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Boosting Youth Employability in Morocco – II

Randomized Controlled Trial Baseline Report
December 2014

TAQEEM INITIATIVE



WHAT WORKS
In Youth Employment



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Randomized Controlled Trial Baseline Report

December 2014

Principal investigators: Jochen Kluve, Paul Dyer, Drew Gardiner, Elena Mizrokhi
Special thanks to Malek Garbouj

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Preface

In June 2012, the International Labour Conference of the ILO resolved to take urgent action to tackle the unprecedented youth employment crisis through a multipronged approach geared towards pro-employment growth and decent job creation. The resolution “The youth employment crisis: A call for action” contains a set of conclusions that constitute a blueprint for shaping national strategies for youth employment.¹ It calls for increased coherence of policies and action on youth employment across the multilateral system. In parallel, the United Nations Secretary-General highlighted youth as one of the five generational imperatives to be addressed through the mobilization of all the human, financial and political resources available to the United Nations. As part of this agenda, the UN has developed a System-wide Action Plan on Youth, with youth employment as one of the main priorities, to strengthen youth programmes across the UN system.

The ILO has responded to this call by investing more into understanding “what works” in youth employment, including through a focus on the generation of evidence in the “Area of Critical Importance on Jobs and Skills for Youth” (ACI II) and through its technical cooperation portfolio. Since 2011, the ILO has aimed to increase the effectiveness of youth employment interventions in the Middle East and North Africa through the Taqeem (“evaluation” in Arabic) Initiative. The Taqeem Initiative is a technical cooperation programme of the International Labour Organization and regional partners including Silatech, the International Fund for Agricultural Development and the International Initiative for Impact Evaluation. Taqueem applies an iterative cycle of capacity development, impact research and policy influence to improve evidence on “what works” in youth employment and to support youth employment policy makers take evidence-based decisions for better resource allocation and programme design.

The “Impact research” series diffuses research reports from Taqueem supported impact evaluations. Reports include baseline, endline and qualitative studies which describe the research designs, methodologies, interventions under investigation and policy and programmatic findings and recommendations. Research in this series has been selected through ILO’s Fund for Evaluation in Employment, an annual call for proposals, which provides seed funding, and technical assistance to rigorous impact evaluations.

Taqueem supports the impact evaluation of the “100 Hour to Success” program implemented by Mennonite Economic Development Associates in Morocco (MEDA Maroc). The research explores the impact of employability, finance and entrepreneurship training combined with job placement support to better understand young people’s transitions from school to the labour market. The research follows a mixed methods research design combining a

¹ The full text of the 2012 resolution “The youth employment crisis: A call for action” can be found on the ILO website at: http://www.ilo.org/ilc/ILCSessions/101stSession/textsadopted/WCMS_185950/lang--en/index.htm.

quantitative randomized controlled trial with qualitative focus groups and key informant interviews. This paper *MEDA Maroc's 100 Hours to Success: Randomized Controlled Trial* Baseline Report provides descriptive statistics of the study's 1,800 youth sample and tests the balance between treatment and control groups. The study's Principle Investigators are Jochen Kluve, Humbolt University, Paul Dyer, Silatech, Elena Mizrokhi, MENA and Drew Gardiner, ILO.

We thank the International Initiative for Impact Evaluation and Silatech for their generous financial support and are particularly grateful to MEDA for the courage, willingness and cooperation in making this study possible.

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Section 1: Introduction

MEDA Maroc's 100 Hours to Success programme provides beneficiaries with 100 hours of training in basic life skills, entrepreneurship skills and financial management skills, with the aim of improving young people's chances of either entering wage employment or starting their own business. The programme helps to fill gaps between skills gained in school and the demands of the labour market. By providing young people with this mix of skills training, MEDA Maroc believes that their 100 Hours to Success programme gives them a stronger foundation on which to make the transition from school to work or to establish their own business, in a country where youth unemployment rates are fairly high and where securing one's first job can take up to two years (Boudarbat and Ajbilou, 2007).

Working in cooperation with the the ILO's Taqueem Initiative MEDA Maroc sought to undertake a comprehensive impact evaluation of its 100 Hours to Success programme in Morocco, one supported financially by 3ie. The goal of this study is to assess the net gains that accrue to beneficiaries of MEDA Maroc's 100 Hours to Success Programme and whether participants have demonstrably improved outcomes in terms of employment and self-employment. As such, the study will seek to quantify the differences between participants and a comparable group of non-participants in regard to employment and entrepreneurship activity following the programme, including not only rates of activity but also duration of job search (and/or business start-up), wages and income, and various aspects of job quality. In this regard, the research team is also interested in analysing the potential impact of the programme on employability, including issues of self-efficacy, confidence, perception of abilities in regard to various soft skills, and attainment of more tangible skills related to language and computer usage. Finally, our analysis is concerned with potential improvements in savings behaviour and the ability of beneficiaries to manage finances, whether at a personal or business level. In analysing each of the above issues, we are mindful of potential differential outcomes in regard to age, gender, educational attainment, familial income and urban/rural residence.

The goals of the impact evaluation are not limited to quantifying the net impact of programme participation on the economic lives of participants, but also aim to secure evidence on how MEDA Maroc can improve the delivery of its programme in order to better serve Moroccan youth. Moreover, given the scope of the employment challenge among young people both in Morocco and the Arab world more widely, the evaluation hopes to develop evidence that can inform a wider range of programmes targeting young people, particularly programmes that seek to provide life skills training and entrepreneurship training as an enabling bridge in the transition from school to work.

This baseline report provides an overview of the methodological approach used in evaluating the impact of the 100 Hours to Success programme and an initial assessment of the population of young people surveyed prior to the launch of the programme. In reviewing collected baseline data, this report also assesses the comparability of the study's treatment

group and control group as they stand at baseline (before enrolment in the programme). In this context, we also seek to identify challenges that have arisen while putting the impact evaluation study in place, the risks they pose to successful completion of the evaluation, and potential means by which these challenges can be resolved.

Towards these ends, the rest of the study is organized as follows. Section 2 provides a detailed overview of the programme's curriculum and how it intends to improve the above-stated outcomes for young participants. Section 3 provides an introductory literature review, taking into account the evidence currently available on skills training programmes and which evidence gaps the study will contribute to filling. The literature review provides an overview of rigorous evaluations of active labour market programmes and how MEDA Maroc's evaluation will conform with and complement this body of work. Section 4 describes the methodological approach and structure of the study, as well as the means by which individuals were sorted into treatment and control groups. It also addresses issues raised with the implementation of the study's methodological approach. Section 5 provides a detailed analysis of the initial results from the baseline survey as described above, as well as results analysing the significance of differences between the treatment and control groups. Section 6 explores issues of external validation using findings from the World Bank's 2009 Moroccan Youth Survey. Section 7 revisits our initial assumptions related to statistical power and provides an assessment of the study's ability to determine statistically significant differences in outcomes between the treatment and control groups, given more recent changes in the identification of members of these groups. Section 8 addresses in more detail the ongoing challenges related to programme enrolment and their potential impact on the study's results. Finally, Section 9 provides a summary and a review of issues that will affect the quality of the study, as well as issues that must be addressed when delivering the follow-up survey and final analysis. The study also includes two appendices, which detail statistics related to the comparability of findings between the treatment and control groups.

Section 2: An overview of 100 Hours to Success

The 100 Hours to Success programme comprises 100 hours of training in three core areas: entrepreneurship, financial education and life skills. In addition, enrollees are provided with support in opening a mandatory savings account. To enable this savings component of the programme – which MEDA Maroc perceives as one of the keys to young people's financial success – the organization has partnered with La Poste (Al Barid Bank) and has negotiated the minimum savings deposit down to 5 Moroccan dirhams (MAD) for 100 Hours to Success participants.²

In addition, local extension officers attempt to match enrollees with internship opportunities in local businesses. While they attempt to secure internships for as many participants as possible, such positions are generally open only to about 5–10 per cent of participants. This limitation is imposed by local businesses, many of which are resistant to offering such positions. In Morocco, MEDA Maroc covers the mandatory social insurance fees for interns, normally paid by local businesses, in order to encourage greater use of interns.³

The entrepreneurship training module of 100 Hours to Success is based on training material from Street Kids International and Save the Children, adapted for a Moroccan context by MEDA Maroc. Over 32 hours, participants develop a start-up idea, undertake market research and draw up a business plan. The business plan includes an in-depth evaluation of start-up costs, how to conduct a profitability study and how to develop a pricing strategy. The intent is not only to provide young people with tangible experience of developing a new business, but to help them identify and build personal skills more broadly through an environment of experiential learning.

The financial training module is based on material developed by Microfinance Opportunities, adapted for Moroccan youth by MEDA Maroc. Over 36 hours, participants are given tools for managing their money, with a focus on debt management, budget management, savings, financial negotiation and banking services.

Finally, the life skills module, based on material developed by the International Youth Foundation and adapted by MEDA Maroc, provides young people with 32 hours of training. This training has three parts. The first focuses on engaging young people in understanding how to manage their emotions and seeks to build self-confidence. The second provides them with skills to deal with confrontation and teaches conflict management. The third concentrates on building successful habits and skills for the workplace.

While there are many programmes, both within the Arab region and internationally, that seek to provide training to young people to support the transition from school to work,

² MAD5 is equivalent to US\$0.60. A minimum deposit of MAD100 (US\$12) is normally required to open a savings account.

³ The local insurance requirements amount to MAD500 (US\$58) per intern.

MEDA Maroc feels that it is the mix of training it offers – covering life skills, financial skills and entrepreneurship skills, coupled with tangible experience provided through internships and the instilling of healthy savings habits – that makes its programme unique. Moreover, MEDA Maroc believes that this mix of training is key to providing young people with a foundation on which to transition successfully from school to work.

Section 3: Literature review

The 100 Hours to Success programme is designed to complement the Moroccan formal education system by providing additional training in job-relevant skills to young people who are either still enrolled in school or who have recently graduated. The skills that it aims to provide are aligned with those widely employed by civil society actors and governments as part of active labour market programmes. Unfortunately, there are few examples of training programmes which, through use of experimental research methodologies, have been proven to provide positive employment benefits for young people. There has been a great deal of research on active labour market programmes using non-experimental designs, including useful overviews by Card, Kluve and Weber (2010) and Betcherman, Olivas and Dar (2004). These studies do not identify any one measure that has had a significant effect across the programmes surveyed, though they do provide relative rankings of interventions by effectiveness. One clear result from the literature is that programmes specifically targeting an age group within the population, such as those aged under 25, are found to be significantly less efficient than those targeting the population as a whole.

Evaluation evidence available on skills training is mainly based on programmes in developed countries. While the number of evaluations from developing countries has grown over the last couple of years, they remain limited. Some of the most revealing evidence comes from a randomized trial in the Dominican Republic, which found that job training had a positive, albeit unsustained, effect on wages (Card et al., 2011). A more recent randomized trial using a larger sample in Colombia found stronger impacts (Attanasio, Kugler and Meghir, 2011). The programme, called ‘Jóvenes en Acción’, involved three months of classroom training, undertaken by private agencies, followed by three months of vocational training in a private company. The probability of employment rose and wages were, on average, higher for programme participants, especially for women. However, we do not know whether this positive effect was due to the vocational training, the internships or the combination of the two. Training may improve the productivity of young people, but internships may reveal useful information about the quality of a match. The study of MEDA Maroc’s 100 Hours to Success programme and its intention to provide some participants with internships should reveal more evidence.

The largest evidence gap is reported in the Middle East and North Africa region. The Youth Employment Inventory (Betcherman et al., 2007) – a global repository of evidence on the outcomes of youth employment intervention programmes – reveals only six impact evaluations on the topic within the region. Two of these studies are of particular importance for skills training. First, Groh et al. (2012) present evidence from Jordan on the effectiveness of wage subsidies and soft skills training in helping female community college graduates find employment. The study shows that wage subsidies are effective in increasing employment in the short term, but that a soft skills training programme has no impact on average labour outcomes. An evaluation (Premand et al., 2012) of an entrepreneurship programme for Tunisian students in their final year of university, which taught skills in

business planning and leadership, found that there was a very small effect on the self-employment rate, while the wage employment rate remained unchanged. Nevertheless, as in many other examples of skills training programmes, the intervention did succeed in boosting knowledge, optimism and other behavioural skills.

MEDA Maroc's impact evaluation hopes to complement the above-mentioned studies in providing evidence on whether and how skills training boosts employment and self-employment rates. However, it will also offer evidence in three other areas that remain unexplored in the literature:

- 1. Demand for training programmes:** Evidence shows that demand for training among young people is low, as seen by the large dropout rate in some studies (see Duflo, Greenstone and Hanna, 2012; Haan and Serrière, 2002; Cho et al., 2013; Heckman et al., 2000). In the context of a low take-up rate for MEDA Maroc's programme (see Section 4), it would be an important contribution to the literature to understand more on why young people are dropping out of training programmes and the associated positive or negative outcomes.
- 2. Gender:** The gender dimension will provide equally important evidence. A growing body of research (see Blattman, Fiala and Martinez, 2013; Cho et al., 2013) shows that training impacts on income and skills are greater for young men than for young women, although parts of this evidence apply to vocational training programmes where manual trades are more culturally suited to men. In MEDA Maroc's study, where over half of participants are women, particular attention is paid to the determinants (if any) of their success, such as a higher propensity to save and invest money, and to constraints on their social and labour market participation such as family obligations or labour market discrimination, especially as seen in the Moroccan context.
- 3. Quality of training:** Evidence is scant on how the quality of training – including the content of the training and the quality of the trainers – has an effect on outcomes. This is especially true in training programmes in developing countries, where quality varies considerably. Non-experimental evidence (Haan and Serrière, 2002) tells us that short training programmes similar to 100 Hours to Success (programmes that focus on hard technical skills such as accounting, management and marketing) do increase employment. A successful experimental example could help to prove this.

Section 4: Study methodology and set-up issues

The impact evaluation of the 100 Hours to Success programme has been designed as a randomized controlled trial. The random sorting of programme applicants into a treatment group (participants) and a control group (non-participants) allows the evaluation team to create a counterfactual to programme participation. That is, members of the control group should be comparable to those of the treatment group in terms of both observable and non-observable characteristics before members of the treatment group enter the programme. In turn, any observed differences between the two groups during the follow-up survey – at least at the aggregate level – should be due to the effects of the programme. In an effort to secure this comparability in the context of our study, we worked with a body of young people who were applying to the programme, randomly sorting applicants into a treatment group (accepted into the programme) and a control group (not accepted into the programme).

The study was implemented in the urban and rural areas around the city of Oujda in the Oriental region of Morocco. Oujda was selected because it serves as a principal area of operations for MEDA Maroc. The 100 Hours to Success programme has been established there since 2009, MEDA Maroc has an established network of operational partners there, and there is significant observed demand for the programme.⁴ However, running the evaluation in this one district of Morocco does pose external validity concerns for the study as a whole, an issue that is addressed in Section 6 of this report.

For the 2012–13 programme year, MEDA Maroc initially had the capacity to provide 100 Hours to Success to 600 individuals in the wider Oujda area, which led to the decision to place 600 individuals in the treatment group. To ensure that the programme was statistically relevant, given this fairly small population, the research team decided to expand its surveyed control sample to cover at least 1,200 other individuals. Working with its partner organizations, including local youth centres and vocational training centres, MEDA Maroc put out a call for applications. Applicants were asked to visit local youth centres during the third and fourth weeks of October 2012 in order to take a survey aimed at understanding the economic needs of young people from the area; 1,817 survey responses were collected.⁵ These 1,817 individuals

⁴ Until recently, the Oriental region was largely sidelined in Morocco's development schemes. The region has the fourth highest unemployment rate in the country. The youth population of the region exhibits even higher unemployment rates: 41 per cent in urban areas and 21 per cent in rural areas (Haut-Commissariat au Plan, 2011).

⁵ The surveys were administered electronically on tablets using Open Data Kit survey software. This mobile data collection technique saved the team valuable time and resources and greatly reduced the likelihood of errors being caused by manual data entry.

were then randomly sorted into a study population of 600 treatment and 1,217 control individuals.⁶

Following efforts to inform individuals that they had been selected for participation in the programme, MEDA Maroc's local team faced difficulties in putting the 600 randomly sorted young people into training classes. There were several reasons for this. The major stumbling block was difficulty in aligning the schedules (work, school, etc.) of the young people from the control group with the training schedule. Not all of them were able to start training at once (in November), and scheduling problems became worse over time. MEDA Maroc also had problems contacting some of the young people to arrange training as it held incorrect contact information for them. With inaccurate phone records, reaching out to these young people became a real issue. In addition, a small number of potential trainees obtained internships (unrelated to MEDA Maroc) prior to enrolling in training. In all, MEDA Maroc was able to enrol 363 young people in the first phase of training by February 2013.

The limited numbers enrolled in training caused the study serious difficulty, as the number of enrollees did not have the statistical power for differences between participants and non-participants to be analysed at any level of detail deeper than the aggregate level. However, MEDA Maroc was able to secure funding to run a second wave of training in March 2013 for the remaining individuals in the treatment group. Rather than filling empty positions in this second wave of training with individuals not included in the survey, it chose to do a second randomization of the original baseline participants, moving an additional 300 individuals who had previously been sorted into the control group into the treatment group. This brought the treatment and control groups into balance at about 900 individuals each.

This approach opened the sorting to the risk of bias: even though the control group was never told that they would be unable to participate in the programme, it was entirely possible that in the four-month gap between application and this second wave of acceptance, individuals might either have figured out that they had not initially been selected (which might skew their views towards the programme) or might have moved on to other options. Importantly, this second factor might skew outcomes still further, because those most able to rely on themselves to secure employment or to take other steps towards building their future could have found other options, making the individuals from the second wave who did go through the MEDA Maroc training fundamentally different from the first tranche. This will be tested in the analysis below and in the final analysis. However, overall, MEDA Maroc felt at the time that the risk of such bias was outweighed by the need for strengthened numbers within the treatment group.

Following the second wave of sorting, MEDA Maroc continued to face problems with enrolment. To date, only 505 individuals have either enrolled in or completed the initial training stages of the programme. This includes 361 individuals from the first wave of

⁶ This random sorting was carried out using Excel's random number generator, which provides a randomly generated number between 0 and 1 for each entry. The treatment group was selected from the bottom third of these randomly generated numbers for each participating youth centre (to ensure that the programme provided enough participants for each youth centre). Due to a conflict between the official list of applicants and our list of surveyed applicants, two names have been kept (temporarily) out of the current list of members of the treatment and control groups, meaning that the analysis of these groups below refers to 1,815 individuals. The status of these two excluded individuals is being reviewed in a final clarification of the entire dataset against official lists of applicants and enrolled participants.

sorting and 128 individuals from the second wave of sorting with complete registration records; there are an additional 15 young people with registration records who have not yet been classified as wave 1 or wave 2, but their final status will be confirmed. This relatively low rate of enrolment has been caused by logistical problems, including difficulty arranging training programmes that align with the young people's schedules, problems in tracing individuals who provided incorrect contact information, and the fact that a small number of individuals decided not to participate. These issues and their potential impact on the final results of the study are addressed in more detail in Section 7.

Section 5: Analysis of baseline survey data

In this section, we provide a general analysis of the collected baseline data, focusing on results from key demographic sub-groups deemed to be particularly relevant to our study and on major indicators that will be assessed for changes during the longer term study. A more comprehensive summary of statistics pulled from the baseline survey data is provided in Appendix 1, while Appendix 2 offers an assessment of the differences between the treatment and control groups as identified in Section 3, including their statistical significance.

5.1 Gender

Overall, the surveyed population of 1,815 is 53 per cent female, which is slightly higher than we expected when we designed the impact evaluation methodology. When comparing the first random sorting, the treatment group was 54.3 per cent female and the control group was 52.3 per cent female. The gender ratio balance between the control and treatment groups improved slightly when the second random sorting took place: the treatment group as a whole (both waves of training) was 53.6 per cent female, while the remaining control group was 52.4 per cent female. The difference between the control and treatment groups was slightly over one percentage point, and it should be noted that this difference was not statistically significant for either sorting (see Appendix 2).

Table 1: Surveyed population by gender

	Control 1		Treatment 1		Control 2		Treatment 2	
Gender	n	%	n	%	n	%	n	%
Male	580	47.7	273	45.7	429	47.6	424	46.4
Female	637	52.3	325	54.3	473	52.4	489	53.6
Total	1,217	100.0	598	100.0	902	100.0	913	100.0

5.2 Age breakdown

In terms of age, we placed the young people in four age categories: 15–18 (presumably still in secondary school or facing challenges related to early school dropout); 19–21 (of university age or seeking entry into the labour force without a tertiary degree); 22–24 (post-university age); and 25–30 (older youth).⁷ There is reasonable similarity between the first control group and the first treatment group, although the first treatment group is marginally younger than the first control group. After the second random sorting is

⁷ It should be noted that, as 25 is the upper age limit for the programme, the 25–30 age bracket is mainly made up of those aged 25.

included, the difference between the control and treatment groups closes to less than one percentage point for each age category.

Table 2: Surveyed population by age category

Age category	Control 1		Treatment 1		Control 2		Treatment 2	
	n	%	n	%	n	%	n	%
15–18	380	31.2	198	33.1	276	30.6	302	31.6
18–21	496	40.8	230	38.5	366	40.6	360	39.7
22–24	270	22.2	136	22.7	204	22.6	202	22.7
25–30	71	5.8	34	5.7	56	6.2	49	6.0

There are significant differences in the age of survey respondents when analysed by gender (see Table 3). By and large, male applicants are younger than female applicants. Among males, 37.6 per cent are under the age of 19, compared with only 26.7 per cent of women. On the other hand, 35.4 per cent of male applicants are aged 19–21, while 44.1 per cent of female applicants fall into this age range. While there are also gender differences among the older age groups, these are fairly small. This age differential by gender is likely to be related to higher educational attainment rates among young women in Oujda (and Morocco generally), while young men are more likely to leave school and seek employment (and therefore training support for their employment search) at an earlier age.

Table 3: Age categories by gender

Age	Male			Female		
	Freq.	%	Cum.	Freq.	%	Cum.
15–18	321	37.6	37.6	257	26.7	26.7
19–21	302	35.4	73.0	425	44.1	70.8
22–24	181	21.2	94.2	226	23.5	94.3
25–30	50	5.9	100.0	55	5.7	100.0
Total	854	100.0		963	100.0	

5.3 Urban/rural residential status

In regard to area of residence, the bulk of survey respondents live in urban areas. In fact, three-quarters live within urban boundaries. While we were expecting this urban bias before starting the survey, it should be noted that the share of the surveyed population living in rural areas is actually slightly higher than was originally expected, when we estimated that rural residents would make up about 17 per cent of the surveyed population. This slight increase should bolster our capacity to analyse differences in outcomes in key areas for the rural population at the close of the study.

The breakdown of the urban/rural population by gender presents some striking differences. Only about 19.6 per cent of men are from rural areas, while among women this figure rises

to 29.7 per cent. This is in contrast to our expectations, which were that young women would have limited mobility (due to social restrictions) that might limit their access to training programmes like MEDA Maroc's. At the same time, rural men might have access to more traditional, physically demanding jobs and as such might be less inclined to seek out opportunities that require the MEDA Maroc training. It might also be that MEDA Maroc's services in rural areas are delivered by partners that more specifically target women. These issues need to be explored in further detail over the course of the study.

Table 4: Surveyed population by urban/rural residence

	Urban		Rural	
	n	%	n	%
Control 1	909	74.7	308	25.3
Treatment 1	452	75.6	146	24.4
Control 2	682	74.4	220	25.6
Treatment 2	679	74.7	234	25.3

5.4 Household income status

In assessing employment and other relevant outcomes, the study will be concerned with how young people from various economic backgrounds fare. In particular, we will seek to determine whether the programme has the same (positive) impact on disadvantaged youth as it does on young people from more advantaged economic backgrounds. In this regard, we use two differing measures to assess household income and wealth: (1) a question asking respondents to select from a range of average monthly income categories; and (2) a consumption index.

The use of income categories was chosen in preference to asking individuals for specific estimates of household income out of concerns that, as young people, they would not have a full and accurate understanding of all earnings within the household, as well as concerns that they would tend to exaggerate or otherwise misreport income. In this regard, presenting individuals with categories was seen as a way of providing a more accurate breakdown of incomes within the population, at least at the aggregate level. The notable weakness of this approach, however, is that it will not allow us to monitor incremental changes in household income over the span of the programme and, as such, to assess the programme's impact on household income. At the same time, given that we are more directly interested in changes in the income of individual respondents, this is not a paramount concern.

In the absence of nationally recognized income categories, we deferred to the breakdown used by MEDA Maroc in its monitoring system. This places monthly household income in the following six categories: 0–1,500 Moroccan dirhams (MAD); MAD1,500–3,500; MAD3,500–5,000; MAD5,000–7,000; MAD7,000–10,000; and MAD10,000 and above. In the past, MEDA Maroc has found that these categories are largely representative of the individuals who have enrolled and participated in its programmes.

Overall, we find that the majority of survey participants associate their households with the bottom two income categories. Of the 1,817 individuals for whom we collected income data,

25.8 per cent and 40 per cent are from the poorest and second poorest income categories respectively. An additional 25.7 per cent are from the two intermediate income categories, while only 4.5 per cent are from the two highest income categories.

Breaking down our surveyed population into treatment and control groups, we find that our treatment groups are slightly biased towards poorer populations. In the second wave of sorting, the share of those in the two highest income brackets dropped to 7 per cent, compared with 10 per cent in the control group. While the difference between these two groups is not statistically significant (see Appendix 2), future assessments will need to be mindful of this potential bias, as household income is sure to have some bearing on employability, employment outcomes and the potential to start up one's own business.

Table 5: Surveyed population by household income category (%)

	0–1,500	1,500–3,500	3,500–5,000	5,000–7,000	7,000–10,000	10,000+
Total	25.8	40.0	16.9	8.8	4.3	4.2
Control 1	25.2	39.3	17.5	9.0	4.4	4.5
Treatment 1	26.9	41.5	15.7	8.4	4.0	3.5
Control 2	25.7	38.6	16.6	9.1	4.9	5.1
Treatment 2	25.8	41.4	17.2	8.5	3.7	3.3

In contrast to what might be expected, survey respondents living in urban areas are more likely to be from the poorest households: 77.5 per cent are in the bottom two income categories, compared with 61.9 per cent of those from rural areas. Generally, one would think that urban residents have more access to employment opportunities and higher wages than those living in rural areas. This differential is likely to be related to the self-selection of those applying for the programme. The poorest young people living in rural areas, particularly men, are more likely to seek out physical agricultural work rather than investing in efforts to improve their employability with skills which arguably have more bearing in an urban environment. A similar argument can be made for women, who are also represented more heavily (although only marginally so) among the lower income categories.

Table 6: Surveyed population by household income category, gender and urban residence (%)

	0–1,500	1,500–3,500	3,500–5,000	5,000–7,000	7,000–10,000	10,000+
Urban	34.8	42.7	11.9	5.1	3.1	2.4
Rural	22.8	39.1	18.6	10.1	4.7	4.8
Male	23.8	38.5	18.9	8.8	4.9	5.2
Female	27.6	41.3	15.2	8.8	3.7	3.3

In addition to our question about household income categories, we collected significant data on household assets and consumption in an effort to build the foundations for calculating income based on a consumption index. To this end, our questions mirrored those included by the World Bank in its 2009 survey of Moroccan young people.

We have begun the process of replicating the World Bank's consumption index using a principal component analysis of their survey data, the results of which will be applied to the

calculation of household income deciles. Completion of this task will require confirmation of our initial calculations by the World Bank team. Once this has been completed, we should be able to plot our surveyed population within nationally representative established income categories.

At the same time, given that our population is likely to be bunched towards the household income mean within the national sample, we will independently calculate a decile scale for household income using only data from our survey. This should give us a wider band within which to measure differences in household income over time within our population and, as such, to identify any potential impact the 100 Hours to Success programme may have on household income. Results will be included in the final study.

5.5 Educational enrolment and overall attainment

Our data show that the MEDA Maroc programme attracts individuals with a wide range of educational attainment, suggesting not only a range of needs with regard to skills development but also the potential for strikingly different outcomes from programme participation for individuals at different levels of educational attainment. That said, a large share of the applicants are either enrolled in university or appear to be heading for university, which suggests that the applicant pool for MEDA Maroc's 100 Hours to Success programme differs considerably from the overall youth population in Morocco (see Section 6).

On the whole, our survey population reflects a range of attainment in regard to education. Of the total, 86 per cent (1,561 individuals) are currently enrolled in some level of schooling. Of these, 3.9 per cent are enrolled in college (lower secondary school), 14.3 per cent are enrolled in *lycée* (upper secondary school), 34.9 per cent are enrolled in professional degree programmes, and 47 per cent are enrolled in university (or postgraduate degree programmes). Outcomes are similar when the treatment and control groups are compared. Non-enrolment rates and rates of enrolment in professional degree programmes are slightly higher among the initial control group. With the second sorting this difference largely disappears for non-enrolment, but increases slightly for professional degree enrolment. On the flip side, enrolment rates in university and *lycée* (whose students are presumed to be heading to university) are slightly higher within the treatment groups. These differences are not statistically significant (see Appendix 2).

Table 7: Surveyed population by educational enrolment

	Not enrolled		College		Lycée		Professional		University	
	n	%	n	%	n	%	n	%	n	%
Total	255	14.0	61	3.4	223	12.3	544	30.0	732	40.3
Control 1	183	15.0	40	3.3	142	11.7	371	30.5	481	39.5
Treatment 1	72	12.0	21	3.5	81	13.5	173	28.9	251	42.0
Control 2	128	14.2	33	3.7	104	11.5	286	31.7	351	38.9
Treatment 2	127	13.9	28	3.1	119	13.0	258	28.3	381	41.7

Of those not currently enrolled in education (254 individuals), only 10.3 per cent had finished a university or postgraduate degree, while 12.6 per cent had completed a professional degree. Nearly 5.9 per cent had finished a *lycée* degree, while a much higher 30.7 per cent

had completed only a college (intermediate) degree. Notably, nearly 40.7 per cent of the total had dropped out of school before finishing their college degree. This suggests that there is a fairly large contingent of individuals seeking to benefit from MEDA Maroc's programmes who are not expecting to attend university and, having only completed college degrees, face considerable marginalization when attempting to secure employment, particularly in the formal sector.

As with the potential bias in educational enrolment identified in the comparison of treatment and control groups above, there seems to be a consistent difference in attainment rates between the treatment and control groups. While these differences are not statistically significant, there is a distinct pattern in that the control group seems to have more individuals from lower educational strata than the treatment group. It is possible that this bias was introduced through the randomized sorting process that took place at the level of the partnering youth centres (to ensure that enough individuals were selected from each centre to allow for formation of at least one full class). The team must revisit this selection process to ensure that any potential bias is more definitively identified and controlled for in the final analysis.

Table 8: Educational attainment (% of surveyed population having completed each degree)

	Primary	College	Lycée	Professional degree	University and postgraduate
All participants					
Total	18.6	29.5	43.1	4.9	3.9
Control 1	19.2	29.7	42.1	4.9	4.1
Treatment 1	17.6	28.9	45.2	5.0	3.3
Control 2	20.1	28.4	42.2	4.7	4.7
Treatment 2	17.2	30.5	44.1	5.2	3.1
Young people not enrolled in education					
Total	40.7	30.7	5.9	12.6	10.3
Control 1	41.4	30.4	5.5	14.4	9.9
Treatment 1	38.9	34.7	6.9	8.3	11.1
Control 2	42.5	25.2	4.7	15.7	11.8
Treatment 2	38.9	35.7	7.1	9.5	7.7

Enrolment rates differ by gender. While the numbers of those enrolled at the college and *lycée* levels are similar when comparing young women and young men, the rate of enrolment in professional degree programmes is higher among men, at 36 per cent compared with 24 per cent for women. However, the enrolment rate at the university and postgraduate level is higher among women, at 44 per cent compared with 37 per cent for men. Non-enrolment rates are also higher among women: 17 per cent compared with 10 per cent for men. This reflects not only the age differences noted above, but also the contrast in how men and women choose to finish their education, with men more likely to take shorter professional degrees that provide them with tangible vocational skills. This differentiated skills mix might be reflected in longer term outcomes in terms of employment.

Among those no longer enrolled in education, it should be noted that levels of final attainment are fairly comparable by gender, except for those who left school after primary attainment – this group contains nearly 45 per cent of women no longer in education and only 33 per cent of men. This suggests that age is not the major driving factor behind school attainment. As would be expected, the number of school dropouts is highly correlated to household income.

Of our total sample, only 13.8 per cent had received any training outside the formal school system. Of these 251 individuals, 103 had received language training, 105 had received computer training, 7 had received training in business administration, 7 had received entrepreneurship training, and 49 had received some other kind of training. Given the small overall population, the numbers receiving external training are fairly comparable across the treatment and control groups, and observed differences are not statistically significant.

5.6 Self-perception of skills and self-efficacy

As well as educational enrolment and attainment, our survey collects a range of data related to young people's other skills, including language ability and computer skills. We also question their self-perception of their softer employability skills, such as confidence in their ability to negotiate, perform during an interview, show leadership and work with a team. These perceptions at baseline are assessed below.

5.6.1 Languages

In a local setting, Moroccans largely communicate in the local dialect of Arabic (*darija*). Their ability in modern standard Arabic (*fusha*) or French (the widely spoken but unofficial language of business and the elite) should reflect both their educational attainment and, less tangibly, their social networks. As such, their ability in either language (or in a third language) has a bearing on their employability, particularly in the formal sector. While it is not expected that participation in the 100 Hours to Success programme will have any bearing on language skills, an individual's ability in this regard (at baseline) might influence the extent to which they benefit from the programme. At the very least, it will have an impact on their later employability, which should be captured.

Table 9: Language ability among surveyed population

	Arabic		French		Third language	
	n	%	n	%	n	%
No fluency	–	–	–	–	625	34.4
Basic fluency	29	1.6	550	30.3	468	25.8
Intermediate fluency	380	20.9	853	47.0	432	23.8
Good fluency	1,033	56.9	345	19.0	204	11.2
Excellent fluency	374	20.6	68	3.7	88	4.8

In analysing our baseline data, we found that the majority of respondents consider themselves to have good (57 per cent) or excellent (21 per cent) fluency in Arabic, while relatively few consider themselves to be fluent (either at a good or excellent level) in French

(23 per cent). Knowledge of or fluency in a third language is relatively rare, with 34 per cent having no knowledge of a third language and only 16 per cent having a good or excellent level of fluency.

In comparing the treatment and control groups, we find that language abilities at baseline are very similar. Where there are marginal differences between the two groups, these are statistically insignificant.

Between genders, there is little to no observable difference in regard to language abilities, at least in terms of self-perception. The same applies to area of residence (urban/rural) in terms of ability in Arabic. The number of individuals with good or excellent fluency in French is quite a bit higher in urban areas (24.8 per cent compared with 16.5 per cent in rural areas), which might be expected given the greater exposure to French in urban environments, as well as more indirect factors such as income and the quality of education. Language abilities in Arabic and French do seem to rise with household income, although there is tentative evidence of a U-shaped outcome in regard to Arabic as wealthier families replace ability in Arabic with ability in French.

It is important to note that the questions on language ability (as well as the later question on computer skills) are based on self-perception. As such, they are open to bias and do not allow for an unprejudiced assessment of skills. As an alternative, the team should consider including some kind of external assessment of language skills, such as having individuals read or write a paragraph in each language. However, this too poses an issue of fair assessment, while the logistics might prove costly and might be beyond the budgetary constraints of the evaluation.

Table 10: Language ability by control and treatment group (%)

	No fluency	Basic fluency	Intermediate fluency	Good fluency	Excellent fluency
Arabic					
Control 1	–	1.5	21.5	57.2	19.9
Treatment 1	–	1.8	19.7	56.4	22.1
Control 2	–	1.3	21.1	57.5	20.1
Treatment 2	–	1.9	20.7	56.3	21.1
French					
Control 1	–	31.1	46.2	18.7	4.0
Treatment 1	–	28.8	48.5	19.6	3.2
Control 2	–	30.9	45.6	19.1	4.4
Treatment 2	–	29.8	48.3	18.8	3.1
Third language					
Control 1	34.8	25.9	23.3	10.8	5.2
Treatment 1	33.4	25.6	24.9	11.9	4.2
Control 2	34.8	26.6	23.4	10.0	5.2
Treatment 2	34.0	25.0	24.2	12.4	4.5

5.6.2 Competence in computer usage

Overall, the majority of the surveyed population identifies itself as lacking in necessary computer skills, with 46.4 per cent reporting that their computer skills are ‘insufficient’ and 22.3 per cent reporting that their computer skills are ‘very insufficient’. It should be noted that, between control and treatment groups, there is little difference in overall outcomes in this regard; however, the share reporting that they have excellent computer skills is slightly higher among the treatment groups than in either of the control groups. According to our tests, however, these differences are not statistically significant.

Table 11: Computer competence among surveyed population (%)

	Very insufficient	Insufficient	Good	Excellent
Total	22.3	46.4	27.0	4.2
Control 1	22.7	47.0	26.2	4.0
Treatment 1	21.6	45.2	28.6	4.7
Control 2	22.2	47.2	27.0	3.7
Treatment 2	22.5	45.7	27.1	4.8

The share of women reporting insufficient and very insufficient computer skills is higher than that of men, at 71.6 per cent compared with 58.4 per cent. This is among the most striking gender differentials revealed by our data. Likewise, and perhaps not surprisingly given issues of access, urban residents are more likely than rural residents to identify their computer skills as good or excellent: from the total surveyed population, 32.6 per cent of those in urban areas identified their skills in that way, compared with only 27.3 per cent of those in rural areas.

5.6.3 Life skills and self-efficacy

Overall, our findings on self-perceived abilities in regard to basic life skills and respondents’ sense of self-efficacy suggest that, prior to the start of the 100 Hours to Success programme, applicants have a strong sense of their own abilities. This, coupled with the relatively small range within which we measure these factors (a scale of 1–4), suggests that identifying measureable improvements in outcomes may prove difficult once we have delivered the follow-up survey.

In the context of the surveyed population as a whole, as noted in the tables below, the vast majority of respondents feel that they have a strong grasp of core life skills and abilities. In regard to the ability to work with a team, to adapt to new situations, to solve problems, to present ideas to a group, to resolve differences through negotiation, to convince people about an idea, to resolve personal conflict, to work with a group to meet a deadline and to respect the ideas of others, a large majority of respondents identified themselves as being capable (although not ‘very capable’). The ability to respect the ideas of others, notably, is quite high, with the vast majority reporting that they are able to do so.

Table 12 (A–J): Self-perception of life skills

	Not capable		Somewhat capable		Capable		Very capable		Total
	n	%	n	%	n	%	n	%	n
A. Ability to work with a team									
Total	53	2.9	192	10.6	1,021	56.3	549	30.2	1,815
Control 1	35	2.9	130	10.7	683	56.1	369	30.3	1,217
Treatment 1	18	3.0	62	10.4	338	56.5	180	30.1	598
Control 2	25	2.8	104	11.5	509	56.4	264	29.3	902
Treatment 2	28	3.1	88	9.6	512	56.1	285	31.2	913
B. Ability to adapt to new situations									
Total	46	2.5	331	18.3	949	52.4	486	26.8	1,812
Control 1	31	2.6	225	18.5	634	52.2	325	26.7	1,215
Treatment 1	15	2.5	106	17.8	315	52.8	161	27.0	597
Control 2	23	2.6	158	17.6	471	52.3	248	27.6	900
Treatment 2	23	2.5	173	19.0	478	52.4	238	26.1	912
C. Ability to solve problems									
Total	41	2.3	433	23.9	1,013	55.9	325	17.9	1,812
Control 1	24	2.0	299	24.6	671	55.2	221	18.2	1,215
Treatment 1	17	2.8	134	22.4	342	57.3	104	17.4	597
Control 2	19	2.1	223	24.8	492	54.6	167	18.5	901
Treatment 2	22	2.4	210	23.1	521	57.2	158	17.3	911
D. Ability to present an idea to a group									
Total	219	12.2	520	28.9	744	41.4	316	17.6	1,799
Control 1	143	11.8	370	30.6	491	40.6	205	17.0	1,209
Treatment 1	76	12.9	150	25.4	253	42.9	111	18.8	590
Control 2	106	11.8	271	30.2	358	40.0	161	18.0	896
Treatment 2	113	12.5	249	27.6	386	42.7	155	17.2	903
E. Ability to resolve differences within a group									
Total	104	5.8	466	25.9	960	53.3	270	15.0	1,800
Control 1	60	5.0	331	27.4	639	52.9	179	14.8	1,209
Treatment 1	44	7.4	135	22.8	321	54.3	91	15.4	591
Control 2	47	5.3	239	26.7	475	53.1	134	15.0	895
Treatment 2	57	6.3	227	25.1	485	53.6	136	15.0	905
F. Ability to convince people about an idea									
Total	52	2.9	407	22.6	1,015	56.4	327	18.2	1,801
Control 1	31	2.6	270	22.4	686	56.9	219	18.2	1,206
Treatment 1	21	3.5	137	23.0	329	55.3	108	18.2	595
Control 2	24	2.7	189	21.2	517	57.9	163	18.3	893
Treatment 2	28	3.1	218	24.0	498	54.8	164	18.1	908

	Not capable		Somewhat capable		Capable		Very capable		Total
	n	%	n	%	n	%	n	%	n
G. Ability to resolve personal conflicts peacefully									
Total	60	3.3	362	20.0	950	52.6	435	24.1	1,807
Control 1	30	2.5	247	20.4	641	53.0	291	24.1	1,209
Treatment 1	30	5.0	115	19.2	309	51.7	144	24.1	598
Control 2	21	2.3	180	20.1	482	53.9	212	23.7	895
Treatment 2	39	4.3	182	20.0	468	51.3	223	24.5	912
H. Ability to work with a group to meet a deadline									
Total	70	3.9	460	25.6	956	53.1	314	17.4	1,800
Control 1	51	4.2	308	25.5	633	52.4	215	17.8	1,207
Treatment 1	19	3.2	152	25.6	323	54.5	99	16.7	593
Control 2	40	4.5	217	24.3	472	52.8	165	18.5	894
Treatment 2	30	3.3	243	26.8	484	53.4	149	16.4	906
I. Ability to develop creative ideas									
Total	58	3.2	409	22.6	1,057	58.4	285	15.8	1,809
Control 1	40	3.3	264	21.8	711	58.7	197	16.3	1,212
Treatment 1	18	3.0	145	24.3	346	58.0	88	14.7	597
Control 2	28	3.1	186	20.7	539	60.0	145	16.1	898
Treatment 2	30	3.3	223	24.5	518	56.9	140	15.4	911
J. Ability to respect the ideas of others									
Total	2	0.1	50	2.8	665	36.8	1,091	60.3	1,808
Control 1	2	0.2	30	2.5	450	37.1	731	60.3	1,213
Treatment 1	0	0.0	20	3.4	215	36.1	360	60.5	595
Control 2	1	0.1	21	2.3	345	38.4	531	59.1	898
Treatment 2	1	0.1	29	3.2	320	35.2	560	61.5	910

It is also noteworthy that, among these capabilities, we observe some statistically significant differences between our treatment and control groups. Given the large degree of similarity overall in terms of survey outcomes, these differences are not overly concerning, but must be kept in mind in terms of analysing final outcomes. In particular, as noted in Appendix 2, we find that the differences between the first control and first treatment groups with regard to presenting an idea to a group is statistically significant at a 90 per cent confidence level: our treatment group is far more prone to feel only somewhat capable. In terms of resolving differences within a group, the first treatment group is more inclined to answer 'somewhat capable', while the control group is more likely to choose 'not very capable', both of which are statistically significant at a 90 per cent confidence level. In terms of resolving personal conflicts peacefully, the first treatment group is less inclined to answer 'not very capable' (at a 95 per cent confidence level), with the level of confidence dropping to 90 per cent (still a significant percentage) with the second sorting.

A similar batch of questions asked individuals to assess how far they agree or disagree with statements about their capacities in terms of attaining future goals, learning from failure, seeing challenges as opportunities, perceiving what they are learning as aiding their future, the importance of negotiating to secure goals, their roles as leaders in the future, and their ability to set goals. As with the self-assessment of life skills described above, we find that the young people surveyed are more prone to agree (but not strongly agree) with most of these normative statements. However, when asked how they felt about their ability to learn from failure and whether what they are learning now will aid them in the future, individuals were just as likely or more likely to strongly agree.

Table 12 (K–Q): Self-efficacy question responses

	Strongly disagree		Disagree		Agree		Strongly agree		Total
	n	%	n	%	n	%	n	%	n
K. In the future, I will attain my goals									
Total	9	0.5	108	6.0	1,060	58.4	638	35.2	1,815
Control 1	8	0.7	76	6.2	706	58.0	427	35.1	1,217
Treatment 1	1	0.2	32	5.4	354	59.2	211	35.3	598
Control 2	6	0.7	50	5.5	521	57.8	325	36.0	902
Treatment 2	3	0.3	58	6.4	539	59.0	313	34.3	913
L. When I fail, I try to understand why in order to succeed in the future									
Total	21	1.2	79	4.4	874	48.3	836	46.2	1,810
Control 1	16	1.3	60	4.9	582	48.0	555	45.8	1,213
Treatment 1	5	0.8	19	3.2	292	48.9	281	47.1	597
Control 2	11	1.2	46	5.1	432	48.1	410	45.6	899
Treatment 2	10	1.1	33	3.6	442	48.5	426	46.8	911
M. I see challenges as opportunities									
Total	42	2.3	236	13.1	967	53.7	557	30.9	1,802
Control 1	31	2.6	162	13.4	654	54.2	360	29.8	1,207
Treatment 1	11	1.8	74	12.4	313	52.6	197	33.1	595
Control 2	29	3.2	114	12.7	488	54.5	264	29.5	895
Treatment 2	13	1.4	122	13.5	479	52.8	293	32.3	907
N. What I learn now will aid me in the future									
Total	5	0.3	58	3.2	756	41.7	993	54.8	1,812
Control 1	4	0.3	44	3.6	513	42.3	653	53.8	1,214
Treatment 1	1	0.2	14	2.3	243	40.6	340	56.9	598
Control 2	2	0.2	28	3.1	379	42.1	491	54.6	900
Treatment 2	3	0.3	30	3.3	377	41.3	502	55.0	912

	Strongly disagree		Disagree		Agree		Strongly agree		Total
	n	%	n	%	n	%	n	%	n
O. Negotiating with others will aid me in securing my objectives									
Total	70	3.9	236	13.1	884	48.9	618	34.2	1,808
Control 1	53	4.4	166	13.7	575	47.5	417	34.4	1,211
Treatment 1	17	2.8	70	11.7	309	51.8	201	33.7	597
Control 2	40	4.5	117	13.0	423	47.1	318	35.4	898
Treatment 2	30	3.3	119	13.1	461	50.7	300	33.0	910
P. I see myself in a leadership position in the future									
Total	75	4.1	389	21.5	936	51.7	411	22.7	1,811
Control 1	51	4.2	258	21.2	616	50.7	290	23.9	1,215
Treatment 1	24	4.0	131	22.0	320	53.7	121	20.3	596
Control 2	39	4.3	180	20.0	461	51.2	221	24.5	901
Treatment 2	36	4.0	209	23.0	475	52.2	190	20.9	910
Q. I set goals in order to secure my future objectives									
Total	17	0.9	150	8.3	962	53.1	683	37.7	1,812
Control 1	11	0.9	108	8.9	650	53.5	447	36.8	1,216
Treatment 1	6	1.0	42	7.0	312	52.3	236	39.6	596
Control 2	9	1.0	74	8.2	495	54.9	323	35.8	901
Treatment 2	8	0.9	76	8.3	467	51.3	360	39.5	911

Overall, responses to these questions are broadly similar when the treatment and control groups are compared. However, as with the first batch of life skills questions, there is one area in which differences between the treatment and control groups are statistically significant. On the question about seeing challenges as opportunities, the second treatment group is less inclined to strongly disagree with the statement than the control group, a difference that is within a 90 per cent confidence level. This suggests that our treatment group is more likely to see themselves as positively engaged in overcoming obstacles.

As already noted, there are numerous issues that must be addressed when interpreting the questions above and considering how to improve our ability to capture outcomes in these areas in the future. The heavy bias towards being capable suggests that individuals were inclined to answer positively about themselves, but in a way that suggested there was room for improvement. Given this, the team's choice was to go with a four-point scale, avoiding a five-point scale because of concerns that everyone would tend towards a neutral third answer, thereby undermining our ability to register shifts over time in respondents' perspectives of their ability. However, this compressed scale leaves little room for documenting marginal improvements.

As such, the team should consider whether or not the inclusion of these questions in the follow-up survey will yield any worthwhile data. Moreover, given the possibility that

programme participants might demonstrate a measureable decline in achievement in these areas, there is an issue of how such a decline would be interpreted: does participation in 100 Hours to Success decrease one's self-efficacy or merely improve one's awareness that such issues are more challenging than initially perceived once one is tested in a learning environment like that of the programme? As with self-assessment questions about language and computer skills, a means of providing an external, unbiased assessment of such skills might prove more informative, but would come at a logistical and financial cost to the evaluation that might not be feasible.

5.7 Employment status, history and aspirations

Our core area of concern in the analysis behind the impact evaluation is the gain accrued by participants (in comparison with non-participants) in the areas of employment and business start-ups. As described above, the majority of participants (86 per cent) are still enrolled in some level of education. In this regard, it is understandable that the majority are not currently working and have relatively little employment history. The educational status of the majority should also be kept in mind when evaluating employment outcomes in the future: while it was expected when designing the evaluation that individuals would be enrolling in MEDA Maroc's 100 Hours to Success programme as part of the transition from school to work, the actual transition might take longer for many than expected, in that a year from now many might still be in school and only passively searching for employment. While any documentation of continued education among participants (in contrast with non-participants) might prove to be a positive outcome, any outcomes in terms of labour market participation might not yet be measureable by a follow-up survey.

At baseline, 84.6 per cent of respondents were not active in the labour market, the vast majority of these being full-time students. Of the 279 individuals (15.4 per cent of the total) who were active, 32.3 per cent were employed and 19 per cent were self-employed. The unemployment rate among this – albeit small – population of active individuals was nearly 49 per cent. While this is considerably higher than the national youth unemployment rate of 17 per cent, it should be kept in mind that this is a particular group and makes up only a small share (7.5 per cent) of the total population surveyed at baseline.

In reviewing how our treatment and control groups compare at baseline, it is notable that they are largely in alignment, with no statistically significant differences. That said, in the second wave of sorting the treatment group is slightly more likely to be active in the labour market, with higher rates of employment and self-employment (as well as unemployment).

Table 13: Current employment status of surveyed population

	Employed		Self-employed		Unemployed		Inactive		Total
	n	%	n	%	n	%	n	%	n
Total	89	4.9	53	2.9	136	7.5	1,537	84.7	1,815
Control 1	58	4.8	40	3.3	90	7.4	1,029	84.6	1,217
Treatment 1	31	5.2	13	2.2	46	7.7	508	84.9	598
Control 2	39	4.3	23	2.5	66	7.3	774	85.8	902
Treatment 2	50	5.5	30	3.3	70	7.7	763	83.6	913

Given the relatively low number of survey respondents who are actively engaged in the labour market, there is little merit in disaggregating labour market activity further at this point, whether that involves looking at the type and quality of employment or the activities of the unemployed. We assume that our ability to do so at follow-up will be much greater, although it is likely that a significant number of those respondents who are currently in school will still be in school after one year and, as such, will remain economically inactive.

While relatively few young people within our survey are currently working, a preliminary analysis of work history suggests that a fairly large share have had some work experience. Overall, 41.8 per cent of our surveyed population have held at least one job in the past. This figure is consistent across the control and treatment groups, with values ranging from 40.8 per cent to 42.7 per cent. The balance turns in favour of the second treatment group, but this difference is not statistically significant.

Table 14: Work experience (% with at least one position)

	n	%
Total	757	41.8
Control 1	507	41.7
Treatment 1	250	41.9
Control 2	368	40.8
Treatment 2	389	42.7

Men tend to have more work experience than women, at 47.9 per cent compared with 36.3 per cent, and those living in urban areas tend to have more work experience than those in rural areas, at 45 per cent compared with 32 per cent. These differences are likely to reflect mobility and access to opportunities in the overall labour market. Much of the work experience has been gained through unpaid voluntary activities, with nearly 47 per cent having held an unpaid internship and 23.3 per cent having volunteered. In addition, 33.7 per cent have held paid private sector employment, while about 5 per cent have worked for a family business (paid or unpaid), 7.9 per cent have held a paid internship, and 1.3 per cent have held a public sector position.

5.7.1 Aspirations for employment and self-employment

While relatively few of the respondents are currently engaged in work, our survey allows for an initial analysis of aspirations for employment, which greatly informs the overall findings of the study. Overall, 94.4 per cent of respondents intend to work (or to be self-employed) within the next five years, while the bulk of the remainder intend to remain in education during that period (86 out of 102). Few voiced an intention to stay out of the labour market due either to family pressures (4) or no need to work due to family wealth (5). These figures are largely consistent between the treatment and control groups, and it should be noted that the figure is only marginally higher for women than for men.

One of the issues that is often put forward as an obstacle to youth employment in the Moroccan (and wider Arab) context is a preference for public sector employment. While the availability of jobs in this area has declined in Morocco since the reforms of the 1990s, this preference has remained. In our survey, when asked about their preferences for employment, 57 per

cent of respondents reported a preference for public sector work, compared with 26.4 per cent reporting a preference for self-employment (bearing in mind the self-selecting nature of the population applying for a training programme on entrepreneurial skills development) and 12.8 per cent favouring employment in the private sector. Measured changes in such preferences for public sector employment are a potentially important measure of the impact of the MEDA Maroc programme, although it should be noted that such preferences are informed by powerful institutional drivers (job security and the benefits that accrue from public sector employment), which will be difficult to counter.

In terms of preferences for employment sector, our treatment and control groups are largely in alignment. After the first wave of sorting, the treatment group contained a higher share of those seeking public sector employment (59.8 per cent versus 55.7 per cent) and a lower share of those seeking private sector employment (11.3 per cent versus 13.6 per cent). However, these differences were reduced in the second sorting and are statistically insignificant.

Table 15: Employment preferences among surveyed population (%)

	Self-employment	Public sector	Private sector	Association	Family-owned business
Total	26.4	57.0	12.8	2.4	1.3
Control 1	26.9	55.7	13.6	2.5	1.3
Treatment 1	25.4	59.8	11.3	2.1	1.4
Control 2	27.0	57.0	12.7	2.2	1.1
Treatment 2	25.8	57.1	12.9	2.6	1.6

Women are more likely than men to prefer public sector employment (61.3 per cent versus 52.2 per cent), which aligns with expectations given the job security, family-friendly work benefits and cultural ‘appropriateness’ that go with such jobs. As such, women are less interested in seeking out self-employment and, importantly, private sector employment. In this context, it should be noted that while ‘good salary’ was the most important criterion in accepting a job for both genders (51.5 per cent for men and 43.9 per cent for women), more women prioritized ‘acceptable work environment’ over salary (15.3 per cent for men and 20.0 per cent for women).

Table 16: Employment preferences by gender (%)

	Male	Female	Total
Self-employment	28.2	24.8	26.4
Public sector	52.2	61.3	57.0
Private sector	16.1	9.9	12.8
Association	1.9	2.9	2.4
Family-owned business	1.6	1.1	1.3

Sector preferences do not vary much by urban or rural residence. On the other hand, preferences vary extensively in terms of household income. On the surface, these preferences

do not follow a pattern that allows for broad generalization of trends. As such, the links between income and predilection for self-employment or employment in any particular sector are worthy of deeper analysis and, perhaps, a better measurement of household income status.

Table 17: Employment preferences by household income (%)

	0–1,500	1,500–3,500	3,500–5,000	5,000–7,000	7,000–10,000	10,000+	Total
Self-employment	25.8	26.0	25.2	23.0	42.3	29.9	26.4
Public sector	56.1	58.2	54.8	63.8	48.7	53.7	57.0
Private sector	13.9	12.7	14.8	10.5	3.8	13.4	12.8
Association	3.2	1.9	2.8	1.3	3.8	1.5	2.4
Family-owned	0.9	1.1	2.4	1.3	1.3	1.5	1.3

5.8 Attitudes towards entrepreneurship

While just 26.4 per cent of the surveyed population have a preference for self-employment, there is wider interest in the possibility of self-employment and entrepreneurial activity. Overall, when asked whether they were interested in one day starting their own business, 84.5 per cent replied that they were. In addition, 46.7 per cent had an idea for a business that they would like to start. In more practical and immediate terms, 18.2 per cent intended to start their own business within the next 12 months. Notably, those intending to start a business were not necessarily those who expressed a preference for self-employment over other employment types.

When comparing the treatment and control groups, attitudes towards entrepreneurship are very much in alignment. It should be noted that there is less of a bent among both the first and (particularly) the second treatment groups towards entrepreneurial activity. Such differences are statistically insignificant.

Table 18: Interest in entrepreneurship among surveyed population

	Future interest in starting a business		Idea for a business		Starting in next 12 months	
	n	%	n	%	n	%
Total	1,443	84.5	687	46.6	260	18.2
Control 1	971	84.6	461	46.6	177	18.6
Treatment 1	472	84.3	226	46.5	83	17.5
Control 2	722	85.1	347	47.2	135	19.1
Treatment 2	721	83.8	340	45.9	125	17.3

Within the wider survey population, there is little demonstrable difference between women and men in terms of the desire to start a business in the future. Men are more inclined than women to report having an idea for a business (49 per cent versus 44.6 per cent), but women are slightly more likely to have immediate plans to start a business (17.5 per cent versus

18.8 per cent). Those residing in urban areas and rural areas have similar long-term intentions towards entrepreneurship, but urban dwellers are more likely to have a business idea (48.8 per cent versus 40 per cent), while rural dwellers are more likely to have immediate plans to start a business (20 per cent) than urban dwellers (17.6 per cent). In reviewing these gender and urban residence biases, we feel it is possible that women and rural dwellers are more drawn towards actual business start-ups out of necessity or lack of other opportunities, rather than because of the perceived opportunities they offer.

However, this idea of necessary entrepreneurship is slightly contradicted by a preliminary analysis of attitudes towards entrepreneurship among different household income groups. Here, there is evidence of a slight U-shaped curve in regard to long-term entrepreneurial gains, with those from poorer households and those from richer households reporting more interest. Among the poorest households, long-term interest reaches 85.6 per cent, a rate that gradually declines to 81.6 per cent among those in middle income categories before rising again to 94 per cent among those in the highest income group. In terms of business ideas, the percentage with tangible ideas grows gradually with household income, from 42.9 per cent among the poorest to 69.8 per cent among the richest. Actual intent to start a business remains at between 17 and 19 per cent for all income categories, with the exception of the richest, where it is 27.4 per cent.

5.9 Savings and financial behaviour

In addition to employment outcomes, MEDA Maroc seeks to directly impact the savings and money management abilities of young people in order to provide them with a better basis for starting their own businesses and reaching other economic goals. In order to measure these potential outcomes, we included a section in the survey on financial behaviour, the key results of which (at baseline) are given below.

Overall, 48.3 per cent of respondents report being able to save money, although only 21.2 per cent do this formally through savings accounts at banks or with the postal service. It should be noted that the figures for savings are higher among the control group than among the treatment group. While this difference is notable, it is not statistically significant.

Table 19: Financial behaviour of survey respondents (%)

	Savings account	Saving money	Have borrowed money in past
Control 1	21.5	49.4	15.4
Treatment 1	20.4	46.2	15.7
Control 2	21.4	50.0	14.9
Treatment 2	20.9	46.7	16.2
Total	21.2	48.3	15.5

In regard to general savings behaviour, fewer women are actively saving than men, at 46.6 per cent compared with 50.2 per cent. The primary reason for saving for both men and women is simply 'to have extra money' (39.3 per cent of men and 35.7 per cent of women), followed by 'saving for education' (29.9 per cent of men and 31.7 per cent of women). In addition, 22.2 per cent of men and 28.1 per cent of women report that their primary reason

for saving is to have money in case of an emergency. Only 5.4 per cent of men and 2.7 per cent of women cite business start-up and development as their primary reason for saving.

Rates of saving are significantly lower in rural regions (40.1 per cent) than in urban areas (50.9 per cent), as is the share of those who maintain formal savings accounts (20.4 per cent in rural areas versus 22.6 per cent in urban areas). Both savings and the maintenance of a savings account increase gradually with household income: savings grow from 41.2 per cent of the poorest to 60.5 per cent of the richest; and the maintenance of formal savings accounts grows from 14.1 per cent of the poorest to 39.5 per cent of the richest.

Despite their relatively young age, nearly 15.5 per cent of applicants (283 individuals) had borrowed money in the past, although most of them (93 per cent) had done so from family and friends. These loans ranged from MAD15 to MAD30,000, with an average of MAD1,217. Most loans were used for migration (37.8 per cent) or for educational purposes (30.4 per cent). In regard to loans used to support migration, it is not possible to determine from the data whether these were for future plans or for past (and perhaps failed) efforts. Rural and urban loan usage is roughly equal, while men are slightly more likely to have taken out a loan than women (17.1 per cent versus 14.2 per cent). Evidence related to household income groups is mixed, although those from poorer backgrounds tend to have higher rates of borrowing. In terms of treatment and control groups, loan behaviour is comparable, although members of both treatment groups are slightly more likely to have borrowed money. These differences are not statistically significant.

Section 6: External validity analysis

To place the findings from our baseline survey in a wider national context and to assess, to some degree, their external validity, here we compare our results with findings from the 2009 World Bank survey of young people in Morocco (World Bank, 2012). The World Bank study surveyed 2,000 households (1,216 urban and 784 rural) across Morocco, using a nationally representative sample. From these households, they collected more detailed data from 2,883 young people aged 15–29, including information on economic inclusion, aspirations, notions of leisure, community participation, and access to and use of services.

Below, we compare aggregate indicators from our survey with aggregate figures from the World Bank study for both Morocco as a whole and the Oriental region, in an effort to provide a basis from which to understand how our data reflect conditions in the country as a whole. It should be kept in mind that, while national aggregates from the World Bank data are representative of the country, figures at the regional level are not necessarily representative of the Oriental sub-population.

6.1 Demographics

In regard to key demographic factors, it is noteworthy that the distribution of our survey population tends to be younger than that covered by the national data. While the span of the surveyed population is comparable, those aged 15–21 are more heavily represented in the MEDA Maroc pool of applicants, which is natural given that applicants are – for the most part – just beginning the transition from school to work. In terms of gender, our sample is fairly reflective of the national averages found in the World Bank study, although it is more likely to include those from urban areas than the World Bank sample.

Table 20: Comparison of core demographic indicators

	MEDA Maroc	World Bank	World Bank (Oriental region)
Sample size (n)	1,817	2,883	185
Gender (% female)	53%	51.5%	53.5%
Age 15–18	31.8%	31.3%	26.0%
Age 19–21	40.0%	21.7%	21.6%
Age 22–24	22.4%	26.1%	32.4%
Age 25–29	5.7%	20.1%	20.0%
Age 30+	0.1%	–	–
Urban	75.0%	57.7%	57.3%

6.2 Income

A detailed comparison of the survey population and the national population is in the process of being developed using a household consumption index. As noted earlier, this index will be calculated using a list of comparable household assets identified through the survey.

6.3 Education

While our survey population is generally younger than the population included in the World Bank sample, they are better educated – and on the pathway to becoming better educated still in the future. Nearly 86 per cent of MEDA Maroc applicants are enrolled in education, compared with only 26.2 per cent of young people in the nationally representative World Bank sample. Moreover, according to the World Bank, over 18 per cent of young people in Morocco have never attended formal school – a sub-population not represented in our pool of applicants – and nearly 23 per cent did not finish primary school. Less than 2.9 per cent of the national population of young people have completed *lycée* (including its comprehensive examinations), while 43.1 per cent of our pool of applicants have. The figures for those who have completed a professional degree programme or a university degree are more in alignment, but this is understandable given that the average age of those on our programme is below the age at which such qualifications are completed. It can be assumed that a large share of our applicant pool is on a pathway towards such programmes, while most of the World Bank sample are not. As such, it is obvious that (on the whole) MEDA Maroc attracts a much less marginalized group of young people, who feel that investing more time in training might give them extra leverage when seeking higher quality jobs or self-employment.

Table 21: Comparison of educational outcomes

	MEDA Maroc	World Bank	World Bank (Oriental region)
Currently enrolled (% of total)	86%	26.2%	24.3%
Primary (% of enrolled)	–	5.0%	5.2%
College (% of enrolled)	3.9%	34.5%	28.9%
<i>Lycée</i> (% of enrolled)	14.3%	45%	55.2%
Professional (% of enrolled)	34.9%	7.2%	7.9%
University (% of enrolled)	47%	8.1%	2.6%
Level completed			
Never attended	–	18.2%	22.7%
Some primary	–	22.7%	21.1%
Primary	18.6%	28.7%	25.9%
College	29.5%	21.6%	23.2%
<i>Lycée</i>	43.1%	2.9%	4.3%
Professional	4.9%	4.2%	1.6%
University or postgraduate	3.9%	1.3%	1.1%

6.4 Employment outcomes

In our analysis, we noted that the vast majority of MEDA Maroc applicants are still enrolled in some level of schooling and are, as such, not yet actively engaged in the labour force. However, nearly 94 per cent of our surveyed applicants report that they are interested in working within the next five years. At the national level, only 75.2 per cent report an interest in working. This difference is explained by the self-selection bias of our applicants, who are seeking to join a programme that will aid them in bridging the gap between school and work.

Given our sample's low rate of participation in the labour force, it is not surprising that the rate of employment among all applicants is lower than the rate of employment within the wider youth population, although it is interesting to note that the rate of self-employment is similar, as is the share of those who are unemployed (available for work and actively looking for employment). The actual unemployment rate (percentage of unemployed people as a share of those in the labour force) is much higher among our participants because of the relatively low numbers in the labour force overall, rather than the programme attracting a particularly high number of unemployed young people. Having said that, those facing employment challenges are likely to be drawn to a programme like 100 Hours to Success.

World Bank respondents show similar preferences for public sector work, although the figure is higher in our sample than in their nationally representative sample. This could be because the World Bank survey only offers three possible responses to its question on work sector preferences, but it also perhaps reflects the higher expected educational outcomes of those in our sample. Having completed one's *lycée* schooling greatly enhances the possibility of securing public sector work – or at least the expectations of doing so.

Table 22: Comparison of employment outcomes

	MEDA Maroc	World Bank	World Bank (Oriental region)
Working or likely to work in near future	94.4%	75.2%	71.3%
Employed	4.9%	24.7%	30.2%
Self-employed	2.9%	2.5%	1.6%
Unemployed	7.5%	7.2%	4.9%
Inactive	84.7%	65.5%	63.3%
Unemployment rate	49%	21.0%	13.2%
Sector preferences			
Public	57.0%	45.7%	56.1%
Private	12.8%	22.6%	6.1%
Self-employment	26.4%	31.7%	37.9%
Other	3.7%	–	–

6.5 Savings behaviour

Applicants to the MEDA Maroc programme are much more likely to have savings, but this should be understood in the context that 100 Hours to Success participants are expected to have opened a savings account prior to enrolment. As such, it is difficult to assess what their savings behaviour would have been otherwise. Overall, however, even prior to the start of the programme the number of MEDA Maroc applicants reporting actual savings is four times the rate found in the wider youth population in Morocco.

Table 23: Comparison of savings behaviour

	MEDA Maroc	World Bank	World Bank (Oriental region)
Saving money	48.3%	12.2%	18.5%
Savings account (% of those saving)	21.5%	10.6%	23.5%

Section 7: Ongoing challenges with programme enrolment

As noted in the introduction and Section 3, we originally intended to enrol 600 participants in the 100 Hours to Success programme by December 2012. However, given a number of logistical challenges, the local MEDA Maroc team had difficulty in securing the active enrolment of all those identified as the treatment group in the first wave of sorting. As of the end of January/beginning of February 2013, only 363 individuals had been enrolled. The remainder of the young people did not take part because of a range of issues including class scheduling, participation in internships, and difficulties in contacting selected participants.

With limited enrolment, MEDA Maroc was able to secure funding for a second wave of training, which was to begin in February 2013. To maximize the number of individuals for whom we had baseline surveys, and given our capacity to train another 600 individuals in this second wave of the programme, the team decided to make a second randomized selection from the original control group, adding 300 more participants. While this was done with awareness that the study risked introducing some selection bias – given the time delay and the fact that members of the original control group might have inferred that they had not been selected as participants, despite not being informed either way – we decided that the benefits of a larger treatment group outweighed these concerns.

Since then, however, the MEDA Maroc team has continued to face challenges in regard to enrolling selected participants. Following both sorting waves, only 505 young people have enrolled in or completed training. Naturally, this places considerable constraints on the study: the low number of participants puts pressure on our findings in terms of statistical power (see Section 8), and the delay in programme delivery and added incentives for treatment group members who have yet to enrol impose issues related to selection bias. Whether or not we can effectively control for introduced biases will depend largely on our final numbers and the inclusion of carefully selected variables designed to control for participant enrolment behaviour. Moreover, it is evident that we will have to make considerable use of an intention-to-treat analysis, in comparison with the analysis of those actually treated.

Section 8: Revised power calculations

Power is the probability of discovering a causal effect of treatment when a randomized experiment has been properly implemented and the data correctly analysed. The literature approaches power calculations using either the power determination approach or the effect size approach. The former begins with an assumption about the size of the effect that the intervention will produce, and the aim is to compute the power that will detect that effect with a given sample size. The latter begins with a desired level of power, and the aim is to compute the minimum effect size that can be detected at that level of power for any given sample size. This approach can be replicated at any given level of power. Bloom (1995) defines the minimum detectable effect size (MDES) as the smallest true effect that can be detected for a specified level of power and significance level for any given sample size.

The basic formula for calculating power comes from a mean comparison of the treated and untreated groups at 80 per cent of the usual level of power. In the case of simple regression of the outcome variable Y on the dummy variable of treatment D (without covariates X), the formula is given by:

$$Power = \left[\frac{\bar{Y}_1 - \bar{Y}_0}{\sigma_Y \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}} \geq 1.645 \mid \beta = MDE \right] = 0.80$$

where $\bar{Y}_1 - \bar{Y}_0$ is the mean difference between the treatment group and the control group; σ_Y is the standard deviation of the outcome variable Y in the overall sample; n_1 and n_2 are the sizes of the sub-samples of the treated and untreated groups respectively; the number 1.645 corresponds to the statistical value of t -student at a 95 per cent confidence level; and β is the associated coefficient to the treatment dummy D .

In the absence of any treatment effect, the most common null hypothesis states that there is no difference between the population means of the treatment and control groups in terms of the outcome of interest ($H_0: \bar{Y}_1 = \bar{Y}_0$). Then, the minimum detectable effect (MDE) for a given sample is the result of resolving the previous equation, assuming a t of student distribution:

$$IMD = 2.487 \sigma_Y \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}$$

As noted above, our initial power calculations suggested that, given 600 expected participants, the study would benefit from an expansion of the control population from a matched 600 individuals to 1,200 individuals. This number would allow us to target a small MDES through a range of outcomes and enable an analysis of these outcomes for a range of sub-groups within the population (gender, urban/rural, household income groups, groups

with varying educational backgrounds, etc.). These numbers were recalculated during the second sorting, which improved the theoretical power of the approach.

Given the reduction in our treated population from the expected 900 individuals to the 505 who completed training between November 2012 and August 2013, we have reassessed the power calculations provided in our original proposal. In doing so, we reviewed key indicators associated with our original hypotheses around programme impact, including employment and self-employment among various sub-groups of interest (gender, residential location, educational status and household income). An application of the above-stated formula on such outcomes for each sorting provides us with estimates of the MDE suggested by our baseline data (with 80 per cent of power and 95 per cent of confidence), which is included in Tables 24–27 below.

The first table assumes a total treated population of 505. Our calculations in Table 24 assume no attrition from the study, and include those originally intended for treatment (but who did not receive treatment) in our control population for the sake of calculating overall power within the surveyed population. Overall, we find our estimates of MDE to be within a reasonable range, noting particular challenges in determining an effect among smaller sub-groups – such as those with only primary education, the more highly educated and those from higher income households – reflective of the small numbers within these groups.

Table 24: Minimum detectable effect calculations

Outcome indicators by sub-group	Standard deviation	n (treatment)	n (control)	MDE
Employed				
Overall sample	0.217	505	1,312	0.0283
Women	0.202	278	685	0.0357
Men	0.232	227	627	0.0447
Urban	0.219	348	1,015	0.0338
Rural	0.210	157	297	0.0515
Primary	0.252	75	263	0.0820
College (intermediate)	0.266	143	392	0.0646
Lycée (high school)	0.161	245	538	0.0309
Professional degree	0.149	27	62	0.0854
University	0.204	15	55	0.1478
Low-income	0.220	143	326	0.0549
Higher income	0.161	12	64	0.1260
Self-employed				
Overall sample	0.168	505	1,219	0.0221
Women	0.142	278	685	0.0251
Men	0.192	227	627	0.0370
Urban	0.168	348	1,015	0.0260

Outcome indicators by sub-group	Standard deviation	n (treatment)	n (control)	MDE
Rural	0.167	157	297	0.0410
Primary	0.192	75	263	0.0625
College (intermediate)	0.175	143	392	0.0425
Lycée (high school)	0.137	245	538	0.0263
Professional degree	0.271	27	62	0.1554
University	–	15	55	–
Low-income	0.158	143	326	0.0394
Higher income	0.249	12	64	0.1948

Assuming that there will be attrition among the control group in the follow-up survey, and given these MDEs, the question is how far power would be affected by different attrition rates. The associated levels of power are given by t -table using the following formula:

$$t_{1-K} = \frac{MDE}{\sigma_Y \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}} - t_\alpha$$

where K is the power and, again, is obtained from a standard t -distribution. At 95 per cent of confidence, $t_\alpha = 1.645$.

The table below calculates power with attrition rates of 5, 10 and 20 per cent among the control group. For example, for power of 80 per cent, $t_{1-K} = 0.841$ and for power of 70 per cent, $t_{1-K} = 0.524$. Powers between these two values are calculated by linear interpolation. Consequently, power does drop below .8, but remains close (between .77 and .8).

Table 25: Power calculation given potential attrition

Outcome indicators by sub-group	Standard deviation	n (treated)	Attrition 5%	Attrition 10%	Attrition 20%	Power 1	Power 2	Power 3
Employed								
Overall sample	0.217	505	1,246	1,181	1,050	0.795	0.788	0.774
Women	0.202	278	651	617	548	0.794	0.788	0.773
Men	0.232	227	596	564	502	0.795	0.789	0.775
Urban	0.219	348	964	914	812	0.795	0.789	0.776
Rural	0.210	157	282	267	238	0.793	0.786	0.768
Primary	0.252	75	250	237	210	0.796	0.791	0.779
College (intermediate)	0.266	143	372	353	314	0.795	0.789	0.775
Lycée (high school)	0.161	245	511	484	430	0.794	0.787	0.771
Professional degree	0.149	27	59	56	50	0.794	0.787	0.772
University	0.204	15	52	50	44	0.796	0.791	0.780

Outcome indicators by sub-group	Standard deviation	n (treated)	Attrition 5%	Attrition 10%	Attrition 20%	Power 1	Power 2	Power 3
Low-income	0.220	143	310	293	261	0.794	0.787	0.772
Higher income	0.161	12	61	58	51	0.797	0.794	0.785
Self-employed								
Overall sample	0.168	505	1,246	1,181	1,050	0.795	0.788	0.774
Women	0.142	278	651	617	548	0.794	0.788	0.773
Men	0.192	227	596	564	502	0.795	0.789	0.775
Urban	0.168	348	964	914	812	0.795	0.789	0.776
Rural	0.167	157	282	267	238	0.793	0.786	0.768
Primary	0.192	75	250	237	210	0.796	0.791	0.779
College (intermediate)	0.175	143	372	353	314	0.795	0.789	0.775
Lycée (high school)	0.137	245	511	484	430	0.794	0.787	0.771
Professional degree	0.271	27	59	56	50	0.794	0.787	0.772
University	–	15	52	50	44	-	-	-
Low-income	0.158	143	310	293	261	0.794	0.787	0.772
Higher income	0.249	12	61	58	51	0.797	0.794	0.785

Table 26 demonstrates a stricter definition of the control group, excluding those who were intended for treatment but were left untreated. As such, only those within the formal control group are included. In doing this, we find that our estimated MDEs increase marginally, but remain in the same general range as the MDEs in Table 24.

Table 26: MDE calculations with restricted control group

Outcome indicators by sub-group	Standard deviation	n (treatment)	n (control)	MDE
Employed				
Overall sample	0.213	505	900	0.0295
Women	0.192	278	472	0.0361
Men	0.233	227	428	0.0476
Urban	0.219	348	680	0.0359
Rural	0.210	157	220	0.0546
Primary	0.256	75	181	0.0874
College (intermediate)	0.266	143	255	0.0691
Lycée (high school)	0.180	245	379	0.0367
Professional degree	0.168	27	42	0.1031
University	0.225	15	42	0.1683
Low-income	0.214	143	232	0.0566
Higher income	0.184	12	46	0.1483

Outcome indicators by sub-group	Standard deviation	n (treatment)	n (control)	MDE
Self-employed				
Overall sample	0.162	505	900	0.0224
Women	0.135	278	472	0.0254
Men	0.188	227	428	0.0384
Urban	0.162	348	680	0.0266
Rural	0.160	157	220	0.0416
Primary	0.194	75	181	0.0663
College (intermediate)	0.164	143	255	0.0426
Lycée (high school)	0.131	245	379	0.0267
Professional degree	0.283	27	42	0.1736
University	–	15	42	–
Low-income	0.161	143	232	0.0426
Higher income	0.223	12	46	0.1798

Finally, Table 27 builds upon the MDE estimates in Table 26, accounting for potential attrition in the same manner as Table 25 analysed the potential loss in power resulting from different levels of attrition among the control group. It shows a slightly larger loss in power, although in each case power remains above 0.76.

Table 27: Power calculations with restricted control group and estimates of attrition

Outcome indicators by sub-group	Standard deviation	n (treated)	Attrition 5%	Attrition 10%	Attrition 20%	Power 1	Power 2	Power 3
Employed								
Overall sample	0.213	505	855	810	720	0.793	0.785	0.767
Women	0.192	278	448	425	378	0.793	0.785	0.766
Men	0.233	227	407	385	342	0.793	0.786	0.768
Urban	0.219	348	646	612	544	0.793	0.786	0.769
Rural	0.210	157	209	198	176	0.792	0.783	0.762
Primary	0.256	75	172	163	145	0.794	0.788	0.773
College (intermediate)	0.266	143	242	230	204	0.793	0.785	0.767
Lycée (high school)	0.180	245	360	341	303	0.792	0.784	0.764
Professional degree	0.168	27	40	38	34	0.792	0.784	0.765
University	0.225	15	40	38	34	0.795	0.789	0.776
Low-income	0.214	143	220	209	186	0.793	0.784	0.765
Higher income	0.184	12	44	41	37	0.796	0.791	0.781

Outcome indicators by sub-group	Standard deviation	n (treated)	Attrition 5%	Attrition 10%	Attrition 20%	Power 1	Power 2	Power 3
Self-employed								
Overall sample	0.162	505	855	810	720	0.793	0.785	0.767
Women	0.135	278	448	425	378	0.793	0.785	0.766
Men	0.188	227	407	385	342	0.793	0.786	0.768
Urban	0.162	348	646	612	544	0.793	0.786	0.769
Rural	0.160	157	209	198	176	0.792	0.783	0.762
Primary	0.194	75	172	163	145	0.794	0.788	0.773
College (intermediate)	0.164	143	242	230	204	0.793	0.785	0.767
Lycée (high school)	0.131	245	360	341	303	0.792	0.784	0.764
Professional degree	0.283	27	40	38	34	0.792	0.784	0.765
University	–	15	40	38	34	–	–	–
Low-income	0.161	143	220	209	186	0.793	0.784	0.765
Higher income	0.223	12	44	41	37	0.796	0.791	0.781

Our findings suggest that there are significant reductions in overall power, given the decrease in the number of participants enrolled in the programme. More concerning is the potential impact of attrition, a real possibility in the context of a highly mobile youth population. While results will still be meaningful in a worst case scenario, particularly since we have kept calculated MDEs fairly narrow, the research team will have to make intensive efforts to keep track of all the surveyed individuals in an attempt to keep attrition rates as low as possible.

Section 9: Final summary and review of issues

Implementing impact evaluations as designed always poses challenges. In assessing operational programmes, we are attempting to evaluate dynamic activities that are subject to change due to a number of internal and external factors. Having completed our baseline survey, we find that the biggest challenge to successful completion of our study is the shift in expectations regarding enrolment in the programme. As described above, our ability to reach the expected number of participants has been affected by a number of factors, mostly external. The lack of enrolment has imposed a limit on the power of our study as described above, increasing our MDE and decreasing our statistical power and confidence levels. Moreover, the need for two waves of training (and possibly a third) has tentatively introduced some level of bias into our results.

We believe that the potential population of control and treatment individuals we reach through a follow-up survey will ensure that we have the power to determine any significant changes in outcomes. However, there is a substantial risk that outcomes for MEDA Maroc participants will not be statistically different from those of the treatment group if any measured differences are lower than 3.7 percentage points. In such cases, it would be impossible to prove any potential programme impact with the data. We feel that taking this risk is better than introducing further potential bias in results or a delay in the follow-up survey by adding additional training programmes.

The difference between the expected treatment population and the limited number of enrolments also means that we will have to make use of an intention-to-treat analysis. While the use of such an analysis to create an instrumental variable to control for biases between the intended treatment population and the population actually treated was already planned, the limited enrolment numbers underline its importance and the scale of the difference between these two populations.

Overall, the quality of the data collected through our baseline study seems good, both in terms of responses and the usefulness of the questions in informing our analysis. While there is some statistical significance in the differences between our treatment and control groups, this is minor. The important issue seems to be an imbalance in educational outcomes between the two groups, although again this is not statistically significant. The team will review this further and our follow-up analysis will control for potential differences where these can be identified.

As noted above, we face challenges with our self-assessed questions on skills, including those on language and computer skills, life skills and self-efficacy. It has been suggested that we replace or supplement the existing language and computer usage questions with some means by which to assess ability through external observation, rather than self-assessment. While this approach would have merit, it raises concerns about logistics and cost. This issue will be reviewed and decided on before we complete the follow-up survey.

Our approach on life skills and self-efficacy also needs to be reviewed. At the very least, there is a fundamental concern about measuring movement on the scale we have chosen. From a wider perspective, asking young people to self-assess in these areas might be the wrong approach. Before we finalize our follow-up survey, the team will review these questions and decide how to measure the responses to them – if we decide to include them at all. It is important to keep in mind that such outcomes are secondary to the core issues of employment, self-employment and employability.

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Appendices

Section 1: Summarized statistics for key survey questionnaire answers

Outcome indicators	Total				
	n	Mean	Standard deviation	Min.	Max.
Demographics					
Gender (female = 1)	1,817	0.5300	0.4992	0	1
Age 15–18	1,817	0.3181	0.4659	0	1
Age 19–21	1,817	0.4001	0.4901	0	1
Age 22–24	1,817	0.2240	0.4170	0	1
Age 25–30	1,817	0.0578	0.2334	0	1
Single	1,817	0.9857	0.1188	0	1
Urban	1,817	0.7501	0.4331	0	1
Household size	1,817	4.9053	1.9980	1	21
Household income					
MAD0–1,500	1,817	0.2581	0.4377	0	1
MAD1,500–3,500	1,817	0.4001	0.4901	0	1
MAD3,500–5,000	1,817	0.1690	0.3748	0	1
MAD5,000–7,000	1,817	0.0881	0.2835	0	1
MAD7,000–10,000	1,817	0.0429	0.2028	0	1
MAD10,000+	1,817	0.0418	0.2002	0	1
Educational attainment					
Primary	1,815	0.1862	0.3894	0	1
College (intermediate)	1,815	0.2948	0.4561	0	1
Lycée (high school)	1,815	0.4314	0.4954	0	1
Professional degree	1,815	0.0490	0.2160	0	1
University	1,815	0.0386	0.1926	0	1
Current educational attainment					
None	1,817	0.1409	0.3480	0	1
College	1,817	0.0336	0.1802	0	1
Lycée	1,817	0.1227	0.3282	0	1
Professional institution	1,817	0.2994	0.4581	0	1
University	1,817	0.4034	0.4907	0	1

	Total				
Outcome indicators	n	Mean	Standard deviation	Min.	Max.
Capability in different languages					
Arabic					
No fluency	1,816	0.0160	0.1254	0	1
Somewhat fluent	1,816	0.2093	0.4069	0	1
Fluent	1,816	0.5688	0.4954	0	1
Highly fluent	1,816	0.2059	0.4045	0	1
French					
No fluency	1,816	0.3029	0.4596	0	1
Somewhat fluent	1,816	0.4697	0.4992	0	1
Fluent	1,816	0.1900	0.3924	0	1
Highly fluent	1,816	0.0374	0.1899	0	1
Third language					
None	1,817	0.3440	0.4752	0	1
No fluency	1,817	0.2576	0.4374	0	1
Somewhat fluent	1,817	0.2378	0.4258	0	1
Fluent	1,817	0.1123	0.3158	0	1
Highly fluent	1,817	0.0484	0.2147	0	1
Computer skills					
Very insufficient	1,816	0.2230	0.4164	0	1
Insufficient	1,816	0.4642	0.4989	0	1
Good	1,816	0.2704	0.4443	0	1
Excellent	1,816	0.0424	0.2016	0	1
Training					
Training = 1	1,816	0.1382	0.3452	0	1
Employment status					
Employed	1,817	0.0495	0.2170	0	1
Self-employed	1,817	0.0292	0.1683	0	1
Unemployed	1,817	0.0748	0.2632	0	1
Inactive	1,817	0.8465	0.3606	0	1
Employment history					
Work experience = 1	1,815	0.4176	0.4933	0	1
Unpaid internship	1,815	0.1961	0.3972	0	1
Paid internship	1,815	0.0331	0.1788	0	1
Paid private sector	1,815	0.1410	0.3482	0	1
Paid public sector	1,815	0.0055	0.0740	0	1

	Total				
Outcome indicators	n	Mean	Standard deviation	Min.	Max.
Family business	1,815	0.0209	0.1432	0	1
Volunteer	1,815	0.0309	0.1730	0	1
Self-employment	1,815	0.0975	0.2967	0	1
Other experience	1,815	0.0160	0.1254	0	1
Interest in entrepreneurship					
Interest = 1	1,710	0.8450	0.3620	0	1
Business idea = 1	1,477	0.4665	0.4990	0	1
Intention to start a business within 12 months = 1	1,428	0.1821	0.3860	0	1
Attitudes and self-efficacy					
Confidence to succeed in an interview					
Strongly unconfident	1,710	0.0228	0.1493	0	1
Unconfident	1,710	0.2076	0.4057	0	1
Confident	1,710	0.6462	0.4783	0	1
Strongly confident	1,710	0.1234	0.3290	0	1
Attain goals in the future					
Strongly disagree	1,817	0.0050	0.0702	0	1
Disagree	1,817	0.0594	0.2365	0	1
Agree	1,817	0.5834	0.4931	0	1
Strongly agree	1,817	0.3522	0.4778	0	1
Understand the causes of failure					
Strongly disagree	1,812	0.0116	0.1071	0	1
Disagree	1,812	0.0436	0.2043	0	1
Agree	1,812	0.4829	0.4998	0	1
Strongly agree	1,812	0.4619	0.4987	0	1
See challenges as opportunities					
Strongly disagree	1,804	0.0233	0.1508	0	1
Disagree	1,804	0.1308	0.3373	0	1
Agree	1,804	0.5366	0.4988	0	1
Strongly agree	1,804	0.3093	0.4623	0	1
What he/she is learning will help him/her in the future					
Strongly disagree	1,814	0.0028	0.0524	0	1
Disagree	1,814	0.0320	0.1760	0	1
Agree	1,814	0.4173	0.4933	0	1
Strongly agree	1,814	0.5480	0.4978	0	1

Outcome indicators	Total				
	n	Mean	Standard deviation	Min.	Max.
Need to negotiate to attain goals					
Strongly disagree	1,810	0.0387	0.1929	0	1
Disagree	1,810	0.1309	0.3374	0	1
Agree	1,810	0.4884	0.5000	0	1
Strongly agree	1,810	0.3420	0.4745	0	1
Leadership in the future					
Strongly disagree	1,813	0.0414	0.1992	0	1
Disagree	1,813	0.2146	0.4106	0	1
Agree	1,813	0.5174	0.4998	0	1
Strongly agree	1,813	0.2267	0.4188	0	1
Set himself/herself goals to attain					
Strongly disagree	1,814	0.0094	0.0964	0	1
Disagree	1,814	0.0827	0.2755	0	1
Agree	1,814	0.5309	0.4992	0	1
Strongly agree	1,814	0.3771	0.4848	0	1
Teamwork to attain common goal					
Not very capable	1,817	0.0292	0.1683	0	1
Somewhat capable	1,817	0.1057	0.3075	0	1
Capable	1,817	0.5630	0.4961	0	1
Very capable	1,817	0.3021	0.4593	0	1
Adapt to new situations					
Not very capable	1,814	0.0254	0.1573	0	1
Somewhat capable	1,814	0.1825	0.3863	0	1
Capable	1,814	0.5237	0.4996	0	1
Very capable	1,814	0.2685	0.4433	0	1
Solve problems					
Not very capable	1,814	0.0226	0.1487	0	1
Somewhat capable	1,814	0.2387	0.4264	0	1
Capable	1,814	0.5595	0.4966	0	1
Very capable	1,814	0.1792	0.3836	0	1
Present a topic that he/she knows to a group of people he/she does not know					
Not very capable	1,801	0.1216	0.3269	0	1
Somewhat capable	1,801	0.2887	0.4533	0	1
Capable	1,801	0.4137	0.4926	0	1
Very capable	1,801	0.1760	0.3809	0	1

	Total				
Outcome indicators	n	Mean	Standard deviation	Min.	Max.
Resolve differences within a group					
Not very capable	1,802	0.0577	0.2333	0	1
Somewhat capable	1,802	0.2592	0.4383	0	1
Capable	1,802	0.5333	0.4990	0	1
Very capable	1,802	0.1498	0.3570	0	1
Convince a group of people					
Not very capable	1,803	0.0288	0.1674	0	1
Somewhat capable	1,803	0.2263	0.4185	0	1
Capable	1,803	0.5635	0.4961	0	1
Very capable	1,803	0.1814	0.3854	0	1
Resolve personal conflicts peacefully					
Not very capable	1,809	0.0332	0.1791	0	1
Somewhat capable	1,809	0.2012	0.4010	0	1
Capable	1,809	0.5252	0.4995	0	1
Very capable	1,809	0.2405	0.4275	0	1
Get group members to respect the timetable					
Not very capable	1,802	0.0388	0.1933	0	1
Somewhat capable	1,802	0.2553	0.4361	0	1
Capable	1,802	0.5305	0.4992	0	1
Very capable	1,802	0.1754	0.3804	0	1
Develop creative ideas					
Not very capable	1,811	0.0320	0.1761	0	1
Somewhat capable	1,811	0.2258	0.4183	0	1
Capable	1,811	0.5848	0.4929	0	1
Very capable	1,811	0.1574	0.3643	0	1
Listen to and respect the ideas of others					
Not very capable	1,810	0.0011	0.0332	0	1
Somewhat capable	1,810	0.0276	0.1639	0	1
Capable	1,810	0.3680	0.4824	0	1
Very capable	1,810	0.6033	0.4893	0	1
Community involvement					
Trust community members					
Not at all	1,817	0.2174	0.4126	0	1
A little	1,817	0.5019	0.5001	0	1
A lot	1,817	0.2223	0.4159	0	1
Enormously	1,817	0.0583	0.2344	0	1

Outcome indicators	Total				
	n	Mean	Standard deviation	Min.	Max.
His/her satisfaction in participating in community life					
Not at all satisfied	1,817	0.0638	0.2445	0	1
Not satisfied	1,817	0.3021	0.4593	0	1
Satisfied	1,817	0.5179	0.4998	0	1
Very satisfied	1,817	0.1161	0.3205	0	1
His/her satisfaction with his/her ability to speak out against public decisions that affect young people					
Not at all satisfied	1,813	0.0607	0.2388	0	1
Not satisfied	1,813	0.3707	0.4831	0	1
Satisfied	1,813	0.4859	0.4999	0	1
Very satisfied	1,813	0.0827	0.2756	0	1
Satisfied with the opportunities he/she has to improve his/her social status in the future					
Not at all satisfied	1,817	0.0804	0.2719	0	1
Not satisfied	1,817	0.2455	0.4305	0	1
Satisfied	1,817	0.5333	0.4990	0	1
Very satisfied	1,817	0.1409	0.3480	0	1
Do you feel that your community understands you?					
Not at all	1,817	0.1635	0.3699	0	1
A little	1,817	0.5834	0.4931	0	1
Well	1,817	0.2069	0.4052	0	1
Very well	1,817	0.0462	0.2100	0	1
Financial behaviour					
Saving					
Savings account = 1	1,817	0.2119	0.4088	0	1
Saving money = 1	1,817	0.4832	0.4999	0	1
Saving for studying	878	0.3075	0.4617	0	1
Saving for an emergency	878	0.2517	0.4342	0	1
Saving for leisure	878	0.3736	0.4840	0	1
Saving for other reasons	878	0.0672	0.2505	0	1
Amount of saving (in log)	1,817	20.8967	30.4799	0	11.40758
Borrowing					
Loan = 1	1,817	0.1558	0.3627	0	1
Amount of loan (in log)	1,817	0.9318	20.2374	0	10.30899
Loan for studies	283	0.3110	0.4637	0	1
Loan for an emergency	283	0.1661	0.3728	0	1
Loan for migration	283	0.3781	0.4858	0	1
Loan for other reasons	283	0.1449	0.3526	0	1

Section 2: Statistical tests for differences between the treatment and control groups

Outcome indicators	Initial sorting				Secondary sorting			
	Treatment – control	p-value	n (treatment)	n (control)	Treatment – control	p-value	n (treatment)	n (control)
Demographics								
Gender (female = 1)	–0.0201	0.2101	598	1,219	–0.0111	0.3174	915	902
Age 15–18	–0.0194	0.2025	598	1,219	–0.0241	0.1355	915	902
Age 19–21	0.0231	0.8273	598	1,219	0.0112	0.6873	915	902
Age 22–24	–0.0051	0.4031	598	1,219	0.00431	0.5871	915	902
Age 25–30	0.0014	0.5474	598	1,219	0.00853	0.7820	915	902
Single	0.0011	0.5738	598	1,219	–0.00241	0.3330	915	902
Urban	–0.0085	0.3468	598	1,219	0.0118	0.7198	915	902
Household size	–0.0863	0.1937	598	1,219	0.000847	0.5036	915	902
Household income								
MAD0–1,500	–0.0166	0.2243	598	1,219	–0.00181	0.4649	915	902
MAD1,500–3,500	–0.0218	0.1869	598	1,219	–0.0284	0.1085	915	902
MAD3,500–5,000	0.0175	0.8257	598	1,219	–0.00529	0.3819	915	902
MAD5,000–7,000	0.0066	0.6801	598	1,219	0.00566	0.6648	915	902
MAD7,000–10,000	0.0042	0.6596	598	1,219	0.0116	0.8890	915	902
MAD10,000+	0.0100	0.8414	598	1,219	0.0182	0.9737	915	902
Educational attainment								
Primary	0.0159	0.7927	598	1,217	0.0291	0.9444	914	901
College (intermediate)	0.0082	0.6398	598	1,217	–0.0211	0.1620	914	901
Lycée (high school)	–0.0300	0.1129	598	1,217	–0.0192	0.2050	914	901
Professional degree	–0.0017	0.4379	598	1,217	–0.00481	0.3178	914	901
University	0.0076	0.7864	598	1,217	0.016	0.9614	914	901
Current educational attainment								
None	0.0305	0.9606	598	1,219	0.00202	0.5491	915	902
College	–0.0023	0.3990	598	1,219	0.00598	0.7604	915	902
Lycée	–0.0190	0.1236	598	1,219	–0.0148	0.1691	915	902
Professional institution	0.0151	0.7447	598	1,219	0.0351	0.9488	915	902
University	–0.0243	0.1604	598	1,219	–0.0284	0.1091	915	902
Capability in different languages								
Arabic								
No fluency	–0.0036	0.2818	598	1,218	–0.0053	0.1858	915	901
Somewhat fluent	0.0178	0.8092	598	1,218	0.0032	0.5671	915	901
Fluent	0.0079	0.6250	598	1,218	0.0121	0.6982	915	901
Highly fluent	–0.0220	0.1375	598	1,218	–0.0100	0.2985	915	901

Outcome indicators	Initial sorting				Secondary sorting			
	Treatment – control	p-value	n (treatment)	n (control)	Treatment – control	p-value	n (treatment)	n (control)
French								
No fluency	0.0227	0.8388	598	1,218	0.0113	0.6994	915	901
Somewhat fluent	–0.0227	0.1811	598	1,218	–0.0269	0.1255	915	901
Fluent	–0.0085	0.3330	598	1,218	0.0018	0.5395	915	901
Highly fluent	0.0085	0.8137	598	1,218	0.0138	0.9391	915	901
Third language								
None	0.0142	0.7252	598	1,219	0.0082	0.6438	915	902
No fluency	0.0026	0.5466	598	1,219	0.0169	0.7947	915	902
Somewhat fluent	–0.0170	0.2119	598	1,219	–0.0076	0.3518	915	902
Fluent	–0.0096	0.2709	598	1,219	–0.0248	0.0470**	915	902
Highly fluent	0.0099	0.8214	598	1,219	0.0073	0.7655	915	902
Computer skills								
Very insufficient	0.0109	0.6996	598	1,218	–0.0021	0.4579	915	901
Insufficient	0.0189	0.7764	598	1,218	0.0149	0.7372	915	901
Good	–0.0232	0.1476	598	1,218	–0.0013	0.4744	915	901
Excellent	–0.0066	0.2563	598	1,218	–0.0115	0.1129	915	901
Training								
Training = 1	0.0166	0.8320	598	1,218	0.0120	0.7713	915	901
Employment status								
Employed	–0.0034	0.3755	598	1,219	–0.0125	0.1099	915	902
Self-employed	0.0111	0.9062	598	1,219	–0.00729	0.1781	915	902
Unemployed	–0.0031	0.4070	598	1,219	–0.00333	0.3937	915	902
Inactive	–0.0045	0.4004	598	1,219	0.0231	0.9141	915	902
Employment history								
Work experience = 1	–0.0017	0.4728	597	1,218	–0.0183	0.2153	914	901
Unpaid internship	–0.0172	0.1927	597	1,218	–0.0016	0.4659	914	901
Paid internship	–0.0007	0.4706	597	1,218	0.0005	0.5225	914	901
Paid private sector	0.0155	0.8133	597	1,218	–0.0134	0.2061	914	901
Paid public sector	–0.0018	0.3158	597	1,218	0.0001	0.5091	914	901
Family business	0.0087	0.8889	597	1,218	0.0091	0.9124	914	901
Volunteer	0.0085	0.8383	597	1,218	–0.0040	0.3127	914	901
Self-employment	–0.0044	0.3822	597	1,218	0.0025	0.5712	914	901
Other experience	–0.0036	0.2803	597	1,218	–0.0075	0.1019	914	901
Interest in entrepreneurship								
Interest = 1	0.0032	0.5687	560	1,150	0.0127	0.7653	862	848
Business idea = 1	0.0022	0.5315	486	991	0.0112	0.6667	742	735

	Initial sorting				Secondary sorting			
Outcome indicators	Treatment – control	p-value	n (treatment)	n (control)	Treatment – control	p-value	n (treatment)	n (control)
Intention to start a business within 12 months = 1	0.0099	0.6752	473	955	0.0186	0.8186	723	705
Attitudes and self-efficacy								
Confidence to succeed in an interview								
Strongly unconfident	0.0047	0.7295	560	1,150	0.00154	0.5846	862	848
Unconfident	–0.0338	0.0528	560	1,150	–0.0282*	0.0755	862	848
Confident	0.0182	0.7704	560	1,150	0.0141	0.7287	862	848
Strongly confident	0.0109	0.7395	560	1,150	0.0125	0.7847	862	848
Attain goals in the future								
Strongly disagree	0.0049	0.9184	598	1,219	0.00337	0.8470	915	902
Disagree	0.0088	0.7727	598	1,219	–0.00796	0.2368	915	902
Agree	–0.0128	0.3015	598	1,219	–0.0115	0.3102	915	902
Strongly agree	–0.0009	0.4847	598	1,219	0.016	0.7629	915	902
Understand the causes of failure								
Strongly disagree	0.0048	0.8148	597	1,215	0.00128	0.6006	913	899
Disagree	0.0176	0.9573	597	1,215	0.015	0.9412	913	899
Agree	–0.0093	0.3553	597	1,215	–0.00468	0.4211	913	899
Strongly agree	–0.0131	0.3000	597	1,215	–0.0116	0.3099	913	899
See challenges as opportunities								
Strongly disagree	0.0072	0.8281	595	1,209	0.0181*	0.9946	909	895
Disagree	0.0096	0.7155	595	1,209	–0.00684	0.3334	909	895
Agree	0.0157	0.7354	595	1,209	0.0172	0.7679	909	895
Strongly agree	–0.0325*	0.0802	595	1,209	–0.0285*	0.0956	909	895
What he/she is learning will help him/her in the future								
Strongly disagree	0.0016	0.7314	598	1,216	–0.00106	0.3335	914	900
Disagree	0.0128	0.9269	598	1,216	–0.00171	0.4180	914	900
Agree	0.0163	0.7464	598	1,216	0.00754	0.6276	914	900
Strongly agree	–0.0307	0.1083	598	1,216	–0.00477	0.4191	914	900
Need to negotiate to attain goals								
Strongly disagree	0.0152	0.9427	597	1,213	0.0116	0.9005	912	898
Disagree	0.0204	0.8869	597	1,213	–0.00129	0.4676	912	898
Agree	–0.0436**	0.0407	597	1,213	–0.0344*	0.0715	912	898
Strongly agree	0.0079	0.6307	597	1,213	0.0241	0.8597	912	898
Leadership in the future								
Strongly disagree	0.0016	0.5653	596	1,217	0.00381	0.6581	912	901
Disagree	–0.0078	0.3520	596	1,217	–0.0294*	0.0638	912	901

	Initial sorting				Secondary sorting			
Outcome indicators	Treatment – control	p-value	n (treatment)	n (control)	Treatment – control	p-value	n (treatment)	n (control)
Agree	–0.0291	0.1221	596	1,217	–0.0114	0.3141	912	901
Strongly agree	0.0353	0.9540	596	1,217	0.0369	0.9698	912	901
Set himself/herself goals to attain								
Strongly disagree	–0.0010	0.4149	596	1,218	0.00123	0.6068	913	901
Disagree	0.0182	0.9068	596	1,218	–0.00111	0.4658	913	901
Agree	0.0110	0.6702	596	1,218	0.0368	0.9417	913	901
Strongly agree	–0.0282	0.1227	596	1,218	–0.0369*	0.0525	913	901
Teamwork to attain common goal								
Not very capable	–0.0014	0.4344	598	1,219	–0.00288	0.3575	915	902
Somewhat capable	0.0030	0.5766	598	1,219	0.0191	0.9075	915	902
Capable	–0.0033	0.4473	598	1,219	0.00255	0.5436	915	902
Very capable	0.0017	0.5296	598	1,219	–0.0188	0.1917	915	902
Adapt to new situations								
Not very capable	0.0003	0.5176	597	1,217	0.000391	0.5211	914	900
Somewhat capable	0.0073	0.6478	597	1,217	–0.0137	0.2248	914	900
Capable	–0.0059	0.4072	597	1,217	–0.000737	0.4875	914	900
Very capable	–0.0018	0.4675	597	1,217	0.0141	0.7503	914	900
Solve problems								
Not very capable	–0.0088	0.1193	597	1,217	–0.00301	0.3333	913	901
Somewhat capable	0.0212	0.8404	597	1,217	0.0175	0.8087	913	901
Capable	–0.0199	0.2118	597	1,217	–0.0268	0.1255	913	901
Very capable	0.0074	0.6500	597	1,217	0.0123	0.7525	913	901
Present a topic that he/she knows to a group of people he/she does not know								
Not very capable	–0.0107	0.2567	590	1,211	–0.00656	0.3352	905	896
Somewhat capable	0.0513*	0.9879	590	1,211	0.0273	0.8995	905	896
Capable	–0.0225	0.1812	590	1,211	–0.0281	0.1134	905	896
Very capable	–0.0180	0.1730	590	1,211	0.00731	0.6580	905	896
Resolve differences within a group								
Not very capable	–0.0249**	0.0167	591	1,211	–0.0103	0.1737	907	895
Somewhat capable	0.0457	0.9812	591	1,211	0.0157	0.7758	907	895
Capable	–0.0147	0.2792	591	1,211	–0.00511	0.4141	907	895
Very capable	–0.0062	0.3654	591	1,211	–0.000224	0.4947	907	895
Convince a group of people								
Not very capable	–0.0096	0.1254	595	1,208	–0.00389	0.3108	910	893
Somewhat capable	–0.0059	0.3890	595	1,208	–0.029*	0.0706	910	893
Capable	0.0158	0.7371	595	1,208	0.0306	0.9047	910	893
Very capable	–0.0002	0.4954	595	1,208	0.00231	0.5506	910	893

Outcome indicators	Initial sorting				Secondary sorting			
	Treatment – control	p-value	n (treatment)	n (control)	Treatment – control	p-value	n (treatment)	n (control)
Resolve personal conflicts peacefully								
Not very capable	-0.0254***	0.0023	598	1,211	-0.0192**	0.0113	914	895
Somewhat capable	0.0133	0.7466	598	1,211	-0.000196	0.4959	914	895
Capable	0.0126	0.6929	598	1,211	0.0265	0.8704	914	895
Very capable	-0.0005	0.4906	598	1,211	-0.00711	0.3618	914	895
Get group members to respect the timetable								
Not very capable	0.0101	0.8523	593	1,209	0.0117	0.9006	908	894
Somewhat capable	-0.0016	0.4714	593	1,209	-0.0249	0.1129	908	894
Capable	-0.0211	0.1995	593	1,209	-0.00508	0.4146	908	894
Very capable	0.0125	0.7445	593	1,209	0.0183	0.8459	908	894
Develop creative ideas								
Not very capable	0.0028	0.6246	597	1,214	-0.00168	0.4197	913	898
Somewhat capable	-0.0254	0.1121	597	1,214	-0.0371**	0.0295	913	898
Capable	0.0078	0.6234	597	1,214	0.0307	0.9072	913	898
Very capable	0.0149	0.7929	597	1,214	0.00813	0.6825	913	898
Listen to and respect the ideas of others								
Not very capable	0.0017	0.8388	595	1,215	0.0000171	0.5044	912	898
Somewhat capable	-0.0089	0.1384	595	1,215	-0.00841	0.1376	912	898
Capable	0.0099	0.6583	595	1,215	0.0322	0.9222	912	898
Very capable	-0.0026	0.4582	595	1,215	-0.0238	0.1503	912	898
Community involvement								
Trust community members								
Not at all	0.0150	0.7660	598	1,219	-0.031*	0.0546	915	902
A little	0.0128	0.6964	598	1,219	0.016	0.7521	915	902
A lot	-0.0175	0.1992	598	1,219	0.0142	0.7663	915	902
Enormously	-0.0103	0.1906	598	1,219	0.000835	0.5302	915	902
His/her satisfaction in participating in community life								
Not at all satisfied	-0.0070	0.2823	598	1,219	-0.00349	0.3806	915	902
Not satisfied	0.0640**	0.9974	598	1,219	0.0561**	0.9954	915	902
Satisfied	-0.0282	0.1295	598	1,219	-0.0355*	0.0650	915	902
Very satisfied	-0.0288	0.0359	598	1,219	-0.0171	0.1285	915	902
His/her satisfaction with his/her ability to speak out against public decisions that affect young people								
Not at all satisfied	0.0028	0.5911	595	1,218	0.0162	0.9254	912	901
Not satisfied	0.0364	0.9339	595	1,218	0.0133	0.7214	912	901
Satisfied	-0.0272	0.1385	595	1,218	-0.0283	0.1141	912	901

Outcome indicators	Initial sorting				Secondary sorting			
	Treatment – control	p-value	n (treatment)	n (control)	Treatment – control	p-value	n (treatment)	n (control)
Very satisfied	–0.0119	0.1933	595	1,218	–0.0012	0.4630	912	901
Satisfied with the opportunities he/she has to improve his/her social status in the future								
Not at all satisfied	0.0051	0.6467	598	1,219	0.0078	0.7283	915	902
Not satisfied	0.0194	0.8166	598	1,219	0.0277	0.9151	915	902
Satisfied	–0.0251	0.1565	598	1,219	–0.0397**	0.0450	915	902
Very satisfied	0.0006	0.5145	598	1,219	0.0042	0.6019	915	902
Do you feel that your community understands you?								
Not at all	0.0143	0.7810	598	1,219	0.00784	0.6743	915	902
A little	–0.0228	0.1775	598	1,219	–0.0203	0.1906	915	902
Well	0.0044	0.5852	598	1,219	0.014	0.7687	915	902
Very well	0.0041	0.6521	598	1,219	–0.00154	0.4379	915	902
Financial behaviour								
Saving								
Savings account = 1	0.0117	0.7173	598	1,219	0.00413	0.5853	915	902
Saving money = 1	0.0323	0.9022	598	1,219	0.0333	0.9224	915	902
Saving for studies	0.0205	0.7289	276	602	–0.00315	0.4598	427	451
Saving for an emergency	0.0025	0.5314	276	602	0.025	0.8027	427	451
Saving for leisure	0.0164	0.6795	276	602	0.00692	0.5837	427	451
Saving for other reasons	–0.0394**	0.0152	276	602	–0.0288**	0.0446	427	451
Amount of saving (in log)	0.1770	0.8461	598	1,219	0.17	0.8507	915	902
Borrowing								
Loan = 1	–0.0022	0.4529	598	1,219	–0.0143	0.2007	915	902
Amount of loan (in log)	–0.0011	0.4960	598	1,219	–0.0694	0.2544	915	902
Loan for studies	–0.0123	0.4172	94	189	–0.0662	0.1157	149	134
Loan for an emergency	0.0416	0.8112	94	189	0.0814	0.9668	149	134
Loan for migration	0.0086	0.5557	94	189	0.0189	0.6280	149	134
Loan for other reasons	–0.0379	0.1974	94	189	–0.0342	0.2081	149	134

* The difference between the treatment and control groups is statistically significant at the 10 level.

** The difference between the treatment and control groups is statistically significant at the 05 level.

*** The difference between the treatment and control groups is statistically significant at the 0.01 level.



Boosting Youth Employability in Morocco - II

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