Improving Social Inclusion of Female Migrants: a Randomised Controlled Intervention in Spain *

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Abstract

This study evaluates the impact of a randomised controlled intervention that provided psycho-social supports and digital skills training to socially excluded female migrants living in Murcia, Spain. The participants were also beneficiaries of the Minimum Basic Income Scheme. Our causal estimation shows that the programme significantly improves participants' knowledge of community resources, use of social support networks, digital skills, and mental well-being. However, we do not observe any effects on employment or labour market participation, based on both survey responses and administrative records. These findings suggest that non-financial interventions can enhance social inclusion and personal well-being, even if they do not directly improve labour market outcomes in the short run.

Keywords: Randomised Controlled Intervention; Social Inclusion, Migrants, Digital Skills; Psycho-Social Curriculum; Spain

JEL-classification: J6, I14, I3

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1 Introduction

Mitigating social exclusion is crucial not only for promoting equity and social justice but also for reducing the significant costs borne by both individuals and society. For excluded individuals, social exclusion often leads to poorer health, limited educational and employment opportunities, and weakened psychological well-being, trapping them in cycles of disadvantage. At the societal level, exclusion results in lost productivity, increased pressure on social services, and heightened social tensions that undermine community cohesion. These consequences generate substantial economic burdens, including greater public spending on healthcare, welfare, and criminal justice systems.

Spain, like most Western countries, faces persistent challenges related to social exclusion. These are characterised by high rates of poverty, unemployment, and inequality, which have been exacerbated, in recent years, by the COVID-19 pandemic. Certain groups, including low-income households, women, and young people, remain particularly vulnerable to exclusion from social, economic, and political participation. Despite various social protection measures, gaps in access to education, healthcare, and labour market opportunities persist, limiting opportunities for many to fully engage in society.

Among the most affected are migrants, who often experience multiple and overlapping forms of exclusion. Migrants in Spain, particularly from non-Spanish speaking countries, face specific barriers such as language difficulties, limited recognition of qualifications, and restricted access to social networks and services. These challenges are further intensified for female migrants, who frequently contend with traditional gender roles and cultural expectations, reducing their ability to integrate and participate fully in their host communities. Understanding and addressing social exclusion among migrants is therefore critical to promoting social cohesion and equitable development in Spain.

Past works show that monetary assistance alone does not lead to sustained social inclusion or self-fulfilment among migrant populations Zhou and Gao (2008). In contrast, empowerment and autonomy of typically socially excluded individuals can benefit from psychosocial support and targeted digital literacy alongside facilitation of intercultural dialogue, fostering both practical competencies and emotional resilience, which, as a result, can be more crucial for long-term integration.

The provision of assistance and knowledge in these dimensions is particularly important in Spain - as the administration can have high paperwork requirements to provide educational, health, or social services. And in the last few years, the paperwork has become more digitalised, which creates special burdens for migrants who do not understand the language well, and have difficulties accessing digital infrastructures. For example, to obtain social services assistance one needs an electronic appointment. And to obtain such appointments, one may need to have not only a good internet connection but also a digital signature. Partly as a consequence of this, over 56% of people eligible for the

Ingreso Mínimo Vital (the Minimum Basic Income Scheme, a form of welfare assistance in Spain) do not apply for it.[1]

Moreover, addressing these challenges requires a holistic approach that goes beyond economic measures to include social and psychological dimensions. As mentioned before, improving digital literacy is key for migrants to access a wide range of resources, services, and communication channels, which in turn enhances their ability to navigate complex social systems. Psychosocial support helps mitigate feelings of isolation and strengthens self-confidence, enabling migrants—especially women—to participate more actively in their communities. Together, these elements create a foundation for greater social cohesion and pave the way for more effective and sustainable integration policies. It may also be important for a better labour market integration in the long run.

Our study showcases the effectiveness of a non-monetary intervention that provided a personalised and multi-faceted supports to participants who are typically socially excluded. We study a randomised controlled intervention among female migrants in the region of Murcia in Spain, who were also recipients of the nation-wide Minimum Basic Income Scheme.

The programme was a highly intensive scheme whereby participants in the treatment group received a personalised, multi-faceted support along various dimensions, including psychological support, digital skills training, and information regarding access to public and social services. In total, treated participants spent on average 48.5 hours in various activities of the programme. In contrast, the control group received only some financial incentives for their survey participation. The programme was carried out in 12 municipalities in the Region of Murcia - with the total of 856 participants (428 in the treatment group and 428 in the control group).[2]

Among the participant female migrants in the programme, 94% were of non-European nationality, and 11% had Spanish as their mother tongue. Among them, 13% were employed, and the average age was 41.6 years. 54% of participants had an education level below secondary school. 88% of the women completed both the baseline and endline surveys. Regarding participation, for both treatment and control groups, the participation rate was 98% whilst attendance at the various treatment sessions generally exceeded 90%.

The main results show significant effects across several dimensions. First, for the social inclusion dimension, we find positive effects of the intervention package, with an increase in the level of social resources (0.22 standard deviations). With regard to autonomy in access and usage of public services, the treatment increases autonomy in managing the Minimum Basic Income Scheme program by 0.12 standard deviations. The intervention package also improves knowledge of local resources by 0.31 standard deviations. Moreover,

[1] As per the Independent Agency for Fiscal Responsibility Report (2024)

[2] The municipalities in the programme are Alhama de Murcia, Cartagena, Lorca, Totana, Torre Pacheco, Alguazas, Murcia, San Pedro del Pinatar, Fuente Álamo, Mazarrón, Los Alcázares, and Cieza.

the intervention also improves digital competencies (measured as an index of the ability to use digital tools for daily life) by 0.28 standard deviations. Lastly, the treatment increases psychological well-being by 0.15 standard deviations. We do not find significant effects on labour market participation or employment during the intervention and up to 12 months after the intervention concluded. Our conjecture is that finding that such effects in this context would likely require a longer term follow-up.

Overall, the contributions of our study are twofold. First, we provide causal evidence in support of the role of digital skills on social integration. More importantly, our programme uniquely combines digital skills training with psychosocial interventions designed to enhance participants' self-perceptions and overall well-being, offering a more holistic approach to social inclusion than purely technical instruction. Second, participants in our programme - female migrants are the group with a higher risk of social exclusion than typical population or male migrants. In that, we are able to systematically document pathways through which our intervention can elevate social integration of such vulnerable population.

The paper is outlined as follows. Section 2 provides background of related institutions in Spain and discusses related literature. Section 3 describes the design of the intervention, the sample, the surveys, and key variables. Section 5 presents the empirical findings from the evaluation. Lastly, Section 6 discusses external validity of the programme and concludes.

2 Background

2.1 Literature Review

The existing literature on the social inclusion of female migrants has been predominantly qualitative. For instance, Kirk and Suvarierol (2014) explore the role of emancipation in social integration, focusing on both decision-making over one's personal life and participation in the labour market. Additionally, a review by Silva and Pereira (2023) provides non-experimental evidence that interventions involving health, psychological education, and counselling can enhance psychosocial well-being and empowerment. Although not based on randomised experimental designs, these interventions have been found to improve several psychosocial indicators, including depression, anxiety, self-esteem, and social interactions. Further, other social inclusion programmes have targeted at-risk young migrants (Heyeres et al., 2021) or the migrant population more broadly (Dierckx and Van Dam, 2014).

Therefore, to our knowledge, this programme constitutes one of the first pieces of empirical evidence, based on a randomised controlled design, to evaluate the impact of different curricula on enhancing the social inclusion of female migrants in the Spanish

context.

With regard to digital skills, previous studies have shown that digital literacy programmes can lead to significant improvements in employment outcomes and mental well-being among participants (Audhoe et al., 2010; Briscese et al., 2022; Roessler et al., 2021; Lee et al., 2022). Moreover, acquiring digital competencies allows marginalised groups to better navigate and interact with public services, thereby reducing barriers to essential resources (Suh et al., 2022). The effectiveness of such programmes, however, often depends on contextual conditions and implementation strategies, as noted by Choudhary and Bansal (2022).

Digital learning initiatives have also been shown to build key competences among migrant and refugee populations. For instance, Satar et al. (2025) and Faye and Ravneberg (2024) combine qualitative and quantitative methods to assess this issue among these groups. The work of Fung et al. (2025) is particularly relevant to our study, as it presents supporting evidence on the benefits of digital training programmes for female migrants. Nonetheless, the study does not follow a causal evaluation framework.

In addition, digital tools aimed at mental health support have been associated with modest but positive outcomes in terms of resilience and psychological distress (Schäfer et al., 2024; El-Refaay et al., 2024; Taneja et al., 2023). Group-based psychosocial programmes—such as *Entre Nosotras* (Moyano et al., 2024) and culturally adapted therapies for refugees in Germany (Wiechers et al., 2023)—report meaningful progress in emotion regulation, coping strategies, and a sense of belonging. Similarly, Uhr et al. (2025) finds that psychological interventions can significantly reduce depressive symptoms among refugee populations.

Overall, these findings align with our results on improved psychosocial well-being and digital inclusion, and underscore the theoretical relevance of social support, participatory design, and peer-based mechanisms.

2.2 Minimum Basic Income Scheme and Social Exclusion of Migrants in Spain

Minimum Basic Income Scheme in Spain: The scheme (IMV, in its Spanish acronym) is a financial benefit aimed primarily at preventing the risk of poverty and social exclusion for individuals in situations of economic vulnerability. It is part of the protective action of the social security system in its non-contributory modality and it responds to the recommendations of various international organisations to address the issues of inequality and poverty in Spain.

The IMV benefit has a dual purpose: to provide financial support to those who need it the most and to promote social inclusion and integration into the labour market. It is one of the social inclusion measures designed by the central government, together with the

support of autonomous communities. It constitutes a central policy of the welfare state with the aim of providing minimum financial resources to all individuals in Spain, regardless of where they reside.[3] Recognising that other kinds of social inclusion programming can potentially play an important complementary role in helping households exit poverty, in 2021 and 2022, the Ministry of Inclusion, Social Security and Migration (MISSM) directed part of Spain's Covid-19 NextGenerationEU Recovery Plan funds to finance the implementation of some innovative projects (a total of 32), which intended to complement or extend the effects of the minimum basic income scheme among its beneficiaries.[4]

Situation of Social Exclusion in Spain: Based on the 2023 Survey of Living Conditions (ECV), 26.5 % of the population – over 12 million people – were at risk of poverty or social exclusion in 2023 (INE, 2023). Women experienced a higher rate (27.5 %) than men (25.5 %). Disparities by nationality are stark: non-EU foreign nationals face a higher rate of social exclusion (34.7 pp. higher than EU migrants), and their rate of at-risk-of-poverty is 30.8 pp. higher than natives. Moreover, the gap in digital inclusion mirror these patterns whereby foreigners are 5.5 pp. more likely than natives to have low digital skills (INE, 2023).

Specifically in the Region of Murcia, vulnerability is even more pronounced. The region's social exclusion rate stands at 30.5 % (4 pp. above the national average) whilst its monetary poverty rate is equally elevated. Moreover, 39.1 % of Murcia's residents possess low or very low digital skills, compared to the overall national rates (INE, 2023).

3 Intervention Design

3.1 Main Stakeholders

The Cepaim Foundation for Comprehensive Action with Migrants (hereinafter, Cepaim) was the main entity responsible for the overall implementation and coordination of the project. Cepaim is an independent organisation that responds to social dynamics related to migration and social exclusion processes from a community-based perspective. Its mission is to promote an inclusive, cohesive, egalitarian, and intercultural society that ensures full access to citizenship rights for the most vulnerable individuals, especially

[3]Within the framework of the Recovery, Transformation, and Resilience Plan (PRTR), the General Secretariat for Inclusion (SGI) of the Ministry of Inclusion, Social Security and Migration (MISSM) plays a significant role in Component 23 'New public policies for a dynamic, resilient, and inclusive labour market', which falls under political area VIII 'New economy of care and employment policies'.

[4]Royal Decree 938/2021 granted subsidies for the implementation of 16 projects in Phase I. For Phase II, following the Royal Decree 378/2022, an additional 18 projects were financed. These programmes were implemented by Spain's regional administrations, together with either local governments or NGOs. Broadly, they included measures such as providing beneficiaries with job search support and apprenticeship training, free childcare for parents, tailored tutoring for their children, or assistance for families who may be entitled to social benefits which they do not yet claim.

migrants.

Accompanying Cepaim in the project were several key partners: (i) the Federation of Municipalities of the Region of Murcia, which undertook support, management, and coordination tasks with the municipalities; (ii) the University of Murcia, which provided external advisory services and support in the development of data collection tools; (iii) the Directorate-General for Social Services and Relations with the Third Sector of the Region of Murcia, which supported the coordination of actions and the overall development of the project; (iv) the Provincial Delegation of the Region of Murcia of the National Institute of Social Security, which offered technical assistance in the project's governance model by conducting audit and budget execution tasks.

The Ministry of Inclusion, Social Security and Migration (MISSM) was the project's funder whilst its General Secretariat for Inclusion (SGI) was the main responsible entity for the design and the evaluation of the randomised controlled trial programme.

3.2 Intervention curriculum

For the treatment group, a sequence of activities were carried out as follows:

Initial diagnostic assessment: This was conducted by a social worker, covering the following areas: material resources (economic resources and housing), social relationships and health (household unit, health, and social integration), psychosocial factors (perception of situation, self-esteem, habits, and culture), and capabilities and competencies (employment and social skills). Based on this assessment, a social inclusion pathway was developed with personalised monitoring and evaluation. Special emphasis was placed on guidance and advice regarding the Minimum Basic Income scheme. Additionally, referrals were made in cases of risk (e.g., at-risk minors, gender-based violence, utilities cut-off, or eviction).

Development of basic skills: This was a combination of a group-based workshop of 12 sessions that focussed on psycho-social support. Each session lasted approximately 1.5 hours. In addition, participants also were offered personalised, individual support sessions (up to five sessions) that varied according to personal characteristics and needs. Broadly, the module aimed to create a comfortable, safe, and respectful space for the free expression of emotions and shared experiences.[5]

Knowledge and participation in the community: This module aimed to enhance community knowledge and engagement, language mediation services (translation and interpreting sessions). It consisted of a variety of group sessions – covering topics such as

[5]See Appendix A.1 for more details.

local knowledge and context, positive conflict resolution, and citizenship-building. Specifically, language mediation was intended to help facilitating the participation of female migrants in getting support in psychosocial care, social support, and training. In addition, the module aimed to raise awareness of available resources and encourage active community participation, particularly with regard to access to municipality-related public resources, including education, health, public administrative services.[6]

Digital competencies: The final module intended to promote digital inclusion. Together with a tutor, participants took a class on a set of digital skills to develop their digital competency in four aspects: using information in digital contexts; applying digital resources in daily life; fostering citizen-driven online engagement; and ensuring digital accessibility for excluded groups.[7]

3.3 Incentives

Financial incentives were utilised to ensure the participation of both groups (treatment and control) in the data collection surveys for the evaluation, and to encourage full engagement. Firstly, an *evaluation incentive* was offered to both the control and the treatment groups, as a payment of €50 after completing the initial assessment and subsequently €125 after completing the final evaluation.

Secondly, a *goal achievement incentive* of up to €300 was offered. For the treatment group, the payment scheme was based on attendance at specific sessions of *initial diagnostic assessment*; *psycho-social support*; and *knowledge-and-participation-in-the-community* (valued at €100 for each session). In contrast, for the control group, they were offered €100 for each of the follow-up meetings (3 meetings in total).

3.4 Eligibility of participants and recruitment

Starting from a target population of female migrants legally residing in the Region of Murcia, who were recipients of either the IMV or the Basic Insertion Income Scheme (Renta Básica de Inserción, RBI), an initial contact was made via telephone call, followed by an in-person group session. When necessary, the initial contact was also reinforced through email, additional phone calls, or even individual meetings.[8]

Beneficiaries who were contacted through this procedure were then invited to attend group sessions held in each of the participating municipalities. During these sessions,

[6]See Appendix A.1 for more details.

[7]See Appendix A.1 for more details.

[8]The initial contact was also further supported by additional phone calls, individual face-to-face meetings, or by attending a second group information session when needed. Throughout the entire recruitment process, professional staff involved in the project were available to provide linguistic mediation when necessary.

participants were informed about an overarching idea of the programme, and subsequently, they were invited to sign the consent form, which was done individually during the same session.

3.5 Randomisation

Randomisation of the baseline sample: Among participants who gave their consent to participate in the programme, they were randomised to one of the two experimental groups: the treatment group, which received the full programme of interventions, or the control group, which did not receive the programme. A stratified randomisation was implemented at the individual level – using the town of residence level as the stratification unit.[9] The process ensured the balance between both groups in terms of observable characteristics (e.g. age, number of children, household composition, previous employment status). Overall, the randomisation process was done through a computerised algorithm to ensure strict randomness and it guaranteed that the assignment was not influenced by any personal or institutional discretion.

In total, 856 non-EU female migrant women who were beneficiaries of the Minimum Basic Income scheme in the Region of Murcia at the time were recruited.[10] Among them, 428 were in the treatment group and 428 were assigned to the control group.[11]

Attrition: Recall that 856 participants, who also responded to the baseline survey, started in the initial recruitment. By the end of the programme, information we collected about 755 participants both at the baseline and endline surveys – this accounts for 88.2 percent of all initially recruited participants. We have checked if the attrition pattern was systematic and have found that whilst the treatment status on its own is significantly and positively correlated with the likelihood of remaining in the programme, once other observables are included, it is no longer the case.[12] Having said that, in the robustness

[9] In cities with more than 100,000 inhabitants, stratification was based on neighbourhoods or districts. In total, there were 14 strata (the intervention took place in 12 municipalities, but the municipality of Murcia was subdivided into three zones).

Ideally, alternative stratification protocols could have been conducted based on individuals' characteristics. Due to the time and operational constraints, the full characteristics of the sample were only available after the random assignment was completed and the entire baseline survey was administered. Therefore, the stratification was limited to the municipality level.

[10] Initially, 858 individuals were recruited. However, due to the withdrawal of two individuals between the time of randomisation and baseline measurement, the final baseline sample consisted of 856 participants.

[11] According to the initial plan, a group of substitute participants was identified. However, thanks to the staffing and resources made available by Cepaim, it was possible to incorporate all 856 participants within the planned timeline, thus allowing for a uniform treatment protocol. Therefore. there was no replacement of participants in the programme throughout its entire duration.

[12] More specifically, we ran a regression – with the probability of attrition (not being observed in the endline survey) as the dependent variable. See in the Appendix Table B.3 and Table B.4 for more details of the estimations.

check, we re-estimate our main specifications following Lee (2009) in order to account for potential attrition.

Analytical Sample: Out of 755 participants, we were able to observe the full set of characteristics of 703 individuals. This is our main analytical sample (in the regression analysis section).

3.6 Timeline

The organisation of the intervention programme in different stages was as follows:

I. Recruitment and baseline survey: The process in this stage included the initial contact, group information sessions, signing of informed consent, and the administration of the baseline questionnaire or diagnostic assessment.

II. Randomisation: This stage was carried out immediately after the baseline data collection.

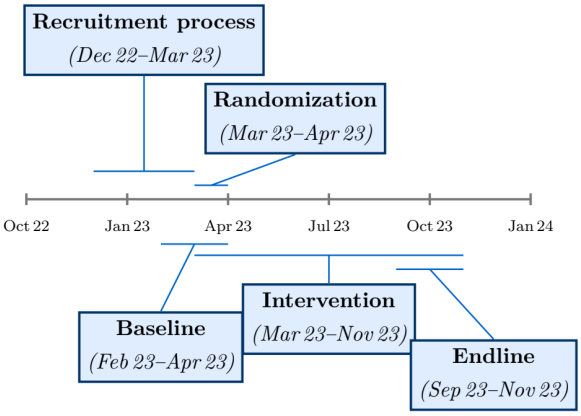
III.A. Implementation of interventions: This stage was applicable to treated participants.

III.B. Monitoring during the intervention period: Participants in the control group were monitored, only for the evaluation purpose.

IV. Follow-up endline survey: Both groups were followed up over time to track changes in the key outcome indicators.

In summary, as shown in Figure 1, the design process started in October 2022. The recruitment process took place between December 2022 and March 2023, during which the baseline survey was also conducted (February-April 2023). Then, the randomisation of participants were carried out during March and April 2023. Subsequently, the intervention process started in March 2023 and ended in November 2023 (total of 8 months). Finally, the endline survey was conducted in November 2023.

Figure 1: Timeline



3.7 Main Variables: Survey and Administrative Data

The baseline and the endline surveys provide the core source of information regarding main outcomes and key covariates. To complement the self-reported survey data, we also made use of administrative records—specifically, the Affiliation component of the *Continuous Sample of Working Lives* (MCVL)—to evaluate outcomes related to the labor market behavior of participants.

3.7.1 Variables in the surveys

As discussed in Section 3.6, the baseline and endline surveys were administered with both the treated and the control participants. Below, we outline main indicators that we exploit theme-by-theme as follows.[13]

Social inclusion of participants: Several indicators that we exploit as proxies are: (i) economic resources index, which measures material deprivation, ability to make ends meet, and household economic status; (ii) social resources index, which measures participants' view of support they received in terms of administrative and social assistance; (iii) index on perception of trust in social workers; (iv) assessment on participants' autonomy in the management of the IMV; (v) autonomy in accessing social resources that improve social inclusion as self-reported ability to independently complete certain procedures and access services that promote social inclusion. Note that we have the measure of the economic resources index at both the baseline and the endline. However, for the other indices in this theme, we only observe them at the endline.

Digital skills: It is a composite indicator derived from questions measuring the use of digital tools in everyday life, especially in relation to administrative tasks.

Psychosocial well-being: It is measured based on four relevant indicators, namely self-esteem; satisfaction with family relationships; psychological well-being; and life satisfaction. All of them are self-evaluated.

Community participation: It consists of two indices, namely community engagement index; and knowledge of community resources index.

Other key covariates: The set of covariates used in this study includes the following variables. First, an indicator for place of residence, capturing 12 distinct locations; these are also the strata used in the randomization. Second, a self-reported indicator of labor market status. Third, the highest level of education attained, categorized as follows: No formal education; Primary education or the first cycle of secondary education; Compul-

[13]More details of the variables and their sources can be found in the Appendix. In addition, to ensure that all indicators are scaled so that higher values reflect more positive outcomes, the following steps were implemented. For indicators where higher values imply negative outcomes, a reverse coding was applied. Then, we normalise each item, setting the minimum value to zero and the maximum value to 1. Subsequently, we calculate an index using inverse covariance weighting following Anderson (2008). Once the index is created, we standardise it. By construction, its mean is zero, with the standard deviation is one.

sory secondary education) Post-secondary or vocational training; and Higher or tertiary education (including undergraduate and postgraduate studies).

Language proficiency in Spanish is also included as a covariate, classified into four levels: native speaker, high proficiency, medium proficiency, and basic or minimal proficiency. Nationality is categorized as: Spanish, non-Spanish European, and non-European. Age is grouped into the following categories: 19–28, 29–38, 39–48, 49–58, and 59 years or older. Finally, household type is coded as: two-parent family, single-parent family (due to divorce or separation), and other types of household arrangements.

3.7.2 Variables from Administrative Data

The source of the administrative data used in this study is the Continuous Sample of Working Lives (Muestra Continua de Vidas Laborales, MCVL), specifically the Affiliation component. This dataset contains detailed records of all formal labour market entries for individuals included in the survey who participate in the formal economy. Each observation corresponds to a specific employment or contract spell held by each worker, in a formal job. In details, the MCVL administrative data covers employment relationship records from December 1991 to March 2024.[14]

Specifically for the purposes of this study, we restrict the analytical period and focus on employment spells that occurred (and/or ended) between July 2022 and March 2024 – covering 8 months before the intervention was initiated until the last available month of the data that we can access.[15]

To gauge labour market situations and dynamic of workers who appeared in the administrative records, we constructed several outcomes. First, for the extensive margin (employed in the formal sector or not), we created an indicator variable, *employed*, which captures whether an individual was recorded as with a valid job contract in a given month. Second, to measure the intensive margin of labour market participation, we calculate two additional variables: (i) *days* reflects the proportion of days worked in a given month; and (ii) *parttime* represents the percentage of an employment contract that is considered as a part-time job.[16] Then, *days* and *parttime* are multiplied to create a proxy of work hours (in a given month), *hours*. We also exploit *maxdays*, which is the maximum number of days worked within a given month, as another measure of the intensive margin of labour

[14]That is, at least there is one worker who we observed their employment in December 1991, and at least one worker who had their job termination date in March 2024.

[15]The available variables in the MCVL that we exploit in this study are: an anonymized individual identifier, the Social Security Scheme Code, the province code of the job, the sectoral activity code associated with the employment relationship, the contract type, the part-time work coefficient, and the start and end dates of the employment relationship.

[16]Specifically, this is an existing variable in the administrative record – titled *part-time coefficient*, which is a percentage ranging from 0 to 100. After some modifications, in our case, a value of 0 represents working part-time, while a value of 100 corresponds to working full-time.

market participation.[17]

3.8 Description of the Sample

Summary statistics at baseline: As explained earlier, the sample at the baseline comprises 856 individuals in total, with 428 persons in the control group, and 428 in the treatment group. Table 1 describes key socio-economic variables of the sample, which were measured at the baseline, namely, locations (12 stratified municipalities), labour market status (being employed), educational levels (0 is no education, 1 at least primary school, 2 at least secondary school, 3 at least bachelor, and 4 post-graduate), a set of indicators for Spanish language (native, high, middle, low), nationality (Spanish, European, Non-European), age groups (5 groups: 19-28, 29-38, 39-48, 49-58, 59 and higher), and household types (4 groups: 2-parent, 1-parent, divorced/separated, others).

Columns 1-2 of Table 1 report the summary statistics of each covariate at the baseline (with 856 observations). All participants are female migrants (94% are non-European, 11% have Spanish as their native language). Among them, 13% are working (as the target group is that of recipients of IMV or RBI, the low level of employment is expected), and the average age is 41.6 years old. 54% of the participants have an education attainment lower than secondary school. Columns 3-4 in Table 1 report analogous statistics, but taken from the sample at the endline. Notice first that at the end of the treatment, we can track 755 individuals. Overall, given the low attrition rate (see more details in Section 3.5), the sample appears balanced between the baseline and the endline surveys along all dimensions.

[17]Since the dataset contains multiple employment records per individual, we initially categorised each observation into one of three periods: pre-treatment, intermediate, or post-treatment. The maximum number of days worked in a given month is then calculated for each individual within each period. For example, if an individual held two different jobs in December 2023 where they worked 12 days in one job and 26 days in the other job, their *maxdays* for December 2023 would be 26.

Table 1: Descriptive statistics of the covariates

	Baseline Survey: N = 856		Endline Survey: N=755	
	Mean	**Std. Dev.**	**Mean**	**Std. Dev.**
Age 19-28	0.08	0.27	0.17	0.38
Age 29-38	0.39	0.49	0.33	0.47
Age 39-48	0.37	0.48	0.34	0.47
Age 49-58	0.13	0.33	0.12	0.33
Age 59-68	0.04	0.20	0.04	0.20
HH: 2-parent family	0.75	0.43	0.74	0.44
HH: 1-parent family	0.08	0.27	0.10	0.30
HH: Divorced/Separated	0.10	0.31	0.08	0.28
HH: Others	0.06	0.25	0.07	0.26
Spanish language: Native	0.11	0.31	0.10	0.31
Spanish language: High	0.17	0.38	0.17	0.37
Spanish language: Middle	0.39	0.49	0.37	0.48
Spanish language: Low	0.33	0.47	0.36	0.48
Edu: No education	0.24	0.43	0.24	0.43
Edu: Primary	0.30	0.46	0.30	0.46
Edu: Secondary	0.19	0.39	0.19	0.39
Edu: Postsecondary/Vocational	0.19	0.39	0.19	0.39
Edu: Higher education	0.08	0.27	0.08	0.27
Labour market status: Employed	0.13	0.34	0.19	0.40
Labour market status: Unemployed	0.87	0.34	0.81	0.40
Area: Murcia	0.31	0.46	0.31	0.46
Area: Cartagena	0.14	0.34	0.14	0.35
Area: Lorca	0.14	0.35	0.14	0.35
Area: Cieza	0.03	0.18	0.03	0.16
Area: Totana	0.02	0.14	0.02	0.13
Area: Alhama de Murcia	0.07	0.26	0.06	0.25
Area: Alguazas	0.02	0.15	0.02	0.15
Area: Mazarrón	0.05	0.21	0.05	0.21
Area: Fuente Álamo	0.05	0.21	0.05	0.22
Area: Torre Pacheco	0.07	0.25	0.07	0.25
Area: Los Alcázares	0.05	0.23	0.06	0.23
Area: San Pedro del Pinatar	0.05	0.21	0.05	0.21
Nationality: Spanish	-	-	0.02	0.13
Nationality: European	0.06	0.24	0.07	0.25
Nationality: No European	0.94	0.24	0.91	0.28

Notes: The table reports the descriptive statistics of the covariates included in both the baseline and endline surveys. It presents the mean and standard deviation for the following variables: age group, household composition, Spanish language proficiency, education level, labour market status, geographic area, and nationality.

Balancing Test: Table 2 reports the balance tests on outcomes, measured at baseline. The randomisation was well-conducted, with all outcomes balanced in the pre-treatment sample, between the treatment and the control group. Only at the index of the ability to use digital tools for daily life that we detect a statistically significant difference at 10%. In addition, Appendix Table B.2 reports the mean comparison of characteristics of our participants between those in the control group and the treatment group, using the information collected at the baseline.

Overall, we have a sample randomisation that is successful along almost all dimensions. We note that, marginally, the control group has more participants from 1-parent households (but significant only at 10%). In terms of language proficiency, both groups

are balanced in terms of the proportion of those with Spanish as their native language (11% in both treatment and control groups), and those with low proficiency. Some minor differences exist among those with intermediate and high (but not native) levels of Spanish (at 5% significance).

Table 2: Balancing test of baseline outcome

	Control Group	**Treatment A**	**Pairwise t-test**
	Mean (SD)	**Mean (SD)**	**(p-value)**
Economic resources	-0.01	0.01	0.67
	(1.03)	(0.97)	
Social resources	no baseline	no baseline	no baseline
Trust in social work	no baseline	no baseline	no baseline
Autonomy in managing of the IMV	no baseline	no baseline	no baseline
Autonomy accessing social resources	no baseline	no baseline	no baseline
Ability to use digital tools for daily life	-0.06	0.06	0.09*
	(1.00)	(1.00)	
Self-esteem	0.01	-0.01	0.68
	(1.00)	(1.00)	
Satisfaction with family relationships	-0.02	0.02	0.56
	(1.00)	(1.00)	
Psychological well-being	0.05	-0.05	0.11
	(1.01)	(0.99)	
Life satisfaction	0.05	-0.05	0.17
	(1.01)	(0.99)	
Participation in community's life	0.00	-0.00	0.90
	(1.03)	(0.98)	
Knowledge of community's resources	0.02	-0.02	0.58
	(0.96)	(1.04)	
N	428	428	856

Notes: The table reports the results of the balancing test for baseline outcomes, comparing the control and treatment groups. Columns 1 and 2 present the mean and standard deviation (in parentheses) for each group, while the last column shows the p-value from a pairwise t-test assessing the difference in means between the two groups. Statistics are reported only for outcomes that were measured at baseline.

4 Empirical Approach

4.1 Main Hypotheses

The central hypothesis of the programme is that a curriculum that combines psychosocial intervention and digital skills training, which is based on intercultural mediation, can positively enhance the level of social inclusion of female migrants. The underlying assumption is that this integrated and supportive approach would lead to more successful outcomes, compared to an alternative programme that only provided financial assistance alone.

Specifically, we expected that the intervention would have a significantly positive im-

pact on participants' social inclusion, potentially through some improvements in their digital competencies from the digital skills training; along with positive effects on psychosocial wellbeing from having received psychosocial support. In addition, we expected the curriculum to raise community participation among the treated participants.

4.2 Specifications

Our main analysis follows an ANCOVA specification for each main outcome index whose information we observed at both the pre- and post-treatment surveys. The dependent variable is the post-treatment outcome. We include pre-treatment outcomes to control for potential imbalances we observed in the sample. As the randomisation was conducted at the individual level, we use robust standard errors at this level.

Specifically, for the outcomes that we observe both in the baseline and the endline surveys, we estimate Equation 1 as our main specification:

$$\mathrm{Y}_i{}^{\mathrm{POST}} = \beta_0 + \beta_1 \times \mathrm{T}_i + \beta_2 \times \mathrm{Y}_i{}^{\mathrm{PRE}} + \gamma \mathrm{X}_i + \epsilon_i \tag{1}$$

where $\mathrm{Y}_i{}^{\mathrm{POST}}$ is the standardised index at the endline survey, and $\mathrm{Y}_i{}^{\mathrm{PRE}}$ is the standardised index at the baseline survey. T_i is the treatment indicator, with the value of 1 for participants assigned to the treatment group and zero otherwise. Therefore, β_1 is the main parameter of interest that shows an intent-to-treat effect of the programme. X_i is a vector of socio-economic controls at the baseline.

As we remarked earlier in Section 3.7, for selected variables that are available only at the endline, we estimate a modified version of Equation 1, which excludes $\mathrm{Y}_i{}^{\mathrm{PRE}}$. Therefore, readers should note that, for these outcomes, the interpretation of the treatment coefficients are different from the main specification, and they are more likely to suffer from omitted variable biases.

5 Results

5.1 Main Findings for the Surveys

Table 3: Baseline regression result, with controls

	Coeff	(SE)	N	R^2	Method	Mean
Panel A: Social inclusion of the participants						
Economic resources	-0.01	(0.05)	703	0.59	ANCOVA	0.01
Social resources	0.22***	(0.07)	703	0.11	OLS	-0.12
Trust in social work	-0.00	(0.08)	703	0.08	OLS	0.02
Autonomy in managing of the IMV	0.12*	(0.07)	703	0.30	OLS	-0.08
Autonomy accessing social resources	0.11	(0.07)	703	0.25	OLS	-0.07
Panel B: Digital skills						
Ability to use digital tools for daily life	0.28***	(0.05)	703	0.59	ANCOVA	-0.20
Panel C: Psychosocial well-being						
Self-esteem	-0.01	(0.07)	703	0.21	ANCOVA	-0.02
Satisfaction with family relationships	0.01	(0.07)	703	0.29	ANCOVA	-0.04
Psychological well-being	0.15**	(0.07)	703	0.27	ANCOVA	-0.06
Life satisfaction	0.06	(0.06)	703	0.42	ANCOVA	-0.01
Panel D: Community participation						
Participation in the community's life	-0.02	(0.07)	703	0.29	ANCOVA	-0.02
Knowledge of community's resources	0.31***	(0.06)	703	0.40	ANCOVA	-0.17

Notes: The table presents the results of the regression analysis that includes socioeconomic controls. The first column reports the estimated coefficient β_1 from Equation 1. Statistical significance is denoted as follows: * $p < 0.10$, ** $p < 0.05$, and *** $p < 0.01$. The second column shows the standard errors (in parentheses), while the third column indicates the number of observations. The fourth column reports the R^2 of each model, and the fifth column specifies the estimation method used (ANCOVA or OLS). The final column shows the mean of the dependent variable in the control group.

Table 3 presents the estimates of the treatment's impact on the key outcome variables adjusting for socioeconomic controls. Each row shows the estimated effect of the intervention on a specific outcome variable (column 1), its standard error (column 2), and the estimation method used (column 5). The sample consists of the 755 participants who completed both the baseline and follow-up surveys.

In the domain of social inclusion (Panel A), the intervention produced statistically significant and positive effects on social resources (an increase of 0.22 standard deviations) and autonomy in managing the Minimum Basic Income (an increase of 0.12 standard deviations). In terms of digital skills (Panel B), the intervention led to an increase of 0.28 standard deviations in participants' ability to use digital tools in daily life, based on a composite skills index.

For psychosocial wellbeing (Panel C), significant changes were detected for the psychological wellbeing index. Where the intervention increases in 0.15 standard deviations the level of psychological wellbeing. Lastly, in the domain of community participation (Panel D), the only significant effect observed was an increase in knowledge of community resources, with an improvement of 0.31 standard deviations. No significant change was observed in overall social participation within the community.

The results suggest that the intervention had its most pronounced impact on digital literacy, access to social resources, and participants' awareness of community services. However, before we reach the final conclusion, it is worth noting that the positive effects in the dimension of social inclusion of the participants are found among the itemised outcomes where we did not collect the baseline level (and thus, were estimated without its pre-intervention value as a key covariate).

5.2 Robustness Checks

Multiple Hypothesis Testing: In addition to concerns about the absence of baseline data for some of the indicators, it is also important to consider an issue that arises in the context of econometric modelling when a large number of hypotheses are tested simultaneously. Given the extensive number of hypotheses in the study, there is a well-known risk that some results may appear statistically significant purely due to random variation in the data. To address this, two sets of multiple hypothesis testing procedures were conducted to control for this possibility.

Table 4 presents the regression coefficients for each outcome (listed in rows) in the first column, along with their corresponding levels of statistical significance. The second column reports the p-values for the family-wise error rate (FWER), as calculated using the Westfall and Young (1993) method. The third column shows the p-values from joint hypothesis testing using the same method.

When reviewing each p-value associated with the multiple hypothesis testing (MHT), the following results emerge: for the outcomes that were statistically significant in the initial estimates, these remain significant under the multiple hypothesis testing approach –specifically with either the p-value of the Westfall-Young or of Randomisation T do not fall below 0.10. These robust results include: social resource levels (+), autonomy in managing the Minimum Basic Income (+), self-assessed digital skills (+), psychological wellbeing (+), and knowledge of community resources (+). In summary, the multiple hypothesis testing exercise confirms that results are consistent with those obtained from the initial regression analyses.

Table 4: Results with controls and p-values from multiple hypothesis testing

	Coeff (No MHT)	Westfall-Young p-values	Randomization-T's p-values
Panel A: Social inclusion of the participants			
Economic resources	-0.01	0.993	0.729
Social resources	0.22***	0.030	0.005
Trust in social work	-0.00	0.993	0,886
Autonomy in managing of the IMV	0.12*	0.382	0.061
Autonomy accessing social resources	0.11	0.539	0.089
Panel B: Digital skills			
Ability to use digital tools for daily life		0.000	0.000
Panel C: Psychosocial well-being			
Self-esteem	-0.01	0.993	0.906
Satisfaction with family relationships	0.01	0.99	0.840
Psychological well-being	0.15**	0.544	0.026
Life satisfaction	0.06	0.993	0.289
Panel D: Community participation			
Participation in community's life	-0.02	0.993	0.632
Knowledge of community's resources	0.31***	0.001	0.001
All outcomes			0.01

Notes: The table presents the results of the regression analysis that includes socioeconomic controls. The coefficients in the first column are the same as those reported in Table 3. Statistical significance is denoted as follows: * $p < 0.10$, ** $p < 0.05$, and *** $p < 0.01$. The second column reports p-values adjusted for multiple hypothesis testing using the Westfall-Young procedure to control the family-wise error rate (FWER). The third column presents p-values from joint hypothesis testing using randomization inference. Both methods follow the approach described in Westfall and Young (1993).

Addressing sample attrition: Considering that we find selective attrition in our sample, it is worth checking the extent to which our original estimates are sensitive to attrition. Therefore, we follow Lee (2009) and conduct a trimming procedure to bound the average treatment effects in the presence of sample selection due to attrition. The method involves identifying the excess number of individuals who are induced to be selected due to the treatment and then *trimming* the upper and lower tails of the outcome distribution (at 12% of each tail), yielding worst-case and best-case scenario bounds. Table 5 presents the estimates (upper and lower bounds) across each outcome based on the method. Given that the attrition issue is not severe, the estimates with Lee bounds present consistent findings with those we found in the last section.

Table 5: Lee-Bound with controls

	A: Upper bound effect			B: Lower bound effect		
	coeff	(sd)	R^2	coeff	(sd)	R^2
Panel A: Social inclusion of the participants						
Economic resources	0.04	(0.05)	0.58	-0.11**	(0.05)	0.56
Social resources	0.37***	(0.07)	0.14	0.22***	(0.07)	0.11
Trust in social work	-0.00	(0.08)	0.08	-0.13*	(0.07)	0.07
Autonomy in managing the IMV	0.12*	(0.07)	0.30	0.12*	(0.07)	0.30
Autonomy accessing social resources	0.11	(0.07)	0.25	-0.00	(0.06)	0.24
Panel B: Digital skills						
Ability to use digital tools for daily life	0.34***	(0.05)	0.60	0.25***	(0.05)	0.58
Panel C: Psychosocial well-being						
Self-esteem	-0.01	(0.07)	0.21	-0.20***	(0.07)	0.19
Satisfaction with family relationships	0.01	(0.07)	0.29	-0.16**	(0.06)	0.23
Psychological well-being	0.24***	(0.07)	0.26	-0.03	(0.06)	0.25
Life satisfaction	0.06	(0.06)	0.42	-0.06	(0.06)	0.38
Panel D: Community participation						
Participation in community's life	0.09	(0.07)	0.27	-0.16**	(0.07)	0.27
Knowledge of community's resources	0.31***	(0.06)	0.40	0.21***	(0.06)	0.35

Notes: The table presents the results of the regression analysis following the method proposed by Lee (2009), which applies a trimming procedure to address potential bias due to sample attrition. Statistical significance is denoted as follows: * $p < 0.10$, ** $p < 0.05$, and *** $p < 0.01$. The first three columns correspond to the upper bound estimates, while the last three columns report the lower bound estimates. These bounds are obtained by trimming either the upper or lower tail of the outcome distribution, depending on the direction of attrition. For each bound, the table reports the estimated coefficient, standard deviation (in parentheses), and the R^2 of the model.

5.3 Treatment Effect on the Treated Estimation

Given that the main analysis relies on the specification outlined in Equation 1, where the treatment variable captures assignment rather than actual attendance, the estimations so far capture the Intent-to-Treat effect (ITT). However, as shown in Appendix Table B.5, not all participants who were assigned the treatment fully attended the programme eventually. In addition, the attendance rate also varied across each specific module.

In order to account for such variations in programme's attendance, first, we estimate the *intensive* margin of the programme assignment – replacing the binary treatment assignment variable, T_i, in Equation 1 by Attend_i, which measures the fraction of the programme that each participant actually attended. More specifically, we estimate Equation 2 where α_1 captures the association between attendance intensity and the post-intervention outcome, $\mathrm{Y}_i^{\mathrm{POST}}$.

$$\mathrm{Y}_i^{\mathrm{POST}} = \alpha_0 + \alpha_1 \times \mathrm{Attend}_i + \alpha_2 \times \mathrm{Y}_i^{\mathrm{PRE}} + \omega \mathrm{X}_i + \psi_i \tag{2}$$

The estimated results, reported in Table 6, point that the ITT effects that are previously found to be statistically significant under Equation 1 also remain significant in our intensive-margin estimations. Most of all, the size of the effect becomes relatively larger

under this specification.

Table 6: Intensive margin of programme participation

	Coeff	(SE)	N	R^2	Method
Panel A: Social inclusion of the participants					
Economic resources	0.05	(0.06)	703	0.59	ANCOVA
Social resources	0.34***	(0.09)	703	0.12	OLS
Trust in social work	0.02	(0.09)	703	0.08	OLS
Autonomy in managing of the IMV	0.23***	(0.08)	703	0.31	OLS
Autonomy accessing social resources	0.23***	(0.08)	703	0.26	OLS
Panel B: Digital skills					
Ability to use digital tools for daily life	0.36***	(0.06)	703	0.59	ANCOVA
Panel C: Psychosocial well-being					
Self-esteem	0.08	(0.08)	703	0.21	ANCOVA
Satisfaction with family relationships	0.06	(0.08)	703	0.29	ANCOVA
Psychological well-being	0.31***	(0.08)	703	0.28	ANCOVA
Life satisfaction	0.15**	(0.07)	703	0.42	ANCOVA
Panel D: Community participation					
Participation in community's life	0.09	(0.08)	703	0.29	ANCOVA
Knowledge of community's resources	0.42***	(0.07)	703	0.41	ANCOVA

Notes: The table presents the results of the regression analysis on the intensive margin of the intervention. Statistical significance is denoted as follows: * $p < 0.10$, ** $p < 0.05$, and *** $p < 0.01$. The first column reports the estimated coefficient α_1 from Equation 2, followed by the standard error in the second column. The third column presents the number of observations, the fourth column shows the R^2, and the final column indicates the estimation method used.

Nevertheless, it is likely that the intensity of attendance is not exogenous and instead, can be driven by unobservable choices and factors. Therefore, to address this endogeneity issue, we follow a standard approach and instrument Attend_i by the random assignment of the treatment status, T_i. In short, we estimate a Treatment-on-the-Treated effect (TOT).

Table 7 reports the estimated results (i.e., the second stage of our two-stage least squares estimations). In this table, the F-statistics from the first-stage regressions are presented in the last column. As shown, all F-statistics are greater than or equal to 2500, indicating that the instrument is indeed strong, as suggested by Stock et al. (2002). After accounting for endogeneity, the size of the effect of Attend_i becomes smaller for most outcomes that the intervention shows statistically significant effects. One exception that now under the new approach, the positive effect of the programme on life satisfaction is halved and is no longer statistically meaningful. Overall, we find that the treatment effect is larger under the TOT approach – confirming a positive contribution of the programme to female migrants who took part in it.

Table 7: 2SLS results with the treatment status as an instrument

	Coeff	(SE)	N	R^2	F-stats ($1^{st}stage$)
Panel A: Social inclusion of the participants					
Economic resources	-0.02	(0.07)	703	0.59	2614.26
Social resources	0.29***	(0.09)	703	0.12	2614.25
Trust in social work	-0.01	(0.10)	703	0.07	2601.65
Autonomy in managing of the IMV	0.16*	(0.08)	703	0.31	2614.25
Autonomy accessing social resources	0.14*	(0.09)	703	0.26	2614.25
Panel B: Digital skills					
Ability to use digital tools for daily life	0.36***	(0.06)	703	0.59	2602.80
Panel C: Psychosocial well-being					
Self-esteem	-0.01	(0.09)	703	0.20	2513.65
Satisfaction with family relationships	0.01	(0.09)	703	0.28	2517.37
Psychological well-being	0.20**	(0.09)	703	0.27	2562.28
Life satisfaction	0.08	(0.08)	703	0.42	2563.83
Panel D: Community participation					
Participation in community's life	-0.03	(0.09)	703	0.28	2557.68
Knowledge of community's resources	0.40***	(0.08)	703	0.41	2636.87

Notes: The table reports the results from a two-stage least squares (2SLS) regression, where treatment assignment is used as an instrument for programme participation. The estimated coefficients correspond to the local average treatment effect (LATE) among compliers. Statistical significance is denoted as follows: * $p < 0.10$, ** $p < 0.05$, and *** $p < 0.01$. The first column shows the estimated coefficient, the second column reports the standard error (in parentheses), the third column indicates the number of observations, the fourth column presents the R^2, and the fifth column displays the F-statistic from the first stage, providing evidence on the strength of the instrument.

5.4 Labour Market Outcomes with Administrative Data

Next, we turn to assess if the intervention may have produced any changes in *actual* labour market behaviours and outcomes of the programme's participants that we may observe from the administrative dataset (as described in Section 3.7.2).

Specifically, we estimate the following equation:

$$\mathrm{Y}_{i,t} = \pi_0 + \pi_1 \times \mathrm{T}_i + \gamma \mathrm{X}_i + \eta_{i,t}, \tag{3}$$

where the labour market outcomes $\mathrm{Y}_{i,t}$ of an individual i are tracked at each month t throughout the analysis period, which covers July 2022 to March 2024. We regress these outcomes on a treatment indicator T_i and a set of baseline covariates X_i, which includes dummy variables for Spanish language proficiency, locality, educational attainment, nationality, and household type, all measured in the pre-treatment period, as well as a categorical variable for year of birth. In total, we estimate 21 separate regressions—one for each month in the observation window of pre-treatment, intervention, and post-treatment periods.

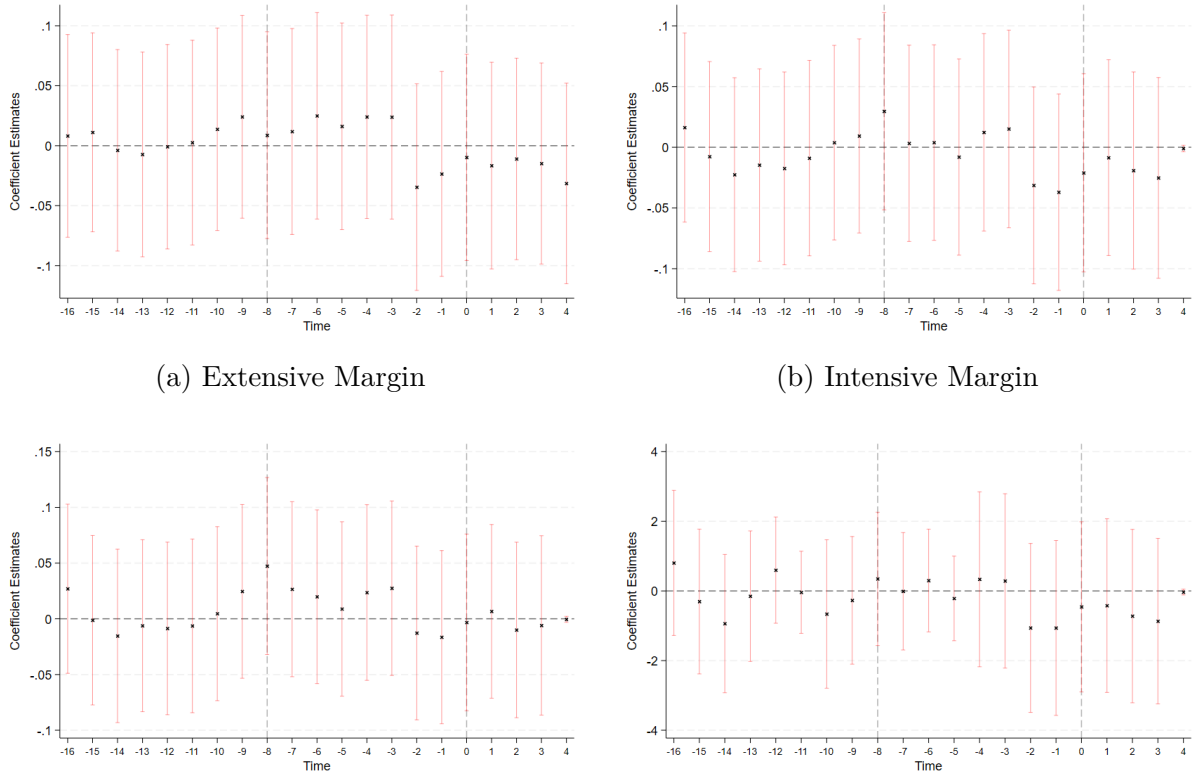
Figure 2 reports the estimated effect of the intervention for each month in the specification described in equation 3 above. Two vertical lines divide the months of interest into (i) the pre-intervention phase, (ii) the intermediate phase of the intervention, and (iii) the post-intervention phase, respectively. The time marked as zero on the horizontal axis indicates the end of the intervention phase. Each panel of Figure 2 corresponds to the estimated effect on the extensive margin of labour market participation (i.e., worked in a formal sector in a given month) (panel A); the corresponding intensive margin (i.e., proportion of days worked in a given month) (panel B); (iii) proxy of hours worked (panel C); and (iv) maximum number of working days (panel D).

In addition, Appendix Table B.8 reports the estimated effects of the intervention on the type of employment contract. Together with Figure 2, our estimates do not detect any statistically significant effect of the intervention on official labour market outcomes. Given the large standard errors observed in our estimates, it is likely that, even with the administrative data, there is insufficient statistical power to detect meaningful effects of the intervention in this dimension. [18]

Also, given the rather complicated situation of these women, there may not have been enough time for the intervention to have a discernible labor market effect. They may have been slightly better integrated and functional in society, but a successful job placement could take a longer time.

[18]See Tables B.6 and B.7 for the characteristics in which the control and treatment groups differ, as well as the variables that predict inclusion in the administrative data.

Figure 2: Labour Market Outcomes (N=546)



(a) Extensive Margin

(b) Intensive Margin

(c) Hours of Work

(d) Maximum monthly days of work

Notes: The figure consists of four panels: (a) Extensive Margin, (b) Intensive Margin, (c) Hours of Work, and (d) Maximum Monthly Days of Work. All coefficients are estimated following Equation 3. Point estimates are shown in black, and 95% confidence intervals are depicted in red. Dashed grey vertical lines indicate the start and end of the intervention.

6 Discussion and Conclusions

External Validity: One concern is that our intervention design and the outcome may be only limited to our participant sample, who are migrants residing in a specific region in Spain. In terms of the digital skills training, we are aware of a related programme in Ceuta (Spain) - IMVOLUCRA2 - , which was conducted under the same initiative of Spain's Ministry of Inclusion, Social Security and Migration at the same time as our intervention programme.[19]

Recruited participants were not migrants, but they were also recipients of the Minimum Basic Income Scheme, as our participants. More specifically, the Ceuta's randomised controlled intervention consists of two treatment groups and one pure control group. Participants in Treatment Group A (#243) received only training in soft skills (24 hours); in

[19]For more detailed information regarding the design and the evaluation of the Ceuta's programme (in Spanish and English), please see https://www.inclusion.gob.es/web/policy-lab/w/ciudad-autonoma-de-ceuta-imvolucrados-proyecto-de-acompanamiento-para-el-empleo-y-competencias-digitales-para-personas-en-situacion-de-exclusion-social.

Treatment Group B, participants (#231) also received, on top of soft skills training, another set of training that focussed on digital skills - which added 35 hours to the training. In contrast, the control group (#239) did not receive any training.

In fact, the estimates for that RCT in Ceuta, which also followed an ANCOVA approach and exploited the information at the baseline and the endline surveys, found an improvement in digital-based skills in the treatment group that received the combination of soft skills and digital skills training.[20] Largely, the intervention programme of the Ceuta project appears to lend supportive evidence that digital training can improve digital skills, particularly among those who are underprivileged. However, it is worth noting that once the estimates took into account the multiple hypothesis tested, those results became statistically insignificant.

Survey and Administrative Data: Our analysis provides causal evidence of the effectiveness of the intervention by exploiting the data from both the surveys and the administrative data. While we find statistically meaningful improvement in multiple dimensions in the survey data, we do not find much evidence with regard to the labour market outcomes from the analysis with the administrative data. One possible conjecture is that the positive outcomes in the survey data may, to some extent, be attributed to the self-reporting nature of the survey. Participants may be subjected to certain social desirability bias whereby they may be aware of the *right* answers that the survey administers look for - especially after they have already been through the curriculum. On the other hand, the fact that we do not detect an improvement in every behavioural and psychological outcomes may serve as supportive evidence that this bias is not very severe.

We also need to comprehend better the no-effect results in the administrative data with respect to labour market situation. It is quite possible that getting a job, even for an individual with improved access to assistance and information, could remain challenging and take much a longer time frame for it to bear fruit. In addition, job finding is not only driven by supply-side factors, but it is equally a demand-side story. In particular, the programme does not deal with the demand side of the labour market. This includes job market frictions, and discrimination, which more likely affects migrant women. Moreover, the intervention did not involve the family members of female migrants. In particular, male members, who can have a decisive role of the labour supply decision of the participants in the programme.

Conclusions: Overall, our findings underscore the potential of non-monetary interventions to foster social inclusion and enhance the well-being of marginalised populations. While the programme did not yield measurable improvements in employment outcomes,

[20]More concretely, an increase in digital-based skills - the availability of digital tools, ability to use the tools, and an increase in digital identity.

the significant gains in digital literacy, mental health, and social connectedness highlight the value of holistic support strategies. These results suggest that policies targeting social integration and personal empowerment can play a crucial role in complementing traditional labour market measures, particularly for vulnerable groups such as female migrants. Future research could investigate the long-term impacts of such interventions and employ alternative designs to causally identify which specific components of the pedagogical programme contribute most effectively to the various dimensions of social inclusion. Moreover, additional randomised evaluations in diverse settings would further illuminate the elements that best support the social and economic integration of vulnerable population in our society.

Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data Availability Statement

The data, both raw and processed, which support the findings of this study are available from the Secretary General of Inclusion (SGI) at the Ministry of Inclusion, Social Security and Migration of Spain (MISSM). However, restrictions apply to the availability of these data, which were used under licence for the current study and so are not publicly available. The data used are only available to the researchers through a virtual desktop at the Ministry's server, after being anonymized, and they cannot be downloaded. The results can be downloaded only after verification by the Ministry. The researchers can only use these data for the purpose of the evaluation implemented in this paper. The researchers have signed an agreement with the Ministry that indicates that they cannot share any of these data through any means and the Ministry has not indicated their willingness to share the data with journal editors or referees for the purpose of refereeing the paper for its potential publication.

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Appendix

A Appendix A: Details of the Intervention

A.1 Programme Curriculum

A.1.1 The Development of Basic Skills Module

This module consists of a series of group-based workshops as well as personalised individual sessions. The general goal of the workshop is to improve the personal, psychological, and social well-being of participants by encouraging their strengths and addressing their challenges, using tools and techniques delivered through group and individual sessions.

1. *Creating Solutions*: a group-based workshop. It consisted of 12 sessions (1.5 hours each) covering the following topics:

   - Block 1: My Place in the World
   - Block 2: The Art of Accepting Yourself
   - Block 3: Transmitting Culture
   - Block 4: My Support Network
   - Block 5: Emotion in My Life
   - Block 6: Ending the Journey

2. Individual Support Session: participants in the treatment group were offered up to five individual sessions with their assigned project psychologist (with a minimum of one session required), primarily to follow up on the mandatory group intervention. Due to the nature and duration of the intervention, these individual sessions were not intended as full psychological therapy but rather focused on psychosocial support throughout the project and the assessment of emergencies or crises, as previously mentioned. Although the content of the individual sessions varied according to personal characteristics and needs, the sessions generally focused on:

   - Alleviating psychological and emotional distress.
   - Providing a private space to express emotional and psychological experiences during the intervention process.
   - Identifying factors leading to disengagement.
   - Evaluating participant satisfaction with the project.
   - Aligning expectations regarding the project and intervention.

A.1.2 The Knowledge and Participation in the Community Module

The module was delivered in group sessions, aiming to promote community knowledge and community participation among female migrants. It consists of the following activities.

1. Workshop on conflict resolution through intercultural mediation: focussed on conflict resolution strategies and promoting co-existence and social cohesion – especially on dynamics at the levels of self, couple, family and friends, neighbourhood, wider community, and each woman's role within that community. This workshop included six sessions (1.5 hours each) titled: Me; The Couple; Family and Friends; The Neighbourhood; The Community; and Me in the Community, respectively.
2. Workshop on Getting to Know My Neighbourhood: was designed to increase awareness of available resources and encourage active community participation, particularly with regard to access to municipality-related public resources, including education, health, public administrative services. This workshop included seven sessions, each lasting 1.5 hours. They are:

   – What do I know about my town? What do I need from it?
   – Taking care of our health
   – The administration and me
   – Let's educate ourselves
   – The tree of diversity
   – Travelling safely
   – The footprint within me

3. Workshop on Meeting Spaces: focused on issues such as the role of women in history, civic participation, and how to identify and challenge hate speech. One of its key features was its hybrid format, in which participants took part in three individual sessions using digital tools with support from the training team, and three group sessions with the mediation team. In total, the workshop included six sessions (1.5 hours each), namely:

   – Online training session on *E-memory*
   – Group session on *E-memory*
   – Online training session on *E-deactivate*
   – Group session on *E-deactivate*
   – Online training session on *E-activate*
   – Group session on *E-activate*

A.1.3 The Digital Competencies Module

The module consisted of two main activities.

1. *Online Training* was delivered online with support from a tutor or mentor in a classroom setting. The training was delivered virtually across all twelve municipalities, and were organised into four thematic modules. Each module comprises two 2.5-hour sessions (five hours total). The details of each four training blocks are the following:

- Using information in the digital context (e-Informa, e-Tica, e-Segura, e-Organiza)
- Using digital resources in everyday life (e-Salud, e-Economía, e-Familia, e-Desconecta)
- Civic engagement and citizen development in digital environments (e-Transparencia, e-Construye, e-Sostenible, e-Iguales)
- Using digital resources for digitally excluded groups (e-TIC, e-Recursos, e-Vivienda, e-Empleo)

2. *Community Learning Spaces* provided assistance to participants in completing the online components of the following modules:

   - Training session: E-memory
   - Mediation session: E-memory
   - Training session: E-deactivate
   - Mediation session: E-deactivate
   - Training session: E-activate
   - Mediation session: E-activate

A.2 Organisation of the Programme and the Surveys

The Secretaría General of Inclusión of the Ministry of Inclusion, Social Security and Migration (MISSM) in collaboration with Fundación Cepaim Acción Integral con Migrantes (CEPAIM) were in charge of the design of the programme, and in particular, the development and application of the randomised controlled trial in the programme.

CEPAIM was in charge of running the pilot projects, delivering the programme, monitoring, conducting surveys (baseline and endline), which were subsequently essential for the evaluation of the project. They also played a crucial role in obtaining informed consent and ensuring that participants were well-informed and voluntarily engaged in the programme.

The programme was financed through Next Generation EU funds, as part of Spain's Plan for Recovery, Transformation and Resilience (PRTR). This funding supported the broader Inclusion Policy Lab initiative of MISSM under which the pilot projects were developed and assessed.

The surveys and measurement instruments were designed and carried out in close coordination with MISSM, CAPAIM, and CEMFI (Centro de Estudios Monetarios y Financieros). While a specific survey agency is not named, both the implementers and researchers contributed to gathering and processing the necessary data.

Finally, the evaluation was coordinated by CEMFI and an academic team from Universidad Carlos III de Madrid. In addition, J-PAL Europe provided essential technical support and international expertise, helping to ensure the evaluation was rigorous and evidence-based.

B Appendix B: Data Appendix

B.1 Key Variables

Table B.1: Descriptive statistics of the outcomes at baseline survey

	Mean	Std. Dev.	Min	Max
Panel A: Social inclusion of the participants				
Economic resources	0	1	-2.93	1.70
Social resources	no baseline	no baseline	no baseline	no baseline
Trust in social work	no baseline	no baseline	no baseline	no baseline
Autonomy in managing of the IMV	no baseline	no baseline	no baseline	no baseline
Autonomy accessing social resources	no baseline	no baseline	no baseline	no baseline
Panel B: Digital skills				
Ability to use digital tools for daily life	0	1	-2.37	1.83
Panel C: Psychosocial well-being				
Self-esteem	0	1	-3.66	1.44
Satisfaction with family relationships	0	1	-4.89	1.22
Psychological well-being	0	1	-4.80	1.38
Life satisfaction	0	1	-2.72	1.33
Panel D: Community participation				
Participation in the community's life	0	1	-2.85	2.87
Knowledge of community's resources	0	1	-3.62	1.61
N: 856				

Notes: The table reports the descriptive statistics of the outcome variables included in the baseline survey. Outcomes that were only measured in the endline survey are not displayed. The table is organized into four panels: **Panel A** includes outcomes related to social inclusion, **Panel B** focuses on digital skills, **Panel C** covers psychosocial well-being, and **Panel D** presents outcomes related to community participation. For each outcome, the table displays the mean, standard deviation, minimum, and maximum values.

I. Social inclusion of participants: Several indicators were used:

   - Economic resources index: a composite measure based on questions about material deprivation, ability to make ends meet, and household economic status.
   - Social resources index: based on questions about receiving assistance or accompaniment in procedures and formalities. However, the data is available only at the endline.
   - Trust in social workers: based on the relevant survey question. However, the data is available only at the endline.
   - Autonomy in the management of the IMV: based on items assessing the respondent's capacity to respond to IMV-related requirements. However, the data is available only at the endline.
   - Autonomy in accessing social resources that improve social inclusion: based on the respondent's self-reported ability to independently complete certain procedures and access services that promote social inclusion. However, the data is available only at the endline.

II. Digital Skills: Digital skills index is a composite indicator constructed from questions measuring the use of digital tools in everyday life, especially in relation to

administrative tasks.

III. Psychosocial Well-Being: four indicators are derived from aggregated responses to relevant items in the surveys:

   - Self-esteem
   - Satisfaction with family relationships
   - Psychological well-being
   - Life satisfaction

IV. Community Participation: consists of two indicators:

   - Community engagement index: measuring participation in social life
   - Knowledge of community resources: measuring awareness of local services and infrastructure

B.2 Additional Results

Table B.2: Balancing test of baseline covariates

	Control		Treatment		Pairwise t-test
	Mean	**Std. Dev.**	**Mean**	**Std. Dev.**	**(p-value)**
Age 19-28	0.07	(0.25)	0.09	(0.28)	0.25
Age 29-38	0.37	(0.48)	0.41	(0.49)	0.26
Age 39-48	0.37	(0.48)	0.36	(0.48)	0.94
Age 49-58	0.15	(0.35)	0.11	(0.31)	0.1
Age 59-68	0.05	(0.22)	0.03	(0.17)	0.16
HH: 2-parent family	0.76	(0.43)	0.75	(0.43)	0.83
HH: 1-parent family	0.06	(0.24)	0.09	(0.29)	0.05*
HH: Divorced/Separated	0.12	(0.33)	0.09	(0.29)	0.14
HH: Others	0.06	(0.24)	0.07	(0.25)	0,9
Spanish language: Native	0.11	(0.31)	0.11	(0.32)	0.73
Spanish language: High	0.14	(0.35)	0.20	(0.40)	0.02**
Spanish language: Middle	0.43	(0.50)	0.35	(0.48)	0.02**
Spanish language: Low	0.32	(0.47)	0.34	(0.47)	0.69
Edu: No education	0.26	(0.44)	0.23	(0.42)	0.30
Edu: Primary	0.31	(0.46)	0.29	(0.46)	0.55
Edu: Secondary	0.18	(0.39)	0.19	(0.39)	0.73
Edu: Postsecondary/Vocational	0.18	(0.38)	0.20	(0.40)	0.38
Edu: Higher education	0.07	(0.26)	0.09	(0.28)	0.38
Nationality: European	0.07	(0.26)	0.06	(0.23)	0.39
Nationality: No European	0.93	(0.26)	0.94	(0.23)	0.39
Labour market status: Unemployed	0.86	(0.35)	0.88	(0.32)	0.27
Labour market status: Employed	0.14	(0.35)	0.12	(0.32)	0.27
Area: Murcia	0.31	(0.46)	0.31	(0.46)	0.94
Area: Cartagena	0.13	(0.34)	0.14	(0.35)	0.84
Area: Lorca	0.14	(0.35)	0.14	(0.35)	0.92
Area: Cieza	0.04	(0.19)	0.03	(0.17)	0.57
Area: Totana	0.02	(0.14)	0.02	(0.14)	1.00
Area: Alhama de Murcia	0.07	(0.26)	0.07	(0.26)	1.00
Area: Alguazas	0.02	(0.15)	0.02	(0.15)	1.00
Area: Mazarrón	0.05	(0.21)	0.05	(0.21)	1.00
Area: Fuente Álamo	0.05	(0.21)	0.05	(0.22)	0.87
Area: Torre Pacheco	0.07	(0.25)	0.07	(0.26)	0.89
Area: Los Alcázares	0.05	(0.23)	0.06	(0.23)	0.88
Area: San Pedro del Pinatar	0.05	(0.21)	0.05	(0.21)	1.00
N	428		428		

Notes: The table reports the results of the balancing test for baseline covariates, comparing the control and treatment groups. Columns 1 and 2 display the mean and standard deviation (in parentheses) for the control group, while columns 4 and 5 present the corresponding values for the treatment group. The last column shows the p-value from a pairwise t-test assessing the difference in means between the two groups. The test is conducted for all baseline covariates to evaluate the success of random assignment in producing balanced groups.

Table B.3: Probability of attrition out of endline survey (I)

	(1)	(2)
Dependent var: Prob of Attrition		
Treatment	0.08***	
	(0.02)	
Economic resources		0.02
		(0.01)
Social resource		-0.02
		(0.01)
Ability to use digital tools for daily life		-0.02
		(0.01)
Self-esteem		0.03***
		(0.01)
Satisfaction with family relationships		-0.00
		(0.01)
Psychological well-being		-0.00
		(0.01)
Life satisfaction		-0.00
		(0.01)
Participation in community's life		-0.01
		(0.01)
Knowledge of community's resources		0.00
		(0.01)
N	856	856
R^2	0.01	

Notes: The table presents the results of a Linear Probability Model (LPM) estimating the likelihood of attrition from the endline survey. Column (1) reports the relationship between treatment assignment and attrition, while Column (2) includes additional controls based on baseline outcomes. The dependent variable is a binary indicator equal to 1 if the individual did not participate in the endline survey. Coefficients indicate the change in the probability of attrition associated with each variable. Standard errors are reported in parentheses. Statistical significance is denoted as follows: * $p < 0.10$, ** $p < 0.05$, and *** $p < 0.01$.

Table B.4: Probability of attrition out of endline survey II

	(1)	(2)
Dep Variable: Prob of Attrition		
Treatment	0.09***	0.07
	(0.02)	(0.34)
National: European	0.03	0.02
	(0.04)	(0.05)
Labour market status: Employed	0.10**	0.07
	(0.04)	(0.05)
Spanish language: High	0.02	-0.03
	(0.05)	(0.06)
Spanish language: Middle	0.01	-0.02
	(0.04)	(0.06)
Spanish language: Low	0.03	-0.02
	(0.05)	(0.06)
Edu: Primary	-0.01	-0.03
	(0.03)	(0.04)
Edu: Secondary	-0.03	-0.02
	(0.04)	(0.04)
Edu: Postsecondary/Vocational	-0.06	0.00
	(0.04)	(0.05)
Edu: Higher education	-0.00	0.00
	(0.05)	(0.06)
Age 29-38	0.00	0.07
	(0.05)	(0.05)
Age 39-48	0.02	0.04
	(0.05)	(0.05)
Age 49-58	-0.06	-0.00
	(0.06)	(0.06)
Age 59-68	-0.05	-0.04
	(0.06)	(0.07)
HH: 1-parent family	-0.03	-0.08**
	(0.04)	(0.03)
HH: Divorced/Separated	-0.02	-0.02
	(0.03)	(0.04)
HH: Others	0.04	-0.01
	(0.05)	(0.06)
Area: Cartagena	-0.07**	-0.03
	(0.03)	(0.04)
Area: Lorca	-0.02	0.03
	(0.04)	(0.05)
Area: Cieza	0.10	-0.03
	(0.08)	(0.06)

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Table B.4 – continued from previous page

	(1)	(2)
Dep Variable: Prob of Attrition		
Area: Totana	-0.01	0.07
	(0.09)	(0.12)
Area: Alhama de Murcia	-0.01	0.04
	(0.06)	(0.07)
Area: Alguazas	0.03	0.07
	(0.09)	(0.11)
Area: Mazarrón	0.01	0.08
	(0.06)	(0.09)
Area: Fuente Álamo	-0.10**	-0.08***
	(0.04)	(0.03)
Area: Torre Pacheco	-0.03	-0.00
	(0.05)	(0.05)
Area: Los Alcázares	-0.08*	-0.04
	(0.04)	(0.05)
Area: San Pedro del Pinatar	-0.01	0.04
	(0.06)	(0.07)
treat x National: European		0.02
		(0.09)
treat x Labour market status: Employed		0.03
		(0.09)
treat x Spanish language: High		0.09
		(0.09)
treat x Spanish language: Middle		0.04
		(0.09)
treat x Spanish language: Low		0.07
		(0.09)
treat x Edu: Primary		0.06
		(0.07)
treat x Edu: Secondary		-0.01
		(0.08)
treat x Edu: Postsecondary/Vocational		-0.10
		(0.09)
treat x Edu: Higher education		0.00
		(0.11)
treat x Age 29-38		-0.10
		(0.09)
treat x Age 39-48		-0.01
		(0.10)
treat x Age 49-58		-0.12
		(0.11)
treat x Age 59-68		-0.04
		(0.14)

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Table B.4 – continued from previous page

	(1)	(2)
Dep Variable: Prob of Attrition		
treat x HH: 1-parent family		0.11
		(0.07)
treat x HH: Divorced/Separated		0.02
		(0.07)
treat x HH: Others		0.08
		(0.10)
treat x Area: Cartagena		-0.08
		(0.07)
treat x Area: Lorca		-0.15*
		(0.08)
treat x Area: Cieza		0.27*
		(0.16)
treat x Area: Totana		-0.21
		(0.17)
treat x Area: Alhama de Murcia		-0.11
		(0.13)
treat x Area: Alguazas		-0.04
		(0.17)
treat x Area: Mazarrón		-0.14
		(0.13)
treat x Area: Fuente Álamo		-0.03
		(0.08)
treat x Area: Torre Pacheco		-0.04
		(0.10)
treat x Area: Los Alcázares		-0.08
		(0.09)
treat x Area: San Pedro del Pinatar		-0.11
		(0.12)
N	794	794
R^2	0.06	0.10

Notes: The table presents the results of Linear Probability Models (LPMs) estimating the probability of attrition from the endline survey. Column (1) includes treatment status and a set of baseline covariates as independent variables. Column (2) extends the specification by including interaction terms between treatment status and key baseline characteristics to explore heterogeneous patterns of attrition. The dependent variable is a binary indicator equal to 1 if the individual did not participate in the endline survey. Coefficients reflect the change in the probability of attrition associated with each variable. Standard errors are reported in parentheses. Statistical significance is denoted as follows: * $p < 0.10$, ** $p < 0.05$, and *** $p < 0.01$.

Table B.5: Attendance by Programme's Module

Activities	Control Group		Treatment Group	
	Theoretical	Actual Assistance	Theoretical	Actual Assistance
Social Inclusion Itinerary Sessions	1.128	1.125 (99,7%)	1.014	971 (95,8%)
Workshop "Conflict Resolution" Sessions	-	-	2.154	1.965 (91,2%)
Workshop "Creating Solutions" Sessions	-	-	2.254	2.104 (93,3%)
Individual Sessions of "Appreciative Inquiry" Participants Attending	-	-	428	329 (76,9%)
Individual Sessions of Psychosocial Support Sessions	-	-	1.645	375 (22,8%)
Sessions on Digital Skills Sessions	-	-	2.728	2.577 (94,5%)
"Meeting Spaces" Sessions	-	-	1.662	1.512 (91,0%)

Notes: The table presents attendance figures for each module of the programme, distinguishing between theoretical (planned) sessions and actual attendance, separately for the control and treatment groups. While the control group only participated in the Social Inclusion Itinerary, the treatment group engaged in several additional components, including workshops, individual sessions, digital skills training, and community-based "Meeting Spaces." Attendance rates are reported as the percentage of theoretical sessions attended.

Table B.6: Balancing test of covariates in Admin Data

	Baseline Survey					Endline Survey				
	Control		Treatment			Control		Treatment		
	N	Mean/(SD)	N	Mean/(SD)	P-value	N	Mean/(SD)	N	Mean/(SD)	P-value
Spanish language: Mother tongue	283	0.11	267	0.12	0.70	269	0.12	235	0.12	0.88
		(0.32)		(0.33)			(0.32)		(0.33)	
Spanish language: High level	283	0.17	267	0.24	0.04**	269	0.19	235	0.22	0.44
		(0.38)		(0.43)			(0.40)		(0.42)	
Spanish language: Medium level	283	0.46	267	0.35	0.01***	269	0.38	235	0.37	0.91
		(0.50)		(0.48)			(0.49)		(0.49)	
Spanish language: Basic or minimum level	283	0.25	267	0.28	0.37	269	0.31	235	0.28	0.50
		(0.43)		(0.45)			(0.46)		(0.45)	
Area: Murcia	300	0.36	292	0.34	0.60	280	0.37	241	0.33	0.30
		(0.48)		(0.48)			(0.48)		(0.47)	
Area: Cartagena	300	0.12	292	0.13	0.71	280	0.12	241	0.14	0.51
		(0.32)		(0.33)			(0.33)		(0.35)	
Area: Lorca	300	0.12	292	0.11	0.60	280	0.12	241	0.12	0.76
		(0.33)		(0.31)			(0.33)		(0.32)	
Area: Cieza	300	0.04	292	0.04	0.63	280	0.03	241	0.03	0.84
		(0.19)		(0.21)			(0.18)		(0.17)	
Area: Totana	300	0.02	292	0.03	0.55	280	0.02	241	0.03	0.40
		(0.14)		(0.16)			(0.13)		(0.17)	
Area: Alhama de Murcia	300	0.07	292	0.10	0.32	280	0.07	241	0.09	0.41
		(0.26)		(0.29)			(0.25)		(0.28)	
Area: Alguazas	300	0.02	292	0.02	0.82	280	0.02	241	0.02	0.69
		(0.15)		(0.14)			(0.15)		(0.13)	
Area: Mazarrón	300	0.06	292	0.04	0.16	280	0.06	241	0.03	0.19
		(0.24)		(0.19)			(0.23)		(0.18)	
Area: Fuente Álamo	300	0.03	292	0.05	0.19	280	0.03	241	0.06	0.10
		(0.17)		(0.22)			(0.18)		(0.24)	
Area: Torre Pacheco	300	0.05	292	0.06	0.80	280	0.05	241	0.06	0.67
		(0.23)		(0.23)			(0.23)		(0.24)	
Area: Los Alcázares	300	0.06	292	0.04	0.23	280	0.06	241	0.05	0.36
		(0.24)		(0.20)			(0.25)		(0.21)	
Area: San Pedro del Pinatar	300	0.04	292	0.05	0.50	280	0.04	241	0.05	0.43
		(0.19)		(0.21)			(0.19)		(0.22)	
Edu: People without studies	300	0.24	292	0.17	0.05*	280	0.24	241	0.19	0.15
		(0.43)		(0.38)			(0.43)		(0.39)	
Edu: Primary or 1st cycle of secondary education	300	0.30	292	0.30	0.97	280	0.31	241	0.27	0.22
		(0.46)		(0.46)			(0.47)		(0.44)	
Edu: Compulsory secondary education	300	0.18	292	0.20	0.56	280	0.16	241	0.22	0.08*
		(0.39)		(0.40)			(0.37)		(0.42)	
Edu: Post-secondary/vocational training	300	0.20	292	0.22	0.57	280	0.20	241	0.23	0.38
		(0.40)		(0.42)			(0.40)		(0.42)	
Edu: Higher or tertiary education	300	0.08	292	0.10	0.27	280	0.08	241	0.09	0.71
		(0.27)		(0.30)			(0.28)		(0.29)	
Nationality: EU State (other than Spain)	299	0.10	292	0.08	0.44	277	0.02	237	0.00	0.02**
		(0.30)		(0.27)			(0.15)		(0.00)	
Nationality: Non-EU State	299	0.90	292	0.92	0.44	277	0.10	237	0.09	0.73
		(0.30)		(0.27)			(0.30)		(0.28)	
Nationality: Non-EU State	-	-	-	-	-	277	0.88	237	0.91	0.26
	-	-	-	-	-		(0.32)		(0.28)	
Labour market status: Not working	300	0.81	292	0.84	0.41	280	0.73	241	0.75	0.64
		(0.39)		(0.37)			(0.45)		(0.44)	
Labour market status: Working	300	0.19	292	0.16	0.41	280	0.27	241	0.25	0.64
		(0.39)		(0.37)			(0.45)		(0.44)	
Age: 18-28 yo	300	0.05	292	0.08	0.20	300	0.11	292	0.22	0.00***
		(0.22)		(0.26)			(0.31)		(0.41)	
Age: 29-38 yo	300	0.32	292	0.37	0.20	300	0.27	292	0.30	0.35
		(0.47)		(0.48)			(0.44)		(0.46)	
Age: 39-48 yo	300	0.39	292	0.39	0.99	300	0.38	292	0.33	0.17
		(0.49)		(0.49)			(0.49)		(0.47)	
Age: 49-58 yo	300	0.17	292	0.13	0.14	300	0.17	292	0.12	0.08*
		(0.38)		(0.33)			(0.38)		(0.33)	
Age: 59-68 yo	300	0.06	292	0.03	0.06*	300	0.07	292	0.03	0.03**
		(0.24)		(0.17)			(0.26)		(0.17)	
HH: Two-parent family	298	0.69	291	0.67	0.47	275	0.67	239	0.65	0.63
		(0.46)		(0.47)			(0.47)		(0.48)	
HH: Single-parent family	298	0.08	291	0.13	0.03**	275	0.11	239	0.17	0.04**
		(0.27)		(0.34)			(0.31)		(0.38)	
HH: Divorced/separated	298	0.15	291	0.12	0.23	275	0.11	239	0.11	0.89
		(0.36)		(0.33)			(0.31)		(0.32)	
HH: Other	298	0.07	291	0.08	0.70	275	0.11	239	0.06	0.06*
		(0.26)		(0.28)			(0.31)		(0.24)	

Notes: The table reports the results of a balancing test on covariates, for individuals who remained in the sample and participated in both the baseline and endline surveys. The table is divided into two sections: the first five columns compares covariates at baseline, and the next five columns compares them at endline. For each group (control and treatment), the table displays the number of observations, the mean (with standard deviation in parentheses), and the p-value from a pairwise t-test of equality of means. The analysis serves to verify the balance of observable characteristics among respondents retained in the administrative dataset over time.

Table B.7: Probability of appearing in Adminstrative records

	(1)	(2)	(3)	(4)	(5)
		Baseline covariates		**Endline covariates**	
Dep Variable: Prob of appearing in Admin data					
Treatment	-0.02	-0.01	-0.18	-0.03	-0.68**
Nationality: EU State (other than Spain)		-	-	0.47***	0.35*
Nationality: Non-EU State		-0.11**	-0.09	0.40**	0.25
Labour market status: Not working		-0.21***	-0.20***	-0.27***	-0.22***
Spanish language: High		0.18***	0.19**	0.13**	0.16*
Spanish language: Middle		0.13**	0.15*	0.06	0.02
Spanish language: Low		0.03	-0.03	-0.07	-0.07
Edu: Primary		0.09*	0.00	-0.00	-0.00
Edu: Secondary		0.08	0.02	0.01	-0.02
Edu: Postsecondary/Vocational		0.07	-0.01	0.04	-0.03
Edu: Higher education		0.03	-0.07	-0.06	-0.12
Age: 29-38		0.06	0.08	0.02	0.03
Age: 39-48		0.16**	0.21**	0.12*	0.18
Age: 49-58		0.21***	0.24**	0.20**	0.25**
Age: 59-68		0.11	0.26**	0.10	0.27**
HH: 1-parent family		0.23***	0.20***	0.16***	0.08
HH: Divorced/Separated		0.18***	0.09	0.24***	0.22***
HH: Others		0.11*	0.02	0.07	-0.03
Area: Cartagena		-0.12**	-0.15**	-0.14***	-0.20***
Area: Lorca		-0.11**	-0.10	-0.10*	-0.10
Area: Cieza		0.08	-0.06	-0.04	-0.18
Area: Totana		0.10	-0.04	0.09	-0.05
Area: Alhama de Murcia		0.03	-0.10	0.06	-0.09
Area: Alguazas		-0.02	0.03	0.00	-0.01
Area: Mazarrón		0.10	0.22***	0.08	0.17*
Area: Fuente Álamo		-0.13*	-0.24**	-0.06	-0.22*
Area: Torre Pacheco		-0.14**	-0.19**	-0.11	-0.22**
Area: Los Alcázares		-0.02	0.09	-0.03	0.03
Area: San Pedro del Pinatar		-0.13*	-0.22**	-0.16**	-0.25**
Treatment * Nationality: Non-EU State			-0.04		0.45*
Treatment * Nationality: EU State (other than Spain)			-		0.53**
Treatment * Labour market status: Not working			0.00		0.00
Treatment * Spanish language: High			-0.04		-0.09
Treatment * Spanish language: Middle			-0.05		0.04
Treatment * Spanish language: Low			0.16		-0.02
Treatment * Edu: Primary			0.22**		0.05
Treatment * Edu: Secondary			0.17		0.09
Treatment * Edu: Postsecondary/Vocational			0.23**		0.19*
Treatment * Edu: Higher education			0.19		0.10
Treatment * Age: 29-38			-0.04		0.00
Treatment * Age: 39-48			-0.07		-0.06
Treatment * Age: 49-58			-0.03		-0.07
Treatment * Age: 59-68			-0.32		-0.34
Treatment * HH: 1-parent family			0.06		0.14
Treatment * HH: Divorced/Separated			0.18**		0.06
Treatment * HH: Others			0.21		0.23
Treatment * Area: Cartagena			0.07		0.13
Treatment * Area: Lorca			-0.01		0.00
Treatment * Area: Cieza			0.33**		0.41**
Treatment * Area: Totana			0.25		0.28
Treatment * Area: Alhama de Murcia			0.30**		0.30**
Treatment * Area: Alguazas			-0.10		0.00
Treatment * Area: Mazarrón			-0.25		-0.18
Treatment * Area: Fuente Álamo			0.19		0.30**
Treatment * Area: Torre Pacheco			0.08		0.21
Treatment * Area: Los Alcázares			-0.24*		-0.09
Treatment * Area: San Pedro del Pinatar			0.20		0.21
Constant	0.70***	0.72***	0.76***	0.41**	0.57***
N	856	794	794	718	718

Notes: The table presents results from five linear probability models estimating the likelihood of of appearing in Admin data, with increasing levels of control variables. Column (1) includes only the treatment indicator as a regressor. Columns (2) and (3) incorporate baseline covariates, with Column (3) additionally including interaction terms between treatment and selected baseline characteristics. Columns (4) and (5) repeat this structure using covariates measured at endline. The nationality variable has three categories in the endline data but only two in the baseline, which explains the absence of the "EU State (other than Spain)" category in Columns (2) and (3). Coefficients represent the change in the probability of the outcome, with standard significance notation: * $p < 0.10$, ** $p < 0.05$, and *** $p < 0.01$.

Table B.8: Type of work contract

	CTP (%)
Treatment	0.00
	(0.01)
N	546
R^2	0.38
Mean	0.95

Notes: The table reports the results from Equation 3, where the outcome variable represents the percentage of an employment contract considered part-time. The model includes controls (not shown), and standard errors are reported in parentheses. Statistical significance is denoted as follows: * $p < 0.10$, ** $p < 0.05$, and *** $p < 0.01$.