Digital Inclusion and Labor Market Performance: An Experimental Evaluation*

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Abstract

The digital divide limits economic opportunities, especially for older individuals with low educational attainment who struggle to access and use digital technologies. We evaluate an intervention aimed at improving digital skills and employability among disadvantaged individuals aged 45-64 in the Canary Islands, Spain. Over 2,900 participants were randomly assigned to receive either tablets with internet access, tablets plus digital skills training, or no intervention. Individuals receiving both tablets and training significantly improved their digital skills and job search ability. Those receiving only tablets had moderate gains, especially individuals with lower initial skills. These findings suggest that providing digital devices alongside targeted training can help address the digital divide.

Keywords: digital divide, social inclusion, digital skills, employability, randomized control trial.
JEL codes: J24, O33, I38, C93.

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1 Introduction

The digital revolution has profoundly transformed economies worldwide, reshaping industries and accelerating innovation. By enabling faster and more efficient communication between economic agents, it has alleviated labor market frictions. Additionally, it has allowed public administrations to deliver better employment resources to unemployed citizens. However, these efficiency gains do not benefit everyone equally. Individuals without access to digital tools, often due to economic barriers like poverty or limited education, experience what is known as the "digital divide" (Van Dijk, 2020; Elena-Bucea et al., 2021). This inequality is further compounded by generational differences, as older individuals tend to have lower levels of digital literacy compared to younger generations, a phenomenon referred to as the *gray* digital divide (Mubarak and Suomi, 2022; He et al., 2022). These disparities highlight the need for targeted interventions to ensure that the advantages of the digital revolution are accessible to all segments of society.

This paper contributes to our understanding of how the digital divide can be narrowed by examining the role of two specific frictions: access to digital skills and access to digital equipment. For this purpose, we evaluate, through a randomized control trial (RCT), the effectiveness of an intervention designed to enhance digital skills and access among vulnerable populations. The intervention comprises two key components: the provision of digital devices (tablets) with internet access, and a digital skills course. Participants are randomly assigned to one of three experimental groups: one receiving only tablets with internet access (T1), another receiving both the tablets and digital skills training (T2), and a control group receiving neither. This design helps disentangle the impact of access to digital technology from that of digital skills training, allowing for a clearer assessment of the most effective approach to bridging the digital divide.

The intervention targets individuals aged 45 to 64 living in the Canary Islands, Spain, with up to secondary education, limited digital literacy, and who are recipients of income support programs. The final sample includes 2,968 individuals fulfilling these characteristics. The digital skills training was designed and implemented by EAPN Canarias, a non-profit organization, in collaboration with the Spanish Ministry of Social Inclusion.[1] Assignment to the three experimental arms was randomized within geographic clusters, as we explain in more detail below.

The main hypothesis is that an intensive, tailored digital training course can reshape behaviors, habits, and prejudices regarding information and communication technologies.

[1]For more information on EAPN Canarias, visit https://eapncanarias.org. The intervention was funded by the NextGenerationEU program of the European Commission. The project implementation was supervised by the General Secretariat for Inclusion (SGI in Spanish), a branch of the Ministry of Inclusion, Social Security, and Migrations (MISSM).

This approach is based on the SAMR framework (Hamilton et al., 2016), which describes how people progress in their use of technology in four stages: first, by simply replacing traditional methods with digital tools (substitution), then by adding extra features to improve these tasks (augmentation). As they become more skilled, they start adapting and improving their processes using technology (modification). Eventually, they may reach the final stage, where technology allows them to do things in entirely new and innovative ways (redefinition). We thus expect T2 participants to acquire greater employability through an improved ability to perform basic online activities such as preparing a CV, applying for jobs, or dealing with the public administration online.

By contrast, the tablet-only treatment (T1) tests the impact of access to technology without a supporting training program. This design allows us to examine Toyama's "technology amplification theory" (Toyama, 2011), which posits that technology alone does not necessarily transform outcomes but instead amplifies existing conditions—namely, institutional capacity (like the training and support offered to T2) and human intentions (participants' prior habits and behaviors). We do not have a strong prior about T1's effects, and it is possible that the outcomes for T1 will be indistinguishable from those of the control group. Indeed, earlier empirical work provides some support for Toyama's theory (Claro et al., 2015; Thinyane and Sassetti, 2020).

Our findings indicate that the main treatment group (T2), which received both tablets and digital literacy training, showed significant improvements in their self-reported digital skills and job search capabilities. These effects were sustained six months post-intervention, particularly among individuals with higher educational levels, suggesting that a basic level of education is crucial for acquiring new skills. Participants who only received the tablets (T1) also demonstrated modest improvements in digital literacy, suggesting that simply providing access to digital devices may offer some benefits. The latter effect is more pronounced for those who reported lower levels of digital skills in the baseline survey.

Although more than one-fourth of participants failed to respond to the endline survey, the results are robust to estimates that take into account sample attrition. Moreover, it is worth noting that only 42% of individuals assigned to treatment group T2 (tablets plus training) actually completed the training program. Adjusting for this, the estimated local average treatment effect on compliers (LATE) was about twice as large as the intention-to-treat (ITT) estimates.

Despite the positive impact on digital skills and job search capabilities, we do not find any significant effects on employment outcomes in either treatment group. However, we do find significant improvements in self-reported life satisfaction in T2, even six months after the end of the intervention. Taken together, these results suggest that this kind

of program has limited potential to generate new employment opportunities for people in this age group, for whom barriers to employment seem more profound. However, our findings show that the program did improve subjective well-being, possibly due to the situation of social exclusion that they were exposed to before the intervention.

This paper contributes to a growing literature on digital inclusion by providing experimental evidence on the effects of a bundled digital skills intervention targeted at a particularly underserved population: middle-aged welfare recipients with low education in high-income countries. While previous studies have often examined youth populations, students, or parents with school-age children (e.g., Barone et al., 2025), we focus on older individuals who are at high risk of persistent labor market detachment and social exclusion. Unlike most prior research that has evaluated either device provision or training in isolation, our design allows for a direct comparison of access-only versus access-plus-training modalities. By doing so, we provide empirical evidence on technology amplification theory in a high-income setting, testing whether access to digital tools alone can generate meaningful change, or whether structured human support is required for impact. The randomized evaluation design within geographic clusters further strengthens causal inference in a policy-relevant environment.

A second key contribution of the paper is to bridge two strands of literature that are often treated separately: the impact of digital interventions on employability, and the broader implications for subjective well-being. There is some evidence of negative impacts of internet connectivity, especially through social media, as reviewed in Aridor et al. (2024). In contrast, our findings suggest that digital training to older populations can yield meaningful improvements in perceived digital agency, and life satisfaction—even when employment effects are limited. This adds a new dimension to the literature by highlighting the non-pecuniary returns to digital literacy in marginalized adult populations. Furthermore, by documenting that these improvements are concentrated among those with only basic education levels, the paper also contributes to the understanding of heterogeneous returns to digital interventions. Taken together, our results underscore that digital inclusion strategies can improve well-being and reduce social isolation in vulnerable segments of the population, even when structural labor market barriers persist.

The rest of the paper proceeds as follows. Section 2 provides an overview of the intervention and details the participant sample for the RCT. Section 3 outlines the experiment's objectives and our empirical estimation strategy. Section 4 presents the results of the analysis, and Section 5 concludes.

2 Background and Data

2.1 Implementation Timeline

The recruitment of participants was conducted by EAPN Canarias between November and December 2022. During this period, more than 10,000 recipients of the Minimum Income Scheme (in Spanish, *Ingreso Mínimo Vital*, IMV) or the Canarian Insertion Benefit (in Spanish, *Prestación Canaria de Inserción*, PCI).[2] were contacted by telephone by a survey company. Just under 3,000 individuals fulfilled the criteria to be included in the study, namely being aged 45-64 and having less than complete secondary education, and agreed to complete the baseline survey.

The final sample of 2,968 individuals was then randomly assigned to one of three experimental groups: Treatment Group 1 (T1, tablet only), Treatment Group 2 (T2, tablet + digital skills training), or the Control Group (C). To accommodate the unique characteristics of each island, the experimental design incorporated geographic-level randomization. Participants were grouped by proximity into sets of 45, ensuring uniform training environments. Each set of 45 was subdivided into three "nodes", with each node comprising one group from each of the three experimental arms. This structure allowed us to isolate the effects of tablet provision and digital training more effectively.

In late January 2023, the intervention began with the distribution of internet-enabled tablets to all participants assigned to groups T1 and T2, and the delivery of a comprehensive digital skills training course to those in T2. Allowing participants to retain the tablets at the end of the project and covering internet service for 12 months were strategic decisions intended to sustain technology use and gauge longer-term training outcomes. For T2, the intervention featured a comprehensive digital skills training course, totaling 100 hours (80 in-person and 20 virtual) over 10 weeks, followed by a 30-hour unpaid internship.

To encourage consistent participation, all study participants received a €30 supermarket voucher for completing the baseline phone survey and an additional €50 voucher after each of the two endline surveys. The first endline survey took place in May–June 2023, and the second endline survey was conducted six months later (November–December 2023) to enable the analysis of the program's medium-term effects.

[2]Since March 2023, the PCI has been replaced by a similar program called the Canarian Citizenship Income (in Spanish, Renta Canaria de Ciudadanía, RCC). Since the PCI was in place when the sample selection for this project was implemented, we refer to the program as PCI throughout the paper.

2.2 Sample Description

Table 1 presents descriptive statistics for the full baseline sample of 2,968 individuals, providing a snapshot of the key characteristics of participants before the intervention. These statistics help contextualize the challenges faced by this population and justify the design of the program.

Demographics. About two-thirds of the participants were women, and they are almost equally distributed in the 45–54 and 55–64 age brackets. This age range was deliberately chosen to address the gray digital divide, wherein older adults are at greater risk of digital exclusion.

In terms of education, the study specifically targeted individuals with relatively low formal education to further address the gray digital divide. Consequently, participants with completed high school education or above were excluded, focusing the intervention on those with primary or secondary schooling. Within the sample, any type of secondary education—whether incomplete, complete secondary, or incomplete high school—is grouped under the "secondary" category, while most participants report having completed only primary education.

Lastly, the geographic distribution shows that most participants reside in Gran Canaria (39.4%) and Tenerife (49.4%), the two most populous islands in the archipelago. Individuals from Fuerteventura, Lanzarote, and La Palma are grouped as "Other" due to their smaller representation in the sample. Although the program was also implemented on El Hierro and La Gomera, those two islands are excluded from the randomized evaluation because they lack sufficiently large samples to form viable experimental groups.

Income and Benefit Status. A large majority of participants (85.4%) report being unemployed, which was expected given the target population of recipients of income support transfers. This underscores the pressing need for interventions aimed at improving employability among this group.

All participants receive either the Minimum Income Scheme (IMV), the Canarian Insertion Benefit (PCI), or both—reflecting the economic vulnerability of the sample. The IMV is a national measure provided by the Spanish government to guarantee a basic income to individuals and families with insufficient financial resources. The PCI is a regional benefit specific to the Canary Islands, offering monetary assistance paired with complementary social-inclusion programs. In this study, 78.5% of participants receive IMV, 32.1% receive PCI, and some individuals receive both, accounting for percentages that exceed 100%.

Digital Literacy and Well-being. To assess well-being, respondents rated both their health and life satisfaction on a scale from 1 ("not satisfied at all") to 5 ("very satisfied"). At baseline, the averages for both measures are close to 3, indicating moderate levels of self-reported well-being.

The study also incorporates two composite indicators—digital skills and job search ability—constructed from multiple survey questions and aggregated using the method proposed by Anderson (2008). Both indicators are standardized with mean zero and a standard deviation of one. Although their raw scores have no direct interpretation, they allow for treatment effects to be measured in standardized units. See the Appendix for details on how these variables are created.

Overall, the sample consists primarily of older working-age adults with low educational attainment and a high unemployment rate, most of whom rely on public assistance for basic income. The underlying premise is that inadequate digital skills perpetuate their unemployment trap, preventing them from accessing modern job-search resources and participating fully in today's technology-driven economy. By targeting this demographic, the intervention aims to address the gray digital divide and equip participants with the digital competencies necessary to improve their employability and social inclusion.

2.3 Balance Between Experimental Groups

Figure 1 shows the balance tests for the control group and each treatment group, with the corresponding values provided in Table A1. All data refer to the pre-intervention (baseline) survey. For each variable, the mean values for the three groups are reported, along with the differences in means and the p-value from a difference-in-means t-test.

Overall, the results suggest that the control and treatment groups are largely balanced across most variables, indicating that the random assignment successfully created comparable groups. However, a few variables exhibit statistically significant differences. In particular, T2 has a higher proportion of English speakers than the control group (difference of 0.027, significant at the 10% level). T2 also has a lower share of Canarian Insertion Benefit (PCI) recipients compared to the control group (difference of -0.044, significant at the 5% level), and participants in T2 are less likely than those in T1 to have secondary or higher education.

Despite these imbalances, the groups are broadly comparable, suggesting that observed outcome differences can generally be attributed to the intervention. Nonetheless, the variables with significant differences will be controlled for in subsequent analyses to ensure robust results.

2.4 Degree of Participation in the Intervention and Sample Attrition

Figure 2 provides an overview of the sample's participation in the intervention and attrition across the control group (C) and the two treatment groups (T1 and T2). It shows how many participants were assigned to each group, how many started and completed the treatment, and how many responded to the endline surveys.

In the control group (C), all 986 participants who completed the baseline survey are considered to have "started and completed" the intervention, since there was no active treatment. In T1, 988 participants were assigned, and 89% both started and completed the treatment by collecting their tablet. In T2, 994 participants were assigned, but only 67% started the treatment and 42% completed it. We refer to this non-completion of treatment as non-compliance, which can lead to underestimation of the true average treatment effect when comparing T2 with the control group. To address this, we later use an instrumental variables (IV) approach to estimate the local average treatment effect on compliers (LATE).

Despite these differences in treatment completion, many participants still responded to the endline surveys. Of those in the control group, 74% answered the first endline survey and 80% the second. In T1, 80% completed the first endline and 82% the second. In T2, 74% completed the first endline and 78% the second. Thus, even participants who did not complete the treatment could participate in the surveys. Because the survey firm attempted to contact all baseline respondents, some who did not complete the treatment nonetheless answered one or both endline surveys. We refer to failure to respond to these follow-up surveys as attrition.

To examine whether attrition (failure to respond to the first endline survey) is random or systematically related to treatment assignment, we regress attrition on indicators for T1 and T2, with the control group as the baseline (Table A2). The intercept of 0.261 indicates that 26.1% of control-group participants did not respond to the first endline. T1's coefficient of -0.056 implies a significantly lower attrition rate relative to the control group, whereas T2's coefficient of 0.001 is both small and not statistically significant.

These findings align with the observed differences in participation and non-compliance: T1 required minimal commitment (collecting a tablet), whereas T2 involved a 10-week course and a 30-hour internship, leading to lower completion rates. Although participants were offered caregiver bonds to help with child or elder care, uptake was low, as many were reluctant to hire unknown caregivers. Overall, while T2 participants frequently did not complete the treatment, they still showed attrition rates similar to the control group, indicating that non-compliance did not necessarily translate into higher attrition.

Figure 3 and Table A3 examine whether attrition is correlated with specific baseline characteristics. For each characteristic X, we estimate a regression of the form:

$$\text{attrition}_i = \beta_0 + \beta_1 T1_i + \beta_2 T2_i + \gamma_0 X_i + \gamma_1\big(X_i \times T1_i\big) + \gamma_2\big(X_i \times T2_i\big) + \varepsilon_i. \quad (1)$$

Overall, most variables show no significant association with attrition, but several exceptions appear. In T1, English speakers and those caring for children or people with disabilities are more likely to drop out – likely reflecting time constraints. In T2, participants with a disability are less likely to drop out, while Spanish nationals have a higher attrition rate. Participants with secondary education in T2 also face lower attrition.

Although attrition appears largely random, these findings suggest certain subgroups are at greater risk of dropping out. To address this, we control for these characteristics in our analysis and apply the bounding method of Lee (2009) to evaluate the sensitivity of our results to selective attrition.

3 Empirical Analysis

3.1 Hypotheses

This section presents the key questions guiding our study. We investigate whether an intensive digital training program can reshape participants' technological behaviors and improve their employability, and whether simply providing tablets yields any discernible impact in the absence of a structured training component.

With Treatment Group 2 (T2), the main hypothesis is that an intensive, tailored digital training course can reshape behaviors, habits, and prejudices regarding information and communication technologies. This approach draws on the SAMR framework, which proposes a layered progression in technology use –substitution, augmentation, modification, and redefinition (Hamilton et al., 2016). Initially, participants may simply replace traditional methods with digital tools, then move toward augmenting these tasks by adding technological features. As skills deepen, they begin to modify their approaches through more efficient, technology-supported practices. Ultimately, participants may reach the redefinition stage, engaging in innovative, technology-enabled behaviors that can enhance digital literacy, facilitate job searches, and improve overall employability. We thus expect T2 participants to acquire greater employability and capacity for basic online activities, such as preparing a CV, applying for jobs, or dealing with public administration tasks.

By contrast, the tablet-only treatment (T1) tests the impact of access to technology without a supporting training program. This design allows us to examine Toyama

(2011)'s "technology amplification theory," which posits that technology alone does not necessarily transform outcomes but instead amplifies existing conditions—namely, institutional capacity (like the training and support offered to T2) and human intentions (participants' prior habits and behaviors). We do not have a strong prior about T1's effects, and it is possible that the outcomes for T1 will be indistinguishable from those of the control group. Indeed, earlier empirical work provides some support for Toyama's theory (Claro et al., 2015; Thinyane and Sassetti, 2020).

3.2 Estimated Regressions

The regression model used to estimate causal effects in a randomized experiment is typically based on the difference in the outcome of interest between the treatment and control groups, assuming random assignment ensures statistical comparability. However, given the documented imbalances in selective attrition for certain observable characteristics, there is a concern that unobserved characteristics may also influence attrition. To address this possibility, we control for the baseline value of the dependent variable in some specifications. This approach helps account for any initial differences between treatment and control groups. In addition, to improve the precision of estimates, we also present specifications that include a set of baseline controls, namely: gender, age (a binary indicator splitting the 45–64 age range into two groups: 45–54 vs. 55–64), Canarian Insertion Benefit (PCI) receipt, Minimum Living Income (IMV) receipt, English proficiency, responsibility for caring for children or persons with disabilities, own disability status, education level, island of origin, nationality, and self-reported health status.

Formally, we measure intention-to-treat (ITT) impacts by estimating:

$$Y_{i1} = \alpha + \beta_1 T1_i + \beta_2 T2_i + \gamma Y_{i0} + X_i'\delta + \varepsilon_i \tag{2}$$

where Y_{i1} is the outcome of interest at endline, Y_{i0} is the corresponding baseline value; $T1_i$ and $T2_i$ are binary indicators for assignment to the tablet-only or tablet-plus-training groups, and X_i is the vector of control variables. Standard errors are clustered by randomization nodes.

Several primary outcomes guide our analysis: (i) self-reported employment status ("Working"), (ii) self-reported life satisfaction ("Life Satisfaction"), (iii) a composite indicator of digital skills ("Digital Skills"), and (iv) a composite indicator of job search capability ("Job Search"). For the medium-term analysis, we add three more outcomes: (v) self-reported participation in any job training ("Job Training"), (vi) self-reported employment status conditional on being employed at the end of the experiment ("Job Retention"), and (vii) the self-reported number of months employed during the period

("Months Worked"). Detailed variable descriptions appear in the Appendix.

The coefficients of interest, β_1 and β_2, capture the causal effects on the outcome of interest of receiving a tablet and of receiving both a tablet and digital training, respectively, relative to the control group.

4 Main Results

4.1 Short-term Effects

This section presents the short-term findings of our empirical analysis in which we estimate the effects of providing a tablet (T1) and a tablet plus digital training (T2) on participants' job search ability, life satisfaction, self-reported digital skills, and self-reported employment status. Figure 4 offers a visual summary of these outcomes, while Table A4 details the corresponding regression coefficients in three different specifications: one without controls, one with controls, and one that additionally controls for the baseline value of the outcome variable. The control variables, discussed in the previous subsection, include demographic and socio-economic characteristics. Two of the outcome measures – "Job Search" and "Digital Skills" – are standardized composite variables, facilitating interpretation of the coefficients in terms of standard deviations. "Life Satisfaction" is measured on a 1–5 scale, and "Working" is a binary variable indicating self-reported employment.

Turning first to digital skills, the results show a positive and significant effect for both T1 and T2, although it is substantially larger for T2. In T1, the impact ranges from 0.14 to 0.18 standard deviations, whereas T2 yields an effect of about 0.50 to 0.52 standard deviations, significant at the 1% level in all specifications. This notable gap between the two treatment arms supports the hypothesis that an intensive digital training course has a more powerful effect on digital skills than simply providing tablet access. Importantly, these findings remain consistent when measured again six months after the intervention (Table A5), although T2's effect size declines somewhat over time.

A similar pattern emerges for job search ability. Here, T2 again shows a sizeable positive effect, estimated between 0.20 and 0.25 standard deviations, while T1 exhibits no statistically significant impact. The difference between T2 and T1 in job search ability ranges from 0.18 to 0.21 standard deviations, highlighting the value of structured digital training. As with digital skills, these effects persist in the medium term.

In contrast, neither T1 nor T2 exerts a significant influence on self-reported employment in the short term: both sets of estimates are near zero and not statistically significant in all specifications. This result holds even six months after the intervention, as indicated

in Table A5. One explanation for T2's small or even negative coefficients might be that participants devoted considerable time to training—10 weeks plus an internship—which may have reduced the time available for job search or employment during the intervention period. Nonetheless, the lack of any longer-term employment effect suggests that the training did not sufficiently translate into immediate labor market outcomes.

Regarding life satisfaction, there is a small but significant positive effect for T2, estimated at about 0.12 points on the 1–5 scale—corresponding to a 4% increase over the baseline mean of 2.9 – while T1 shows no discernible impact. Interestingly, these gains in self-reported life satisfaction grow somewhat larger in the medium term for both T1 and T2, although the increase is particularly notable for T1, as shown in Table A5.

In summary, while the intervention had limited impact on short-term employment status for either T1 or T2, it yielded significant improvements in digital skills, job search ability, and life satisfaction for participants in T2. Providing a tablet alone produced smaller increases in digital skills and little observable effect on other outcomes, reinforcing the notion that structured digital training fosters more substantial gains in participants' competencies and well-being.

4.2 Medium-term Effects

Table A5 presents results from the second endline survey, conducted six months after the intervention. This follow-up was designed to determine whether the initially observed impacts persist or diminish over time. We report the primary specification for each outcome variable, including the full set of controls and the baseline value of each outcome.

Overall, the effects captured in this second endline are qualitatively similar to those in the first. However, some of T2's impacts decrease in magnitude over time, particularly for self-reported digital skills.

Regarding employment-related outcomes—such as the share of participants working, the number of months worked in the prior six months, or participation in job training—no significant effects are evident six months post-intervention. Among the 231 individuals who had reported employment during the first endline, an analysis of job retention likewise shows no significant impact of any treatment (the number of observations is relatively small, potentially limiting the statistical power to detect meaningful effects). Finally, the positive effect on life satisfaction noted in the first endline remains for T2 and actually becomes significant for T1. That said, these self-reported measures may be influenced by factors such as social desirability bias; hence, caution is advised when interpreting these findings.

4.3 Mitigating Attrition and Non-Compliance

In our baseline specifications, we have not addressed the potential bias in the estimates due to the selective attrition documented in Table A3 and substantial withdrawal from treatment among participants. To assess the potential impact of this selective attrition on the estimated effects, we implement the bounding method proposed by Lee (2009). Table A18 presents the estimated bounds for the effects on the five outcomes discussed above. The results indicate considerable uncertainty regarding the magnitude and even the direction of T1's (tablet-only) effects on digital skills. By contrast, T2 shows more consistently positive effects across outcomes, which may partly be explained by the minimal trimming required for T2 (0.12%) compared with T1 (7.06%).

Additionally, we estimate both short-term and medium-term effects using an instrumental variables (IV) approach, where assignment to each treatment serves as an instrument for actual treatment status. Participants who returned their tablets are considered to have opted out of T1 or T2, effectively reassigning them to the control group, while those who did not complete the training in T2 but kept their tablet are reclassified as T1. Monotonicity of the treatment – inability of participants to switch from the control group to any of the treatment arms, as well as those assigned to T1 to switch to T2 – allows us to identify and estimate the local average treatment effect (LATE) on compliers.

Figure 4 and Tables A6 and A7 present these IV results. Overall, the patterns observed in the ordinary least squares (OLS) analysis remain, but the IV effects are about twice as large, suggesting that the true impact on compliers (LATE) exceeds the diluted intention-to-treat effect in the full sample. Specifically, T1 and T2 both increase self-reported digital skills, and T2 improves job search ability in the short term; these gains persist and even grow somewhat in the medium term. Moreover, life satisfaction rises in the medium term for both treatment arms, again consistent with the OLS findings.

4.4 Heterogeneous Treatment Effects

To gain deeper insights into the intervention's impact across different social groups, we conducted a heterogeneity analysis. In particular, we hypothesized that participants' education levels might influence how they benefit from the provision of tablets and digital literacy training. The direction of this effect depends on whether the training complements or substitutes for formal education: on one hand, individuals with more education might benefit more because they can better process new information; on the other, those with less education might gain disproportionately by acquiring skills they previously lacked.

To examine these hypotheses, we extended our preferred specifications from Tables

A4 and A5, which include a full set of controls and the baseline outcome level, by adding dummy variables for education levels and interacting them with the treatment indicators (T1 and T2) as well as the other controls. We categorized education into three groups: incomplete primary (no formal education or partial primary completion), complete primary (completed primary but dropped out of subsequent levels), and secondary (ranging from incomplete secondary to started high school without graduating). The results, reported in Tables A8-A9 and illustrated in Figures A1-A2, do not show any significant effects on employment status or life satisfaction across the education levels. However, for digital skills, participants in T2 with complete primary education showed the largest short-term improvement, about 0.58 standard deviations, compared to 0.1 for the control mean, although the null hypothesis of homogeneous effects across subgroups cannot be rejected. For job search capabilities, the subgroup with complete primary education exhibited the most substantial gains. In the medium term, the largest improvements in both digital skills and job search capabilities were observed among participants with secondary education. Similarly, T1 also generated gains in digital skills, with the highest short-term effect occurring among those with incomplete primary education and the highest medium-term effect among those with secondary education. One plausible explanation is that even a modest educational foundation can help individuals better absorb and retain new information over time.

We also examined heterogeneity based on participants' initial (pre-intervention) digital skills, which we divided into quartiles. We created dummy variables for each quartile and interacted them with the treatment indicators and other controls in OLS regressions using the same outcomes as before. As shown in Tables A10-A11 and depicted in Figures A3-A4, T1 participants with the lowest baseline digital skills registered significantly larger short-term improvements in self-reported endline digital skills compared to higher quartiles. This suggests that providing access to digital devices is especially beneficial for those with limited initial digital literacy, enabling them to acquire basic digital skills independently.

Finally, we analyzed heterogeneity based on two characteristics that either differed between treatment arms at baseline or were linked to selective attrition: enrollment in the Canarian Insertion Benefit (PCI) and having a dependent.[3] As shown in Tables A12–A15 and Figures A5–A8, the short-term effect of T2 (tablet plus training) on job search capabilities was higher among participants not enrolled in PCI. In the medium term, T2's effect on job retention and months of employment was significantly lower for those enrolled in PCI, possibly reflecting reduced incentives among individuals receiving

[3]We combined dummies for having an adult dependent and for having a minor dependent into a single variable, which we then interacted with the treatment indicators.

substantial unemployment benefits. Moreover, participants with a dependent—whether adult or minor—experienced larger gains in outcomes such as digital skills and job search capabilities than those without dependents, suggesting that caregiving responsibilities may heighten motivation to benefit from the intervention.

Overall, these analyses reveal that treatment effects vary considerably across different subpopulations, underscoring the need to consider individual characteristics when assessing intervention outcomes. Future research could employ more data-driven methods to explore additional sources of heterogeneity beyond the pre-specified hypotheses examined here.

5 Conclusion

This paper has presented a comprehensive evaluation of a randomized controlled trial aimed at addressing the digital divide and enhancing digital skills among disadvantaged individuals in the Canary Islands. Participants were divided into three groups: one received tablets with internet access, another received both tablets and a digital skills training course, while a third group served as the control.

Our results indicate that the intervention successfully improved digital skills and job search capabilities, particularly for those who underwent the intensive digital training. In addition, we found that the provision of tablets proved notably effective for individuals with lower baseline digital literacy. However, no significant impact on self-reported employment was observed in either treatment group, although it did have a positive impact on life satisfaction for participants receiving digital training. Medium-term outcomes, assessed through a second survey six months post-intervention, mirrored the short-term effects and were more sustained among participants with higher educational levels.

These findings underscore the importance of tailored digital training in enhancing digital skills and employability among disadvantaged individuals. They are consistent with other studies analyzing the efficacy of digital training among disadvantaged individuals (Martínez-Alcalá et al., 2018; Tsai et al., 2017), highlighting the need to consider potential attrition factors in the design and implementation of such interventions.

Looking ahead, the results provide a mixed message regarding the desirability to scale up the intervention. On the one hand, the positive impacts on digital skills, job search ability, and life satisfaction support the case for scaling up this kind of program to reach more individuals in the Canary Islands and potentially other regions facing similar challenges. On the other hand, careful attention must be given to the program's design and implementation, particularly regarding the issue of treatment non-compliance. Our analysis suggests that providing digital devices alone can be effective for individuals with

low digital literacy, although a thorough cost-benefit analysis is necessary to determine whether this is the most efficient approach.

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Tables

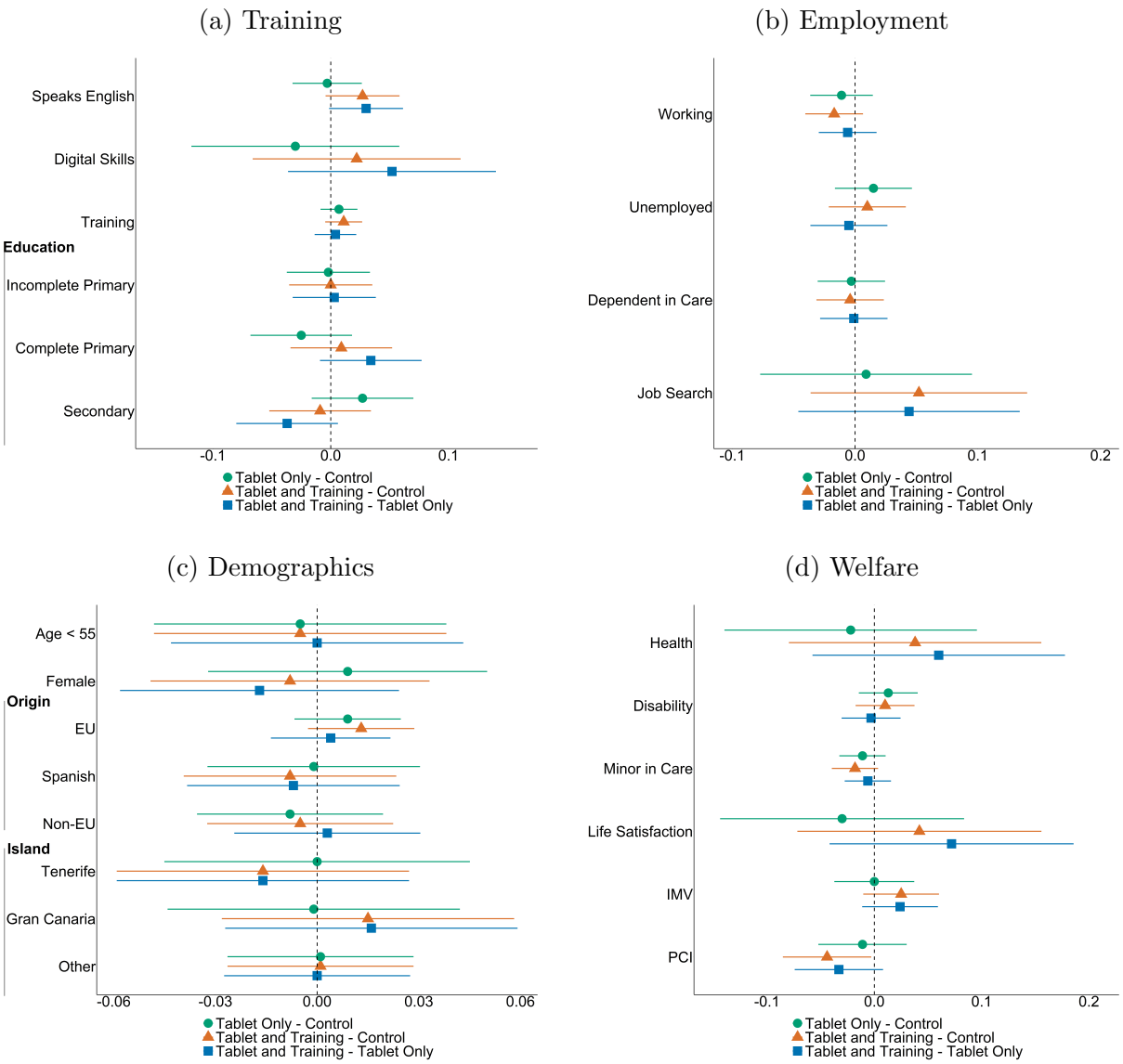
Table 1: Descriptive statistics of the sample at baseline

	Variable	Mean	Std. Dev.	Min.	Max.	Obs.
	Female	0.653	0.476	0	1	2968
	Age <55	0.45	0.498	0	1	2968
	English Speaker	0.138	0.345	0	1	2968
	Working	0.083	0.276	0	1	2968
	Unemployed	0.854	0.353	0	1	2968
	Dependent in Care	0.112	0.316	0	1	2968
	Minor in Care	0.064	0.245	0	1	2968
	Disability	0.11	0.313	0	1	2968
	Training	0.035	0.185	0	1	2968
	Health	2.959	1.335	1	5	2968
	Life Satisfaction	3.038	1.291	1	5	2968
	Digital Skills	0	1	-2.156	5.092	2968
	Job Search	0	1	-1.428	5.523	2968
	PCI	0.321	0.467	0	1	2968
	IMV	0.785	0.411	0	1	2968
Island	Other	0.112	0.316	0	1	2968
	Gran Canaria	0.394	0.489	0	1	2968
	Tenerife	0.494	0.5	0	1	2968
Nationality	Spanish	0.859	0.348	0	1	2968
	EU	0.038	0.191	0	1	2968
	Non-EU	0.103	0.304	0	1	2968
Education	Incomplete Primary	0.189	0.392	0	1	2968
	Complete Primary	0.376	0.484	0	1	2968
	Secondary	0.435	0.496	0	1	2968

Notes: "Digital Skills", "Job Search" and "Employability" are composite indicators computed using the method developed by Anderson (2008). See the Appendix for details on the construction of these indicators. IMV and PCI refer to the Minimum Income Scheme and the Canarian Insertion Benefit, respectively.

Figures

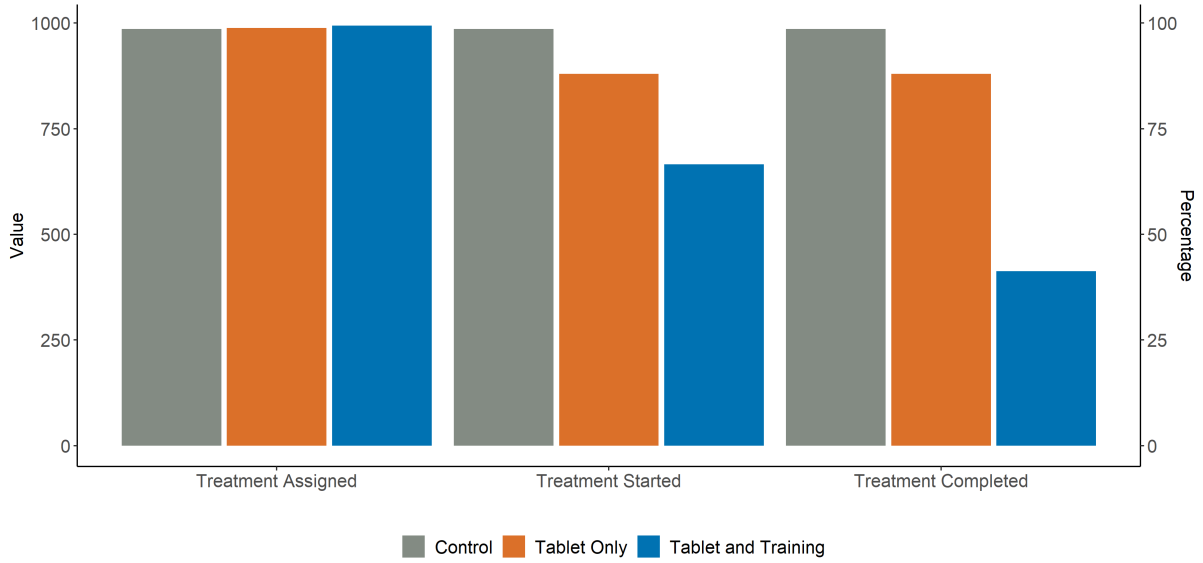
Figure 1: Balance between experimental groups at baseline



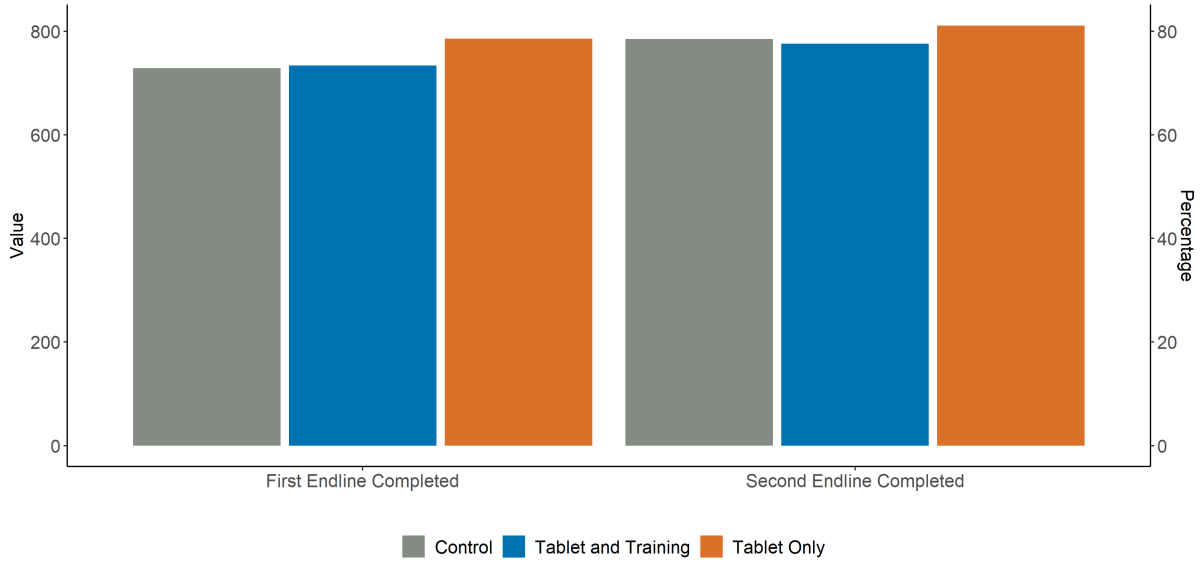
This plot displays the differences of baseline characteristics among the control group, the tablet-only group (T1), and the tablet + training group (T2). It is divided into four panels: Panel 1a presents training-related variables; Panel 1b displays work-status variables; Panel 1c shows demographic variables; and Panel 1d illustrates welfare status. This plot corresponds to columns (4), (5), and (6) in Table A1 and is intended to highlight the baseline balance among the three groups. Note that each estimator is accompanied by a 95% confidence interval

Figure 2: Attrition and Compliance Rates by Experimental Group

(a) Treatment Compliance

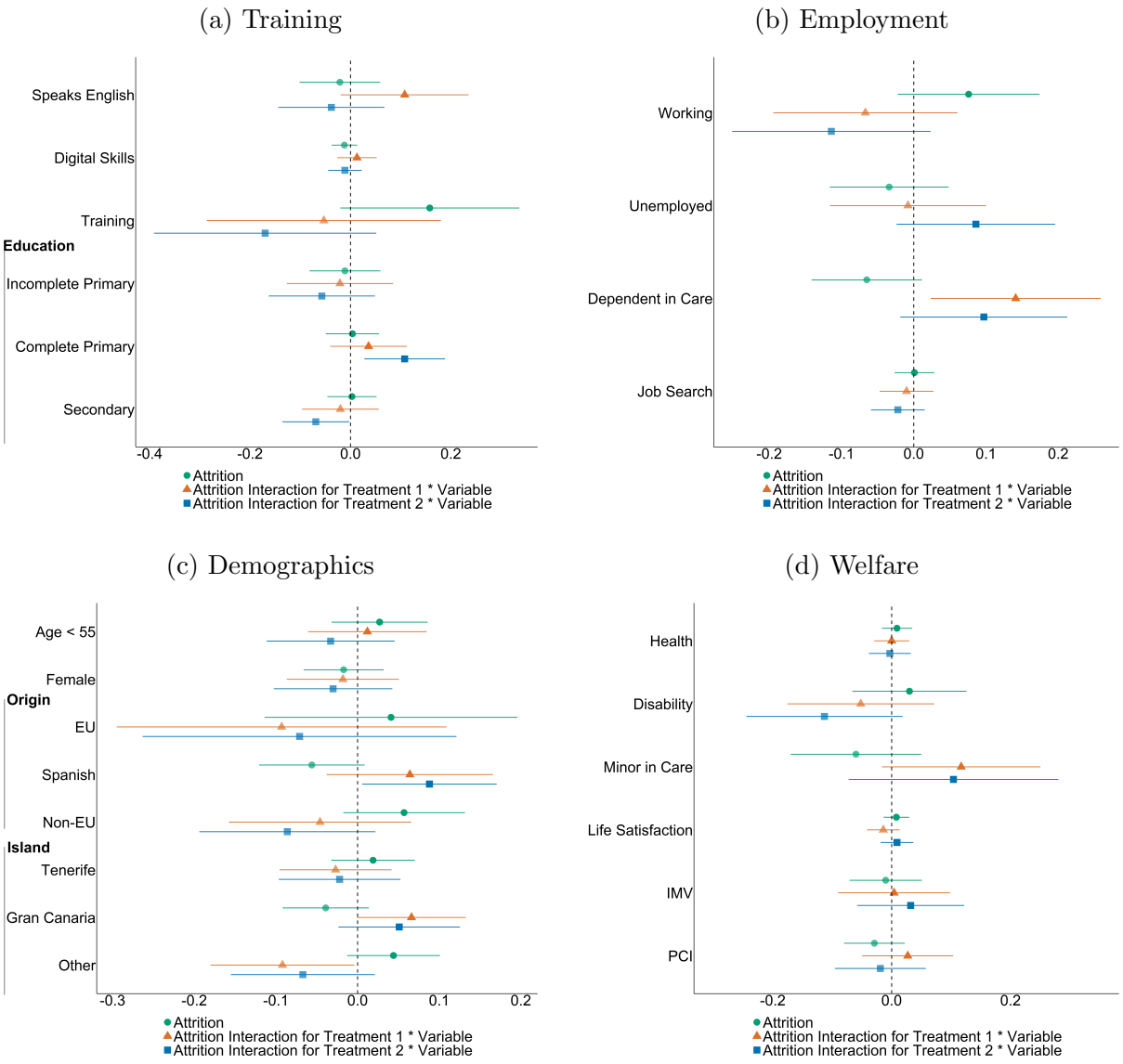


(b) Completion of Endline Survey



Notes: This plot shows participation across three groups – Tablet Only (T1), Tablet + Training (T2), and the Control group – over different stages. Panel 2a illustrates treatment compliance during the three stages, while Panel 2b displays the number of participants who responded to surveys immediately after the treatment and six months later. Orange bars represent the Tablet Only group (T1), blue bars indicate the Tablet + Training group (T2), and gray bars correspond to the Control group.

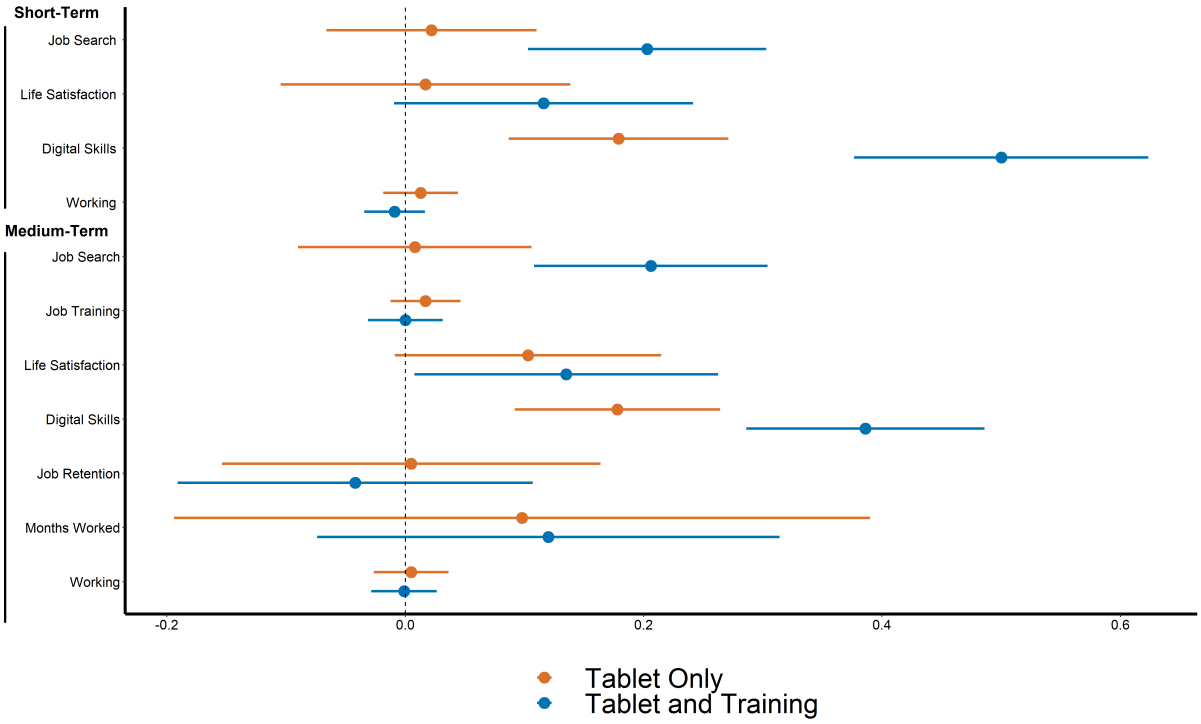
Figure 3: Selective attrition between treatment groups



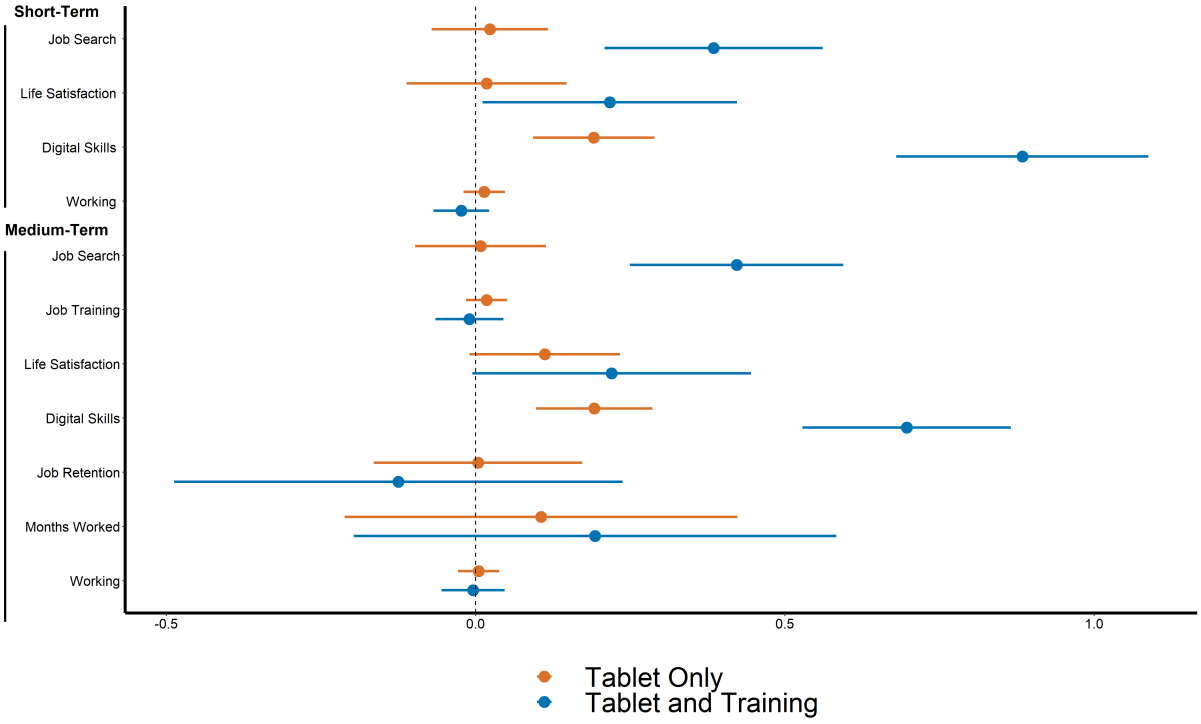
Notes: This figure displays differences in attrition by treatment arm for a range of control variables, grouped into four panels. Panel 3a covers education and training (e.g., highest academic level), Panel 3b focuses on work-related variables, Panel 3c examines demographic characteristics, and Panel 3d shows welfare characteristics (health status, life satisfaction, etc.). Each point represents the estimated coefficient with its 95% confidence interval. This figure corresponds to Table A3.

Figure 4: Main Results: Short- and Medium-Term Effects

(a) OLS Regression



(b) IV Regression



Notes: This figure shows the short-term (top) and medium-term (bottom) effects of two interventions on several self-reported outcomes. Orange lines represent T1 (tablet only), and blue lines represent T2 (tablet plus training). Dots indicate point estimates, and lines show 95% confidence intervals. Short-term estimates are presented in Tables A4 and A6; medium-term estimates appear in Tables A5 and A7.

A Tables

Table A1: Balance Test Between Experimental Groups

	(1)	(2)	(3)	(4)	(5)	(6)
Variable	Control: Mean	T1: Mean	T2: Mean	T1 - Control	T2 - Control	T2 - T1
Female	0.653	0.662	0.645	0.009	-0.008	-0.017
				(0.021)	(0.021)	(0.021)
Age <55	0.453	0.448	0.449	-0.005	-0.005	0
				(0.022)	(0.022)	(0.022)
Speaks English	0.13	0.127	0.157	-0.003	0.027*	0.03*
				(0.015)	(0.016)	(0.016)
Working	0.092	0.081	0.075	-0.011	-0.017	-0.006
				(0.013)	(0.012)	(0.012)
Unemployed	0.846	0.861	0.856	0.015	0.01	-0.005
				(0.016)	(0.016)	(0.016)
Dependent in Care	0.115	0.111	0.111	-0.003	-0.004	-0.001
				(0.014)	(0.014)	(0.014)
Minor in Care	0.074	0.063	0.056	-0.011	-0.018	-0.006
				(0.011)	(0.011)	(0.011)
Disability	0.102	0.115	0.113	0.013	0.01	-0.003
				(0.014)	(0.014)	(0.014)
Training	0.029	0.036	0.04	0.007	0.011	0.004
				(0.008)	(0.008)	(0.009)
Health	2.953	2.931	2.991	-0.022	0.038	0.06
				(0.06)	(0.06)	(0.06)
Life Satisfaction	3.034	3.004	3.076	-0.03	0.042	0.072
				(0.058)	(0.058)	(0.058)
Digital Skills	0.003	-0.028	0.025	-0.03	0.022	0.052
				(0.045)	(0.045)	(0.045)
Job Search	-0.02	-0.012	0.032	0.009	0.052	0.044
				(0.044)	(0.045)	(0.046)
PCI	0.34	0.329	0.296	-0.011	-0.044**	-0.033
				(0.021)	(0.021)	(0.021)
IMV	0.777	0.777	0.802	0	0.025	0.024

				(0.019)	(0.018)	(0.018)
Island						
Other	0.112	0.112	0.113	0.001	0.001	0
				(0.014)	(0.014)	(0.014)
Gran Canaria	0.389	0.389	0.404	-0.001	0.015	0.016
				(0.022)	(0.022)	(0.022)
Tenerife	0.499	0.499	0.483	0	-0.016	-0.016
				(0.023)	(0.022)	(0.022)
Nationality						
Spanish	0.862	0.861	0.854	-0.001	-0.008	-0.007
				(0.016)	(0.016)	(0.016)
EU	0.03	0.039	0.043	0.009	0.013	0.004
				(0.008)	(0.008)	(0.009)
Non-EU	0.108	0.099	0.103	-0.008	-0.005	0.003
				(0.014)	(0.014)	(0.014)
Education						
Incomplete Primary	0.19	0.187	0.19	-0.002	0	0.003
				(0.018)	(0.018)	(0.018)
Complete Primary	0.381	0.356	0.39	-0.025	0.009	0.034
				(0.022)	(0.022)	(0.022)
Secondary	0.429	0.456	0.42	0.027	-0.009	-0.037*
				(0.022)	(0.022)	(0.022)
Observations	986	988	994			

Notes: This table displays baseline characteristics and differences between control (Control), treatment group 1 (T1), and treatment group 2 (T2). "Digital Skills" and "Job Search" are composite indicators computed using the method developed by Anderson (2008). See the Appendix for details on the construction of these indicators. IMV and PCI refer to the Minimum Income Scheme and the Canarian Insertion Benefit, respectively. Differences between treatment groups and control are provided, along with standard errors in parentheses, clustered in the level of the treatment (nodes). *: p<0.1, **: p<0.05, ***: p<0.01.

Table A3: Selective attrition between treatment groups

Control Variable	Attrition	Attrition (T1*Var)	Attrition (T2*Var)

Female	-0.017	-0.018	-0.03
	(0.025)	(0.035)	(0.037)
Age <55	0.027	0.012	-0.033
	(0.03)	(0.037)	(0.04)
Speaks English	-0.021	0.108*	-0.038
	(0.041)	(0.065)	(0.054)
Working	0.076	-0.067	-0.114
	(0.05)	(0.065)	(0.07)
Unemployed	-0.034	-0.008	0.086
	(0.042)	(0.055)	(0.056)
Dependent in Care	-0.065*	0.141**	0.097
	(0.039)	(0.06)	(0.059)
Minor in Care	-0.06	0.117*	0.104
	(0.056)	(0.068)	(0.09)
Disability	0.03	-0.052	-0.113*
	(0.049)	(0.063)	(0.067)
Training	0.158*	-0.053	-0.17
	(0.091)	(0.119)	(0.113)
Health	0.009	0	-0.003
	(0.013)	(0.015)	(0.018)
Life Satisfaction	0.008	-0.014	0.009
	(0.011)	(0.014)	(0.014)
Digital Skills	-0.012	0.013	-0.011
	(0.013)	(0.02)	(0.017)
Job Search	0.001	-0.01	-0.022
	(0.014)	(0.019)	(0.019)
PCI	-0.029	0.027	-0.019
	(0.026)	(0.039)	(0.039)
IMV	-0.01	0.004	0.032
	(0.031)	(0.048)	(0.046)
Island			
Other	0.044	-0.092**	-0.067
	(0.029)	(0.045)	(0.045)
Gran Canaria	-0.039	0.066*	0.051
	(0.027)	(0.034)	(0.038)
Tenerife	0.019	-0.027	-0.022

	(0.026)	(0.035)	(0.038)
Nationality			
Spanish	-0.056*	0.064	0.088**
	(0.033)	(0.052)	(0.042)
EU	0.041	-0.093	-0.071
	(0.079)	(0.103)	(0.098)
Non-EU	0.057	-0.046	-0.086
	(0.038)	(0.057)	(0.055)
Education			
Incomplete Primary	-0.011	-0.021	-0.057
	(0.036)	(0.054)	(0.054)
Complete Primary	0.004	0.036	0.108***
	(0.027)	(0.039)	(0.041)
Secondary	0.003	-0.02	-0.069**
	(0.025)	(0.039)	(0.034)

Notes: This table shows differences in attrition by treatment arm for each control variable. Three columns display the coefficients from the estimated regression equation (1). Each row corresponds to a separate regression where the dependent variable is a binary indicator of attrition, and we allow interactions between each control variable (left column) and the two treatment indicators (T1 and T2). Standard errors are reported in parentheses and are clustered at the node level. *: p<0.1, **: p<0.05, ***: p<0.01.

Table A2: Attrition between treatment groups

Treatment Group	Attrition
Intercept (control group)	0.261***
	(0.013)
T1	-0.056***
	(0.018)
T2	0.001
	(0.019)

Notes: The table presents attrition rates by experimental group, tracking the progression of participants from treatment assignment to various study stages. It includes the control group (Control) and two treatment groups (T1 and T2). "Treatment assigned" denotes the initial number of participants assigned to each group, while "Treatment Started" represents those who began the assigned treatment. "Treatment Completed" reflects those who successfully completed the treatment. "First Endline completed" shows the number and percentage of participants completing the first endline survey, and "Second Endline completed" presents the same for the second endline survey implemented six months later.

Table A4: Short-Term Effects: OLS

(a) Effects on Digital Skills and Job Search

	Digital Skills			Job Search		
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
T1	0.142**	0.149***	0.179***	0.029	0.036	0.022
	(0.061)	(0.054)	(0.5)	(0.053)	(0.047)	(0.045)
T2	0.518***	0.508***	0.5***	0.248***	0.238***	0.203***
	(0.067)	(0.067)	(0.063)	(0.054)	(0.053)	(0.051)
Controls	N	Y	Y	N	Y	Y
Baseline level	N	N	Y	N	N	Y
p-value: T1 = T2	0***	0***	0***	0.001***	0.001***	0.001***
Mean (C)	0.101	0.101	0.101	0.192	0.192	0.192
Observations	2249	2249	2249	2249	2249	2249

(b) Effects on self-reported Employment and Life Satisfaction

	Working			Life Satisfaction		
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
T1	0.01	0.011	0.013	0.009	0.018	0.017
	(0.019)	(0.018)	(0.016)	(0.06)	(0.058)	(0.062)
T2	-0.009	-0.014	-0.009	0.12*	0.114*	0.116*
	(0.016)	(0.015)	(0.013)	(0.065)	(0.066)	(0.064)
Controls	N	Y	Y	N	Y	Y
Baseline level	N	N	Y	N	N	Y
p-value: T1 = T2	0.314	0.167	0.188	0.057*	0.088*	0.048**
Mean (C)	0.112	0.112	0.112	2.945	2.945	2.945
Observations	2249	2249	2249	2249	2249	2249

Notes: This table presents the results of the intervention on several key indicators: digital skills and job search ability for Panel A, and self-reported employment and life satisfaction for Panel B. "Digital Skills" and "Job Search" are composite indicators constructed from several variables in the original dataset, using the method from Anderson (2008). "Working" is an indicator for self-reported employment. "Life Satisfaction" is measured on a scale from 1 to 5, where 1 stands for "not satisfied at all" and 5 corresponds to "very satisfied". The table provides three specifications for each outcome variable: one without controls, one with controls, and one controlling for the baseline level of the outcome variable. The controls include variables such as gender, nationality, and educational level. Standard errors are put in parentheses, clustered at the node level. *: p<0.1, **: p<0.05, ***: p<0.01.

Table A5: Medium-term effects: OLS

(a) Effects on Digital Skills and Job Search

Variable	Digital Skills (OLS)	Job Search (OLS)
T1	0.178***	0.008
	(0.044)	(0.05)
T2	0.386***	0.206***
	(0.051)	(0.05)
Controls	Y	Y
Baseline level	Y	Y
p-value: T1 = T2	0***	0***
Mean (C)	0.073	0.235
Observations	2372	2372

(b) Effects on self-reported employment and life satisfaction

Variable	Working (OLS)	Months Worked (OLS)	Job Retention (OLS)	Training (OLS)	Life Satisfaction (OLS)
T1	0.005	0.098	0.011	0.017	0.103*
	(0.016)	(0.149)	(0.081)	(0.015)	(0.057)
T2	-0.001	0.12	-0.042	0	0.135**
	(0.014)	(0.099)	(0.076)	(0.016)	(0.065)
Controls	Y	Y	Y	Y	Y
Baseline level	Y	Y	Y	Y	Y
p-value: T1 = T2	0.727	0.885	0.514	0.207	0.542
Mean (C)	0.117	1.317	0.689	0.096	2.876
Observations	2372	2372	231	2372	2372

Notes: This table presents the medium-term results of the intervention on several key variables, six months after the end of the intervention. Panel A reports the effects on digital skills and job search abilities. Each of these composite indicators is constructed from several variables in the original dataset, using the method from Anderson (2008), allowing us to interpret the regression coefficients in terms of standard deviations (see details in Appendix). Panel B reports the effects on self-reported employment and life satisfaction. "Working" is an indicator for self-reported employment. "Job Retention" is defined as keeping a job in the last six months, since the first endline survey. "Months Worked" is the number of months an individual worked in the past year. "Life Satisfaction" is measured on a scale from 1 to 5, where 1 stands for "not satisfied at all" and 5 corresponds to "very satisfied". The table provides the specifications controlling for the baseline level of the outcome variable. The controls include variables such as gender, nationality, and educational level. Standard errors are provided in parentheses, clustered at the node level. *: p<0.1, **: p<0.05, ***: p<0.01.

Table A6: Short-Term Effects: IV

Variable	Digital Skills (IV)	Job Search (IV)	Working (IV)	Life Satisfaction (IV)
T1	0.191***	0.022	0.014	0.018
	(0.05)	(0.045)	(0.017)	(0.066)
T2	0.884***	0.385***	-0.023	0.217**
	(0.104)	(0.09)	(0.023)	(0.105)
Controls	Y	Y	Y	Y
Baseline level	Y	Y	Y	Y
p-value: T1 = T2	0***	0***	0.183	0.026**
Mean (C)	0.101	0.192	0.112	2.945
Observations	2249	2249	2249	2249

Notes: This table presents the results of the intervention on digital skills, job search ability, self-reported employment and life satisfaction using IV estimation. "Digital Skills" and "Job Search" are composite indicators constructed from several variables in the original dataset, using the method from Anderson (2008). "Working" is an indicator for self-reported employment. "Life Satisfaction" is measured on a scale from 1 to 5, where 1 stands for "not satisfied at all" and 5 corresponds to "very satisfied". Each column provides results of an IV regression, where treatment assignment was used as an instrument for the treatment compliance. The controls include variables such as gender, nationality, and educational level. Standard errors are put in parentheses, clustered at the node level. *: p<0.1, **: p<0.05, ***: p<0.01.

Table A7: Medium-term effects: IV

(a) Effects on Digital Skills and Job Search

Variable	Digital Skills (IV)	Job Search (IV)
T1	0.192***	0.008
	(0.048)	(0.054)
T2	0.697***	0.422***
	(0.086)	(0.088)
Controls	Y	Y
Baseline level	Y	Y
p-value: T1 = T2	0***	0***
Mean (C)	0.073	0.235
Observations	2372	2372

(b) Effects on self-reported employment and life satisfaction

Variable	Working (IV)	Months Worked (IV)	Job Retention (IV)	Training (IV)	Life Satisfaction (IV)
T1	0.005	0.106	0.004	0.018	0.112*
	(0.017)	(0.162)	(0.086)	(0.017)	(0.062)
T2	-0.004	0.193	-0.125	-0.01	0.22*
	(0.026)	(0.199)	(0.185)	(0.029)	(0.115)
Controls	Y	Y	Y	Y	Y
Baseline level	Y	Y	Y	Y	Y
p-value: T1 = T2	0.745	0.751	0.452	0.276	0.287
Mean (C)	0.117	1.317	0.689	0.096	2.876
Observations	2372	2372	231	2372	2372

Notes: This table presents the medium-term results of the intervention on several key variables, six months after the end of the intervention. Panel A reports the effects on digital skills and job search abilities. Each of these composite indicators is constructed from several variables in the original dataset, using the method from Anderson (2008), allowing us to interpret the regression coefficients in terms of standard deviations (see details in Appendix). Panel B reports the effects on self-reported employment and life satisfaction. "Working" is an indicator for self-reported employment. "Job Retention" is defined as keeping a job in the last six months, since the first endline survey. "Months Worked" is the number of months an individual worked in the past year. "Life Satisfaction" is measured on a scale from 1 to 5, where 1 stands for "not satisfied at all" and 5 corresponds to "very satisfied". Each column provides results of an IV regression, where treatment assignment was used as an instrument for the treatment compliance. The controls include baseline level of the outcome and variables such as gender, nationality, and educational level. Standard errors are provided in parentheses, clustered at the node level. *: $p<0.1$, **: $p<0.05$, ***: $p<0.01$.

Table A8: Heterogeneous Effects by Education (short-term effects)

Variable	Working	Digital Skills	Job Search	Life Satisfaction
T1	0.005	0.246**	0.063	-0.038
	(0.032)	(0.095)	(0.082)	(0.173)
Complete Primary*T1	-0.008	-0.054	0.007	0.096
	(0.038)	(0.123)	(0.113)	(0.201)
Secondary*T1	0.024	-0.121	-0.13	0.053
	(0.037)	(0.118)	(0.125)	(0.187)
T2	-0.008	0.55***	0.163	0.013
	(0.027)	(0.118)	(0.102)	(0.158)
Complete Primary*T2	0.022	0.024	0.097	0.137
	(0.035)	(0.153)	(0.139)	(0.193)
Secondary*T2	-0.019	-0.141	0.004	0.099
	(0.033)	(0.134)	(0.148)	(0.188)
Mean (C)	0.112	0.101	0.192	2.945
Obs.	2249	2249	2249	2249

Notes: This table reports the intervention effects on four key outcomes, stratified by education level. We extend our preferred specifications from Table A4 (with full controls and baseline outcome values) by including a categorical education variable, where "incomplete primary" serves as the baseline category, and its interaction with the treatment dummies (T1 and T2). "Working" is an indicator for self-reported employment, and "Life Satisfaction" is on a 1–5 scale. "Digital Skills" and "Job Search" are standardized composite indicators (following Anderson 2008), with coefficients interpreted in standard deviations (see Appendix for details). Standard errors (in parentheses) are clustered at the node level. *: p<0.1, **: p<0.05, ***: p<0.01.

Table A9: Heterogeneous Effects by Education (medium-term effects)

Variable	Working	Months Worked	Job Retention	Digital Skills	Job Search	Job Training	Life Satisfaction
T1	-0.046	-0.444	-0.44**	0.177	0.125	-0.006	0.017
	(0.033)	(0.312)	(0.179)	(0.108)	(0.104)	(0.028)	(0.126)
Complete Primary*T1	0.06	0.547	0.484**	-0.02	-0.114	0.032	0.135
	(0.041)	(0.369)	(0.223)	(0.134)	(0.124)	(0.039)	(0.16)
Secondary*T1	0.067*	0.749**	0.438**	0.005	-0.159	0.026	0.069
	(0.039)	(0.343)	(0.208)	(0.131)	(0.122)	(0.035)	(0.148)
T2	0.007	-0.183	0.27	0.339***	0.207**	-0.042	-0.036
	(0.03)	(0.232)	(0.386)	(0.118)	(0.091)	(0.027)	(0.138)
Complete Primary*T2	0.005	0.685**	-0.275	0.003	-0.022	0.035	0.264
	(0.036)	(0.315)	(0.398)	(0.15)	(0.101)	(0.037)	(0.18)
Secondary*T2	-0.023	0.109	-0.387	0.099	0.02	0.062	0.161
	(0.038)	(0.306)	(0.407)	(0.149)	(0.138)	(0.04)	(0.171)
Mean (C)	0.117	1.317	0.689	0.073	0.235	0.096	2.876
Obs.	2372	2372	231	2372	2372	2372	2372

Notes: This table reports the intervention effects on four key outcomes, stratified by education level. We extend our preferred specifications from Table A5 (with full controls and baseline outcome values) by including a categorical education variable, where "incomplete primary" serves as the baseline category, and its interaction with the treatment dummies (T1 and T2). "Working" is an indicator for self-reported employment, and "Life Satisfaction" is on a 1–5 scale. "Digital Skills" and "Job Search" are standardized composite indicators (following Anderson 2008), with coefficients interpreted in standard deviations (see Appendix for details). "Job Retention" is defined as keeping a job in the last six months, since the first endline survey. "Months Worked" is the number of months an individual worked in the past year. Standard errors (in parentheses) are clustered at the node level. *: p<0.1, **: p<0.05, ***: p<0.01.

Table A10: Heterogenous Effects by Digital Skills (short-term effects)

Variable	Working	Digital Skills	Job Search	Life Satisfaction
T1	0.014	0.355***	0.11	0.034
	(0.026)	(0.065)	(0.073)	(0.136)
Digital Skills (Q2)*T1	-0.019	-0.164	-0.097	-0.062
	(0.037)	(0.115)	(0.123)	(0.159)
Digital Skills (Q3)*T1	0.001	-0.212*	0.048	0.105
	(0.035)	(0.127)	(0.124)	(0.206)
Digital Skills (Q4)*T1	0.026	-0.307**	-0.239*	-0.04
	(0.045)	(0.133)	(0.127)	(0.152)
T2	-0.009	0.494***	0.245***	0.251*
	(0.022)	(0.085)	(0.07)	(0.152)
Digital Skills (Q2)*T2	0.019	0.065	-0.123	-0.325*
	(0.036)	(0.153)	(0.114)	(0.193)
Digital Skills (Q3)*T2	0.04	0.151	0.132	-0.005
	(0.039)	(0.154)	(0.134)	(0.194)
Digital Skills (Q4)*T2	-0.058	-0.243	-0.16	-0.134
	(0.036)	(0.152)	(0.14)	(0.178)
Mean (C)	0.112	0.101	0.192	2.945
Obs.	2249	2249	2249	2249

Notes: This table reports the intervention effects on four key outcomes, stratified by the level of digital skills at baseline. We extend our preferred specifications from Table A4 (with full controls and baseline outcome values) by including a categorical variable for quartiles of digital skills at baseline, where the first quartile serves as the default category, and its interaction with the treatment dummies (T1 and T2). "Working" is an indicator for self-reported employment, and "Life Satisfaction" is on a 1–5 scale. "Digital Skills" and "Job Search" are standardized composite indicators (following Anderson 2008), with coefficients interpreted in standard deviations (see Appendix for details). Standard errors (in parentheses) are clustered at the node level. *: p<0.1, **: p<0.05, ***: p<0.01.

Table A11: Heterogeneous effects by Digital Skills (medium-term effects)

Variable	Working	Months Worked	Job Retention	Digital Skills	Job Search	Job Training	Life Satisfaction
T1	0.006	0.066	-0.119	0.26***	0.121*	-0.015	0.161
	(0.025)	(0.21)	(0.184)	(0.083)	(0.066)	(0.028)	(0.098)
Digital Skills (Q2)*T1	0.021	0.21	0.333	-0.06	-0.111	0.07*	0.108
	(0.039)	(0.332)	(0.236)	(0.113)	(0.11)	(0.042)	(0.147)
Digital Skills (Q3)*T1	-0.023	-0.04	0.277	-0.204*	-0.179	-0.003	-0.001
	(0.05)	(0.352)	(0.25)	(0.108)	(0.126)	(0.045)	(0.148)
Digital Skills (Q4)*T1	-0.009	0.08	-0.042	-0.054	-0.113	0.062	-0.322**
	(0.042)	(0.337)	(0.198)	(0.131)	(0.129)	(0.045)	(0.145)
T2	-0.007	0.05	-0.328	0.356***	0.181**	-0.02	0.12
	(0.025)	(0.182)	(0.302)	(0.09)	(0.084)	(0.024)	(0.124)
Digital Skills (Q2)*T2	0.042	0.298	0.351	0.061	0	0.049	0.086
	(0.036)	(0.282)	(0.352)	(0.132)	(0.119)	(0.04)	(0.182)
Digital Skills (Q3)*T2	-0.024	-0.044	0.183	0.021	-0.034	-0.035	0.12
	(0.044)	(0.352)	(0.376)	(0.113)	(0.127)	(0.046)	(0.162)
Digital Skills (Q4)*T2	-0.001	0.011	0.467	0.067	0.159	0.063	-0.05
	(0.037)	(0.307)	(0.306)	(0.145)	(0.138)	(0.043)	(0.162)
Mean (C)	0.117	1.317	0.689	0.073	0.235	0.096	2.876
Obs.	2372	2372	231	2372	2372	2372	2372

Notes: This table reports the intervention effects on four key outcomes, stratified by the level of digital skills at baseline. We extend our preferred specifications from Table A5 (with full controls and baseline outcome values) by including a categorical variable for quartiles of digital skills at baseline, where the first quartile serves as the default category, and its interaction with the treatment dummies (T1 and T2). "Working" is an indicator for self-reported employment, and "Life Satisfaction" is on a 1–5 scale. "Digital Skills" and "Job Search" are standardized composite indicators (following Anderson 2008), with coefficients interpreted in standard deviations (see Appendix for details). "Job Retention" is defined as keeping a job in the last six months, since the first endline survey. "Months Worked" is the number of months an individual worked in the past year. Standard errors (in parentheses) are clustered at the node level. *: p<0.1, **: p<0.05, ***: p<0.01.

Table A12: Heterogeneous Effects by PCI enrollment (short-term effects)

Variable	Working	Digital Skills	Job Search	Life Satisfaction
T1	0.006	0.173***	0.015	0.049
	(0.023)	(0.057)	(0.059)	(0.073)
PCI*T1	0.028	0.025	0.033	-0.091
	(0.034)	(0.103)	(0.097)	(0.116)
T2	-0.002	0.512***	0.233***	0.084
	(0.017)	(0.08)	(0.065)	(0.075)
PCI*T2	-0.014	-0.002	-0.088	0.113
	(0.029)	(0.115)	(0.113)	(0.127)
Mean (C)	0.112	0.101	0.192	2.945
Obs.	2249	2249	2249	2249

Notes: This table reports the intervention effects on four key outcomes, stratified by PCI receipt. We extend our preferred specifications from Table A4 (with full controls and baseline outcome values) by including a dummy variable for being enroled in PCI, and its interaction with the treatment dummies (T1 and T2). "Working" is an indicator for self-reported employment, and "Life Satisfaction" is on a 1–5 scale. "Digital Skills" and "Job Search" are standardized composite indicators (following Anderson 2008), with coefficients interpreted in standard deviations (see Appendix for details). Standard errors (in parentheses) are clustered at the node level. *: p<0.1, **: p<0.05, ***: p<0.01.

Table A13: Heterogeneous Effects by PCI (medium-term effects)

Variable	Working	Months Worked	Job Retention	Digital Skills	Job Search	Job Training	Life Satisfaction
T1	0.006	0.097	0.086	0.192***	0.026	0.012	0.105
	(0.02)	(0.181)	(0.084)	(0.053)	(0.055)	(0.017)	(0.07)
PCI*T1	0.008	0.026	-0.359**	-0.036	-0.059	0.024	-0.015
	(0.03)	(0.256)	(0.144)	(0.086)	(0.103)	(0.035)	(0.123)
T2	0.009	0.259**	0.09	0.393***	0.237***	0.005	0.105
	(0.019)	(0.128)	(0.082)	(0.063)	(0.063)	(0.017)	(0.077)
PCI*T2	-0.024	-0.414*	-0.46***	0.02	-0.091	-0.011	0.089
	(0.034)	(0.24)	(0.175)	(0.094)	(0.116)	(0.032)	(0.122)
Mean (C)	0.117	1.317	0.689	0.073	0.235	0.096	2.876
Obs.	2372	2372	231	2372	2372	2372	2372

Notes: This table reports the intervention effects on four key outcomes, stratified by PCI receipt. We extend our preferred specifications from Table A5 (with full controls and baseline outcome values) by including a dummy variable for being enroled in PCI, and its interaction with the treatment dummies (T1 and T2). "Working" is an indicator for self-reported employment, and "Life Satisfaction" is on a 1–5 scale. "Digital Skills" and "Job Search" are standardized composite indicators (following Anderson 2008), with coefficients interpreted in standard deviations (see Appendix for details). "Job Retention" is defined as keeping a job in the last six months, since the first endline survey. "Months Worked" is the number of months an individual worked in the past year. Standard errors (in parentheses) are clustered at the node level. *: p<0.1, **: p<0.05, ***: p<0.01.

Table A14: Heterogeneous Effects by Dependent or Minor in Care (short-term effects)

Variable	Working	Digital Skills	Job Search	Life Satisfaction
T1	0.014	0.14***	-0.001	0.037
	(0.018)	(0.051)	(0.046)	(0.068)
Dependent*T1	-0.006	0.243	0.175	-0.087
	(0.044)	(0.148)	(0.111)	(0.165)
T2	-0.014	0.45***	0.187***	0.145**
	(0.013)	(0.068)	(0.052)	(0.069)
Dependent*T2	0.043	0.323**	0.12	-0.201
	(0.039)	(0.144)	(0.14)	(0.158)
Mean (C)	0.112	0.101	0.192	2.945
Obs.	2249	2249	2249	2249

Notes: This table reports the intervention effects on four key outcomes, stratified by having a dependent in care. We extend our preferred specifications from Table A4 (with full controls and baseline outcome values) by including a dummy variable for having a dependent or minor in care, and its interaction with the treatment dummies (T1 and T2). "Working" is an indicator for self-reported employment, and "Life Satisfaction" is on a 1–5 scale. "Digital Skills" and "Job Search" are standardized composite indicators (following Anderson 2008), with coefficients interpreted in standard deviations (see Appendix for details). Standard errors (in parentheses) are clustered at the node level. *: p<0.1, **: p<0.05, ***: p<0.01.

Table A15: Heterogeneous Effects by Dependent or Minor in Care (medium-term effects)

Variable	Working	Months Worked	Job Retention	Digital Skills	Job Search	Job Training	Life Satisfaction
T1	0.002	0.144	0.031	0.191***	-0.009	0.012	0.121**
	(0.017)	(0.157)	(0.097)	(0.047)	(0.054)	(0.016)	(0.055)
Dependent*T1	0.02	-0.429	-0.397**	-0.082	0.067	0.026	-0.157
	(0.038)	(0.332)	(0.179)	(0.091)	(0.127)	(0.04)	(0.135)
T2	-0.012	0.047	-0.045	0.374***	0.173***	0	0.121*
	(0.014)	(0.113)	(0.091)	(0.055)	(0.053)	(0.018)	(0.069)
Dependent*T2	0.083*	0.569	0.031	0.11	0.187	0	0.112
	(0.043)	(0.407)	(0.148)	(0.107)	(0.146)	(0.04)	(0.182)
Mean (C)	0.117	1.317	0.689	0.073	0.235	0.096	2.876
Obs.	2372	2372	231	2372	2372	2372	2372

Notes: This table reports the intervention effects on four key outcomes, stratified by having a dependent in care. We extend our preferred specifications from Table A5 (with full controls and baseline outcome values) by including a dummy variable for having a dependent or minor in care, and its interaction with the treatment dummies (T1 and T2). "Working" is an indicator for self-reported employment, and "Life Satisfaction" is on a 1–5 scale. "Digital Skills" and "Job Search" are standardized composite indicators (following Anderson 2008), with coefficients interpreted in standard deviations (see Appendix for details). "Job Retention" is defined as keeping a job in the last six months, since the first endline survey. "Months Worked" is the number of months an individual worked in the past year. Standard errors (in parentheses) are clustered at the node level. *: p<0.1, **: p<0.05, ***: p<0.01.

Table A16: Heterogeneous Effects by Gender (short-term effects)

Variable	Working	Digital Skills	Job Search	Life Satisfaction
T1	0.036	0.264***	0.011	0.098
	(0.025)	(0.07)	(0.082)	(0.099)
Female*T1	-0.031	-0.138	0.009	-0.123
	(0.028)	(0.103)	(0.099)	(0.114)
T2	0	0.476***	0.245***	0.218**
	(0.019)	(0.106)	(0.088)	(0.099)
Female*T2	-0.01	0.026	-0.072	-0.143
	(0.026)	(0.121)	(0.107)	(0.113)
Mean (C)	0.112	0.101	0.192	2.945
Obs.	2249	2249	2249	2249

Notes: This table reports the intervention effects on four key outcomes, stratified by gender. We extend our preferred specifications from Table A4 (with full controls and baseline outcome values) by including a dummy variable for female participants, and its interaction with the treatment dummies (T1 and T2). "Working" is an indicator for self-reported employment, and "Life Satisfaction" is on a 1–5 scale. "Digital Skills" and "Job Search" are standardized composite indicators (following Anderson 2008), with coefficients interpreted in standard deviations (see Appendix for details). Standard errors (in parentheses) are clustered at the node level. *: p<0.1, **: p<0.05, ***: p<0.01.

Table A17: Heterogeneous Effects by Gender (medium-term effects)

Variable	Working	Months Worked	Job Retention	Digital Skills	Job Search	Job Training	Life Satisfaction
T1	0	0.009	-0.297*	0.166**	-0.016	-0.004	0.223***
	(0.028)	(0.238)	(0.154)	(0.077)	(0.081)	(0.029)	(0.085)
Female*T1	0.009	0.133	0.376**	0.01	0.028	0.03	-0.188
	(0.032)	(0.255)	(0.167)	(0.102)	(0.104)	(0.032)	(0.121)
T2	-0.023	0.059	-0.375*	0.377***	0.21*	-0.039	0.261***
	(0.023)	(0.169)	(0.201)	(0.08)	(0.108)	(0.028)	(0.095)
Female*T2	0.033	0.099	0.42*	0.004	-0.015	0.059*	-0.187
	(0.024)	(0.221)	(0.219)	(0.094)	(0.125)	(0.035)	(0.126)
Mean (C)	0.117	1.317	0.689	0.073	0.235	0.096	2.876
Obs.	2372	2372	231	2372	2372	2372	2372

Notes: This table reports the intervention effects on four key outcomes, stratified by gender. We extend our preferred specifications from Table A5 (with full controls and baseline outcome values) by including a dummy variable for female participants, and its interaction with the treatment dummies (T1 and T2). "Working" is an indicator for self-reported employment, and "Life Satisfaction" is on a 1–5 scale. "Digital Skills" and "Job Search" are standardized composite indicators (following Anderson 2008), with coefficients interpreted in standard deviations (see Appendix for details). "Job Retention" is defined as keeping a job in the last six months, since the first endline survey. "Months Worked" is the number of months an individual worked in the past year. Standard errors (in parentheses) are clustered at the node level. *: p<0.1, **: p<0.05, ***: p<0.01.

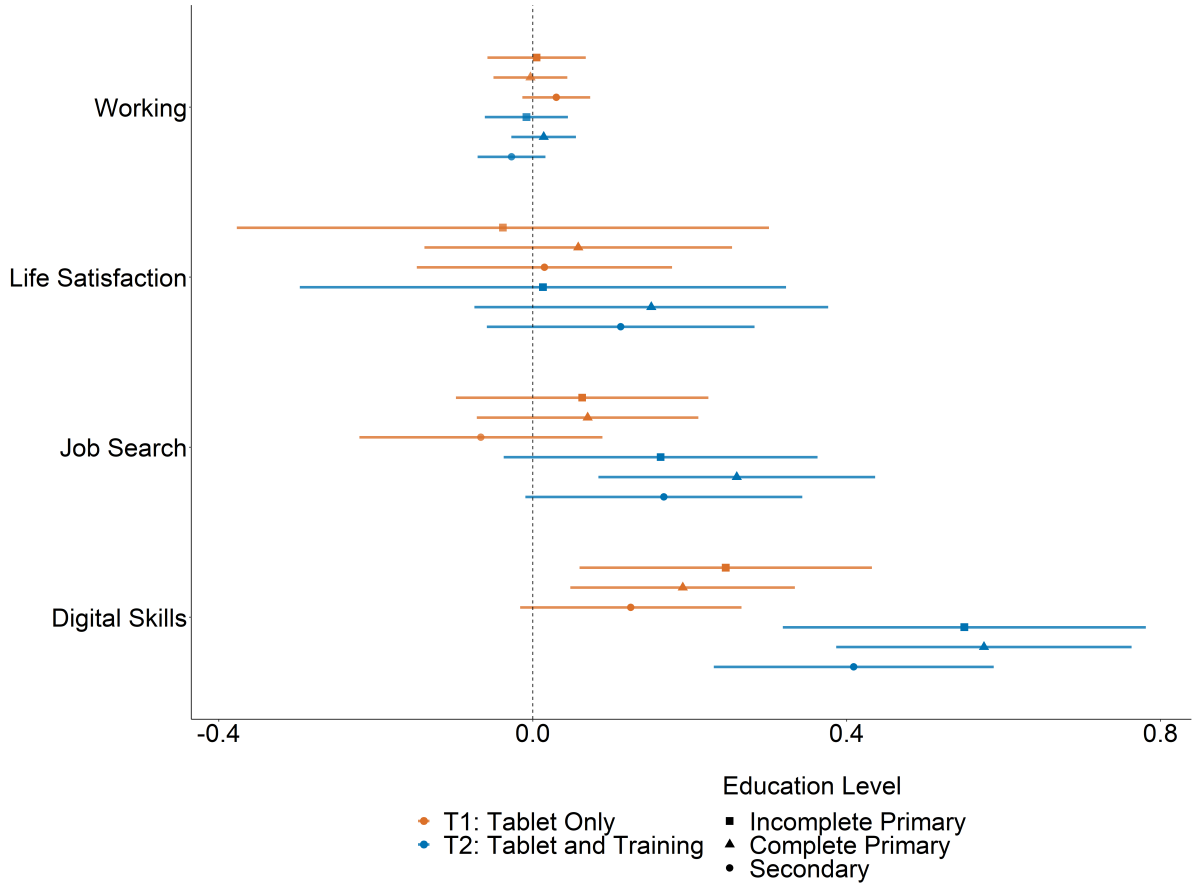
Table A18: Lee (2009) Bounding Method for the Effects on Key Outcomes

Variable	T1 - C: Raw means	T1 - C: Lower bound	T1 - C: Upper bound	T2 - C: Raw means	T2 - C: Lower bound	T2 - C: Upper bound
Digital Skills	0.142	-0.064	0.284	0.518	0.515	0.525
Job Search	0.029	-0.165	0.134	0.248	0.246	0.248
Working	0.01	-0.056	0.019	-0.009	-0.009	-0.009
Life Satisfaction	0.009	-0.145	0.156	0.12	0.12	0.12

Notes: This table presents the results of the intervention on several key indicators: digital skills and job search ability for Panel A, and self-reported employment and life satisfaction for Panel B. "Digital Skills" and "Job Search" are composite indicators constructed from several variables in the original dataset, using the method from Anderson (2008). "Working" is an indicator for self-reported employment. "Life Satisfaction" is measured on a scale from 1 to 5, where 1 stands for "not satisfied at all" and 5 corresponds to "very satisfied". The table provides three specifications for each outcome variable: one without controls, one with controls, and one controlling for the baseline level of the outcome variable. The controls include variables such as gender, nationality, and educational level. Standard errors are put in parentheses, clustered at the node level. *: $p<0.1$, **: $p<0.05$, ***: $p<0.01$.

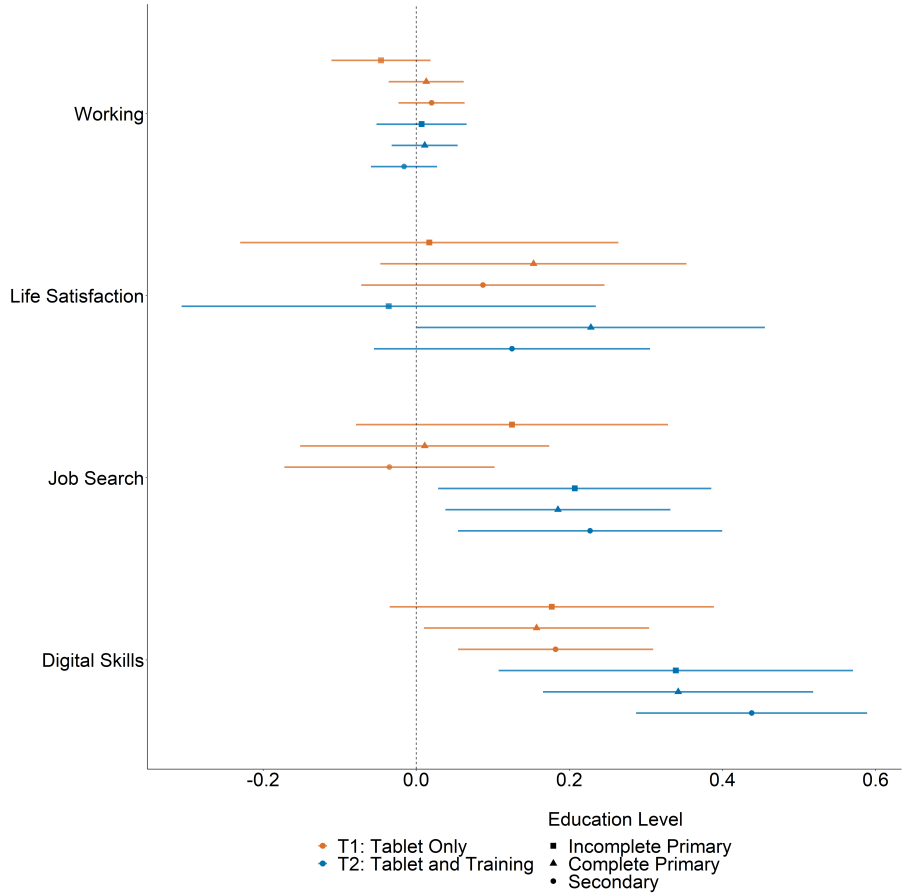
B Plots

Figure A1: Heterogeneity Plot for Short-Term Effects (Education)



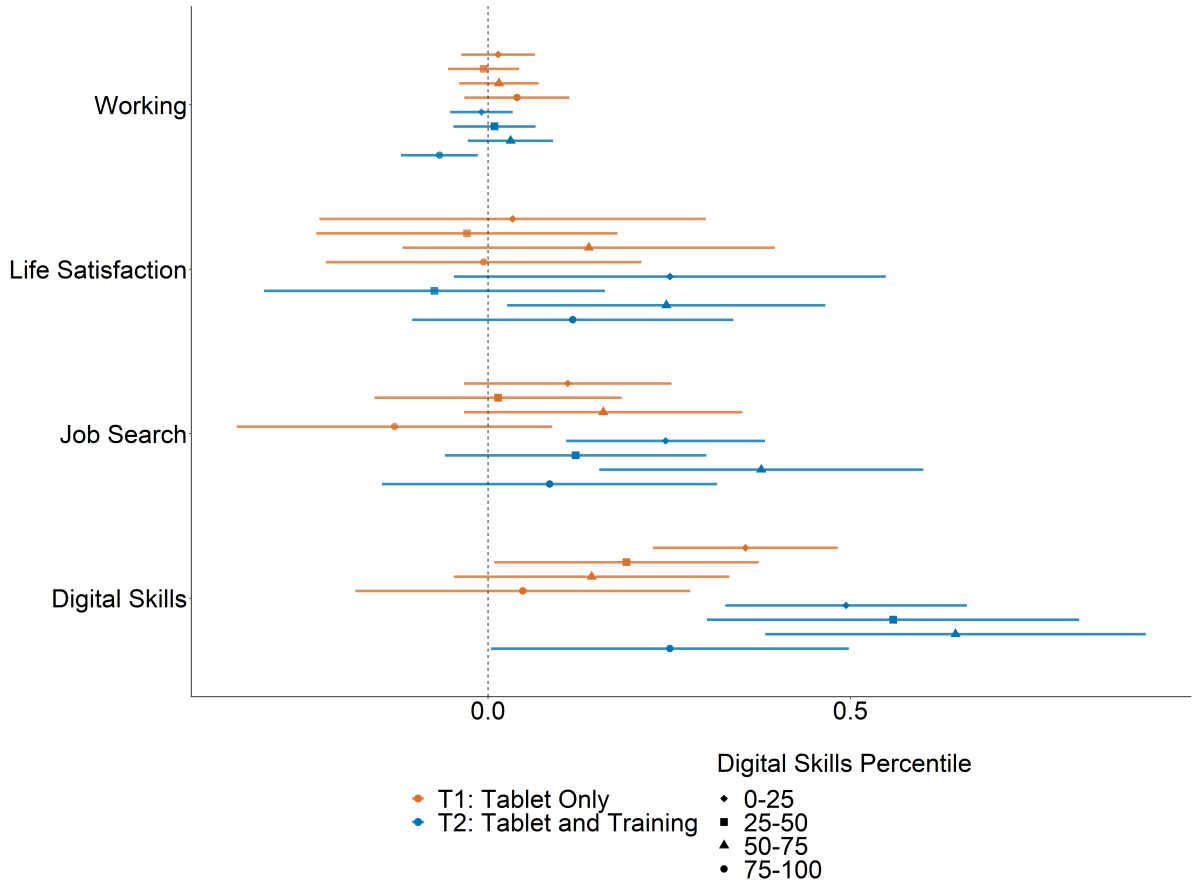
Notes: This graph shows how treatment effects vary by education level. Blue points (Treatment 2: Digital Training + Tablet) and orange points (Treatment 1: Tablet only) indicate the effect sizes. The shapes represent education levels: squares for those without complete primary education, triangles for those with complete primary education, and circles for those who started secondary education. Horizontal lines denote 95% confidence intervals.

Figure A2: Heterogeneity Plot for Medium-Term Effects (Education)



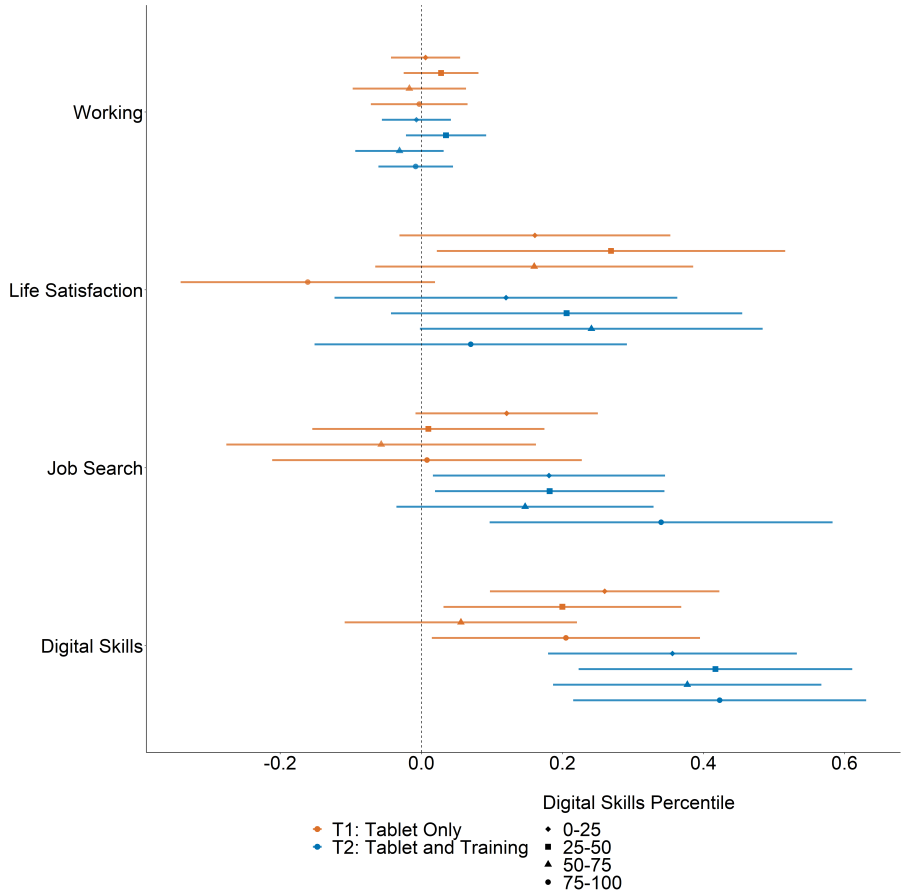
Notes: This graph shows how treatment effects vary by education level. Blue points (Treatment 2: Digital Training + Tablet) and orange points (Treatment 1: Tablet only) indicate the effect sizes. The shapes represent education levels: squares for those without complete primary education, triangles for those with complete primary education, and circles for those who started secondary education. Horizontal lines denote 95% confidence intervals.

Figure A3: Heterogeneity Plot for Short-Term Effects (Digital Skills)



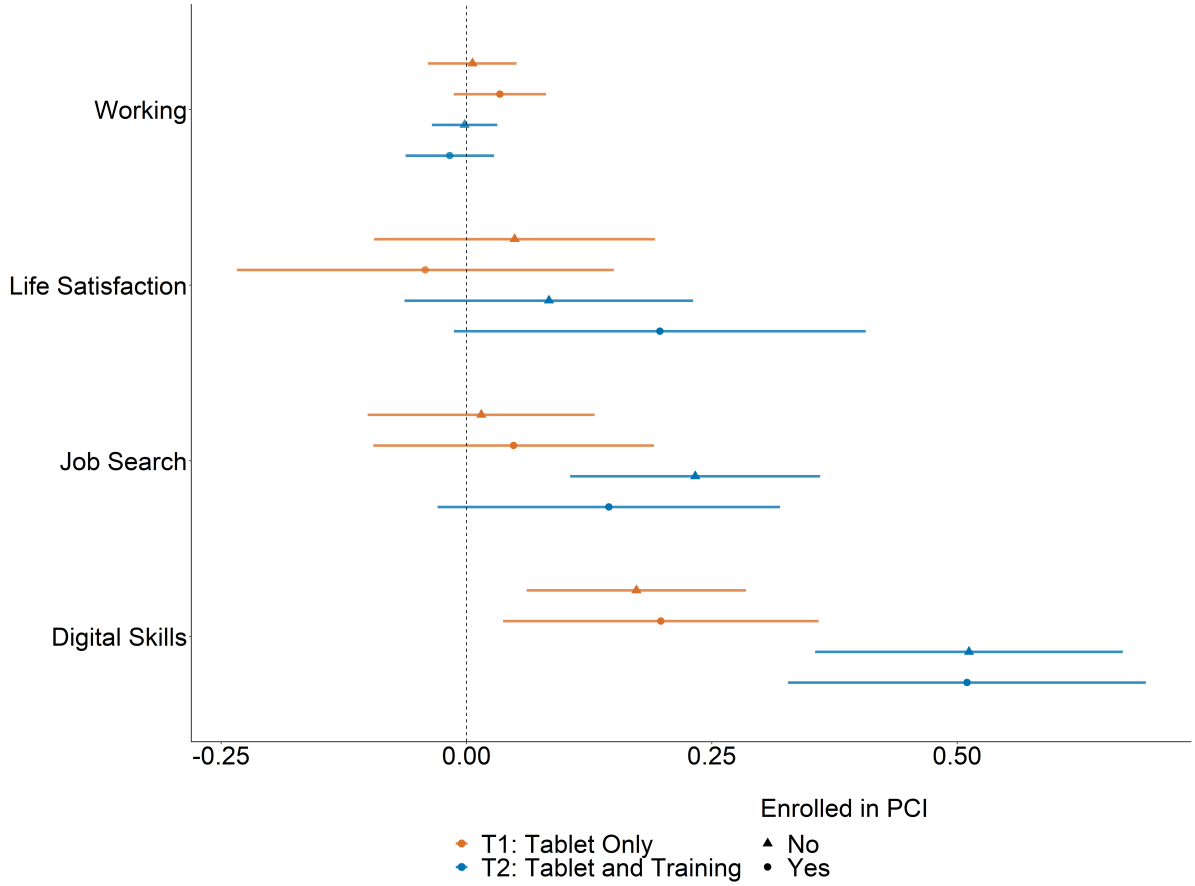
Notes: This graph shows how treatment effects vary by the baseline level of digital skills. Blue points (Treatment 2: Digital Training + Tablet) and orange points (Treatment 1: Tablet only) indicate the effect sizes. The shapes represent different quartiles: diamond for the 0-25 percentile, square for the 25-50 percentile, triangle for the 50-75 percentile, and circle for the 75-100 percentile. Horizontal lines denote 95% confidence intervals.

Figure A4: Heterogeneity Plot for Medium-Term Effects (Digital Skills)



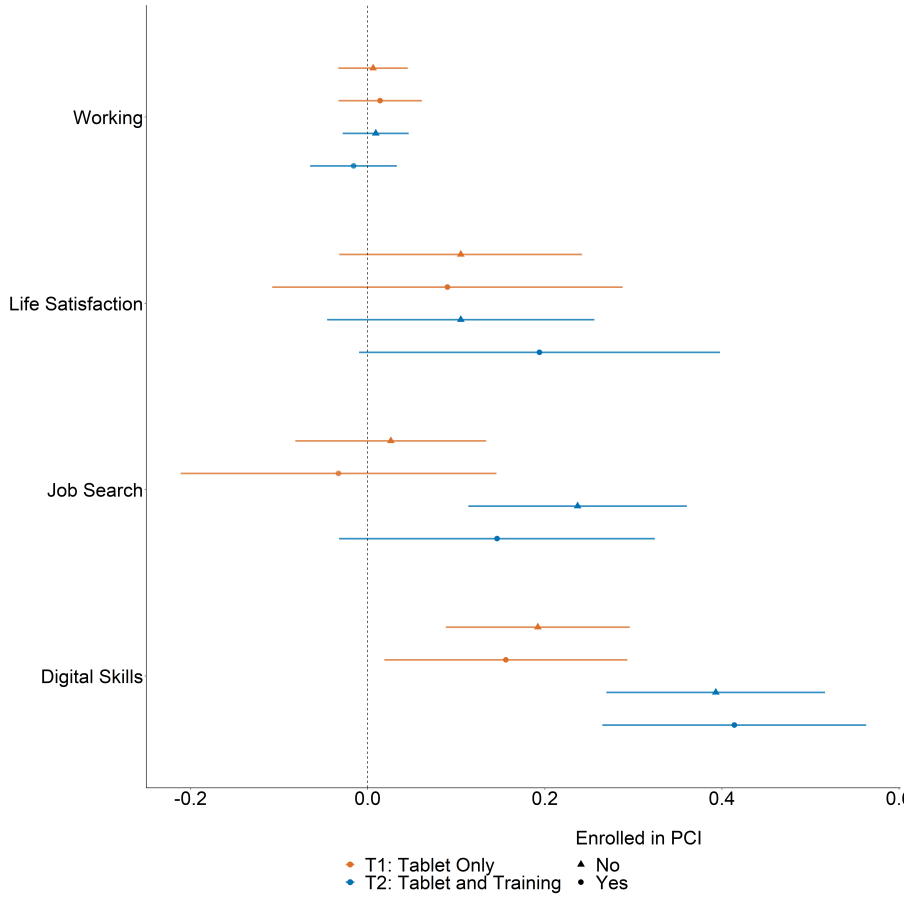
Notes: This graph shows how treatment effects vary by the baseline level of digital skills. Blue points (Treatment 2: Digital Training + Tablet) and orange points (Treatment 1: Tablet only) indicate the effect sizes. The shapes represent different quartiles: diamond for the 0-25 percentile, square for the 25-50 percentile, triangle for the 50-75 percentile, and circle for the 75-100 percentile. Horizontal lines denote 95% confidence intervals.

Figure A5: Heterogeneity Plot for Short-Term Effects (PCI)



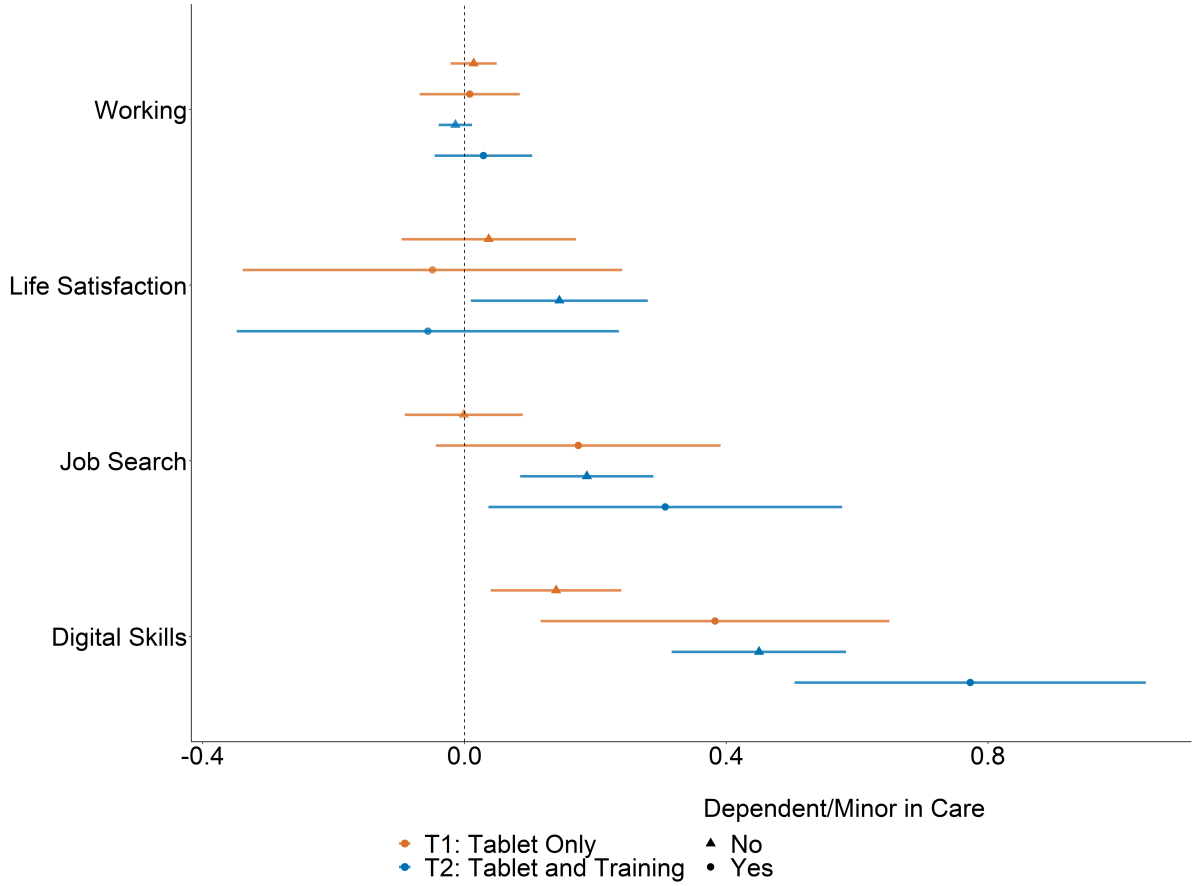
Notes: This graph shows how treatment effects vary by PCI enrollment. Blue points (Treatment 2: Digital Training + Tablet) and orange points (Treatment 1: Tablet only) indicate the effect sizes. The shapes represent the status of enrollment in PCI: triangle for not being enrolled, and circle for being enrolled. Horizontal lines denote 95% confidence intervals.

Figure A6: Heterogeneity Plot for Medium-Term Effects (PCI)



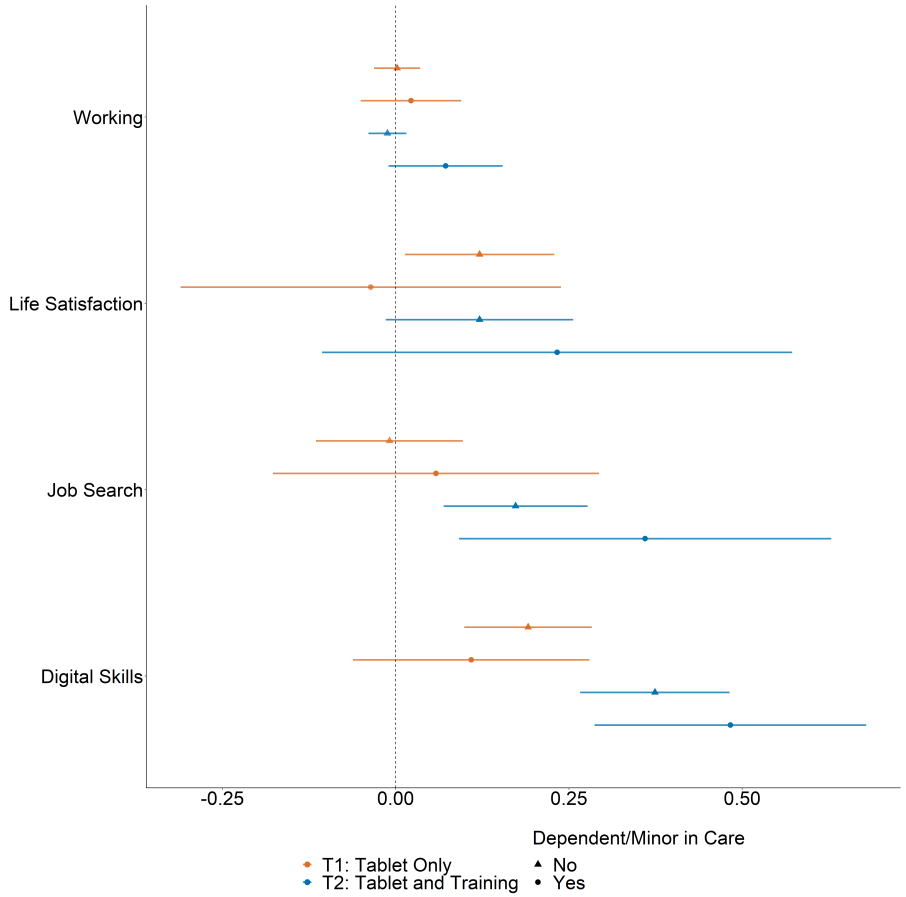
Notes: This graph shows how treatment effects vary by PCI enrollment. Blue points (Treatment 2: Digital Training + Tablet) and orange points (Treatment 1: Tablet only) indicate the effect sizes. The shapes represent the status of enrollment in PCI: triangle for not being enrolled, and circle for being enrolled. Horizontal lines denote 95% confidence intervals.

Figure A7: Heterogeneity Plot for Short-Term Effects (Dependent or Minor in Care)



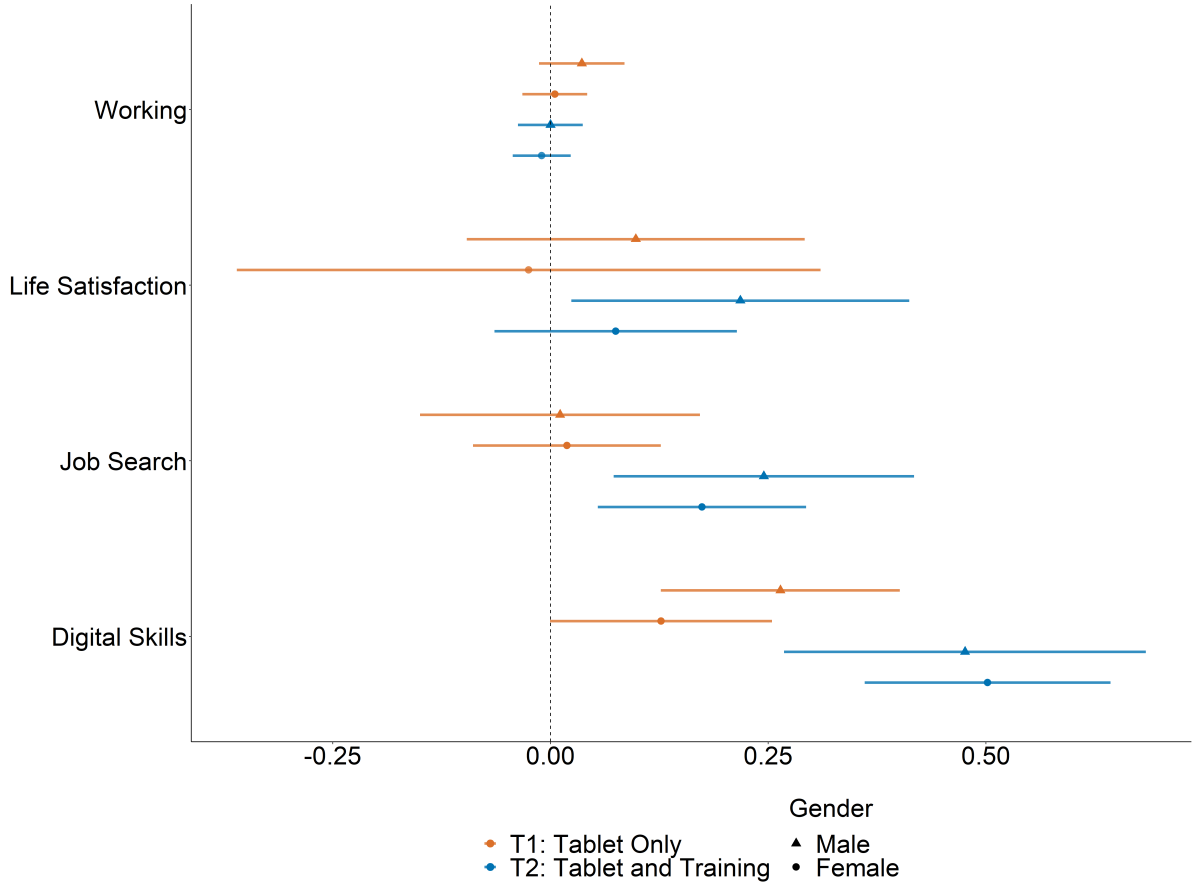
Notes: This graph shows how treatment effects vary depending on whether participants have a minor dependent in care. Blue points represent Treatment 2 (Digital Training + Tablet), while orange points represent Treatment 1 (Tablet only). Shapes indicate the dependent status: triangles for those without a dependent and circles for those with one. Horizontal lines denote 95% confidence intervals.

Figure A8: Heterogeneity Plot for Medium-Term Effects (Dependent or Minor in Care)



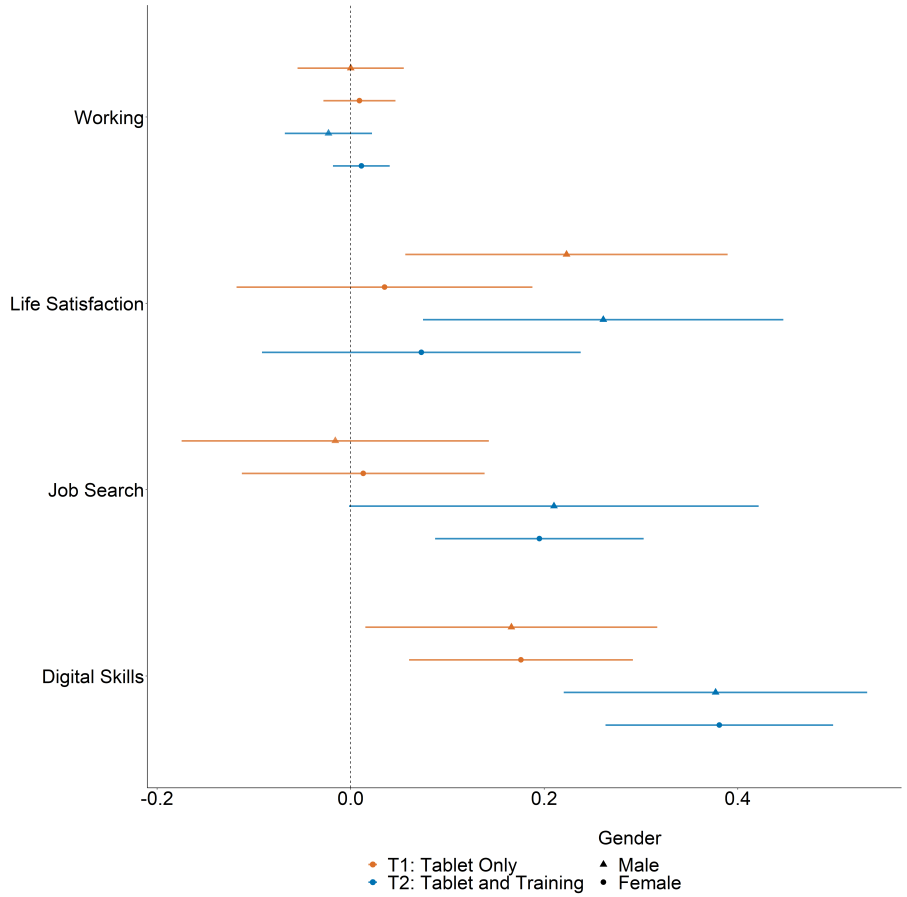
Notes: This graph shows how treatment effects vary depending on whether participants have a minor dependent in care. Blue points represent Treatment 2 (Digital Training + Tablet), while orange points represent Treatment 1 (Tablet only). Shapes indicate the dependent status: triangles for those without a dependent and circles for those with one. Horizontal lines denote 95% confidence intervals.

Figure A9: Heterogeneity Plot for Short-Term Effects (Gender)



Notes: This graph shows how treatment effects vary by gender. Blue points (Treatment 2: Digital Training + Tablet) and orange points (Treatment 1: Tablet only) indicate the effect sizes. The shapes represent gender: triangle for male, and circle for female. Horizontal lines denote 95% confidence intervals.

Figure A10: Heterogeneity Plot for Medium-Term Effects (Gender)



Notes: This graph shows how treatment effects vary by gender. Blue points (Treatment 2: Digital Training + Tablet) and orange points (Treatment 1: Tablet only) indicate the effect sizes. The shapes represent gender: triangle for male, and circle for female. Horizontal lines denote 95% confidence intervals.

C Definition of Variables

This section describes in detail all the variables used in the analysis, which appear in descriptive statistics, balance test and/or used as variables of interests or controls in the regression analysis.
Original variables:

- **Female** – a binary variable which is equal to 1 if a person responds "Mujer" to Question 2 ("Sexo")
- **Age <55** – a binary variable which is equal to 1 if a person responds "De 45 a 54 años" to Question 3
- **Speaks English** – a binary variable which is equal to 1 if a person responds "Inglés" to Question 8 ("¿Qué idiomas habla, además del español?")
- **Working** – a binary variable which is equal to 1 if a person responds "Trabajando" to Question 9 ("¿Cuál es su situación ocupacional?")
- **Unemployed** – a binary variable which is equal to 1 if a person responds "Parado/a en búsqueda activa de empleo" to Question 9 ("¿Cuál es su situación ocupacional?")
- **Dependent in Care** – a binary variable which is equal to 1 if a person responds "Sí" to Question 11 ("¿Es usted responsable del cuidado de alguna persona dependiente o de algún menor de edad no escolarizado?"), subsection "Persona dependiente"
- **Minor in Care** – a binary variable which is equal to 1 if a person responds "Sí" to Question 11 ("¿Es usted responsable del cuidado de alguna persona dependiente o de algún menor de edad no escolarizado?"), subsection "Menor de edad"
- **Disability** – a binary variable which is equal to 1 if a person responds "Sí, discapacidad física" to Question 12 ("¿Tiene alguna discapacidad superior al 33%?")
- **Training** – a binary variable which is equal to 1 if a person responds "Sí" to Question 15 ("En los últimos 6 meses, ¿Hizo alguna formación para el empleo?")
- **Months Worked** – a discrete variable ranging from 0 to 12 which corresponds to the answer to Question 48 of the second endline survey ("¿En el último año, durante cuántos meses ha trabajado?")
- **Health** – a discrete variable ranging from 1 to 5 which corresponds to the answer to Question 41 ("Finalmente, valore del 1 al 5 siendo el 1 muy malo y 5 muy bueno su estado de salud en los últimos tres meses")
- **Life Satisfaction** – a discrete variable ranging from 1 to 5 which corresponds to the answer to Question 42 ("Por último, valore del 1 al 5, siendo 1 muy poco y 5 mucho, ¿cómo se siente de satisfecho/a con su vida en general en los últimos 3 meses?")
- **PCI** – a binary variable which is equal to 1 if a person responds "PCI" or "Ambas" to Question 4 ("¿Percibe el Ingreso Mínimo Vital (IMV), la Prestación Canaria de Inserción (PCI) o ambas?)

- **IMV** – a binary variable which is equal to 1 if a person responds "PCI" or "Ambas" to Question 4 ("¿Percibe el Ingreso Mínimo Vital (IMV), la Prestación Canaria de Inserción (PCI) o ambas?)

- **Island** - a categorical variable with values Gran Canaria, Tenerife and Other (includes Lanzarote, Fuenteventura and La Palma). Corresponds to the answer to Question 5 ("¿En qué isla vive?"). Observations with values La Gomera, El Hierro and La Graciosa are dropped from the original dataset.

- **Education** – a categorical variable with values Incomplete Primary, Complete Primary, and Secondary Studies. Corresponds to the answer to Question 13 ("¿Qué nivel de estudios tiene?").

- **Nationality** - a categorical variable with values Spanish, EU and Non-EU. Corresponds to the answer to Question 7 ("¿Cuál es su nacionalidad?").

Composite Indicators: each composite indicator is constructed from several variables in the original dataset, using the method from Anderson (2008). Specifically, we normalize to mean 0 and standard deviation 1 in the baseline dataset; then each variable is standardized by subtracting its baseline means and dividing by its baseline standard deviation, then we take their weighted sum, where weights are proportional to sums of rows in the inverse covariance matrix of standardized variables at baseline.

- **Digital Skills**: an indicator showing how confident respondents feel in their skills of using the internet and electronic devices. We used answers to the following questions in order to create this indicator:

  - **Question 28**: "Con respecto al mundo digital ¿considera que usted sabe más, igual o menos que la mayoría de la gente de su entorno?" Answers "Sabe más que la mayoría de la gente" and "Sabe igual que la mayoría de la gente" are pooled together and correspond to 1 in the original variable, answer "Sabe menos que la mayoría de la gente" corresponds to 0 in the original variable.
  - **Question 29**: "A continuación, valore las siguientes disposiciones del 1 al 5, siendo el 1 ninguno y el 5 mucho". 4 variables, corresponding to self-reported answers to the following subsections, were used: "¿Cuántos conocimientos y capacidades digitales considera que tiene?", "¿Cuánta facilidad tiene para navegar por Internet?", "¿Cuánto interés tiene acerca de temas digitales e internet?", and "¿Cuánta confianza tiene en internet?".
  - **Question 30**: "En los últimos 3 meses, ¿Cuáles de las siguientes tareas relacionadas con la informática ha realizado?". 11 binary variables, corresponding to 1 if a person responds "Sí" to the following list of questions, were used: "Copiar o mover ficheros o carpetas", "Usar el Word (u otro procesador de texto)", "Usar el Excel (u otras hojas de cálculo)", "Usar funciones avanzadas de Excel (funciones, fórmulas, macros, Visual Basic...)", "Crear documentos, imágenes, videos etc. que incorporen varios elementos (por ej. texto, tablas, gráficos, animación)", "Usar programas o software para editar fotos, video o audio", "Cambiar la configuración del ordenador, del móvil, la tablet, etc (por ej. ajustar el idioma, los colores, tamaño del texto, las barras de herramientas/menú) o resolver algún tipo de problema informático básico, borrar por completo el contenido de un disco

duro equivocación carpetas o archivos)", "Configurar la conexión a internet o resolver problemas de navegación", "Programar en un lenguaje de programación".

- **Question 31**: "Conteste a los siguientes enunciados con un sí, un no o no estoy seguro/a. En los últimos tres meses...". 7 binary variables, corresponding to 1 if a person responds "Sí" to the following list of questions, were used: "Los conocimientos digitales que tiene le han servido para aprender cosas nuevas", "Ha podido resolver un problema técnico que antes no era capaz", "Ha necesitado menos apoyo para utilizar internet, el móvil, el ordenador u otro aparato electrónico", "Se atreve a hacer más cosas por sí mismo/a de forma autónoma sin tener que pedir ayuda", "Ha enseñado a otra persona a usar internet, el móvil, el ordenador u otro aparato electrónico", "Ha compartido lo que sabe a través de foros o de las redes sociales", "Ha aprendido algo nuevo viendo vídeos, leyendo en foros o a través de aplicaciones o webs".
- **Question 32**: "Y ahora, de las siguientes tareas relacionadas con el móvil smartphone y/o tablet, dígame cuáles ha realizado en los últimos 3 meses". 7 binary variables, corresponding to 1 if a person responds "Sí" to the following list of questions, were used: "Recibir o enviar correos electrónicos", "Usar Whatsapp, Telegram, etc. (mensajería instantánea)", "Usar aplicaciones y plataformas de videoconferencia (como Zoom, Jitsi Meet, etc.)", "Hacer fotos y/o grabar audios o vídeos", "Subir fotos, vídeos, etc a las redes sociales", "Cambiar la configuración del móvil o de las aplicaciones y programas instalados", "Descargar o instalar aplicaciones o programas".

- **Job Search**: an indicator showing how often people use the internet to search for jobs online or access electronic government services. We used answers to the following questions in order to create this indicator:

  - **Question 21A:**: "Dígame, ahora, si lo ha hecho para las siguientes cuestiones que le voy a leer a continuación". 10 binary variables, corresponding to 1 if a person confirms that she has used Internet for the following actions in the last 3 months, were used: "Pedir cita con el médico o enfermera de su centro de salud", "Acceder a su historia clínica", "Renovar el paro", "Solicitar la vida laboral", "Buscar información en las páginas web o aplicaciones de la Administración Pública", "Descargar o imprimir formularios oficiales", "Enviar formularios por Internet (como, p.ej. la declaración de la renta, impuestos, renovar el DNI, empadronamiento, etc.)", "Recibir un SMS con un enlace para descargar documentos", "Chatear con una persona de ayuda", "Otro"
  - **Question 22:**:"Dígame, ahora, si en los 3 últimos meses ha hecho algunas de las siguientes cosas relacionadas con los servicios esenciales tales como el agua, energía,transporte, etc.". 6 binary variables, corresponding to 1 if a person confirms that she has used Internet for the following actions in the last 3 months, were used: "Utilizar la Banca online", "Recibir facturas digitales", "Gestionar el contrato de agua, luz, internet, etc.", "Solicitar el bono eléctrico", "Solicitar la tarifa social del agua", "Solicitar el bono residente".
  - **Question 35**: "¿En los últimos tres meses ha utilizado Internet para buscar empleo o enviar una solicitud a un puesto de trabajo?" A binary variable, which is equal to 1 if a person responds "Sí", is used.

– **Question 38**: “En los últimos 3 meses ¿Ha buscado información sobre cursos para mejorar su perfil profesional o ha realizado algún curso online para mejorar su empleabilidad?”. A binary variable, which is equal to 1 if a person responds “Sí”, is used.
– **Question 39**: “¿Utiliza portales de empleo online?”. A binary variable, which is equal to 1 if a person responds “Sí”, is used.