusion itineraries and ensuring that their dignity and respect for their autonomy and privacy are guaranteed, Order ISM/208/2022 dated March 10 creates the Ethics Committee linked to Social Inclusion Itineraries. The Ethics Committee, attached to the General Secretariat of Inclusion and Social Welfare Objectives and Policies, is made up of a president – with an outstanding professional career in defense of ethical values, a social scientific profile of recognized prestige and experience in evaluation processes – and two experts appointed as members.

The Ethics Committee has conducted analysis and advice on the ethical issues that have arisen in the execution, development and evaluation of the itineraries, formulated proposals in those cases that present conflicts of values and approved the evaluation plans of all the itineraries. In particular, the Ethics Committee issued its approval for the development of this evaluation on July 22, 2022.

2 Description of the program and its context

2.1 Introduction

The "Aragon Incluye" project aims to promote social inclusion among the most vulnerable individuals through the implementation of personalized pathways. These pathways are designed to enhance the personal, social, and digital skills of the participants, with the purpose of ensuring the ethical principle of accessibility and the universal right every citizen has, to use products and services under equitable conditions.

In the field of combating social exclusion, McFarland's (2017) study emerges as a prominent empirical investigation, offering a comprehensive overview of various experiments related to basic income policies. Notably, several of these experiments employ randomized controlled trials, establishing them as significant benchmarks for comprehending the impacts of public policies offering basic incomes.

Within scientific literature, there are precedents showcasing positive outcomes of support programs. A standout example is the evaluation of the pilot program B-MINCOME (Todeschni & Sabes-Figuera, 2019) in Barcelona, which integrated monetary transfers with social and employment inclusion measures such as training and socialization activities. Results indicated reductions in material deprivation and food insecurity, alongside improvements in life satisfaction, sleep quality, and community participation. However, no significant effects were observed on employment status or health perception. Additionally, a current study by J-PAL North America (Espinosa, Evans, & Phillips, Work in progress) is examining the impact of a program designed to aid adults in overcoming economic challenges. This program assigns mentors to guide participants in goal setting and action planning, while also providing financial incentives and support staff to facilitate job placement and address dependent-related needs.

Regarding the digital branch of treatment, there is also scientific evidence to support it. The study by Lee et al. (2022), conducted in South Korea, found positive impacts of digital literacy training on the use of digital devices among adults over 65 years old, demonstrating improvements in well-being and cognitive function. Choudhary and Bansal (2022) conducted a review of digital training programs, revealing a variety of impacts largely dependents on the quality of services and program structure.

2.2 Target population and territorial scope

The "Aragon Incluye" program targets individuals who qualify for the Minimum Income Scheme (MIS) or the Aragonese Complementary of the Minimum Income Scheme Benefit (PACIMV), as well as those experiencing economic and/or social vulnerability, regardless of their receipt of these benefits. This group includes old beneficiaries of the Aragonese Integration Income (IAI), users whose risk situation is known to entities, and individuals with vulnerability certificates. Targeted segments include youth

from protective services, individuals under guardianship, mothers responsible for dependent children, survivors of gender-based violence, individuals confronting complex familial situations, migrants, persons with disabilities, homeless individuals, current or former inmates, individuals dealing with substance abuse, and those experiencing impoverishment with limited family or social connections.

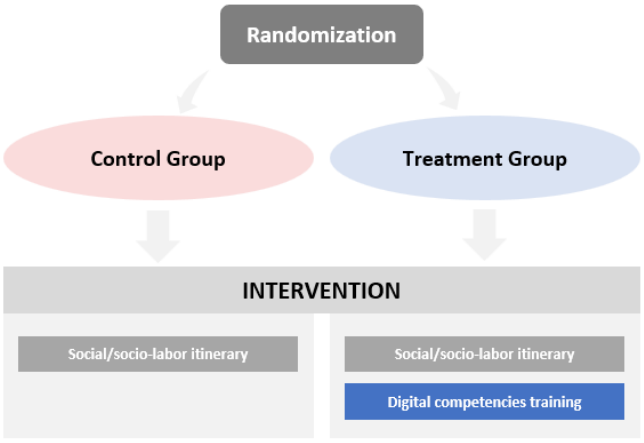
The implementation of the project spans across the three provinces of the autonomous region of Aragon (Huesca, Zaragoza, and Teruel).

2.3 Description of interventions

The project's training plan is customized to accommodate the varied needs of participants, stratifying them based on their employment status into two specific pathways: one with a social focus, targeting individuals encountering objective barriers hindering current employment access, and another socio-labor track, designed for those experiencing challenges in employment access but possessing socio-personal circumstances amenable to intervention.

Within the project framework, participants are equitably allocated into two distinct groups: a treatment group, which will undergo the intervention under evaluation, including 40 hours of training in digital competencies and support, and a control group, exempt from these specified activities. This methodology facilitates a robust evaluation of intervention impact through comprehensive analysis and comparison of outcomes between both groups.

Figure 3: Intervention scheme by intervention group



Social/socio-labor itinerary

The intervention designed for all project participants follows a structured approach encompassing multiple phases and action, with the aim of addressing the individual needs of the participants and promoting their social and labor integration. In the initial phase, specific attention is given to each

participant to identify their needs, skills, competencies, and personal and familial situation, through comprehensive interviews lasting approximately 2 hours. This phase results in the classification of participants to social or socio-labor itineraries according to their identified needs.

Subsequently, a mutually agreed intervention plan is established between the professional and the participant, delineated in a commitment document outlining the actions to be undertaken within the social or socio-labor itinerary. Each participant is assigned an itinerary tutor, offering personalized guidance from project inception to evaluation and closure.

The intervention phase is structured into different thematic areas designed to address the specific needs of the participants:

- In the **personal area**, group workshops are conducted with a focus on the development of personal and relational competencies, aiming to promote well-being and enhance participants' self-esteem.
- In the **economic area**, individual tutoring sessions are offered to provide detailed information on basic income and available economic benefits, as well as to offer support in related administrative procedures, ensuring access to necessary benefits.
- In the **health area**, individual tutoring sessions are conducted to familiarize participants with the healthcare system, promote healthy habits, and prevent health risks, aiming to acquire knowledge about the organization of the healthcare system and promote preventive health measures.
- In the **housing area**, individual tutoring sessions are provided to inform and guide participants regarding available housing resources and facilitate access to housing benefits, with the objective of ensuring adequate housing access and promoting expense planning and energy savings.
- In the **social promotion area**, information is provided on available community resources to encourage social support and community integration, aiming to promote active participation in the community and strengthen social networks.
- In the **pre-employment area**, guidance is provided to acquire social skills and knowledge about the labor market, with the purpose of facilitating employment insertion and professional development of the participants.
- In the **educational area**, information and guidance are offered on the educational system and training opportunities, aiming to facilitate access to education and promote academic development of the participants.
- In the **labor area**, weekly individual career tutoring sessions are conducted addressing key aspects of employment insertion and professional development of the participants. Please help me express this clearly, precisely, and using technical language, detailed information is provided on job search, entrepreneurship, labor market, and business fabric. Effective job search techniques are imparted, practical aspects of interviews are addressed, and guidelines

on labor rights are provided. The objective is to provide knowledge about the labor market, develop job search skills, and promote employment insertion of the participants.

- In the **equality area**, workshops with a gender perspective are organized to promote awareness of equal opportunities and prevention of discrimination, aiming to raise awareness and sensitize participants about these issues.

Both itinerary modalities include follow-up tutorials, during which the actions undertaken to date are reviewed. These sessions involve analyzing progress made, identifying encountered challenges, and evaluating the necessity to adjust the intensity or pace of activities based on the specific needs and circumstances of each participant.

Digital competencies training

The supplementary intervention aimed at the treatment group, distinct from the control group, focuses on executing training sessions specifically tailored to mitigate the digital divide and advance technological inclusivity. This process is led by specialized professionals, including teaching staff with digital competencies and social references. The intervention consists of two phases: an initial training phase and a phase of personalized accompaniment.

Initially, participants will undergo exclusive initial assessment questionnaires to determine their starting level of digital competency within the program. These levels may range from basic to advanced. Each level entails five thematic blocks, 20 hours in total, with bi-weekly group sessions accommodating 12 participants per group.

At level 1, dedicated to basic digital competencies, Block 1 focuses on "Computer device management," addressing start, shut down, and hibernation, as well as the use of keyboard, mouse, and basic programs. In Block 2, "Information processing," browsers, search engines, and security measures are explored. "Communication" is addressed in Block 3, including email, synchronous communication applications, and social networks. Block 4, "Office tools," presents basic handling of Word and Notes. Finally, in Block 5, "Online procedures and management," online requests and the use of various applications and platforms are covered.

At level 2, intermediate digital competencies progress towards file and folder management, problem-solving in "Computer device management" (Block 1). In Block 2, "Information processing", deeper exploration of browsers, search engines, and security is undertaken, including payment methods and parental control. "Communication" is expanded in Block 3, including advanced email functions, synchronous communication applications, and social networks. Block 4, "Office tools," includes advanced tool handling and practical application. Block 5, "Online procedures and management," addresses topics such as the Cl@ve System, online banking, and public benefits requests.

Lastly, level 3 is oriented towards advanced digital competencies, going deeper into program installation, network configuration, and advanced problem-solving in "Computer device management" (Block 1). Block 2, "Information processing," includes advanced search techniques,

security, and cloud storage. "Communication" is expanded in Block 3, exploring forums, collaborative tools, and codes of conduct. Block 4, "Office tools," includes handling advanced tools and their practical application. Finally, in Block 5, "Online procedures and management," topics such as the General Electronic Registry of the Government of Aragon are addressed.

The training program is complemented by a personalized accompaniment process designed to consolidate the digital competencies acquired during the training, adapting them to the specific needs of each participant. Twenty hours of individualized support and accompaniment will be provided, distributed into individual tutoring sessions lasting 2 hours and 30 minutes each. These sessions are conducted bi-weekly over a period of 4 months. Throughout this process, the aim is to practically apply the knowledge obtained in training across various intervention areas, such as personal aspects, housing, education, health, and employment. The individualized attention will allow for precise adaptation to the needs and learning rhythms of each participant, thereby maximizing the positive impact of the intervention.

PUZLE tool

Furthermore, this project is distinguished by its innovative nature in introducing the use of the PUZLE tool to optimize information management. The 22 participating entities, along with the coordination of the Aragonese Network, will employ the PUZLE computer tool with the aim of centralizing data and information recording. To ensure efficient operation, two monthly mixed commissions are held, in which representatives designated by each coordinating entity of the project participate. Additionally, dedicated joint commissions are formed for financial oversight and management, as well as for communication. These commissions focus on ensuring coherence in the contents of the actions and activities developed.

In this context, half of the networks are randomly selected to inform all participants in the project (both, those in the control group and those in the treatment group) about the existence of the PUZLE tool. Subsequent evaluation will aim to determine if there is any significant disparity in attendance at various workshops and in the completion rate of the itinerary between those who have received information about the tool and those who have not.

3 Evaluation design

This section describes the design of the impact evaluation for the programs outlined in the preceding section. It explains the theory of change which identifies the mechanisms and aspects to be measured, the hypotheses to be tested in the evaluation, the sources of information to construct indicators, the indicators themselves, and the experimental design.

3.1 Theory of change

To design an evaluation that enables us understanding of the causal relationship between the intervention and its ultimate objective, the process starts with the development of a Theory of Change. The Theory of Change facilitates the schematization of the relationship between the identified needs in the target population, the benefits or services provided by the intervention, and the immediate as well as medium to long-term outcomes sought by the intervention, comprehending the interrelations among them, the assumptions upon which they rest, and outlining measures or outcome indicators.

Theory of Change

A Theory of Change begins with the accurate identification of the needs or issues intended to be addressed and their underlying causes. This situational analysis should guide the design of the intervention, i.e., the activities or products provided to alleviate or resolve the needs, as well as the processes necessary to properly implement the treatment. Subsequently, the Theory of Change identifies the expected effect(s) based on the initial hypothesis, i.e., what changes - in behavior, expectations, or knowledge - are expected to occur in the short term because of the actions taken. Finally, the process concludes with the definition of the medium to long-term outcomes that the intervention aims to achieve. Occasionally, intermediate outcomes directly resulting from the actions are identified, and ultimate outcomes represent the indirect effects.

The development of a Theory of Change is a fundamental element of impact evaluation. During the design stage, the Theory of Change aids in formulating hypotheses and identifying the necessary indicators for outcome measurement. Once the results are achieved, the Theory of Change makes it easier, if results are not as expected, to detect which part of the hypothetical causal chain failed, as well as to identify, in case of positive results, the mechanisms through which the program works. Similarly, the identification of the mechanisms that made the expected change possible allows a greater understanding of the potential generalization or not of the results to different contexts.

In this context, the Theory of Change emerges as an essential instrument to guide this initiative aimed at addressing the digital gap affecting vulnerable individuals. Specifically, it aims to address the digital skills gap, referring to disparities in abilities to utilize Information and Communication Technologies (ICT). This discrepancy may result from inadequate education or training in technology usage, as well as from a lack of confidence or experience in this domain, thereby constraining the opportunities offered by ICT, such as enhanced access to employment and social rights.

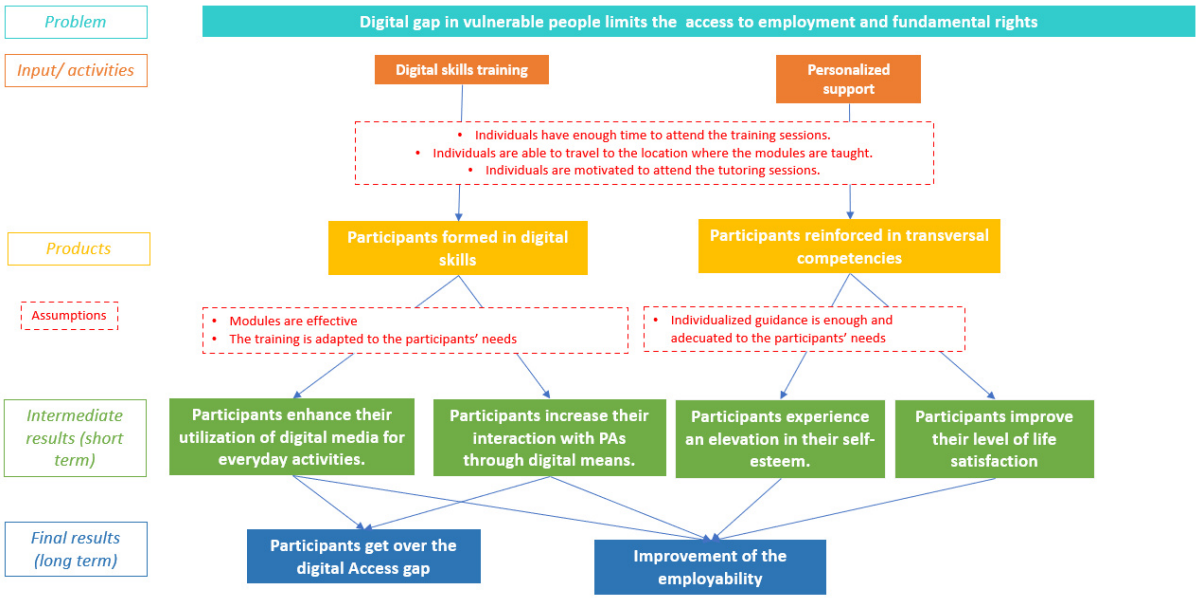
To comprehensively address the issue, the intervention is organized into two strategic phases. The initial phase focuses on specialized training to enhance participants' proficiency in using digital tools. The second phase specialized training to enhance participants' proficiency in using digital tools.

All these resources and activities conducted yield a series of products. By measuring these products, it is determined whether beneficiaries have received the activities or inputs and to what extent. Receiving the resources and activities effectively is essential for the program to achieve the expected intermediate and final outcomes since, if beneficiaries do not effectively receive the program, it is difficult to observe improvements in employability or digital access indicators. In this project, products are defined as the number of individuals receiving digital training and the number of individuals receiving reinforcement tailored to their needs. Thus, for example, personalized support aims to strengthen participants' cross-cutting capacities by promoting their social integration. Without the receipt of these products or benefits, improvements in the beneficiaries' situation cannot be expected.

In the short term, through training in digital skills, participants are expected to significantly enhance their use of digital media in their daily activities, as well as their interaction with Public Administrations (PA) through digital platforms. Additionally, personalized support is expected to result in an increase in self-esteem and life satisfaction levels among participants. Ultimately, these outcomes are projected to lead participants to overcome the digital access gap and improve their employability.

The following figure illustrates this causal sequence of actions, initiated by the identified needs or issues and the activities and resources required to achieve the expected changes in participants.

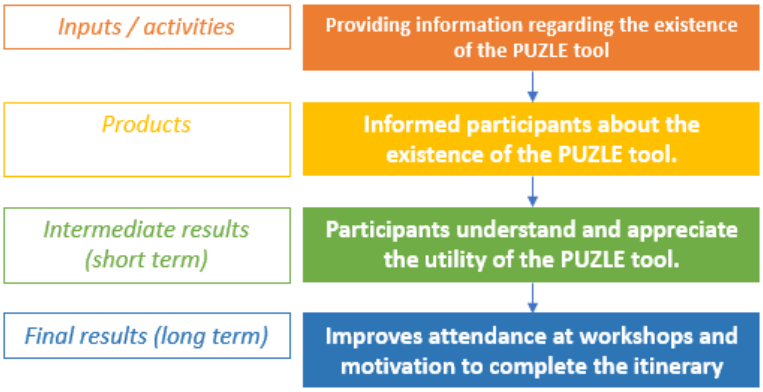
Figure 4: Theory of Change, digital training and personalized support



In addition to the training in digital skills and personalized support, the project incorporates the PUZLE tool as a coordination mechanism to unify data and information records. For this intervention, the project implements the Theory of Change as a framework that starts with the introduction of the PUZLE tool to a specific group of participants. This approach aims to ensure that participants

comprehend and appreciate the utility of the tool, with the expectation of generating a positive impact on their engagement in workshops and stimulating motivation to successfully complete the itinerary.

Figure 5: Theory of Change, PUZLE knowledge



3.2 Hypothesis

The primary objective of the intervention is to enhance the digital competencies of the participants, enabling them to increase their autonomy and engagement in seeking employment, as well as accessing health, education, social services, financial markets, and various products and services.

To this end, the following hypotheses have been formulated:

Digital competencies improvement

The main hypothesis considers that training in digital skills significantly contributes to enhancing the participants' digital competencies. The evaluation incorporates two secondary hypotheses. The first suggests that digital skills training improves the use of digital media in daily activities. The second hypothesis proposes that such training contributes to better interaction with Public Administrations.

Employability improvement

To evaluate the efficacy of the intervention on participants' employability, the hypothesis considers that training in digital skills, along with personalized support, enhances the employability of the participants.

Self-esteem improvement

The hypothesis proposes that personalized support has a positive impact on the participant's self-esteem.

Improvement on the live satisfaction level

The hypothesis suggests that personalized support is significantly associated with participants' level of life satisfaction.

PUZLE tool utility

The principal hypothesis posits that awareness of the PUZLE tool's existence significantly influences beneficiaries' participation in workshops and their successful completion of the entire itinerary.

3.3 Sources of information

To gather the necessary data for constructing outcome indicators, participants undergo surveys and tests administered by the technical staff of each of the 22 implementing entities of the project. These assessments occur at two time points: **before the intervention** (baseline) and **after the intervention** (endline).

The information is collected through three main tools:

- **Individual interview with the participants**: Participants undergoes in-person individual interviews to assess their score on the Employability Factors Scale (Martínez-Rueda & Galarreta, 2021) both before and after the intervention.
- **Questionnaire**: Participants are required to complete a questionnaire both before and after the intervention, delving into various technological and personal well-being aspects. The questionnaire encompasses topics such as device ownership, internet connections, usage habits, familiarity with online procedures, knowledge of specific applications, computer literacy, interest in expanding internet usage, and aspects related to personal satisfaction. These responses furnish a comprehensive insight into participants' interaction with technology and their overall well-being.
- **Competency test**: The digital competency acquisition test is structured into three levels: basic, intermediate, and advanced, each with specific evaluation criteria. At the basic level, skills such as handling computer devices, information processing, communication, office tools, and online procedures are assessed. The intermediate level includes more advanced aspects such as information search and organization, social media communication, video calls, and office tool usage for budgeting. Finally, the advanced level addresses tasks such as software installation, parental control configuration, forum creation, resume design, and advanced online procedures such as acquiring a digital signature. Participants are assigned a level corresponding to the exam they fail to pass before starting the itinerary, and they retake the same exam at the end of the intervention to assess progress. Each level is passed by achieving a score of 60% or more on the final grade, composed of various specific assessments.

The **PUZLE tool** is employed to record all project activities, aiming to centralize data and information records. The process of managing individual files through the PUZLE computer tool is characterized by being hybrid. It includes an automated phase, which involves the prior adaptation of the tool to the methodological and research requirements of the project. This phase encompasses information such as personal data, results of digital competency and employability tests, as well as attachments to the

files that are manually signed, scanned, and added to the system. Additionally, individualized technical monitoring is implemented throughout the intervention phase, both with the corresponding social and socio-labor itineraries and with the treatment group participating in digital competency training. The qualitative information collected during individualized tutoring sessions is manually recorded in the PUZLE platform.

3.4 Indicators

In this section, the indicators used for the impact evaluation of the itinerary are described, divided by thematic areas related to the hypotheses previously outlined.

Digital competencies

To measure digital skills, the following indicators are used:

- **Digital Competence Test Score**: This indicator represents the score obtained by each participant in the digital test corresponding to the level they did not pass in the initial survey. In other words, if a participant does not reach a minimum score of 60% in the initial survey for the intermediate level, the indicator will refer to the results of the intermediate level test. Possible values range from 0 to 100
- **Internet Usage Frequency**: A categorical variable measuring, on a scale of 1 to 4, participants' internet usage over the last three months. A value of 4 signifies daily or near-daily usage, 3 denotes usage at least once a week but not daily, 2 indicates less than once a week, and 1 signifies sporadic usage, i.e., less than once a month.
- **Computer Device Handling**: A categorical variable measuring, on a scale of 1 to 3, participants' perception of their computer handling skills. A value of 3 indicates that the participant considers themselves proficient, 2 indicates regular proficiency, and 1 indicates poor proficiency.
- **Tablet Device Handling**: A categorical variable measuring participants' perception of their tablet handling skills on a scale of 1 to 3. A value of 3 indicates proficiency, 2 indicates regular proficiency, and 1 indicates poor proficiency.
- **Mobile Device Handling**: A categorical variable measuring participants' perception of their mobile phone handling skills on a scale of 1 to 3. A value of 3 indicates proficiency, 2 indicates regular proficiency, and 1 indicates poor proficiency.
- **Internet Usage for Activities**: An indicator constructed from responses to twelve questions about specific online activities performed in the last three months, such as sending emails, participating in social networks, or searching for health information, among others. The indicator value reflects how many activities the participant has performed, thus ranging from 0 to 12. Additionally, there is an alternative version of this indicator that excludes the activity "Communicating with children's educational center," restricting the value range to a maximum of 11.

- **Online Procedures**: An indicator constructed from responses to fourteen questions about specific online procedures conducted with the Public Administration in the last three months, such as requesting appointments or renewing job demands, among others. The indicator value reflects the number of procedures completed, ranging from 0 to 14.
- **Lack of Competence in Online Procedures**: An indicator generated from eight responses revealing the reasons why participants did not complete certain online procedures. For each of the eight considered procedures, the indicator adds one point if the participant did not complete it due to lack of knowledge or because another person processed it on their behalf. If other reasons are mentioned or if the participant declares having completed the procedure, the indicator does not add points. Thus, the indicator value for each participant ranges from 0 to 8.
- **Knowledge of Public Administration Websites**: An indicator derived from responses to eight questions exploring participants' familiarity with digital identity tools and Public Administration websites or applications. The indicator value reflects how many websites or applications the participant knows, ranging from 0 to 8.

Employability

To analyze the improvement in participants' employability, the following indicator is utilized:

Employability: This indicator assesses participants' ability to access employment using the Gizatea Employability Scale (Martínez-Rueda and Galarreta, 2021). The scale consists of 44 items distributed across four sections: personal and social circumstances, educational and employment trajectory, professional performance, and job search. Each item in the first section is scored from -3 to 0, while items in the remaining sections are scored from 0 to 3. Consequently, the total score range is established between -36 and 99.

Self-esteem

The indicator of self-esteem level. This indicator assesses the participant's self-esteem using the Rosenberg Self-Esteem Scale. The scale comprises ten items, each of which is a statement about personal worth and self-satisfaction. Each item is scored from 1 to 4, resulting in a minimum score of 10 and a maximum of 40.

Life satisfaction

General evaluation of participant satisfaction: A categorical variable measuring on a scale from 0 to 10 the level of participant satisfaction. 0 represents total dissatisfaction, and 10 represents total satisfaction.

PUZLE tool

Attendance to activities: Total percentage of attendance to training activities**.**

3.5 Experiment design

With the aim of assessing the effect of personalized versus traditional treatment on indicators of employment status, economic situation, residential situation, and quality of life, an experimental assessment (RCT) is used. The process of recruiting and selecting the beneficiaries of the intervention, as well as the random assignment and time frame of the experiment, is detailed below.

Recruitment of intervention beneficiaries:

Within the framework of the "Aragon Incluye" project, the target population is defined as individuals aged 18 to 65 who receive the Minimum Income Scheme (MIS) or the Aragonese Complementary Minimum Living Scheme Benefit (PACIMV), as well as individuals at risk of exclusion, both economically and socially, regardless of their enrolment in these programs. It is estimated that around 205,000 people in Aragon belong to the poverty-stricken group targeted by this project.

The initial projection anticipated around 2,000 beneficiaries residing in the Autonomous Region of Aragon, with a minimum threshold of 1,600 beneficiaries. Recruitment is facilitated through the 22 entities affiliated with the Aragonese Network of Social Entities for Inclusion. These entities directly engage potential participants through group informational sessions and internal dissemination processes targeting individuals with prior participation in social intervention programs. Dissemination efforts are concentrated on families matching the project's demographic profile. Contact prioritization follows a sequence: first, MIS and PACIMV recipients; second, former recipients of IAI and other vulnerable individuals. Interested individuals undergo project explanation sessions and sign informed consent forms to participate.

Informed Consent

One of the fundamental ethical principles of research involving human subjects (respect for persons) requires that study participants be informed about the research and give their consent to be included in the study. Informed consent is typically conducted as part of the initial interview and has two essential components: explaining the experiment to the subject, requesting and recording their consent to participate. The consent process should begin with a comprehensible presentation of key information to help the subject make an informed decision, meaning understanding the research, what is expected of them, and the potential risks and benefits. Documentation is necessary as a record that the process has taken place and as evidence of informed consent, if so.

Informed consent is required in most research and may be oral or written, depending on various factors such as the literacy of the population or the risks involved in obtaining consent. Only under very specific circumstances, such as when the potential risks to participants are minimal and obtaining informed consent is very complex or detrimental to the validity of the experiment, informed consent may be avoided, or partial information may be given to participants with the approval of the ethics committee.

Randomized assignation of the participants

Following the recruitment phase, participating entities or associations categorize participants into two distinct pathways: social and socio-labor. Classification is determined by applicants' profiles: individuals encountering tangible barriers hindering immediate employment access are categorized under the social group. Conversely, those facing challenges in securing or sustaining employment but possessing socio-personal circumstances conducive to intervention in this domain are grouped under the socio-labor category.

To ensure adherence to the principles of randomized controlled trials, a random allocation system is designed to distribute participants between the treatment and control groups. This assignment is executed at the household level. In the cases of multi-member households, categorization is based on the predominant category among its members. If equal numbers of household members fall into different categories, assignment is randomized. The devised randomization process incorporates stratification, considering the 22 participating networks in the project, as well as the assigned household categories.

Following the classification of all households, the subsequent step entails tallying the total number of households in each category for every entity. Allocation to either the control or treatment group is accomplished by randomly splitting the total number of households in each category into two, ensuring equitable representation in both groups. In cases where the number of households in a category is odd, a random determination is made regarding which group, either control or treatment, will receive an additional household.

Additionally, to assess the impact of knowledge about the PUZLE application, 11 out of the 22 networks participating in the project are randomly selected. These networks inform all project

participants about the existence of PUZLE, regardless of whether they belong to the control group or the treatment group.

The random selection at the network level has been implemented to prevent potential contaminations that might occur from individual-level random selection within each network. This approach was adopted due to the presence of separate group activities for each network, where there could be overlap between individuals with knowledge of the tool and those without it. To address the variation in the sizes of participating networks, a matching method was utilized during the random selection process. Networks were categorized based on their size, and pairings were established to ensure a balanced distribution between participants informed about the tool and those who did not receive such information.

This process results in the formation of four distinct groups:

- Participants in the **treatment group** of the pathway **receive information** about the PUZLE tool.
- Participants in the **treatment group** of the pathway **do not receive information** about the PUZLE tool.
- Participants in the **control group** of the pathway **receive information** about the PUZLE tool.
- Participants in the **control group** of the pathway **do not receive information** about the PUZLE tool.

Figure 6: Sample design

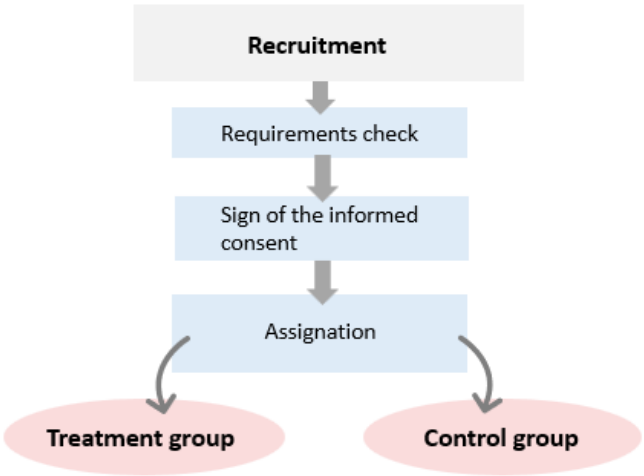
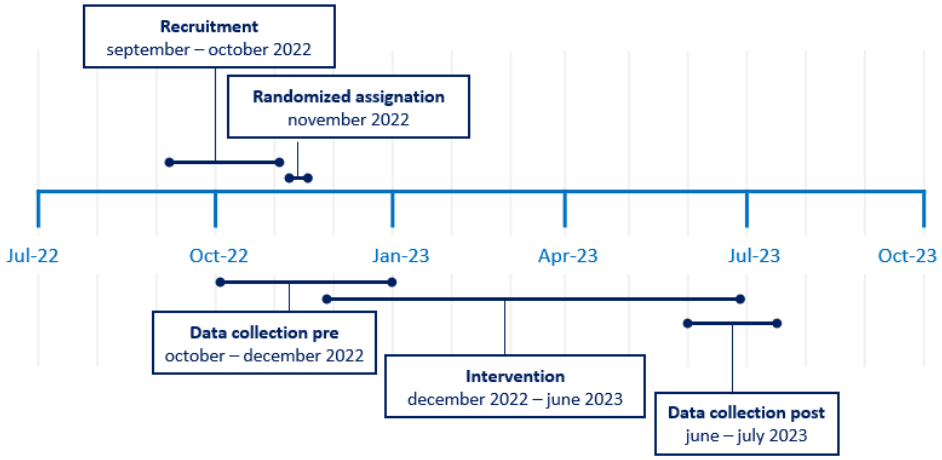


Figure 7 illustrates the temporal framework within which the implementation and evaluation unfold. Participant recruitment occurs during the months of September and October 2022, followed by the random assignment of eligible participants who have signed the informed consent and demonstrated interest in participation in November. Baseline surveys are completed by participants between October and December 2022. The execution of the intervention span from December 2022 to June 2023. Subsequently, the final survey of participants is conducted upon completion of the intervention.

Figure 7: Evaluation's temporal framework



4 Description of the implementation of the intervention

This section delineates the practical aspects of how the intervention was implemented within the framework of the evaluation design. It presents the outcomes of the participant recruitment process and other relevant logistical aspects to contextualize the evaluation findings.

4.1 Sample description

As previously outlined, the 22 entities affiliated with the Aragon Network of Social Entities undertook the responsibility of executing the participant recruitment process. This process encompassed both group informational sessions and individual interviews conducted by the technical personnel of each entity. During these interviews, an individualized assessment of the situation of the individuals considered for participation in the project, as well as their household, was conducted.

The extensive pool of potential participants has led to an extension in the duration of the recruitment and selection process, leading to challenges in the initial diagnostic phase for collecting pretest data (before the intervention) from all potential participants. This phase experienced a higher-than-expected level of attrition. **Table 1** delineates the outcomes of the recruitment process.

Table 1*:* Recording of the recruitment process

Total number of individuals contacted	**3,479**
Total number of individuals who accept	**1,831**
Total number of individuals who decline	**1,648**
Not interested in the offered activities	654
Unavailability due to training or work-life balance	256
Offered activities do not meet their current needs	185
Incompatibility due to participation in other social projects	174
Unavailability due to work-life balance	160
Lack of understanding of the contents and objectives of the offered activities	17
Distrust towards this type of initiatives from the public administration	18
Na/Dk	184

The recruitment data indicates that contact was established with a total of 3,479 individuals, among whom 1,648 chose not to accept the offer. Further examination revealed that approximately 40% of those declining, totaling 654 individuals, cited a lack of interest in the proposed activities. Work or educational commitments were cited by 256 individuals as a common reason for refusal. Other reasons included perceived misalignment with current needs, incompatibility with other social projects, and concerns regarding work-life balance. A minority segment expressed difficulties in comprehending the objectives and content, as well as distrust towards public administration initiatives. Furthermore, 184 individuals did not specify their reasons for rejection.

Characteristics of the final sample of the evaluation

Of the 1,831 individuals who agreed to participate, 130 did not complete the initial survey before the intervention. **Table 2** presents the descriptive statistics of the intervention-relevant variables, based on data from the baseline survey, for the remaining 1,701 participants. The table is structured into six columns: variable name, sample analyzed, mean, standard deviation, and minimum and maximum values.

The statistics encompassing sociodemographic variables and derived indicators obtained from pre-intervention surveys and level tests are outlined. The variability in observations may result from incomplete responses to certain variables comprising the indicators.

The sociodemographic analysis reveals a wide generational diversity, evidenced by an age range spanning from 17 to 65 years. Regarding nationality, there is a marked heterogeneity in the origins of the participants. Additionally, the sample highlights the significant presence of individuals with low levels of education and non-advanced digital skills. Vulnerability among participants is notable, evidenced by the presence of people with disabilities, single-parent families, and a high percentage, 90%, located below the poverty threshold. According to self-reported data by the participants, only 23% receive MIS or the PACIMV.

Regarding the digital skills test, participant scores reflect proficiency levels at the skill level where 60 points out of 100 are not attained. The mean test score is 35.70 out of 100. On average, participants are familiar with half of the AAPP websites queried. Internet usage frequency averages 3.89 on a 1 to 4 scale, indicating extensive network utilization. Participants demonstrate medium to high proficiency in device handling, particularly with mobile devices.

Employability levels among participants fall below the mean of the Gizatea Scale variation interval, albeit with notable dispersion. Participants exhibit moderately high levels of self-esteem and life satisfaction, averaging scores of 32 out of 40 and 6.7 out of 10, respectively.

Table 2: Descriptive statistics of the sample

Variable	N	Mean	Standard Deviation	Minimum	Maximum
Sociodemographic variables (pre)					
Male	1,701	0.27	0.44	0	1
Age	1,701	39.07	11.61	17	65
No education	1,701	0.21	0.41	0	1
Primary school	1,701	0.28	0.45	0	1
Secondary school	1,701	0.43	0.50	0	1
Postsecondary	1,701	0.08	0.26	0	1
Spanish nationality	1,701	0.45	0.50	0	1
EU nationality (except Spain)	1,701	0.05	0.22	0	1
Non-EU nationality	1,701	0.50	0.50	0	1
With disability/dependency	1,701	0.07	0.26	0	1
Single-parent family	1,701	0.16	0.37	0	1
MIS or PACIMC beneficiary	1,701	0.23	0.42	0	1
Below the poverty threshold	1,701	0.90	0.30	0	1

Variable	N	Mean	Standard Deviation	Minimum	Maximum
Socio-labor group	1,701	0.59	0.49	0	1
Digital skills. Basic level	1,701	0.55	0.50	0	1
Digital competencies. Intermediate level	1,701	0.25	0.44	0	1
Digital skills. Advanced level	1,701	0.19	0.39	0	1
Outcome indicators (pre)					
Digital skills test results	1,701	35.70	20.23	0	100
Employability	1,701	40.11	21.06	-19	93
Self-esteem level	1,701	31.94	4.85	14	40
Satisfaction level	1,701	6.68	2.06	0	10
Internet usage frequency	1,683	3.89	0.46	1	4
Computer handling	1,682	2.06	0.80	1	3
Tablet handling	1,518	2.04	0.85	1	3
Mobile handling	1,698	2.74	0.49	1	3
Internet use for activities	1,535	7.11	3.14	0	12
Internet use for activities (bounded)	1,674	6.73	2.89	0	11
Online procedures	1,701	3.03	2.99	0	13
Lack of skills in procedures	1,484	2.25	2.20	0	8
Knowledge of Public Administrations websites	1,701	4.34	2.38	0	8

4.2 Random assignment results

Once the sample is defined, the participants are randomly assigned to either the control group (CG) or treatment group (TG) as explained in **section 3.5**. This randomization process was conducted per household within each network and according to the type of itinerary This randomization is performed per household within each network and contingent upon the type of itinerary. Subsequently, the decision regarding which entities inform participants about the PUZLE tool is made randomly. The table below presents the results of this random assignment, delineating the distribution of participants across different stratification variables for each group.

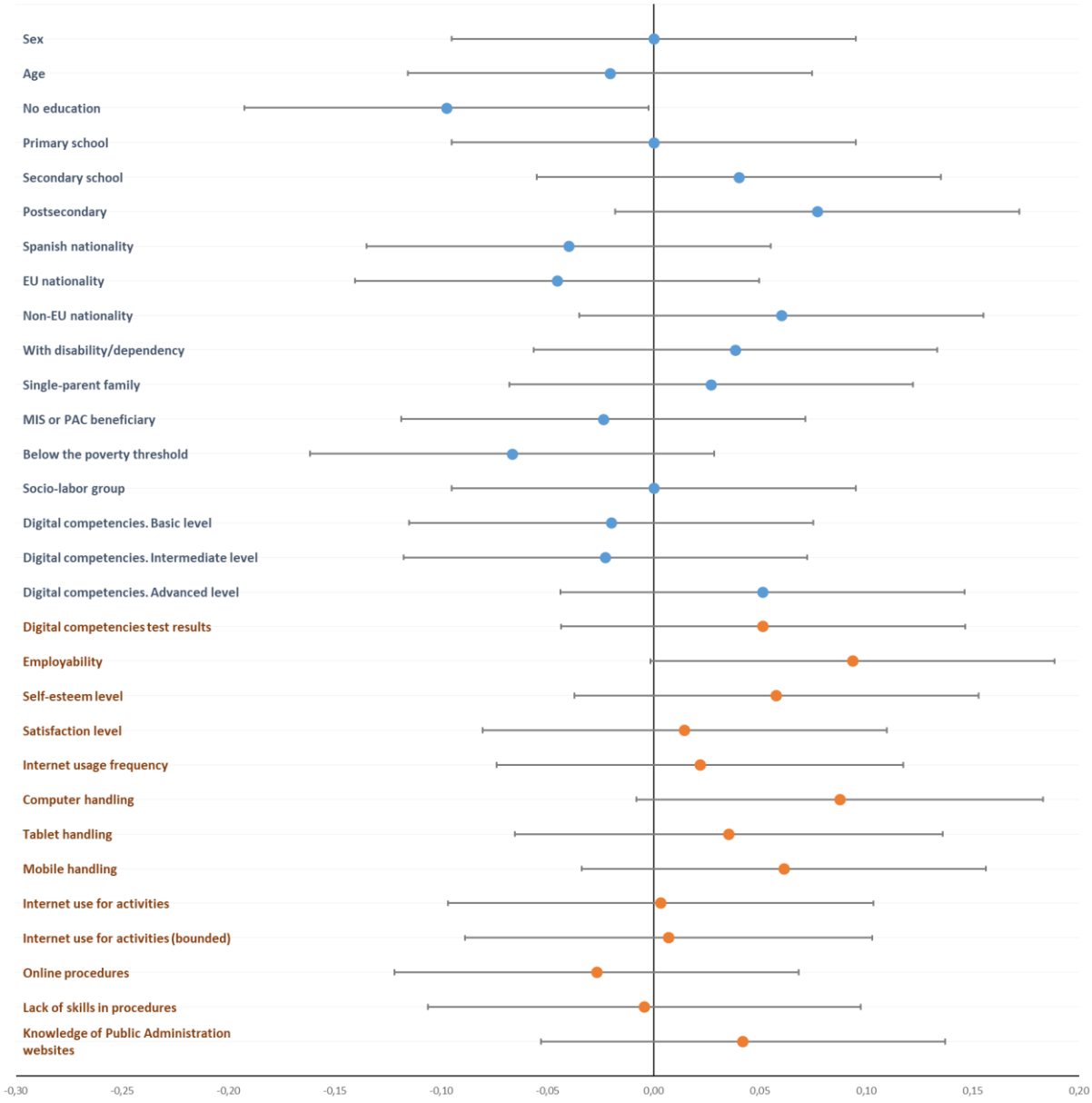
Table 3*:* Randomized assignation results

ORGANIZATIONS	SOCIO-LABOR			SOCIAL			TOTAL			PUZLE INFORMATION
	CG	TG	TOTAL	CG	TG	TOTAL	CG	TG	TOTAL	
1. Adunare	41	37	78	31	29	60	72	66	138	Yes
2. Fundación El Tranvía	9	9	18	60	60	120	69	69	138	No
3. Ozanam	52	57	109	15	14	29	67	71	138	No
4. Kairós	26	30	56	41	41	82	67	71	138	Yes
5. Cruz Roja	46	45	91	22	23	45	68	68	136	Yes
6. Apip-Acam	43	42	85	26	26	52	69	68	137	Yes
7. Rey Ardid	48	47	95	22	20	42	70	67	137	No
8. San Ezequiel Moreno	69	69	138	0	0	0	69	69	138	No
9. Ymca	37	40	77	30	31	61	67	71	138	Yes
10. Faim	15	14	29	6	7	13	21	21	42	Yes
11. Adcara	20	21	41	2	3	5	22	24	46	Yes
12. Parroquia Del Carmen	17	21	38	6	2	8	23	23	46	No
13. La Caridad	0	0	0	23	23	46	23	23	46	No
14. Os Zagales	17	16	33	6	7	13	23	23	46	No
15. Amasol	16	16	32	7	7	14	23	23	46	Yes
16. Cáritas	17	17	34	6	6	12	23	23	46	Yes
17. Asociación Promoción Gitana	6	8	14	16	16	32	22	24	46	No
18. Mancala (M. Auxiliadora)	17	16	33	6	7	13	23	23	46	No
19. Secretariado Gitano	19	20	39	3	3	6	22	23	45	No
20. Cruz Blanca	15	15	30	8	8	16	23	23	46	No
21. Asapme	0	0	0	23	23	46	23	23	46	Yes
22. Sercade	10	14	24	10	12	22	20	26	46	Yes
Total	540	554	1,094	369	368	737	909	922	1,831	-

Figure 8 shows the balance contrasts between the treatment group and the control group, based on data from the pre-intervention survey (baseline survey). For each observable variable, the difference between the mean of that variable in the treatment and control groups is represented by a point, with the 95% confidence interval of that difference centered on it. A confidence interval containing zero, i.e., the vertical axis, will indicate that the mean difference between groups is not statistically significant or, in other words, not statistically different from zero, concluding therefore, that the intervention groups are balanced in that characteristic. In cases where the confidence interval of the mean difference does not contain zero, the difference is statistically significant, and therefore, the groups are unbalanced in that characteristic.

The limited number of variables showing imbalance demonstrates that random assignment ensures comparability between the two groups. Nevertheless, these variables will be controlled and considered when evaluating the impact of the intervention.

Figure 8: Standardized mean difference between treatment group and control group (95% confidence interval)



Note: Sociodemographic variables are shown in blue, and specific indicators used for project evaluation are shown in orange.

4.3 Degree of participation and attrition by groups

The group signing the informed consent constitutes the experimental sample that was randomly assigned to the control and treatment groups. However, both participation in the program and response to the initial and final surveys are voluntary. On the one hand, it is convenient to analyze the degree of participation in the program, since the estimation of results will refer to the effects on

average of offering it, given the degree of participation. For example, if participation in treatment activities is low, the treatment and control groups will be similar, and it will be more difficult to find an effect. On the other hand, this section tests whether the non-completion of the final survey by some of the participants reduces the comparability of the treatment and control groups after the intervention, if the response rate is different between groups or according to the demographic characteristics of the participants in each group.

Degree of participation

Following the recruitment and allocation of participants, in December 2023, the training activities start and run until June of the subsequent year. Among all the randomized participants, 250 discontinued their involvement in the project, with 109 from the control group and 141 from the treatment group. Difficulties in balancing work responsibilities with training and changes of residence emerged as the most recurrent reasons for discontinuation.

The attendance indicators of those who completed the project reveal noteworthy outcomes, as depicted in **Table 4**, which disaggregates the attendance of participants in both the common training sessions attended by the control and treatment groups, and the specific training sessions of the treatment group (training in digital competencies), according to percentages and group categories. For instance, in the row 60%-70%, it is observed that 8 participants from the treatment group attended between 60% and 70% of the common training sessions for both groups in the social/socio-labor itinerary. The Total column summarizes the number of participants in each attendance range.

Table 4*:* Distribution of participants according to their attendance at the training sessions.

Attendance %	Common activities CG/TG (social/socio-labor itinerary)			Digital competencias training		
	Total	CG	TG	Total	CG	TG
50%-60%	-	-	-	7	-	7
60%-70%	8	0	8	12	0	12
70%-80%	83	35	48	95	0	95
80%-90%	335	153	182	119	0	119
90%-95%	241	116	125	51	0	51
95%-100%	914	496	418	497	1	496

The results indicate a high attendance rate with at least 70% of the participants who complete the post-test attending more than 90% of the training hours. This reflects active and consistent participation and suggests a significant level of commitment from the participants to the training sessions. This commitment is particularly pertinent considering the focus on digital skills training, the primary emphasis of the evaluation. Notably, out of the 40 scheduled training hours, 94% of participants who complete the post-test manage to attend a minimum of 32 training hours, underscoring a robust commitment to digital skills training and providing a solid basis for evaluating its impact and efficacy.

Attrition by groups

Table 5 provides information on participation and response rates to the baseline (PRE) and final (POST) surveys in the treatment and control groups. Out of the 1,831 individuals who agreed to participate in the treatment, 130 did not complete the initial survey, 68 from the treatment group and 62 from the control group. Among the 1,701 who responded to the baseline survey, 1,581, (92.94%), also completed the final survey. In the treatment group, out of the 922 individuals assigned, 15% (141 individuals) did not complete the final survey, while in the control group, this percentage decreased to 12%, with 109 individuals out of the 909 assigned failing to respond to the final survey.

Table 5: Participant registration and surveys

Group	Recruited	Conduct the PRE-Survey	Conduct the POST-Survey
Total	**1,831**	**1.701 (93%)**	**1,581** (86%)
Treatment group	922	854 (93%)	781 (85%)
Control group	909	847 (93%)	800 (88%)

To evaluate the statistical significance of the difference in sample attrition rates between the experimental groups, a regression analysis is conducted. In this analysis, the dependent variable is coded as 1 if the participant did not respond to the final survey and 0 otherwise. The results, as presented in **Table 6**, indicate a regression coefficient of 0.03, with a significance level of 5%. This suggests that there is a 3% higher rate of non-response to the final survey among participants in the treatment group compared to the control group. Notably, no significant relationship is found between attrition and the examined sociodemographic characteristics.

Table 6: Regressions of the probability of not answering the final interview

	Attrition (1)	**Attrition (2)**
Treatment	0.03**	-0.03
	(0.02)	(0.09)
Treatment and male sex		-0.01
		(0.03)
Treatment and Age		0
		(0)
Treatment and no education		0
		(0.06)
Treatment and primary school		0.08
		(0.06)
Treatment and secondary school		0.05
		(0.05)
		-0.03

	Attrition (1)	Attrition (2)
Treatment and Spanish Nationality		(0.03)
Treatment and EU Nationality		0.06
		(0.08)
Treatment and with disability/dependency		-0.02
		(0.05)
Treatment and Single-Parent		0
		(0.03)
Treatment and MIS or PAC beneficiaries		-0.03
		(0.03)
Treatment and below the poverty threshold		0.07
		(0.06)
Treatment and socio-labor group		0
		(0.03)
Treatment and digital skills: Low level		-0.03
		(0.03)
Treatment and digital skill: intermediate		0.06
		(0.04)
N	1,831	1,701

Note: standard errors clustered by household (cluster variable).
Significance levels: * p < 0.10, ** p < 0.05, *** p < 0.01.

5 Results of the evaluation

Random assignment of the experimental sample to the control and treatment groups ensures that, with a sufficiently large sample, the groups are statistically comparable. Therefore, any differences observed after the intervention can be causally associated with the treatment. Econometric analysis provides, in essence, this comparison. Nevertheless, this analysis has the advantages of allowing other variables to be included to increase accuracy in the estimates and provide confidence intervals for the estimates. In this section, the econometric analysis and the estimated regressions are presented, as well as the analysis of the results obtained.

5.1 Description of the econometric analysis: estimated regressions

In the context of a randomized experiment, the regression model typically employed to estimate the causal effect considers the difference between the treatment group and the control group for the variable of interest. This choice is based on the statistical comparability of both groups due to randomization. Given the presence of previously identified imbalances in the balance tests, this

analysis also presents regressions that incorporate the unbalanced variables at baseline, that is, their value prior to the intervention. This approach ensures that existing disparities between the groups before the intervention are considered. Additionally, regressions controlling for the initial value of the dependent variable, when applicable, are also included to enhance the accuracy of the estimates.

Specifically, the specification of the regressions presented below is as follows:

$$Y_{i,t=1} = \alpha + \beta T_i + \gamma Y_{i,t=0} + \delta_i X_{i,t=0} + \varepsilon_i$$

where $Y_{i,t=1}$ is the dependent variable of interest observed after the intervention for person i; T_i indicates whether the person has been assigned to the treatment (=1) or control (=0); $Y_{i,t=0}$ is the initial value of the dependent variable (i.e., before the intervention); $X_{i,t=0}$ is a vector of controls (level of education attained, employability, computer literacy, and level of digital skills); and ε_i is the error term. Standard errors are clustered at the household level.

5.2 Analysis of the results

5.2.1 Primary and secondary outcomes

This section presents the results of the evaluation on the main and secondary indicators, following the structure of the evaluation scheme.

Digital competencies

Table 7 displays the intervention outcomes on digital competencies, measured from the results of the digital skills test. The results, like those for the other indicators, are presented in three different specifications: (1) the first without controls or prior indicators, (2) the second with controls but without prior indicators, and (3) the third with controls and prior indicators. Within the third specification, deemed the primary one in this analysis, a notable positive impact of the treatment on digital skills test outcomes is identified. The coefficient associated with the treatment is 27.52, indicating that participants in the treatment group scored, on average, 27.52 points higher on the digital skills test compared to the control group. The coefficients from the other specifications also have a significance level of 1%, supporting the robustness of the results.

Table 7: Effect on the digital competencies

	Results of the digital competencies test		
	(1)	(2)	(3)
Treatment	28.33***	27.36***	27.52***
	(1.13)	(1.10)	(0.96)
N	1,581	1,562	1,562
R^2	0.29	0.36	0.52

Dependent variable control mean	52.23	52.35	52.35
Additional controls	No	Yes	Yes
Dependent variable initial value	No	No	Yes

Note: standard errors clustered by household (cluster variable).
Significance levels: * p < 0.10, ** p < 0.05, *** p < 0.01.

Table 8 shows the regression results to assess the relationship between treatment and the proficiency in handling different devices (computer, tablet, and mobile phone). The results from the main specification show that the coefficient of treatment is significantly positive for the level of computer, tablet, and mobile device proficiency, although the magnitude of the effect varies considerably across devices. Specifically, the effect on computer and tablet proficiency levels represents an increase of 15% and 9% respectively, compared to the mean score of the control group. In contrast, the effect on mobile device proficiency level is substantially lower, showing an increase of less than 2% relative to the counterfactual mean.

These results suggest that the treatment has a positive impact on the development of specific digital device handling skills, although the magnitude of the impact varies across the specific device. It is noteworthy that employing other specifications does not alter the direction or magnitude of the coefficients, supporting the robustness of the results.

Table 8: Effect on the handling of digital devices

	Computer handling		Tablet handling			Mobile handling		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Treatment	0.38***	0.34***	0.25***	0.21***	0.20***	0.07***	0.05***	0.05***
	(0.03)	(0.03)	(0.04)	(0.04)	(0.03)	(0.02)	(0.02)	(0.02)
N	1,570	1,556	1,372	1,360	1,286	1,577	1,559	1,558
R^2	0.07	0.52	0.02	0.30	0.46	0.01	0.12	0.32
Dependent variable control mean	2.15	2.16	2.15	2.16	2.17	2.82	2.83	2.83
Additional controls	No	Yes	No	Yes	Yes	No	Yes	Yes
Dependent variable initial value	No	Yes	No	No	Yes	No	No	Yes

Note: standard errors clustered by household (cluster variable).
Significance levels: * p < 0.10, ** p < 0.05, *** p < 0.01.
For the computer handling indicator, there are only two specifications because this indicator is unbalanced at baseline, and therefore, it is one of the control variables used.

Table 9 provides information on the treatment effects on internet usage, considering several dimensions. Columns 1, 2, and 3 indicate that the treatment does not show a significant impact on the frequency of internet usage. However, the treatment does influence internet usage for specific activities. The coefficient of the main specification reaches a value of 0.86, with a significance level of 1%. This indicates that the treatment encourages participants to engage in nearly 1 more online activity, out of the 12 activities considered by the indicator. Columns 7, 8, and 9 reinforce this observation by showing that the positive effect persists even when excluding the least responded variable: "Communicating with children's educational center" as it does not apply to all participants.

Table 9: Effect on internet usage

	Internet usage			Internet use for activities			Internet use for activities (bounded)		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Treatment	-0.00	-0.00	-0.01	0.89***	0.81***	0.86***	0.83***	0.74***	0.83***
	(0.01)	(0.01)	(0.01)	(0.13)	(0.12)	(0.09)	(0.12)	(0.10)	(0.08)
N	1,576	1,557	1,543	1,455	1,439	1,355	1,559	1,542	1,523
R^2	0.00	0.03	0.25	0.03	0.28	0.55	0.03	0.29	0.53
Dependent variable control mean	3.94	3.94	3.94	7.86	7.90	7.91	7.42	7.45	7.44
Additional controls	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Dependent variable initial value	No	No	Yes	No	No	Yes	No	No	Yes

Note: standard errors clustered by household (cluster variable).
Significance levels: * p < 0.10, ** p < 0.05, *** p < 0.01.

Table 10 presents the effects of the treatment on interaction with Public Administrations through digital means, evaluated across three dimensions: online procedures, lack of skills in procedures, and knowledge of Public Administration websites. The results show a positive and highly significant impact of the treatment on the number of procedures conducted online. The coefficient of 1.23 indicates that the treatment induces participants, on average, to increase by 1.23 the number of procedures performed online compared to participants in the control group. To understand the magnitude of the effect, it is necessary to consider that the indicator only includes 14 procedures. Consistently, the regression coefficient on the lack of skills in procedures is negative and significant, meaning that in the treatment group, on average, the lack of skills in procedures decreases by more than half a point compared to the control group's mean. In both cases, statistical significance is maintained at the 1% level. These results robustly suggest that the treatment effectively contributes to boosting the performance of administrative procedures via the Internet.

Columns 7, 8, and 9 refer to the variable "Knowledge of Public Administration websites." The coefficients are positive and highly significant at the 1% level, indicating that the treatment has a positive impact on the knowledge of Public Administration websites. Specifically, the coefficient

reveals that the treatment leads participants to identify 0.76 more websites or applications of Public Administration than those in the control group, within the total set of 12 online sites considered by the indicator.

Table 10: Effect on interaction with Public Administrations through digital means

	Online procedures			Lack of skills in procedures			Knowledge of Public Administration websites		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Treatment	1.20***	1.12***	1.23***	-0.54***	-0.53***	-0.53***	0.82***	0.75***	0.76***
	(0.15)	(0.14)	(0.12)	(0.08)	(0.08)	(0.08)	(0.10)	(0.08)	(0.08)
N	1,581	1,562	1,562	1,379	1,364	1,209	1,581	1,562	1,562
R^2	0.04	0.22	0.41	0.03	0.13	0.28	0.05	0.27	0.40
Dependent variable control mean	3.81	3.83	3.83	1.38	1.36	1.35	5.69	5.71	5.71
Additional controls	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Dependent variable initial value	No	No	Yes	No	No	Yes	No	No	Yes

Note: standard errors clustered by household (cluster variable).
Significance levels: * p < 0.10, ** p < 0.05, *** p < 0.01.

In summary, the results consistently demonstrate the positive and statistically significant impact of the treatment on improving digital skills, developing device handling abilities, internet usage, and facilitating interactions with Public Administrations through digital means.

Employability

Table 11 presents the effects of the treatment on employability, measured through the Gizatea Employability Factors. The table reveals a positive and highly significant impact of the treatment on employability. The coefficient indicates that although significant, the impact is modest as the treatment only increases the employability scale score by 1.48 points, out of a total range of 136 points. The absence of controls and initial values in the specification does not alter the direction or significance of the treatment's impact on employability.

Table 11: Effect on employability

	Employability	
	(1)	(2)

Treatment	3.09***	1.48***
	(1.12)	(0.52)
N	1,581	1,562
R^2	0.01	0.78
Dependent variable control mean	49.48	49.66
Additional controls	No	Yes
Dependent variable initial value	No	Yes

Note: standard errors clustered by household (cluster variable).
Significance levels: * p < 0.10, ** p < 0.05, *** p < 0.01.
For the employability indicator, there are only two specifications because this indicator is unbalanced at baseline and therefore is one of the control variables used.

Self-esteem level and life satisfaction

Table 12 shows the effects of the treatment on improving self-esteem and life satisfaction. Column 1 indicates that the coefficient of the treatment is positive and highly significant (1%) for the level of self-esteem. However, the estimated effect of the treatment is modest, as it increases the score on the Rosenberg scale by less than one point within a total range of 30 points. The use of other specifications does not alter the significance, direction, or magnitude of these effects. Regarding the effect on the level of satisfaction, in column 6, a significant positive coefficient at the 10% level is observed, with a value of 0.14. This effect is slight considering that the mean of the control group is 7.31 and ceases to be significant when considering other specifications.

Table 12: Improvement on self-esteem and life satisfaction

	Self-esteem level			Satisfaction level		
	(1)	(2)	(3)	(4)	(5)	(6)
Treatment	0.70***	0.63***	0.56***	0.16*	0.13	0.14*
	(0.24)	(0.24)	(0.19)	(0.10)	(0.10)	(0.08)
N	1,581	1,562	1,562	1,581	1,562	1,562
R^2	0.01	0.08	0.39	0.00	0.03	0.28
Dependent variable control mean	32.59	32.60	32.60	7.31	7.33	7.33
Additional controls	No	Yes	Yes	No	Yes	Yes
Dependent variable initial value	No	No	Yes	No	No	Yes

Note: standard errors clustered by household (cluster variable).
Significance levels: * p < 0.10, ** p < 0.05, *** p < 0.01.

Utility of the PUZLE tool

This section presents the findings of a separate experiment distinct from the one previously examined. Here, the objective is to measure the impact of awareness about the PUZLE tool on the attendance rate of training activities (as delineated in section 2.3). The chosen networks, selected randomly, disseminated information about the PUZLE tool to all participants, encompassing both the control and treatment groups.

Table 13 presents the effect of knowledge of this tool on the attendance rate of training activities, measured through the treatment coefficient. The treatment coefficient is -0.03, significant at the 0.01% level, indicating a significant but weak negative impact of PUZLE knowledge on attendance at training activities.

Table 13: Effect on the knowledge of the PUZLE tool

	Attendance rate to the training activities
	(1)
Treatment	-0.03***
	(0.00)
N	1,581
R^2	0.06
Dependent variable Control mean	0.96
Additional controls	No
Dependent variable initial value	No

Note: standard errors clustered by household (cluster variable).
Significance levels: * p < 0.10, ** p < 0.05, *** p < 0.01.

6 Conclusions of the evaluation

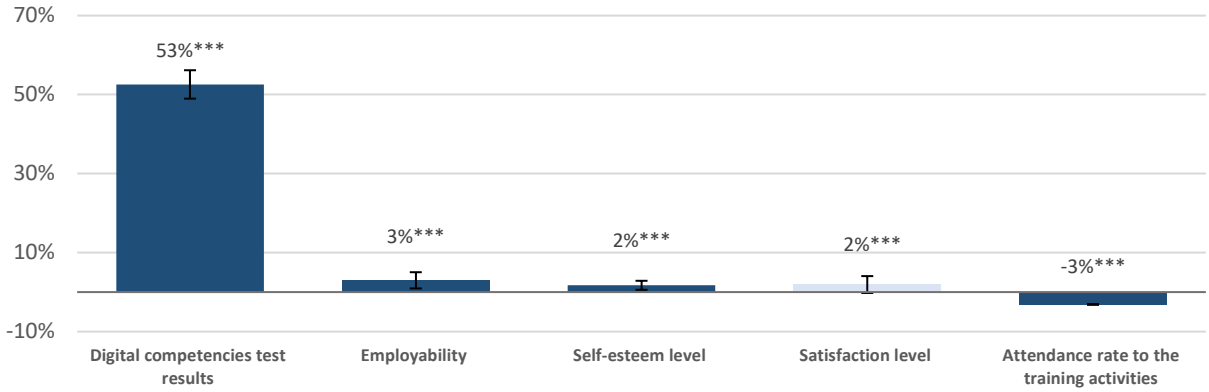
This report has presented a comprehensive evaluation of the RCT aimed at addressing the digital gap and enhancing employability. The intervention scrutinized herein forms part of the social inclusion pilot initiative “Aragon Incluye”, designed to enhance the social inclusion of the most vulnerable members of society through personalized pathways.

The training in digital skills comprised two main elements: specialized training aimed at improving participants' skills in the use of digital tools, and a personalized support program designed to consolidate the acquired digital skills.

The treatment evaluation outcomes demonstrate a positive impact of the training on participants' digital competencies. Specifically, enhancements are evident in digital skills proficiency and

competency in utilizing devices like computers, tablets, and mobile phones. Furthermore, notable improvements are observed in online activity performance and procedures, along with heightened familiarity with public administration websites and applications.

Figure 9: Effect of the intervention on the main indicators



Note: indicators in dark blue represent those whose treatment effect is significant at the 1% level, while those in light blue indicate those with a significant effect at the 10% level. The effects included in the graphs refer to regressions with controls and are expressed as a percentage relative to the mean of the control group in the endline survey.

The analysis also shows a positive and significant, although modest, effect on participants' employability level. In terms of emotional well-being, the itinerary yields a positive impact on self-esteem and a marginal effect on participants' life satisfaction.

The project also incorporates the innovative computer tool PUZLE to optimize information management. The impact of informing participants about its usage in terms of motivation and commitment was evaluated, resulting in a significant negative effect, although its reduced magnitude.

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Appendix

Economic and regulatory management.

1. Introduction

Within the framework of the Recovery, Transformation, and Resilience Plan, the General Secretariat of Inclusion (GSI) of the Ministry of Inclusion, Social Security, and Migration plays a relevant role in Component 23, "New Public Policies for a Dynamic, Resilient, and Inclusive Labor Market," framed within Policy Area VIII, "New Care Economy and Employment Policies."

Among the reforms and investments proposed in this Component 23 is Investment 7, "Promotion of Inclusive Growth through linking socio-labor inclusion policies to the Minimum Income Scheme," which promotes the implementation of a new inclusion model based on the Minimum Income Scheme (MIS) to reduce income inequality and poverty rates. To achieve this goal, among other measures, the development of pilot projects for the implementation of social inclusion itineraries with regions and autonomous cities, local entities, and Third Sector organizations of Social Action, as well as with various social actors, has been proposed.

Royal Decree 938/2021, of October 26, which regulates the direct granting of subsidies from the Ministry of Inclusion, Social Security, and Migration in the field of social inclusion, in the amount of 109,787,404 euros, within the framework of the Recovery, Transformation, and Resilience Plan[11], contributed to meeting critical milestone (as set forth in the Council's Implementation Decision) number 350 for the first quarter of 2022, "Improving the access rate of the Minimum Income Scheme, and increasing the effectiveness of the MIS through inclusion policies," which, according to its description, will translate into supporting the socioeconomic inclusion of MIS beneficiaries through itineraries: eight collaboration agreements signed with subnational public administrations, social partners, and Third Sector organizations of Social Action to execute the itineraries. These partnership agreements aim to i) improve the access rate of the MIS; ii) increase the effectiveness of the MIS through inclusion policies. Additionally, in conjunction with Royal Decree 378/2022, of May 17, it contributed to achieving tracking indicator number 351.1 in the first quarter of 2023, "at least 10 additional collaboration agreements signed with subnational public administrations, social partners, and Third Sector Organizations of Social Action to perform pilot projects supporting the socioeconomic

[11] https://www.boe.es/diario_boe/txt.php?id=BOE-A-2021-17464

inclusion of MIS beneficiaries through itineraries," linked to the Operational Arrangements document[12].

Furthermore, following the execution and evaluation of each subsidized pilot project, an assessment will be conducted to evaluate the coverage, effectiveness, and success of minimum income schemes. The publication of this evaluation, which will include specific recommendations to improve access to benefits and enhance the effectiveness of social inclusion policies, contributes to meeting milestone 351 of the Recovery, Transformation, and Resilience Plan scheduled for the first quarter of 2024.

In accordance with Article 3 of the previously mentioned royal decree, the granting of subsidies will be implemented by resolution accompanied by an agreement from the person holding the position of Minister of Inclusion, Social Security, and Migration as the competent authority for granting them, without prejudice to existing delegations of authority in the matter, upon request by the beneficiary entities.

On **December 14, 2021**, the Autonomous Region of Aragon was notified of the Resolution of the General Secretariat for Objectives and Policies of Inclusion and Social Security granting a subsidy amounting to **7,471,600 euros** to the Autonomous Region of Aragon through the Department of Citizenship and Social Rights. Subsequently, on **December 16, 2021**, an Agreement was signed between the General Administration of the State, through the General Secretariat for Objectives and Policies of Inclusion and Social Security, and the Autonomous Region of Aragon through the Department of Citizenship and Social Rights for the implementation of a social inclusion project within the framework of the Recovery, Transformation, and Resilience Plan, which was published in the "Official State Gazette" on **February 1, 2022 (BOE No.27)** [13]**.**

2. Temporal framework of the intervention

Section 1 of Article 16 of Royal Decree 938/2021, of October 26, established that the implementation period for the pilot projects of social inclusion itineraries subject to the subsidies provided for in this text shall not exceed the deadline of June 30, 2023, while the evaluation, subject to the subsidy, shall not extend beyond the deadline of March 31, 2024, with the purpose of meeting the milestones set by the Recovery, Transformation, and Resilience Plan in the field of inclusion policy.

However, in accordance with Section 2 of the first final provision of Royal Decree 378/2022, of May 17, a new wording is given to Section 4 of Article 6 and Section 1 of Article 16, to extend the maximum

[12] Decision of the European Commission approving the Operational Arrangements Document of the Recovery, Transformation, and Resilience Plan, which can be consulted at the following link: https://www.lamoncloa.gob.es/serviciosdeprensa/notasprensa/hacienda/Documents/2021/101121-CountersignedESFirstCopy.pdf

[13] https://www.boe.es/diario_boe/txt.php?id=BOE-A-2022-1633

period for the pilot projects of social inclusion itineraries subject to subsidies until **October 31, 2023**, while maintaining the deadline of **March 31, 2024**, for their evaluation.

On October 6, 2022, the Autonomous Region of Aragon requested an extension of the implementation period until **October 31, 2023**, authorized by resolution of the General Secretariat for Objectives and Policies of Inclusion and Social Security dated October 7, 2022.

Within this generic time frame, the start of the Aragon Includes project can be placed in **December 2022**, when implementation activities begin with the participants, continuing execution tasks until **June 2023**, and subsequently only conducting project dissemination and evaluation tasks until **March 31, 2024.**

3. Relevant Agents

Among the relevant entities for the implementation of the project, the following can be cited:

- **The Autonomous Region of Aragon**, the beneficiary entity, and coordinator of the project through:
    a) The Department of Citizenship and Social Rights, currently the Department of Social Welfare and Family.
    b) The Aragon Institute of Social Services.
- **The Ministry of Inclusion, Social Security, and Migration (MISSM)** as the project financier, and as the main responsible entity for the RCT evaluation process. To this end, the General Secretariat of Inclusion (GSI) undertakes the following commitments:
    a) Provide support to the beneficiary entity for the design of actions to be implemented for the execution and monitoring of the subsidy's purpose, as well as for the profiling of potential project pilot participants.
    b) Design the randomized controlled trial (RCT) methodology of the pilot project in coordination with the beneficiary entity.
    c) Evaluate the pilot project in coordination with the beneficiary entity.
- **The Aragon Network of Social Entities for Inclusion**, responsible for designing and implementing social inclusion itineraries.
- **The University of Zaragoza**, which collaborated on the technical aspects of the RCT evaluation.
- **CEMFI and J-PAL Europe**, as scientific and academic institutions supporting MISSM in the design and RCT evaluation of the project.

Sample balance

Table 14 presents the balance contrasts between the control group and the treatment group. All data reflected in this table refer to the survey conducted prior to the intervention. The mean value of each variable is reported for both groups, as well as the number of observations in each group and the p-value resulting from a contrast of mean differences (using the t-Student statistic, which is not reported due to space constraints) and includes randomization strata as additional controls. The smaller the p-value, the more confidently the hypothesis that the mean of the variable in both groups is equal can be rejected. For example, if the p-value is less than 0.05, the hypothesis of equality of means can be rejected at a confidence level of 5%.

Table 14: Balance contrasts between experimental groups

	Medias				Observations		
Variable	**CG**	**TG**	**TG-CG**	**P-valor**	**Total**	**CG**	**TG**
Sociodemographic variables (pre-intervention)							
Men	0,27	0,27	0	0,95	1701	847	854
	(0,21)	(0,21)					
Age	39,19	38,95	-0,24	0,68	1701	847	854
	(142,55)	(141,07)					
Uneducated	0,23	0,19	-0,04	0,03**	1701	847	854
	(0,19)	(0,16)					
Primary Education	0,28	0,28	0	1	1701	847	854
	(0,21)	(0,21)					
Secondary Education	0,42	0,44	0,02	0,33	1701	847	854
	(0,26)	(0,26)					
Post-secondary and higher education	0,07	0,09	0,02	0,13	1701	847	854
	(0,06)	(0,08)					
Spanish nationality	0,46	0,44	-0,02	0,37	1701	847	854
	(0,26)	(0,26)					
EU nationality	0,06	0,05	-0,01	0,57	1701	847	854
	(0,05)	(0,05)					
Non-EU nationality	0,48	0,51	0,03	0,26	1701	847	854
	(0,26)	(0,26)					
	0,07	0,08	0,01	0,33	1701	847	854
Disabilities	(0,06)	(0,08)					
Single-parent family	0,16	0,17	0,01	0,96	1701	847	854
	(0,14)	(0,15)					

	Medias				Observations		
Variable	**CG**	**TG**	**TG-CG**	**P-valor**	**Total**	**CG**	**TG**
MIS / PACIMC beneficiaries	0,24 (0,19)	0,23 (0,18)	-0,01	0,55	1701	847	854
Below poverty line	0,91 (0,08)	0,89 (0,1)	-0,02	0,11	1701	847	854
Socio labor group (LAB)	0,59 (0,25)	0,59 (0,25)	0	0,78	1701	847	854
Digital skills. Basic level	0,56 (0,26)	0,55 (0,26)	-0,01	0,57	1701	847	854
Digital skills. Intermediate level	0,26 (0,2)	0,25 (0,2)	-0,01	0,67	1701	847	854
Digital skills. Advanced level	0,18 (0,15)	0,2 (0,17)	0,02	0,23	1701	847	854
Results indicators (pre-intervention)							
Test results, digital skills	35,18 (417,11)	36,22 (443,48)	1,04	0,29	1701	847	854
Employability	39,12 (465,05)	41,09 (465,79)	1,97	0,06*	1701	847	854
Self-esteem level	31,8 (25,32)	32,08 (24,08)	0,28	0,23	1701	847	854
Satisfaction level	6,67 (4,53)	6,7 (4,42)	0,03	0,72	1701	847	854
Internet use frequency	3,88 (0,23)	3,89 (0,22)	0,01	0,62	1683	837	846
Computer operation	2,02 (0,65)	2,09 (0,68)	0,07	0,08*	1682	835	847
Tablet operation	2,03 (0,77)	2,06 (0,77)	0,03	0,47	1518	753	765
Movil phone operation	2,72 (0,27)	2,75 (0,24)	0,03	0.10	1698	846	852
Internet use for activities	7,11 (10,08)	7,12 (10,53)	0,01	0,91	1535	765	770
Internet use for activities (delimited)	6,72 (8,69)	6,74 (8,94)	0,02	0,92	1674	834	840
Internet proceedings	3,07 (9,71)	2,99 (9,14)	-0,08	0,58	1701	847	854

	Medias				Observations		
Variable	**CG**	**TG**	**TG-CG**	**P-valor**	**Total**	**CG**	**TG**
Lack of competence in Internet procedures	2,26 (5,31)	2,25 (4,9)	-0,01	0,92	1484	735	749
Knowledge of Public Administration websites	4,29 (5,88)	4,39 (6,02)	0,1	0,41	1701	847	854