Policy Research Working Paper 9562

Pathways out of Extreme Poverty

Tackling Psychosocial and Capital Constraints with a Multi-faceted Social Protection Program in Niger

Thomas Bossuroy
Markus Goldstein
Dean Karlan
Harounan Kazianga
William Parienté
Patrick Premand
Catherine Thomas
Christopher Udry
Julia Vaillant
Kelsey Wright

WORLD BANK GROUP
Social Protection and Jobs Global Practice
Development Impact Evaluation Group
&
Africa Gender Innovation Lab
March 2021

Policy Research Working Paper 9562

Abstract

This paper analyzes a four-arm randomized evaluation of a multi-faceted economic inclusion intervention delivered by the Government of Niger to female beneficiaries of a national cash transfer program. All three treatment arms include a core package of group savings promotion, coaching, and entrepreneurship training, in addition to the regular cash transfers from the national program. The first variant also includes a lump-sum cash grant and is similar to a traditional graduation intervention ("capital" package). The second variant substitutes the cash grant with psychosocial interventions ("psychosocial" package). The third variant includes the cash grant and the psychosocial interventions ("full" package). The control group only receives the regular cash transfers from the national program. All three treatments generate large impacts on consumption and food security six and 18 months post-intervention. They increase participation and profits in women-led off-farm business and livestock activities, as well as improve various dimensions of psychosocial well-being. The impacts tend to be larger in the full treatment, followed by the capital and psychosocial treatments. Consumption impacts up to 18 months after the intervention already exceed costs in the psychosocial package (the benefit-cost ratio for the psychosocial package is 126 percent; full package, 95 percent; and capital package, 58 percent). These results highlight the value of addressing psychosocial constraints as well as capital constraints in government-implemented poverty reduction programs.

This paper is a joint product of the Social Protection and Jobs Global Practice, the Development Impact Evaluation Group, and Africa Gender Innovation Lav. It is part of a larger effort by the World Bank to provide open access to its research and make a contribution to development policy discussions around the world. Policy Research Working Papers are also posted on the Web at http://www.worldbank.org/prwp. The authors may be contacted at ppremand@worldbank.org.

Pathways out of Extreme Poverty: Tackling Psychosocial and Capital Constraints with a Multi-faceted Social Protection Program in Niger

Thomas Bossuroy -- Markus Goldstein -- Dean Karlan -- Harounan Kazianga -- William Parienté -- Patrick Premand -- Catherine Thomas -- Christopher Udry -- Julia Vaillant -- Kelsey Wright

March 2021[1]

Keywords: poverty, livelihoods, graduation, economic inclusion, psychosocial, cash grant, field experiment
JEL Codes: D12, D13, D14, O12, O13, O17

[1] This paper is based on a collaboration between the Government of Niger, the World Bank Sahel Adaptive Social Protection program, Africa Gender Innovation Lab, DIME and Innovations for Poverty Action. The study was supported by the Sahel Adaptive Social Protection Program at the World Bank, the Wellspring Philanthropic Fund, as well as the Niger Adaptive Safety Nets Project, managed by the Cellule Filets Sociaux (CFS) in the Prime Minister's office of the Government of Niger. We are grateful to Ali Mory Maidoka, Moussa Bouda, Bassirou Karimou, Kadi Aboubacar, Moumouni Moussa, and the whole CFS staff, as well as Carlo del Ninno, Mahamane Maliki Amadou and the World Bank Sahel Adaptive Social Protection Program team for a fruitful collaboration. CFS led the intervention implementation, with technical assistance from the World Bank (led by Thomas Bossuroy and Patrick Premand), Trickle Up (led by Jo Sanson and Yerefolo Malle), CESAM (led by Dissou Zomahoun), Robin Audy, Soumaila Abdoulaye Sambo and Damel Dieng. Sahel Consulting (led by Adamou Hamadou) collected the study data, with support from Achille Mignondo Tchibozo at IPA, Karim Paré, Moumouni Moussa, Moustapha Labo Saley and Almoustapha Yatta Theodore. Yazen Kashlan at IPA and GPRL (Northwestern University) provided outstanding research assistance. We are grateful for inputs and comments at various parts of the study from Christian Bodewig, Carlo del Ninno, Nathanael Goldberg, Margaret Grosh, Arianna Legovini, John Loeser, Hazel Rose Markus, Richard Sedlmayr, Gregory Walton as well as seminar participants at IPA and the World Bank. The computational reproducibility of the results has been verified by DIME analytics. The study was pre-registered in the AEA RCT registry: https://www.socialscienceregistry.org/trials/2544. The findings, interpretations, and conclusions expressed in this paper are entirely those of the authors. They do not necessarily represent the views of the World Bank and its affiliated organizations; those of the Executive Directors of the World Bank or the governments they represent. Corresponding author: Patrick Premand, ppremand@worldbank.org.

1. Introduction

In the past 20 years, governments worldwide have scaled targeted high-frequency cash transfer programs to low-income households. These programs have had well-documented positive impacts on welfare and investments. Yet the extreme poor may face multiple market failures that limit the ability of cash transfers alone to generate a sustained exit from poverty. "Cash plus programs", which add interventions such as savings, training or information to cash transfers, hold promise for generating more sustained long-run impacts. Indeed, a set of multi-faceted "graduation" programs, typically implemented by nonprofit organizations, test a version of this approach with five additional components, and find large impacts on welfare, income-generating activities and earnings in both the short and medium run.[2] Governments are increasingly interested to scale these approaches through national social protection systems,[3] though important questions remain about feasibility and effectiveness.

We analyze the effects of a multi-faceted economic inclusion intervention implemented by the Government of Niger to address a range of constraints among very poor households, including capital and psychosocial constraints. We use a four-arm (three treatment and one control) randomized controlled trial (RCT) conducted in a sample of women already receiving monthly poverty-targeted cash transfers from a national program.[4] All three treatment variants (but not the control) include a core set of components: village savings groups, coaching and entrepreneurship training. The first variant ("capital") adds a lump-sum cash grant to the core components and is close to the traditional graduation program studied in the literature.[5] The second variant ("psychosocial") adds a life skills training and community sensitization on aspirations and social norms to the core components. The third variant ("full") adds both the lump-sum cash grant and the psychosocial interventions to the core components. Note that there is no variant of just the monthly cash transfers plus the core components (i.e., without the capital or psychosocial components); we discuss this in the design section.

[2] See for instance Banerjee et al. 2015b; Banerjee et al, 2016; Bandiera et al., 2017; Bedoya et al., 2019; Banerjee et al, 2020a; Balboni et al., 2020.
[3] Beegle et al., 2018; Andrews et al., 2021.
[4] The study is part of a multi-country RCT embedded in the Sahel Adaptive Social Protection program that also includes Burkina Faso, Mauritania, and Senegal. Niger was first to implement the intervention; as of the writing of this paper, follow-up survey data have not yet been collected in other sites.
[5] For instance, Banerjee et al., 2015b or Bandiera et al., 2017. One difference is that the Niger intervention provides a lump-sum cash grant instead of in-kind assets.

Our results show a strong impact from each of the three variants on the primary outcomes of consumption and food security at both six and 18 months post-intervention. Each variant also strongly increases investments, women-led off-farm business activities and revenues, livestock holdings and revenues, and household income diversification. We find positive impacts on several dimensions of psychological and social well-being, as well as women's empowerment.

Comparing impacts on primary outcomes across treatment arms, the full package tends to perform best, with the capital package second-best and psychosocial package third. However, the differences in impacts across arms are small relative to their differences in costs. Both the psychosocial and full packages have benefit-cost ratios significantly higher than the capital package. In fact, the psychosocial package already reaches its break-even point after 18 months based on observed consumption impacts alone (benefit-cost ratio for the psychosocial package=126%; full package=95%; capital package=58%). These benefit-cost ratios are lower bounds since they only include consumption impacts up to 18 months post-intervention as benefits (hence not accounting for impacts on assets, investments, or psychosocial well-being). We find considerably higher benefit-cost ratios than prior graduation studies (such as Banerjee et al., 2015b or Bedoya et al., 2019) when we make similar assumptions about the sustainability of impacts.

We contribute to five related literatures. First and second, we test the importance of relaxing capital constraints and psychosocial constraints in opening pathways out of extreme poverty. For capital constraints, the strongest existing evidence comes from programs that merely provide capital. This falls into three categories: lump-sum cash grants;[6] small, regular transfers (often provided by government cash transfer programs),[7] and microcredit.[8] While some studies do examine the impact of the transfer interacted with, or built on top of, some other program, few test this on top of a complex multi-faceted program as we do here.

Similarly, psychosocial components have been tested mostly on their own as stand-alone programs (albeit less frequently, and heterogeneity in program design renders comparison more difficult) rather than as part of a larger set of interventions. Psychological and economic research suggests diverse constraints (e.g., strong gender norms, high stress, strained cognitive bandwidth) to low-income women's capacity to aspire, to build socio-emotional skills, and, ultimately, to pursue economic

[6] de Mel et al., 2012; Macours et al., 2012; Karlan et al., 2015; Haushofer and Shapiro, 2016.
[7] Alderman and Yemtsov, 2014; Bastagli et al., 2019; Davis et al., 2016; Fiszbein et al., 2009; Ralston et al., 2017.
[8] Angelucci et al., 2015; Attanasio et al., 2015; Banerjee et al., 2015a; Banerjee et al., 2015c; Breza and Kinnan, 2018; Crépon et al., 2015; Tarozzi et al., 2015; Karlan and Zinman, 2010; Karlan and Zinman, 2011; Meager, 2019.

opportunities.[9] Psychology based interventions that focus on shifting social norms or teaching relevant interpersonal and intrapersonal skills can support women in setting and pursuing their goals.[10] For instance, media-based interventions that use relatable role models to shift community-wide social norms and aspirations have been shown to boost future-oriented financial investments and promote women's empowerment.[11] Psychological interventions (e.g., goal-setting, growth mindset and initiative, self-affirmation, cognitive behavioral therapy) have also led to improvements in economic well-being, small business outcomes, and women's empowerment in developing countries.[12] As evidenced in these literatures, many psychosocial programs target either individual-level or community-level factors; however, the psychosocial components we study were designed to simultaneously build women's individual skills and aspirations while shifting community-level social norms.[13]

Third, speaking directly to the budding literature on multi-faceted programs, a frequent question surrounds the choice of components. This has both theoretical implications on the assumption of the underlying binding constraints causing extreme poverty, as well as practical relevance for the selection of the most cost-effective components to achieve policy objectives. For instance, Blattman et al. (2016) estimate the value of providing supervision and follow-up support in addition to a grant and training intervention. Sedlmayr et al. (2020) isolate the impact of training and savings group formation, and test light behavioral components. Banerjee et al. (2020b) identify the contribution of savings accounts as well as lump-sum asset transfers as stand-alone components. Marguerie and Premand (2021) compare cash grants that address capital constraints and savings groups that address savings constraints.

Fourth, we contribute to the evolving literature on the impact of graduation programs on women's empowerment. Early work focused on women's decision making power and found weak or no impacts.[14] However, more recent work uses a wider set of proxies for women's empowerment and finds significant impacts on women's participation in decisions on their own body, time and political involvement, as well as social capital in Afghanistan (Bedoya et al., 2019).[15]

[9] Ajayi, et al., forthcoming; Appadurai, 2004; Bernhardt et al., 2018; Dalton et al., 2016; Field et al., 2019; Genicot and Ray, 2017; Haushofer and Fehr, 2014; Jayachandran, 2020; Macours and Vakis, 2014; Mullainathan and Shafir, 2013.
[10] Ashraf et al., 2020; Baranov et al., 2019; Bursztyn et al., 2020; Paluck and Ball, 2010.
[11] Bernard et al., 2015; Bernard et al., 2019; La Ferrara, 2016; Orkin et al., 2020; Paluck and Ball, 2010; Riley, 2017.
[12] Blattman et al., 2017; Campos et al., 2017 ; Ghosal et al., 2020 ; Haushofer et al., 2020; Orkin et al., 2020; Saraf et al., 2019.
[13] This builds on recent literature that highlights the importance of multi-level approaches to affect social change (Hamedani and Markus, 2019).
[14] Banerjee et al., 2015b; Bandiera et al., 2017.
[15] Laszlo (2019) reviews other studies, including qualitative work, that add a more nuanced understanding of how graduation programs may affect women's empowerment.

Fifth, the academic literature on multi-faceted social protection programs is typically generated by partnerships between researchers and nonprofit organizations. Yet they are designed to then inform *government* social protection policies. Results on the effectiveness of large-scale government-led programs may differ from efficacy of smaller-scale NGO programs (Muralidharan and Niehaus, 2017). A pilot managed by a nongovernmental organization may not scale seamlessly via government-led programs (Bold et al., 2018), which are then also important to test. Multi-faceted social protection programs typically build on top of systems created for national cash transfer programs, which have risen considerably in popularity around the world to provide consumption support to very poor households. Indeed, an increasing number of countries are layering livelihood support interventions on their national cash transfer programs. Our setting in Niger is exactly that. National safety net program's staff oversee the delivery of the intervention, actively leading the implementation of key components and supervising providers contracted to deliver more specialized trainings. The intervention is low cost ($ 263 PPP for the psychosocial package, $ 482 PPP for the capital package and $ 584 PPP for the full package) and led by a government agency in one of the poorest countries in the world.[16]

2. Interventions

2.1. The Niger national cash transfer program

Niger is one of the poorest countries in the world with a rural poverty rate of 51.4 percent (World Bank, 2017) and ranks last in human development indicators (UNDP, 2018). Landlocked in the Sahel and located on the edge of the Sahara Desert, Niger is highly exposed to climatic shocks, and its population faces high food insecurity and frequent droughts. After repeatedly relying on emergency humanitarian response, the Government of Niger set up a more permanent system to address chronic poverty and food insecurity. Its cornerstone is a national cash transfer program[17] that provides monthly payments of 10,000 XOF for two years ($15.95, $38.95 PPP), which represents approximately 11% of yearly household consumption for targeted poor rural households. The program was rolled-out in 3 main phases and reached 100,000 beneficiary households between 2012 and 2019. We are studying the 3rd

[16] Monetary amounts expressed in US dollar terms are set at 2016 prices and deflated using CPI published by the World Bank. In 2016, 1 US dollar = 242.553 XOF PPP. In nominal terms, in 2016, 1 US dollar = 592.445 XOF. We consider the costs to be incurred in 2018, with an inflation rate of 5.85%. Hence 10,000 XOF in 2018 = 10000 / (592.4 * 1.0585) = $15.95 in 2016.
[17] The program was put in place through an Adaptive Social Safety Net Project managed by the Safety Net Unit (Cellule Filets Sociaux, CFS) in the Office of the Prime Minister, with support from the World Bank.

phase of the program, implemented from 2016 to 2019, which reached approximately 20,000 households. The cash transfers are unconditional but are delivered with behavioral change promotion activities that encourage investments in young children's human capital.[18]

The national cash transfer program applies geographical targeting before using household-level poverty targeting to select beneficiaries. The program reaches all 8 regions in the country. Within each region, the communes with highest poverty are selected. In practice, most selected communes are rural. Within communes, all villages are eligible and public lotteries are organized to select beneficiary villages.[19] Poverty targeting methods are applied to determine the beneficiary households.[20] Within selected households, a woman over 20 is the recipient of the cash transfers.

2.2. The economic inclusion packages

The multi-faceted economic inclusion program aims to improve participation in income-generating activities, raise earnings and facilitate economic diversification. It can be described as a combination of three main sets of activities delivered on top of the regular cash transfer program.[21] The "core" components address potential constraints to income-generating activities such as financial inclusion, basic micro-entrepreneurship skills and access to markets. A second package further addresses capital constraints by providing a lump-sum cash grant for productive purposes in addition to the core components. A third package replaces the lump-sum cash grant with psychosocial components aiming to strengthen aspirations, interpersonal and intrapersonal skills , as well as to address gender and social

[18] In the phase of the program we analyze, all beneficiaries of the cash transfer program receive the behavioral change promotion activities. Premand and Barry (2020) disentangle the effects of this behavioral change promotion from cash transfers as part of a RCT embedded in an earlier phase of the program between 2012 and 2014.

[19] The public lotteries are used to select villages for transparency due to the lack of disaggregated data on poverty within communes and the impossibility to cover all villages due to budget constraints. Premand and Barry (2020) discuss the process to select beneficiary villages through lotteries in more detail for an earlier phase of the program. We do not focus on this aspect as our experiment contains cash transfer beneficiary villages only.

[20] Three alternative targeting methods were tested and randomized at the village level in the sample used for this study, including proxy means testing, community-based targeting and a formula to proxy temporary food insecurity. Premand and Schnitzer (2020) analyze the relative performance of these targeting methods. The targeting resulted in the selection of approximately 40% of households per village to participate in the program. The program generally provides transfers to the first wife of the household head, though in the context of the study the individual recipient varied among adult women within the households. This will be studied in future research analyzing intra-household dynamics in more detail.

[21] The intervention packages were designed to address constraints to productive employment faced by safety net beneficiaries that were identified through diagnostic studies (Bossuroy et al., 2020). The main constraints were considered to be a lack of access to capital, a lack of access to agricultural inputs and markets, a lack of management skills and financial education, challenges in managing climate-related and other environmental risks to production, as well as social norms limiting women's engagement in income-generating activities.

norms. A fourth package includes the core, capital and psycho-social components. The program was delivered to the adult woman in the household who receives the regular cash transfers.

The core components (included in all three treatment variants)

Coaching: The coaching component is a core feature that facilitates the delivery of the various interventions and ties them together in the eyes of the beneficiaries. Beneficiaries form groups of 15 to 25 members and select a coach to mentor them throughout the program. Coaches are men or women from the same village, generally selected for their capacity to advise on income-generating activities and be the face of the group for service providers and market agents.[22] These community coaches have a few years of education and limited technical skills but are chosen by the community for their trustworthiness and knowledge about local economic opportunities. They typically have basic literacy skills, and in many cases are younger men who have completed primary school and do not have stable employment. Coaches facilitate the implementation of group-based program activities, including promoting attendance of beneficiaries at meetings and coordinating with service providers. They carry out group-level coaching sessions, during which challenges and opportunities for income-generating activities are discussed. The group-level coaching sessions take place during weekly savings group meetings (see below). Coaches also provide some individualized follow-up to beneficiaries according to their specific needs.

Saving groups: The groups of beneficiaries form a Village Savings and Loans Association ("VSLA"), with initial training from the coach. At the beginning of the program, the group receives a VSLA kit (a lockbox, individual booklets, rubber stamps), elects members to various positions (president, secretary, accountant) and collectively decides on the rules governing the association. Key decisions include the cost of a saving "share", the maximum amount of and applicable conditions for taking out a loan, the interest rate, and the duration of a full savings cycle. Group members also define other parameters such as a mandatory contribution to an emergency fund or the penalties for rule infractions. At weekly meetings throughout the program, members save through the purchase of between one and five shares in the savings fund, contribute a fixed amount to the emergency fund, and may take out a short-term loan from the savings fund. A full savings cycle lasts between 9 and 12 months, at which point the

[22]Coaches are not cash transfer beneficiaries. They are selected by the community in an open assembly. They receive 10,000 XOF per month (11% of consumption for beneficiary household, less for coaches' households), plus small contributions from beneficiaries. This is considered a stipend and not a salary.

accumulated savings and other earnings (interest, penalty fees) are shared among members in proportion to the amount of savings shares owned by each member.

Micro-entrepreneurship training: A week-long micro-entrepreneurship training is delivered to those same groups. The curriculum is adapted from ILO's Start and Improve Your Business ("SIYB") Level 1 training, which is tailored to non-literate participants. It covers fundamental cross-cutting micro-entrepreneurship skills, including basic accounting and management principles, market research, planning and scheduling, saving, and investing. In addition, the training focuses on the choice of livelihood activities and the preparation of a basic business plan for the chosen activity, with support from the trainer and coach. It does not include any technical training in specific activities. The training is delivered by private trainers contracted by the government through small firms.

Access to markets: Coaches are trained to deliver information sessions on market access. Depending on the time in the production cycle, they hold group sessions to discuss where to buy inputs for agricultural activities, how to choose suppliers, where to sell products. Some coaches have reportedly acted as market agents for the group, facilitating group purchases and sales in exchange for a small payment from group members.

The capital component

Lump-sum cash grant: A lump-sum cash grant of 80,000 XOF ($127, or $311 in 2016 PPP) is provided to promote investments in income generating activities. The cash grant is delivered through the cash transfer program payment system, which relies on a network of micro-finance institutions that deliver cash in person. Payments are not conditional on participation in other program activities, though in practice compliance and participation are very high (discussed below in section 3.2).

The psychosocial components

The psychosocial components include community-level programming—community sensitization on social norms and aspirations—and individual-level programming—life skill training for the beneficiaries. While they are relatively light, they aim to trigger four main mechanisms: (i) address social norms and build stronger community and peer-support for beneficiaries to engage in income-generating activities, particularly through tying women's engagement in economic activity to local values; (ii) address gender norms to foster intra-household support for women's income generating activities and intra-household dialogue and conflict resolution; (iii) expand community- and individual-level aspirations; and (iv) promote women's behavioral skills related to interpersonal communication, problem-solving,

leadership, and goal setting as well as supportive self-beliefs such as self-efficacy and self-worth. Appendix A provides a detailed description of the psychosocial components.

Community sensitization on aspirations and social norms: The full community, including elders, economic and traditional leaders, as well as program beneficiaries and their husbands (or other family members), are invited to attend a video screening and a community discussion. Program staff project a short video, filmed in local languages, that depicts the story of a couple that overcomes household and personal constraints and develops economic activities, with support from family and the larger community. As a result, they become more economically resilient. After the screening, trained facilitators guide a public discussion on social norms, aspirations, and community values.[23] Together, these components apply multiple approaches to shift social norms and aspirations, including the use of role models in the video, peer effects in the audience construction, goal setting and social consensus techniques in the discussion, and values alignment in both the video and discussion.[24]

Life skills training: A week-long life-skills training is organized for groups of beneficiaries. Grounded in participatory problem-centered learning, the training incorporates exercises such as role plays, games, and case studies. The nine modules of the curriculum focus on building skills for effective decision-making, problem-solving, goal setting, interpersonal communication, and women's leadership while simultaneously building self-worth, self-efficacy, and aspirations. In addition, discussions prompted participants to relate their economic goals to broader values and spousal, gender and generational roles.[25] The training is delivered by private trainers contracted by the government through small firms.

2.3. Government-led implementation

The multi-faceted economic inclusion intervention was designed for implementation across the Sahel. The system to deliver the intervention varies across countries, ranging from a fully government-implemented program to a fully NGO-implemented program (Archibald et al., 2020). The Niger intervention stands out as being closely integrated with a government-led national cash transfer

[23] In particular, the questions prompted the community to relate the film's storyline and characters to their lives; to relate adaptation to traditional communal values and practices, including filial piety, security for future generations, and reciprocity; and to collectively set aspirations and identify practices for economic advancement.
[24] See Bernard et al., 2015; Tankard and Paluck, 2016; Thomas, et al., 2020; Walton and Wilson, 2018.
[25] It was adapted from the Life Skills Workshops (*Ateliers Compétences de Vie)* developed in Benin by a local training firm.

program.[26] This makes it particularly informative about the potential for effective scale-up of multi-faceted interventions through government systems.

National, regional and local staff from the Niger national cash transfer program are responsible for key aspects of implementation, actively leading the delivery of the savings groups, coaching, access to market and cash grant components. Field agents lead the selection, training and supervision of community coaches. Field agents are also in charge of coordinating and supervising the delivery of trainings contracted out to private providers. The role of private providers is limited to the hiring of short-term qualified personnel, which are trained by the program to deliver the training content and curriculum.

The productive inclusion intervention is designed to be low-cost and scalable. Costs are kept low by layering the intervention on existing delivery systems of the cash transfer program, leveraging pre-existing targeting efforts, beneficiary registries, or monitoring and information tools. Field implementation is facilitated by working with an existing structure of staff at the local, regional and national levels. The delivery model is designed to ensure feasibility of implementation at scale. A key parameter is the number of program staff per beneficiary.[27] In the context of the government-led program, there is 1 program staff per 8.8 villages (covering 596 beneficiaries, or 25 beneficiary groups). This is a much lower ratio of staff per beneficiary than for standard NGO programs. In contrast, the model relies much more heavily on community coaches. There are on average 1.2 coaches per village (large villages had 2). Each coach is responsible for an average of 56 beneficiaries or 2.4 groups. While the reliance on lower-level agents may reduce quality of implementation, it lowers cost and is a more realistic model for implementation at a large scale.[28] Lastly, the lump-sum cash grant is delivered

[26] The institutional anchoring of the program in a high-level government structure is also noteworthy. The national cash transfer program is led by a safety nets unit in the Office of the Prime Minster. From a political economy standpoint, governments in Sub-Saharan Africa (including Niger) find the "productive" dimension of social protection programs particularly valuable. As such, the intervention's goal to strengthen productive impacts among rural populations is closely aligned with higher-level policy objectives.

[27] Program staff (field agents) were hired by the national safety nets unit for the cash transfer program (which started in 2011). They do assignments of 2 years (the duration of a cash transfer cycle), typically before rotating to a new area. They are based in the mayor's office in each commune. In communes where the productive interventions were implemented, there were around 30 field agents. Nationally, the total number of field agents working in the cash transfer program is around 100. Field agents are supervised by regional safety net offices (of which there are 8), with dedicated staff. Regional offices then report to the central safety net unit in the prime minister's office.

[28] In the case of the Niger cash transfer program, the approach is a routine way of delivering services and has also been used to implement accompanying measures to promote child development at large scale (Premand and Barry, 2020).

through the existing cash transfer program payment system. This was considered easier to implement than the in-kind asset transfers provided by many traditional graduation programs.[29]

In light of these implementation modalities, the results can be interpreted as those obtained when delivering a well-designed and highly scalable intervention through a relatively high-performing government implementing agency in a very poor country.

3. RCT Design and Data

3.1 Experimental design

The Niger cash transfer program has relatively large geographical scope, which contributes to external validity of the study findings. In total, approximately 100,000 households have participated in the Niger cash transfer program since 2012.[30] The study focuses on the 3rd wave of the program, which reached 22,507 beneficiary households in 329 villages in 17 communes (counties) of the five most populous of Niger's eight regions (Dosso, Maradi, Tahoua, Tillaberi and Zinder, see figure 2 for a map of study communes). All of the villages receiving cash transfers in the 17 communes are included in our sample. After combining small neighboring villages with under 8 beneficiaries for ease of program operations, 322 villages entered the randomization.

The study is a cluster-randomized controlled trial in which villages with existing cash transfer beneficiaries were randomly allocated to one of the four arms – one control group and three treatment arms with variants of the intervention package. Within village there was no additional randomization, thus all eligible households within village receive the same treatment. Figure 1 summarizes the design.

As is evident from Figure 1, all three treatment variants share a core set of interventions: group formation and coaching, savings groups, entrepreneurship training, and market access facilitation. The first treatment variant also includes a lump-sum cash grant (similar to the asset transfer in a traditional

[29] While the program is largely government-led and government-implemented, it was funded by the World Bank. This made it possible to use streamlined financial management procedures and hire program staff on term contracts. Although the program staff had a profile similar to other government technical agents, they likely had stronger performance incentives. The World Bank and international NGOs provided technical support for the design and monitoring of the intervention, but the government agency was fully responsible for delivery and implementation.

[30] The program reached 1 million individuals out of a rural population in poverty of 7 million (see World Bank, 2017). Note that, as discussed further below, the program eligibility threshold is below the poverty line, and can be considered closer to an extreme poverty line. About 80 percent of households are below the poverty line in program areas, but approximately the poorest half of them is covered by the program.

graduation intervention). The second treatment variant substitutes the cash grant with psychosocial interventions. The third treatment variant includes both the cash grant and the psychosocial interventions.

Figure 1: Control and Treatment Arms

	C	T_c	T_p	T_f
	CONTROL	*CAPITAL*	*PSYCHOSOCIAL*	*FULL*
Regular cash transfer program	•	•	•	•
Group formation and coaching		•	•	•
Savings groups		•	•	•
Micro-entrepreneurship training		•	•	•
Market access facilitation		•	•	•
Community sensitization on aspirations and social norms			•	•
Life-skills training			•	•
Lump-sum cash grant		•		•
Number of villages (322)	81	80	78	83
Number of sampled households (4712)	1206	1191	1112	1203

Note: 329 villages were drawn into the sample. After combining small neighboring villages with under 8 beneficiaries for ease of program operations, 322 villages entered the randomization.

Randomization of the villages is stratified by the 17 communes and the targeting method used to select cash transfer beneficiaries in each village. To promote the transparency gained from public lotteries while maintaining balance across targeting methods (which is part of a complementary study, Premand and Schnitzer 2020), we proceeded in two stages. First, for each commune we randomly assigned villages into four lists with stratification by targeting method (which constituted a categorical variable with four values, one for each of three experimental arms and a fourth for not being part of the targeting study).[31] This stage did not assign the experimental arm label to each list. Second, we

[31] The sample contains 17 of 18 communes that were used in an earlier targeting experiment, whereby beneficiaries in a sample of villages were selected either by proxy means testing, community-based targeting or a formula to proxy temporary

organized a public lottery in each of the 17 communes to randomly assign each list to one of the four experimental arms (three treatment or control). The lottery was organized by the cash transfer program government team and held in the capital of the commune in presence of village chiefs or elders.

One limitation of this design is that we could not include a fourth treatment arm with "core components only." This implies that, while we can test the importance of including capital on top of the core and psychosocial components (by comparing the "Full" arm to the "Psychosocial" arm), if the psychosocial components change the marginal value of the capital, then we would not estimate the effect of providing capital as part of a program without those psychosocial components. Likewise, we are testing the importance of including psychosocial components on top of a design that includes the lump-sum capital transfer (by comparing the "Full" arm to the "Capital" arm). Had there been a treatment arm with just the "core" components (village savings groups, coaching, and entrepreneurship training), then we could have estimated the marginal value of the psychosocial components to that treatment arm, thus providing an estimate of the psychosocial components with and without accompanying lump-sum capital transfers (and likewise for capital, with and without the psychosocial components).[32]

3.2 Sampling, Timeline and Data

Out of the 22,507 cash transfer beneficiaries that were assigned to the 4 treatment variants, 4,712 households from 329 villages were drawn into a sample for data collection. In each village, up to 15 households were sampled.[33] Twenty-eight villages had fewer than 15 beneficiary households, resulting in an average of 14 sampled households per village.

Figure 3 summarizes the study timeline. Baseline data collection took place between April and June 2017. The public lotteries took place after data collection in June 2017. The intervention was delivered

food insecurity, as detailed in Premand and Schnitzer (2020). Some villages were not sampled for the targeting study, thus the stratification had four strata, three for the different targeting methods and one for not being in the targeting study (in which case proxy means testing was employed for targeting).

[32] Premand and Stoeffler (2020) study the effects of cash transfers through a RCT embedded in an earlier phase of the Niger program. They find that cash transfers increase consumption, savings and resilience to shocks, but on average have no effects on income-generating activities related to agriculture or household enterprises. Stoeffler et al. (2020) use a quasi-experimental design to study the impacts of cash transfers combined only with savings facilitation in a pilot that preceded the Niger cash transfer program. They find impacts on asset accumulation 18 months after program termination, but no effects on earnings or diversification in off-farm business activities.

[33] All beneficiary households for which data were collected as part of the prior targeting study (Premand and Schnitzer, 2020) were included. Beneficiaries are those who were scheduled for at least one cash transfer payment on or before November 15, 2016. The remaining village quota was randomly selected among all the remaining cash transfer beneficiaries who were not sampled as part of the previous study.

between September 2017 and January 2019.[34] Two follow-up surveys were collected. The first follow-up took place in February and March 2019, a median of 6 months (3 to 9 months) post-intervention (after the delivery of the lump-sum grant in treatment arms with the capital component). The second follow-up survey occurred a year later in February and March 2020, a median of 18 months post-intervention (after the delivery of the cash grants in treatment arms with the capital component).

The baseline survey covers the following topics: household structure, productive activities, off-farm businesses, finance, housing, food security, cash transfers, gender attitudes, program preferences, psychosocial well-being (discussed below and detailed in appendix B), food consumption and spending, agriculture, livestock, fishing, assets, education and health spending, non-food spending, social programs, transfers and shocks.[35] The follow-up surveys include all of the baseline modules. In addition, the modules on finance, cash transfers, gender, psychosocial well-being and livestock were expanded. New sections were added on business practices, beneficiary health, business practices, and height and weight for children 6-59 months old.[36] The cash transfer beneficiary, generally a woman in the household, is the primary survey respondent across all survey rounds. The head of household could respond to questions on consumption, agriculture, assets, social programs, transfers and shocks.[37]

Table A.1 reports descriptive baseline statistics and balance tests across the experimental arms for a set of pre-specified variables. Of beneficiaries, 99% are female and they are 38 years old on average. Among the beneficiaries, 90% live in male-headed households, and about a quarter are in a polygamous union with a household head. Less than 8% are literate and they have on average less than 0.5 year of schooling. On average, the villages are 23 km from the capital of the commune, and beneficiaries take

[34] The saving groups were set up in September 2017, community sensitization on social norms was carried out between January and April 2018, coaching started in May 2018, life and business skills training were completed in July 2018, and cash grants were disbursed between July 2018 and January 2019. Implementation was randomized in two phases. Each activity was implemented first in an 'early' group before being implemented in a 'late' group. Specifically, cash grants were disbursed in July-August 2018 for the early group, and in November-January 2019 for the late group. The randomization to the 'early' and 'late' groups confounds duration of exposure and seasonality, so that we do not consider it in the analysis.

[35] A Living Standard Measurement Survey collected in 2014 by the National Statistics Institute of Niger served as a basis for the included consumption items, assets, and crop types. The questionnaire was developed in French. The psychosocial questions and hunger scales were translated in local languages. For the other modules, surveyors did on-the-spot translations to local languages after extensive training to coordinate translations. At baseline, 65% of surveys were conducted in Hausa, and 34% of surveys were conducted in Zarma.

[36] At baseline, due to time constraints, some questions on agricultural plots and off-farm income generating activities were only asked for those owned or managed by the beneficiary or head of household. The follow-up surveys collected information on all plots and off-farm activities in the household.

[37] In practice, the majority of beneficiaries responded to the entire survey, since heads of household were often traveling during the survey period.

about 70 minutes (via their usual mode of transportation) to get to the nearest market. On the whole, the experiment is well-balanced.

The baseline response rate was 97.8% of sample households. In the 1st and 2nd follow-ups, 95.0% and 91.3% of sample households were successfully interviewed, respectively.[38] Attrition at follow-up is balanced across the treatment arms (Table A.1, bottom panel).

To complement the survey data, monitoring data were collected through the project administrative information systems.[39] Cost data were collected from financial systems. Information on implementation quality was also collected through field visits and a qualitative process evaluation.

Table A.2 documents compliance with treatment assignment based on administrative data. Overall, the share of treated households receiving intended benefits is very high. Across all treatment arms, the participation rate in VSLA meetings was 92%, and the attendance rate in the micro-entrepreneurship training was 95%. There was more variation in the delivery of individual coaching visits, with on average 52% of beneficiaries receiving coaching visits each month. Participation in other intervention elements was also high. Across the psychosocial and full treatment groups, 94% of beneficiaries attended life skills training and 89% the community sensitizations. Across the capital and full treatment groups, 99.9% of beneficiaries received the cash grants.

3.3 Estimation Strategy

By comparing each treatment arm to the control group, the design allows us to identify the impact and cost-effectiveness of the capital package, the psychosocial package, and the full package. In addition, we identify the added value or marginal impacts of key elements of the interventions. By comparing the full package to the psychosocial (respectively capital) package, we identify the added value (marginal impact) of the cash grant (respectively psychosocial components) - net of potential complementarities with elements of the core intervention component.

[38] Of those consenting households interviewed at the baseline, 95.3% were successfully re-interviewed in the 1st follow-up and 91.3% in the 2nd follow-up. Due to the Covid-19 outbreak, the 2nd follow-up survey was suspended at the end of March 2020 without implementing a planned tracking phase.

[39] Some information was collected at the individual level (e.g. participation in trainings, delivery of cash grant), and other information at a more aggregate level (number of beneficiaries per group or village participating in community sensitization, receiving individual coaching visits, etc.).

We estimate separate intent-to-treat treatment effects for each arm (treatment package) for pre-specified outcomes based on the following specification:

$$Y_{i,t} = \beta_{p,t} T_{psychosocial} + \beta_{c,t} T_{capital} + \beta_{f,t} T_{full} + \Theta Y_{0,i} + \gamma + \varepsilon_i \qquad (1)$$

where $Y_{i,t}$ is the outcome of interest for household or individual i in the 1st or 2nd follow-up (t = 1 or t =2); $T_{psychosocial}$, $T_{capital}$ and T_{full} are indicators for village assignment to the psychosocial, capital, or full treatment package; γ is a vector of randomization strata fixed effects. We estimate this specification separately for each follow-up. Standard errors are clustered at the village level, the unit of randomization. To increase precision, we include a control for the outcome at baseline ($Y_{0,i}$) when available. When not available for a subset of households, we set the baseline control to the mean outcome in the randomization strata and include a dummy for a missing measurement at baseline. $ß_{p,t}$, $ß_{c,t}$ and $ß_{f,t}$ are the main parameters of interest. They capture the impact of each treatment package for cash transfer beneficiary households.[40]

To estimate the added value of the cash grant and psychosocial components net of complementarities with the core package, we report three additional tests for each data collection round:

First, we test the added value of the cash grant with $H_0: \beta_f - \beta_p = 0$.

Second, we test the added value of the psychosocial interventions (the community sensitization intervention and life skills training) with $H_0: \beta_f - \beta_c = 0$.

Third, we test for equality of treatment effects between the capital and psychosocial packages with: $H_0: \beta_c - \beta_p = 0$.

Finally, we test for equality of treatment effects between data collection rounds to uncover any temporal effects (for each treatment arm separately). We focus the discussion mostly on results from the 2nd follow-up.

The outcomes were pre-specified in a pre-analysis plan.[41] We specified two primary outcomes: consumption per adult equivalent and the (reverse of) FAO's Food Insecurity Experience Scale (FIES, see Ballard et al., 2013; Nord et al., 2016). In addition, we also report the Food Consumption Score (FCS, see

[40] We had pre-specified that if a joint test across the two primary outcome variables failed to reject equality of the full and capital packages, we would pool the full and capital arms in an *additional* specification. Psychosocial would remain a separate treatment arm. In practice, we do not fail to reject equality and do not present this additional specification.

[41] See https://www.socialscienceregistry.org/versions/52534/docs/version/document

WFP, 2008).[42] We pre-specified a range of intermediary outcomes, discussed in Section 4, which capture the pathways through which the interventions were expected to affect the primary welfare outcomes. Tables A.3 and Table A.4 provide more details on variable construction. Appendix B also provides more information on the psychosocial outcomes.

To account for multiple hypotheses, we calculate p-values adjusted within each treatment arm within predetermined families of variables and report corrections in Table A.5. Following our pre-analysis plan, we correct p-values controlling for both the false discovery rate (FDR) and the family-wise error rate (FWER). The FDR is the expected proportion of rejected null hypotheses that are actually true, whereas the FWER is the probability of incorrectly rejecting at least one true null hypothesis among all those tested. The FWER is our preferred correction. Results are robust to corrections.

4. Results

4.1 Main welfare outcomes: Consumption and food security (Table 1)

We find statistically significant treatment effects on household consumption and food security for all three packages at both follow-ups (Table 1, column 1). Impacts on per capita consumption per day are between \$0.09-\$0.25 in the 1st follow-up (5%-13% relative to control). Impacts are larger for the full package than the capital and psychosocial packages; and we cannot reject equality between the psychosocial and capital packages. Impacts on consumption are sustained in the 2nd follow-up and statistically significant at the 1% level for the three treatment arms (\$0.12-\$0.25, or 7%-15% relative to control). Impacts for the full package are larger than the capital package in the 2nd follow-up, but we do not reject equality between the full package and the psychosocial package (p=0.146). The point estimate for the psychosocial package doubles between the 1st and 2nd follow-up, but we marginally cannot reject equality between the two surveys (p=0.12). The difference between rounds is not statistically significant for the full and capital packages either.

Results also show statistically significant and robust impacts of all three treatment packages on food security in both follow-ups. Household food security (column 2), the (inverse of FIES with 12-month recall), improves by 0.21-0.66, a 6%-20% change relative to control, corresponding to a decrease in 0.2-

[42] Although it was pre-specified as a secondary outcome, the food consumption score provides another measure of food security that captures the eligible women's dietary diversity. For this reason, we report it along with FIES in the main outcome table.

0.66 types of food insecurity situations over the past 12 months (out of eight possible types of food insecurity situations). The eligible women's dietary diversity (FCS, column 3) improves by 2.71-6.01 points over the 7 days prior to the survey (a 10%-22% improvement relative to control). Treatment effects are sustained in the 2nd follow-up, with impacts of 0.47-0.63 on household food security (13%-18% relative to control) and 2.78-6.11 on dietary diversity (9%-19% relative to control). Estimated treatment effects of the psychosocial package are consistently smaller than the full and capital packages in the 1st follow-up, but we cannot reject equality between the capital and psychosocial packages in the 2nd follow-up. These patterns are similar to those found for consumption and show that households assigned to the psychosocial package catch up over time with households assigned to the capital package.[43]

4.2 Eligible women's revenues and labor supply (Tables 2 and 3)

One of the main objectives of the intervention was to improve household welfare by promoting economic diversification and raising earnings in income-generating activities. Table 2 presents impacts on individual-level productive revenues for the eligible woman. We focus on the eligible woman because she is the main beneficiary, and turn to household-level effects in the next section. Revenues are measured for 4 main types of activities: off-farm businesses (column 1), agriculture (harvest value, column 2), wage earnings (column 3) and livestock (column 4). Overall, Table 2 shows large impacts on revenues from off-farm household businesses, and (especially in the 2nd follow-up) livestock and agriculture.

The intervention is particularly effective in increasing eligible women's earnings from off-farm self-employment activities. Strong positive impacts on business revenues are found for all three treatments at both follow-ups (column 1). In the 1st follow-up, business revenues increase by $17-$36 per eligible woman per month, which constitutes a very large increase of 76%-160% relative to control. Consistent with the magnitude of welfare impacts between treatment arms, impacts on business revenues tend to be larger for the full package, and smaller for the psychosocial package (although we cannot reject equality between the full and capital packages). Results from the 2nd follow-up reveal similar patterns, with impacts of $10-$21, or 49%-102% relative to control. We can reject equality of impacts between

[43] Point estimates for the psychosocial package tend to be larger in the 2nd follow-up than in the 1st, and significantly so for the food security experience scale (p=0.067), though not the food consumption score (p=0.937).

rounds; estimates are relatively smaller in the 2nd compared to the 1st follow-up, but they remain of large magnitude.

Impacts on eligible women's livestock revenues are only statistically significant in the 1st follow-up for the psychosocial package, while impacts in the 2nd follow-up are statistically significant for the capital and full packages (column 4). We cannot reject equality of treatment effects between packages or between rounds, however.

Substantial impacts are found on eligible women's revenues from agriculture (as proxied by harvest value) in the 2nd follow-up for the psychosocial and full packages (column 2). We can reject equality of treatment effects between follow-ups for the psychosocial and full packages, with larger effects in the 2nd than in the 1st follow-up. The limited effects in the 1st follow-up are not surprising given the intervention lasted until after the planting season. Interestingly, impacts from the capital package are not significant and we can reject equality with the psychosocial and full packages in the 2nd follow-up, suggesting that the cash grants are not the main drivers of impacts on agricultural revenues.

Lastly, wage employment is rare in the study sample, and treatment effects are limited (column 3). In the 2nd follow-up, statistically significant treatment effects are found for the full package, though not for the psychosocial or capital packages.[44] Impacts on wage earnings are small in magnitude in absolute terms. An increase in wage earnings was not necessarily expected because wage employment was not directly promoted by the program. However, it is consistent with finding impacts on the use of paid labor in agriculture and the intervention promoting social ties, as further discussed below.

Table 3 presents impacts on eligible women's labor participation (days worked per month) for the same break-down of economic activities as in Table 2. The number of days worked by eligible women in income-generating activities increases substantially relative to control, especially in off-farm businesses and livestock. As such, findings are generally consistent with results on revenues from income-generating activities.

The time worked by eligible women in household businesses increase strongly by 2.2 – 3.7 days per month in the 2nd follow-up (or 36%-61% relative to control) (Table 3, column 1).[45] These impacts are larger for the full package than the psychosocial package, but we cannot reject equality between the

[44] Statistically significant treatment effects are found in the 1st follow-up for the capital and full packages, but we cannot reject equality between the three packages.

[45] Effects for the 1st follow-up are significantly larger than in the 2nd follow-up, with increases of 3.6 – 4.9 days per month (or 58%-78% relative to the control group).

capital and full packages, or between the capital and psychosocial packages. Time worked by eligible women on livestock activities also increases by 1.62-3.16 days per month in the 2nd follow-up (11%-21% relative to the control group) (column 4). No significant change in time spent in agriculture is found in any treatment arm, though this indicator has high variance (column 2). Point estimates for days spent in salaried employment are small, positive, and mostly not significant (column 3).

Consistent with large increases in household welfare and food security, beneficiaries show large and meaningful improvements in revenues and labor supply. We now present effects on intermediate outcomes at the household level.

4.3 Household economic diversification and income-generating activities (Table 4)

Table 4 documents impacts on household income diversification. It contains an index of the number of income sources (column 1), the number of crop types (column 2), off-farm business types (column 3), livestock types (column 4) and wage job types[46] (column 5). (See Table A.3 for details on variable constructions). Results on economic diversification at the household level are highly consistent with results from section 4.2 on eligible women's revenues and labor supply. Large impacts are found on household economic diversification (column 1): the number of income sources significantly increases for all three treatment arms and both follow-up surveys. Impacts range from 0.34-0.49 additional income sources in the 1st follow-up (7%- 10% relative to control), and 0.19-0.38 additional income sources in the 2nd follow-up (4%-8% relative to control). We cannot reject equality between the two follow-ups, despite smaller point estimates in the 2nd follow-up. Impacts are larger for the full package than the psychosocial package at both follow-ups, but differences between other packages are not significant. As for eligible women, impacts on diversification are associated with increases in the number of off-farm household business types (column 2) as well as the number of livestock types (column 5). Effects on diversification in agriculture (column 3) or wage jobs (column 4) are small and mostly not statistically significant.

These results are consistent with increased diversification in off-farm activities, which the intervention promoted. We now discuss in more detail impacts on income-generating activities, and we distinguish

[46] The survey only asked about wage jobs for the eligible woman and the household head.

effects along the extensive and intensive margins. We start with off-farm household businesses, before discussing agricultural and livestock activities.

4.3.1 Off-farm household businesses (Table 5)

Table 5 documents large impacts on participation and earnings in off-farm businesses for all treatment arms at both follow-up surveys. Impacts tend to be larger for the full package, and we can reject equality with the psychosocial and capital packages for several variables. Impacts are sustained in the 2nd follow-up survey, although point estimates tend to be smaller than in the 1st follow-up survey, with statistically significant differences between rounds.

The three intervention packages lead to substantial impacts on participation in off-farm business activities along the extensive and intensive margins. The share of households operating an off-farm business activity increases by 8-10 percentage points in the 2nd follow-up (from a mean of 71 percent in the control group) (Table 5, column 1), driven by an increase in small businesses processing agricultural products and commerce. The share of households reporting that these businesses are their main activity also increases by 6-12 percentage points in the 2nd follow-up (from a mean of 0.26 in the control group) (column 2). The number of businesses increases by 0.25-0.35 in the 2nd follow-up (from a mean of 1.10 in the control group) (column 3). Impacts on participation in household businesses are highly significant for the three treatment arms. We cannot reject equality of treatment effects between the capital and psychosocial packages. Treatment effects tend to be larger for the full package. The magnitude of the impacts is substantial in both follow-ups, but tend to be smaller in the 2nd follow-up.

Consistent with the observed increase in participation, the interventions lead to large increases in investments in off-farm businesses (column 4). Investments measured in the 1st follow-up capture the intervention period. Investments in household businesses increase by $19-$39. Investments are significantly larger for the full package ($39) than the capital package ($28), which itself is significantly larger than the psychosocial package ($19). Treatment effects on investments in off-farm businesses are of substantial magnitude, representing between 80% and 162% of investments in the control group. At the same time, these investments represent a small share of the cash grants (less than 15%). Interestingly, impacts on investments in the 2nd follow-up remain positive, even though it is beyond the intervention period ($8 in the psychosocial arm, $14 in the psychosocial arm, and $15 in the full arm),

indicating sustained investments over time. The estimated effects are smallest in the psychosocial arm, but we cannot reject equality between the capital and full treatment arms.

The intervention induces very large impacts on revenues and profits from off-farm businesses (columns 5 and 6)**.** Monthly revenues increase by $36-$62 in the 1st follow-up, representing 50%-84% of revenues in the control group. This leads to increases in profits by $11-$20 in the 1st follow-up, again a very large magnitude. These impacts on profits are about a third of impacts on revenues, and 39%-70% of profits in the control group. They also represent $136-$244 per year per household in the 1st follow-up. These are large impacts relative to impacts on consumption, which are $131 (psychosocial package), $228 (capital package) and $373 (full package) per household per year. As such, increases in business profits explain all of the observed consumption impacts for the psychosocial package ($136/131), respectively 74% ($169/228) for the capital package and 65% ($244/373) for the full package. Impacts are largest for the full package, though we cannot reject equality of impacts between the psychosocial and capital packages. Results are very robust for the 2nd follow-up survey. We can reject equality of impacts between rounds for the capital group only, and point estimates are smaller in the 2nd follow-up survey, but remain of large magnitude.

Lastly, the interventions lead to improvements in business practices, but the effects are relatively small (column 7)**.** An index shows that treated households increase their use of healthy business practice by 0.16-0.25 standard deviation in the 2nd follow-up.[47] Impacts are robust across treatments, but significantly higher in the full package than in the psychosocial package.[48] Overall, note that the use of these practices remains low. Also note that these results might in part be driven by an increase in the share of households reporting off-farm business activities as their primary activities in the treatment group. Even though beneficiaries of all packages receive the same micro-entrepreneurship training and coaching, this could partly explain differences across arms.

[47] This reflects the use of an additional 0.7 to 0.9 more healthy business practices in their primary activity (from a mean of 2 business practices in the control group).

[48] Similar results are found in the 1st follow-up survey. We can reject equality of coefficients between the two rounds, with estimates of slightly larger magnitude in the 1st follow-up. The impact on the index of healthy business practices is driven by robust impacts across its elements: knowing production costs, knowing profitability, setting sale targets, changing suppliers, negotiating prices of supplies, studying suppliers, studying competitors, studying customers, etc.

4.3.2. Agriculture (Table 6)

Table 6 presents estimated treatment effects on a set of outcomes related to agriculture, encompassing production, input usage and crop sales.[49]

Recall that the productive interventions lasted until after the planting season, and results on production are unsurprisingly mixed in the 1st follow-up: the psychosocial and full packages have a modest impact on area cultivated but no statistically significant impact on production.[50] All three packages raise input usage, participation in the output market, and crop sales, however.[51]

The interventions have substantial effects on production in the 2nd follow-up. The psychosocial and full packages increase harvest value by $90 and $79, respectively (Table 6, column 3). The point estimates correspond to increases of 28% and 25% relative to the control group. Interestingly, the capital package does not induce any detectable impact on harvest value, suggesting that the cash grants are not the main drivers of impacts on agricultural revenues. Note that total production decreases on average from $539 in the 1st follow-up to $315 in the 2nd follow-up. Such a large decline cannot be explained by the changes in inputs nor by self-reported shocks shown in column 4. We cannot rule out, however, weather-related shocks that could have affected production negatively.

There is no detectable effect on area cultivated in the 2nd follow-up, but we find positive and significant effects on input usage. The capital and the full packages increase chemical fertilizer usage by 5-6 percentage points, or 30%-33% relative to control (columns 5-8). We reject equality of impacts between the full and the psychosocial arms, and between the capital and the psychosocial arms. Households assigned to the full package increase their use of phytosanitary products and hired labor, too.

The interventions increase participation in the output market (columns 9-11)**.** In the 2nd follow-up, sale value increases by $10 for the psychosocial package and by $7 for the full package (column 10)**.** While these points estimates are large relative to the control mean ($30), they are lower than estimates from the 1st follow-up. Because average production declines, households may reduce their crop sales,

[49] The interventions do not alter household's likelihood to be involved in agriculture. The point estimates in column 1 are all small, similar in both follow-ups, and none is statistically significant. We do not see impacts on crop choice either.
[50] The psychosocial and full packages both increase area cultivated by around 0.30 hectares in the 1st follow-up, an 8.5% increase relative to the control mean. While the point estimate for the capital package is not statistically significant, we cannot reject equality with other packages. These modest changes in area cultivated do not translate into a significant increase in production (column 3).
[51] The capital and the full packages increase the use of chemical fertilizers by about 5 percentage points and all packages increase the use of paid labor. Crop sales (column 10) increase by approximately 30% for all three packages. The estimated effects on sales are corroborated by increases in the probability of selling at least one crop (column 9) and the percentage of production value commercialized (column 11).

especially if they have access to other sources of revenues such as those provided by the capital and full packages.

4.3.3 Livestock (Table 7)

Table 7 shows estimated treatment effects on livestock, including outcomes measuring the current stock (columns 1-2), the flow of livestock over time (columns 3-4) and the revenues derived from livestock activities (column 5).

All three treatments have positive and significant impacts on herd size (column 1), and livestock asset value (column 2). In the 2nd follow-up, livestock count, measured in tropical livestock units,[52] increases by 0.31 units for the psychosocial package, 0.52 units for the capital package, and 0.80 units for the full package. Because these estimates are similar between rounds, it is noteworthy that a time bound program can generate large impacts on livestock accumulation that are sustained over time.

Results indicate that households that receive the cash grant (by being assigned to the capital or the full package) increase the value of livestock by an amount approximately equivalent to the grant, and that this effect persists over time. In the 2nd follow-up, livestock asset value increases by $260 for the capital arm and by $330 for the full package. The magnitudes of those effects are large compared to a grant amount of $325. We cannot reject equality between follow-ups. The psychosocial package, which did not include a cash grant, exhibits a smaller increase in livestock value (of $112) that is statistically significant in the 2nd follow-up. The capital and full packages have significantly higher livestock values than the psychosocial package at both follow-ups, suggesting that the cash grant contributes to livestock investments.

The three treatments impact flow outcomes (columns 3-4) in the 1st follow-up,[53] but these effects mostly vanish by the 2nd follow-up. Annual changes in tropical livestock units (column 3) are negative, relatively small and not statistically significant. Similarly, the impacts on livestock purchases are smaller in magnitude in the 2nd follow-up for the three treatment arms, and statistically significant for the full package only. This suggests that beneficiaries do not keep accumulating livestock after the end of the

[52] See Table A.3 for a detailed definition. The index gives different weights to small and large animals.
[53] The capital and full arms lead to an annual increase (in TLU) of 0.35 and 0.23. The capital and full packages increase livestock purchases by $98 and $107. These figures represent approximately 30% of the cash grant.

intervention. It also contrasts with results on household off-farm businesses, where sustained investments are observed after the intervention.

Household livestock revenues increase across all three arms in the 2nd follow-up.[54] Revenues increase by $37 for the psychosocial package. The capital and the full packages increase revenues by $69 and $71. Relative to the control group, these estimates correspond to a 28%-54% increase.[55]

The results provide some insights on how households invest in livestock. The estimates in columns 1-2 (stocks) are essentially the same in the two follow-ups. There are some initial changes or adjustments in flows (columns 3 and 4) in the 1st follow-up which have almost vanished by the 2nd follow-up. One possible interpretation is that some households purchase livestock in the 1st period and sell it in the 2nd period. This is consistent with the effects on livestock revenues that are mostly detectable in the 2nd period.

4.4 Assets and savings (Tables 8 and 9)

We first investigate the effects of the interventions on the value of assets owned by the eligible women and their households. The full and capital packages include a cash grant that could have a direct impact on the purchase of new assets, while all packages could also induce the purchase of assets through the positive impacts on revenues shown in section 4.2. Table 8 presents results for agricultural assets, non-agricultural assets and household assets.

The interventions only induce a modest increase (10% relative to control) on agricultural asset values (which include items such as plows and pumps) that is marginally significant for the full package in the 2nd follow-up only (Table 8, column 1).

We find evidence that all packages increase the value of business assets (column 2) in the 2nd follow-up (while the effect is statistically significant only for the full package in the 1st follow-up). The effects are relatively large compared to the control mean (for example, an increase of 32% for the full package). However, reported business asset values are low across all arms, representing 3% of productive asset

[54] The revenues include proceeds from animal sales but exclude sales of secondary livestock products such as milk or eggs.
[55] Only the full treatment raises livestock revenues substantially in the 1st follow-up. The point estimate in column 5 implies an increase of revenues by $46 (33% increase relative to the control mean). The estimate is not statistically different from that of the psychosocial arm, however.

values in the control group, and even less in the treatment arms.[56] Earlier results show that the three packages have a large effect on off-farm business income (Table 2) and investments (Table 5). Contrasting those results with the more modest effects on business assets illustrate that off-farm businesses supported by the program – generally petty trade and food transformation activities – are not very intensive in fixed capital.

We also find that the psychosocial and full packages affect the number of household non-productive assets (measured with an asset index), such as beds or pots (column 3). At both follow-ups, we reject equality of impacts between the full and the capital packages, but not between the full and psychosocial packages.

We now turn our attention to the results on several outcomes related to households' financial engagement (Table 9). Saving behavior is an important outcome in the theory of change of the program. The VSLA component, which is part of all treatment arms, aims to facilitate the creation of savings groups and to provide technical support to their management. We first test whether the treatment arms change households' participation to savings group either in a VSLA, which is the type of savings group promoted by the program, or in a tontine (which are informal ROSCAs common in the Sahel region).

Results in columns 1 and 2 show estimated treatment effects on the probability to be part of a savings group, respectively the total amounts deposited over the last three months. Due to issues in the measurement of those outcomes in the 1st follow-up, we focus on results in the 2nd follow-up.[57] We find that all treatments have large effects on participation in savings groups (27, 31 and 33 percentage points

[56] This measure is potentially noisy, as the survey asked for total asset values for each of their businesses, not disaggregated by each asset.

[57] For completeness, we present results for both follow-ups in Table 9, though there are some inconsistencies in results for the 1st follow-up. Although we find positive effects on the probability to be part in a VSLA/tontine (column 1) for all packages in both follow-ups, the effects are much larger in the 2nd follow-up. Similarly, the three treatment arms increase the amount of deposits (column 2) in the 2nd follow-up, but have no effect in the 1st follow-up. We believe that this difference is driven by a measurement issue in the 1st follow-up survey. Our data shows (column 1) that most of the respondents in the control group (93 %) declare participating in a VSLA/tontine in the 1st follow-up, compared to only 53% in the 2nd follow-up. Disaggregating the participation in saving groups by tontine and VSLA (Table A.6, columns 3 and 4) shows that 84% of the control declare participating in a VSLA and 23% in a tontine in the 1st follow-up. This level of participation in a VSLA in the control at 1st follow-up appears very unlikely. It may come from the way the question was phrased in the 1st follow-up. For instance, it is possible that respondents included in this response their participation in beneficiary groups established for the child development promotion activities as part of the cash transfer program (see Premand and Barry, 2020). These activities were implemented consistently across all treatment and control villages in the sample we analyze in this paper. As part of these groups, beneficiaries met to discuss topics related to child nutrition and development. The activities did not cover savings or productive activities, although beneficiaries sometimes made small contributions for cooking demonstrations. The difference in results between the 1st and 2nd follow-up survey may also have been influenced by the recall period, which was 24 months in the 1st follow-up but 12 months in the 2nd follow-up, or some misunderstanding on the question during the training of surveyors, although results remain unchanged when we control for surveyor fixed effects (Table A.6, column 2).

for the psychosocial, capital and full arms respectively). The full package has a greater impact than the psychosocial one, but we do not reject equality between the capital and psychosocial arms or the full and capital arms. Consequently, we find similar patterns in the effects on the level of deposits made over the three months before the survey (column 2), ranging from a 92% (psychosocial arm) to a 159% (full arm) increase compared to the control. The interventions also increase deposits in other savings instruments outside the household (column 3), although saving in instruments other than groups is uncommon. Effects are concentrated in the full and capital arms in the 2nd follow-up.

Most of the cash transfer beneficiaries do not report borrowing (only $9 yearly in the control) and only the full package changes the average outstanding loan amount in the 2nd follow-up (column 4). However, the (full and capital) packages that include a cash grant increase the amount beneficiaries lend to others outside the household in the 1st follow-up, although the effects are small and are not sustained in the 2nd follow-up.

Finally, the program does not have much effect on transfers into (column 6) the households, though it does increase transfers out (column 7). Households in the control receive a large amount ($176) of transfers yearly (these transfers may come from anyone who is not part of the household, but do not include government transfers such as the safety net program) and only the capital arm at the 2nd follow-up reduces this amount (by $28). The transfers made to other households are much more limited ($9.5 per year in the control). The three treatments increase yearly transfers out by $5-$8, which are large relative effects (57-85% relative to control), but remain small in absolute terms.

4.5 Psychological and social well-being (Tables 10 and 11)

Tables 10 and 11 report the impacts on psychological and social well-being among eligible women, respectively. We measure psychological well-being through a series of indices: a mental health index (capturing elements such as depression and life satisfaction), a social worth index (including self-efficacy and social standing), and a future expectations index (covering social status, life satisfaction and child status).[58]

[58] Appendix B and Table A.4 detail the content and construction of each index. Results from components of each index are provided in Table A.7 (mental health index components), Table A.8 (social worth index components) and Table A.9 (future expectation index components).

We find that all three packages have a positive, statistically significant impact on the mental health, social worth and future expectations of eligible women, and that these impacts are sustained over time (Table 10). The full package has significantly higher impacts than the other two packages in the first follow-up, with coefficients approximately double the magnitude of those of the capital and psychosocial packages. Yet in the 2nd follow-up, we cannot reject equality between the full and psychosocial packages. The capital treatment has the smallest point estimate of the three packages (though we cannot reject equality between the capital and psychosocial packages in most cases).

Impacts on mental health grow from 0.1 to 0.21 standard deviation between the 1st and 2nd follow-up for beneficiaries of the psychosocial package (column 1). These results are driven by improvements in depression and disability. In contrast, the impacts on social worth and future expectations are somewhat reduced over time, but that reduction is statistically significant only for the full package which has the highest point estimates in both follow-ups (columns 2 and 3). For social worth, the reduction seems to be driven by some attenuation in the social standing, while self-efficacy on the other hand appears fairly stable.

Table 11 displays results related to dimensions of social well-being. The first two columns examine impacts on a social support index (containing role models as well as people beneficiaries could go to for advice on economic activities and conflict) and a financial support index (whether beneficiaries can raise funds from others around them).[59] Results show that all three packages have positive impacts on these indices at both follow-ups, with the full package showing the greatest impacts on financial support. Notably, for the financial support index, only the psychosocial and full packages increase the beneficiary's number of financial supporters, i.e., those they could go to for financial help, at both follow-ups. While these positive impacts on financial and social support persist over time, they significantly weaken between the 1st and 2nd follow-up for all packages, except for social support in the psychosocial package. For the social support index, the observed decline is spread across most of the component variables, with the notable exception of the number of market intermediaries which, if anything, increases over time.

Column 3 summarizes intra-household dynamics, which include variables related to the quality of the relationship with the respondent's partner as well as with the respondent's household. None of the

[59] Appendix B and Table A.4 detail the content and construction of each index. Results from components of each index are provided in Table A.10 (social support index), Table A.11 (financial support index), Table A.12 (future expectation index), Table A.13 (social cohesion and closeness to community) and Table A.14 (collective action index).

packages statistically significantly improves overall intra-household dynamics at 18 months post-intervention, although the psychosocial package has a small positive effect on overall intra-household dynamics in the 1st follow-up.[60]

Column 4 presents impacts on a social cohesion and community closeness index (including elements such as trust within the village and community inclusiveness). In the 1st follow-up, the psychosocial and full packages have equivalent, significant impacts on social cohesion, and these are greater than the null effects of the capital package. In the 2nd follow-up, however, all three packages show positive impacts on this social cohesion index, with no significant difference across the packages. The main variable that seems to be driving this result is trust in other women in the village.

Finally, column 5 shows a collective action index that captures engagement in associations as well as donations and volunteer work. The collective action index significantly increases for all packages with impacts sustained over time and with positive movement across almost all elements of the index. Here again, the full package has a stronger effect than the capital package 18 months post-intervention. Consistent with other measures of social well-being, the effects weaken slightly between the 1st and the 2nd follow-up, even though they stay strongly statistically significant.

Overall, these results document widespread improvements across dimensions of psychological and social well-being as well as community engagement and collective action, particularly for the psychosocial and full packages. These results indicate significant impacts on dimensions of women's social empowerment. Overall, the findings are highly consistent with the observed improvements in economic welfare and participation in income-generating activities.

4.6 Women's control over decisions and resources (Table 12)

Table 12 summarizes treatment effects on women's decision-making power and productive agency using two indices. The first index covers her decision-making and control over her earnings and productive activities, and the second index summarizes her decision-making and control over household resources and household decisions such as family planning and children's education.[61]

[60] It also significantly improves the partner dynamics index in the 2nd follow up (Table A.12).
[61] Results from components of each index can be found in Tables A.15 (control over earnings and productive agency) and Table A.16 (control over household resources).

We find that the interventions have a positive and significant impact on the beneficiary's control over her earnings and productive agency. This is true for all three packages and sustained over time. The full package has significantly larger impacts than either the psychosocial or capital package in the 1st follow-up. Over time, the full package has slightly weaker impact. The positive effects on this index are driven mainly by the off-farm business and livestock domains, which is consistent with patterns documented in sections 4.1 and 4.2. For example, beneficiaries receiving the full package are 22 percentage points more likely to own an off-farm business and 16 percentage points more likely to own livestock (Table A15, columns 9 and 10). Effects are also significant for the psychosocial and capital packages, albeit smaller for the package without the grant. This translates into increased decision-making and control over these activities. All packages significantly increase the influence the beneficiary has on decisions concerning the household's off-farm businesses, and the full and capital packages increase her influence on decisions related to livestock and her control over livestock revenues.

Conversely, we see no impact on the decision-making power of beneficiaries over household resources and related domains, whether six or 18 months post-intervention. A closer look at the income gains may provide some explanation for this. Looking at the main sources of revenues, Table 2 shows significant gains for the beneficiary. However, a comparison with Tables 5, 6, and 7 shows that the increase in beneficiary revenues is not over fifty percent of the increase in total household revenues. To illustrate, take the case of the full package in the 2nd follow-up. The beneficiary increase in business revenues is 44 percent of the total household gain in this realm, with the corresponding figures for harvest and livestock revenues at 17 and 23 percent respectively.[62] These numbers suggest significant spillovers within households. They also indicate that the beneficiary woman's share of household income is not increasing. This might hence explain why we do not see increased bargaining power leading to control over household decisions.

Taking these results together with the results in section 4.5, we see significant improvements in a number of dimensions of women's empowerment – their engagement in the community, their collective action and their control over their own economic activities. This is consistent with the impacts of graduation programs found when using a broad range of indicators (as in Bedoya et al., 2019), in contrast with more limited results from the original graduation studies based on narrower measures (Banerjee et al., 2015b). However, as the household head's income rises as well, we do not see

[62] These figures are obtained by comparing estimated impacts on the beneficiary's revenues in Table 2, with corresponding estimates of impacts on household revenues (respectively in Table 5, column 5; Table 6, column 3 and Table 7, column 5).

significant gains in intrahousehold interactions or decision making, which likely depend on her relative position in the household rather than absolute income gains.

4.7 Children's outcomes (Table 13)

Table 13 documents impacts on children, specifically school attendance (column 1), an index of child labor capturing participation in income-generating activities (column 2), an index of participation in household chores (column 3), and an anthropometric measure capturing the weight for height z score (used to proxy wasting, column 4). The point estimate for school attendance is positive and statistically significant for the capital package (6 percentage points, or 14% relative to control). However, it is not significant in other treatments. We find an increase in labor and chores for children, potentially due to the increase in income-generating activities in the household. This is consistent with the increases in eligible women's participation in economic activities. There is no difference between packages in the 2nd follow-up, though effects are larger in the full and capital package in the 1st follow-up. Children's participation in housework (such as cleaning) also increases in the 1st follow-up, but the effects are not statistically significant in the 2nd follow-up.[63] This change over time could be due to pressure on eligible women's time during the intervention, which may have induced a temporary shift of household chores toward children. Lastly, no statistically significant effect on anthropometrics is found (although the point estimates are negative).[64] This shows that large increases in welfare, food security and revenues from income-generating activities do not necessarily translate into improvements of children's anthropometrics.[65]

5. Cost-Benefit Analysis (Table 14)

Table 14 presents cost-benefit calculations. Panel 1 details program costs based on the administrative data, per beneficiary of each intervention package.[66] In 2016 PPP US dollars, total costs are $263 for the

[63] The effect on children's participation in housework is driven by girls, with no effect for boys.
[64] No statistically significant effects are found on other anthropometric variables, such as weight for age or height for age z-scores.
[65] As such, the results are consistent with earlier findings on the Niger cash transfer program showing that improvements of household welfare or food security do not induce improvements in children's outcomes (Premand and Barry, 2020). Muted impacts of cash transfers on anthropometrics were also observed in Burkina Faso (Akresh et al., 2013).
[66] We do not account for cash transfer program costs and the cost of the underlying social protection systems (targeting, payment,…) since these are incurred for the control group as well.

psychosocial package, $482 for the capital package and $584 for the full package. The lump-sum cash grant ($321) is clearly the main cost driver.[67] In comparison, the psychosocial interventions (community sensitization and life skills) are much cheaper ($102). This is key for the relative cost-effectiveness of the capital and psychosocial packages.

Panel 2 summarizes estimated benefits. The calculations are conservative as they only consider welfare impacts on consumption, without accounting for impacts on assets or psychosocial well-being.[68] We consider various scenarios regarding the sustainability of impacts after the 2nd follow-up survey. First, we consider zero impacts after the 2nd follow-up survey (scenario A). We then consider various yearly rates of dissipation of impacts, including 75% (scenario B1), 50% (scenario B2) and 25% (scenario B3). Lastly, we assume impacts are sustained in perpetuity (scenario C).[69] We use a 5% discount rate.

Panel 3 presents the benefit-cost ratios. Importantly, row 9 shows that the benefit-cost ratios are above 1 for the psychosocial package, and almost equal to 1 for the full package, even considering benefits end after 18 months. The results are remarkable as the psychosocial package is cost-effective even when assuming that no program impact is sustained after the 2nd follow-up. Benefit-cost ratios are slightly lower for the full package, though the orders of magnitude are close and the full package nearly reaches its break-even point based on consumption impacts observed up to 18 months post-intervention. We cannot reject equality of the benefit-cost ratios for the psychosocial and full package (p= 0.34). On the other hand, the capital package has a lower benefit-cost ratio, due to the relatively large cost of the cash grants and the limited additional consumption impacts they generate. We can reject equality of the benefit-cost ratio between the psychosocial and capital package (p= 0.030), as well as between the full and capital package (p= 0.026). Note, however, that impacts on assets are at times larger in the capital and full package, and not accounted for in cost-benefit analysis based on consumption alone. These results are robust under alternative discount rates of 5%, 7% and 10%. Row 10 presents results under alternative rates of dissipation. Results again show large benefit-cost ratios for the psychosocial and full

[67] Panel 1 in table 14 lists cash grant costs that are slightly higher than the cash grant value of 80,000 XOF ($127, or $311 in 2016 PPP) because it also accounts for operational and payment costs.
[68] Cumulated consumption impacts are calculated as half the impacts on yearly consumption in the 1st follow-up plus impacts on yearly consumption in the 2nd follow-up. Estimated consumption impacts amount to $131 (psychosocial package), $228 (capital package) and $373 (full package) per household per year in the 1st follow-up, and $298 (psychosocial package), $196 (capital package) and $425 (full package) terms per household per year at 2nd follow-up.
[69] While this is the least conservative scenario, it is the benchmark case used by Banerjee et al. (2015b), which facilitates comparisons, see conclusion.

packages. The capital package becomes cost-effective when assuming a rate of dissipation of 45% per year after the 2nd follow-up.[70]

The high cost-effectiveness of the intervention is further illustrated by internal rates of return (IRR) that are positive and high across most assumptions. IRR are 13% for the psychosocial package without assuming any sustained impacts after the 2nd follow-up. With a dissipation of impacts of 50% per year after the 2nd follow-up, IRR are 39% for the psychosocial package and 21% for the full package, while the capital package almost reaches break-even point (IRR=-2%). IRR reach 70% (psychosocial package), 33% (capital package) and 53% (full package) when assuming sustained impacts.

6. Conclusion

We document strong impacts of three variants of a multi-faceted social protection program on consumption and food security six and 18 months post-intervention. These welfare improvements are consistent with large observed increases in earnings from women-led income-generating activities, in particular off-farm self-employment and livestock. Savings and asset accumulation also increase. We find substantial impacts across several dimensions of psychological and social well-being. The interventions increase women's social empowerment and control over their income-generating activities and earnings, although this does not carry through to a stronger say in household decision-making.

In general, results are very robust between treatment arms. The full package tends to have the largest impacts on welfare, food security and income-generating activities. Only small differences in impacts on intermediate outcomes emerge over time between the capital and psychosocial packages. For instance, the psychosocial treatment catches up with the capital treatment in some dimensions of welfare and food security by the 2nd follow-up survey. The psychosocial treatment induces larger effects on

[70] The full package is nearly cost-effective in the 2nd follow-up, and would be cost-effective assuming a 92% yearly dissipation rate. In panel 3, impacts are assumed constant 1-6 months post-intervention (equal to half the yearly impacts estimated in the 1st follow-up), as well as 7-18 months post-intervention (equal to yearly impacts estimated in the 2nd follow-up). Table A.17 provides results assuming linear growth between the end of the intervention (assuming zero impact at that point) and the 1st follow-up, as well as between the 1st and 2nd follow-ups. Results again show the largest ratio for the psychosocial package, followed by the full and capital packages. These estimations are more conservative. We can reject equality between the full and capital package (p= 0.055), but not between the psychosocial and capital package (borderline, with p= 0.129) and between the full and capital package (p= 0.677). The full package is cost-effective if impacts dissipate at a rate of 77% per year post-intervention, the psychosocial package, 92% per year post-intervention, and the capital package, 44% per year post-intervention.

agricultural revenues than the capital treatment, while the capital treatment induces larger effects on livestock and asset accumulation than the psychosocial treatment. Improvements across dimensions of psychological and social well-being as well as community engagement and collective action are widespread but particularly strong for the psychosocial and full packages.

The magnitude of impacts on welfare is large across packages, but the psychosocial components are cheaper than the lump-sum cash grant. In fact, cumulated impacts on consumption 18 months after the end of the intervention already exceed the cost of the psychosocial package and nearly reach the break-even point for the full package. Overall, the psychosocial package is cost-effective based on consumption impacts alone. The full and capital package are cost-effective under weak assumptions about the sustainability of impacts beyond the 2nd follow-up, even without considering other observed benefits such as asset accumulation or improvements in psychological well-being. As such, these results show the potential value of addressing psychosocial constraints as well as capital constraints in multi-faceted social protection interventions.

The results also illustrate the value of delivering multi-faced interventions through government-led national cash transfer programs. The program costs ($ 263 PPP for the psychosocial package, $ 482 PPP for the capital package and $ 584 PPP for the full package) are substantially lower than similar graduation programs implemented in other contexts: $ 1,475 PPP in India, $ 4,215 PPP in Ethiopia, $ 5,483 PPP in Ghana, $ 6,044 PPP in Pakistan (Banerjee et al., 2015b), or $6,183 PPP in Afghanistan (Bedoya et al., 2019).[71] The Niger intervention was specifically designed in a cost-conscious way, to ensure it could be scaled-up through government systems. Assuming impacts last for perpetuity (as in the benchmark case in Banerjee et al., 2015b), the benefits in Niger are 20.9 times larger than costs for the psychosocial package, 13.5 times larger for the full package, and 7.6 times larger for the capital package. As such, and strikingly, the benefit-cost ratios estimated in Niger are 2-5 times larger than those in Banerjee et al. (2015b) for India (433%), 3-8 times larger than those found for Ethiopia (260%), as well as 1.5-4 times larger than those for Afghanistan (Bedoya et al., 2019). It is noteworthy that the government-led Niger intervention is highly cost-effective even compared to traditional graduation programs implemented by NGOs elsewhere. As such, the results highlight models to scale up multi-faceted economic inclusion interventions for extreme poor households through government systems.

This paper is the first of a multi-country RCT that also includes Burkina Faso, Mauritania and Senegal. The promising results from the Niger site will need to be confirmed following data collection in other

[71] We express costs in 2016 PPP for comparison.

sites. In line with the pre-analysis plan for this research program, future work will include a pooled analysis across the four countries, a finer assessment of heterogeneity and mechanisms, as well as research of the role of the multi-faceted programs in fostering resilience and helping households mitigate the effects of exogenous shocks. Additional research in Niger will also deepen the analysis of intra-household dynamics and psychosocial mechanisms.

References

Ajayi, Kehinde, Smita Das, Léa Rouanet, and Clara Delavallade. Forthcoming. "Gender Differences in Socio-Emotional Skills in Sub-Saharan Africa." *Mimeo.*

Akresh, Richard, Damien De Walque, and Harounan Kazianga. 2013. "Cash Transfers and Child Schooling: Evidence from a Randomized Evaluation of the Role of Conditionality." *World Bank Policy Research Working Paper Series*, no. 6340. https://www.doi.org/10.1596/1813-9450-6340.

Alderman, Harold, and Ruslan Yemtsov. 2014. "How Can Safety Nets Contribute to Economic Growth?" *World Bank Economic Review* 28 (1): 1–20. https://doi.org/10.1093/wber/lht011.

Andrews, Colin, Aude de Montesquiou, Inés Arévalo Sánchez, Puja Vasudeva Dutta, Boban Varghese Paul, Sadna Samaranayake, Janet Heisey, Timothy Clay, and Sarang Chaudhary. 2021. "The Potential to Scale: Economic Inclusion for the Poorest. The State of Economic Inclusion Rep ort." Washington, DC: World Bank. https://www.peiglobal.org/resources/preview-state-economic-inclusion-report-2021

Angelucci, Manuela, Dean Karlan, and Jonathan Zinman. 2015. "Microcredit Impacts: Evidence from a Randomized Microcredit Program Placement Experiment by Compartamos Banco." *American Economic Journal: Applied Economics* 7 (1): 151–82. https://doi.org/10.1257/app.20130537.

Appadurai, Arjun. 2004. "The Capacity to Aspire: Culture and the Terms of Recognition." In *Culture and Public Action*, edited by Vijayendra Rao and Michael Walton. Stanford University Press.

Archibald, Edward, Thomas Bossuroy, and Patrick Premand. 2020. "Productive Inclusion Measures and Adaptive Social Protection in the Sahel: A Case Study." Washington, DC: The World Bank. http://documents1.worldbank.org/curated/en/945281604463808844/pdf/A-Case-Study.pdf.

Ashraf, Nava, Natalie Bau, Corinne Low, and Kathleen McGinn. 2020. "Negotiating a Better Future: How Interpersonal Skills Facilitate Intergenerational Investment." *The Quarterly Journal of Economics* 135 (2):1095-1151. https://10.1093/qje/qjz039.

Attanasio, Orazio, Britta Augsburg, Ralph De Haas, Emla Fitzsimons, and Heike Harmgart. 2015. "The Impacts of Microfinance: Evidence from Joint-Liability Lending in Mongolia." *American Economic Journal: Applied Economics* 7 (1): 90–122. https://doi.org/10.1257/app.20130489.

Balboni, Clare, Oriana Bandiera, Robin Burgess, Maitreesh Ghatak, and Anton Heil. 2020. "Why Do People Stay Poor?" STICERD - Economic Organisation and Public Policy Discussion Papers Series. Suntory and Toyota International Centres for Economics and Related Disciplines, LSE. https://econpapers.repec.org/paper/cepstieop/067.htm.

Ballard, Terri J, Anne W Kepple, and Carlo Cafiero (2013). "The food insecurity experience scale: development of a global standard for monitoring hunger worldwide". FAO, Rome. http://www.fao.org/fileadmin/templates/ess/voh/FIES_Technical_Paper_v1.1.pdf

Bandiera, Oriana, Robin Burgess, Narayan Das, Selim Gulesci, Imran Rasul, and Munshi Sulaiman. 2017. “Labor Markets and Poverty in Village Economies.” *The Quarterly Journal of Economics* 132 (2): 811–70. https://doi.org/10.1093/qje/qjx003

Banerjee, A., E. Duflo, R. Chattopadhyay, and J. Shapiro. 2016. “The Long Term Impacts of a ‘Graduation ’ Program : Evidence from West Bengal.” *Mimeo.* https://economics.mit.edu/files/12031

Banerjee, Abhijit, Esther Duflo, Rachel Glennerster, and Cynthia Kinnan. 2015a. “The Miracle of Microfinance? Evidence from a Randomized Evaluation.” *American Economic Journal: Applied Economics* 7 (1): 22–53. https://doi.org/10.1257/app.20130533.

Banerjee, Abhijit, Esther Duflo, Nathanael Goldberg, Dean Karlan, Robert Osei, William Parienté, Jeremy Shapiro, Bram Thuysbaert, and Christopher Udry. 2015b. “A Multifaceted Program Causes Lasting Progress for the Very Poor: Evidence from Six Countries.” *Science* 348 (6236). https://doi.org/10.1126/science.1260799.

Banerjee, Abhijit, Esther Duflo, and Garima Sharma. 2020a. “Long-Term Effects of the Targeting the Ultra Poor Program.” *NBER Working Papers*, no. 28074 (November). https://www.nber.org/system/files/working_papers/w28074/w28074.pdf.

Banerjee, Abhijit, Karlan, Dean, Robert Osei, Hannah Trachtman, and Udry Christopher. 2020b. “Unpacking a Multi-Faceted Program to Build Sustainable Income for the Very Poor.” *Mimeo*. https://www.poverty-action.org/sites/default/files/publications/Unpacking%20Manuscript.pdf.

Banerjee, Abhijit, Dean Karlan, and Jonathan Zinman. 2015c. “Six Randomized Evaluations of Microcredit: Introduction and Further Steps.” *American Economic Journal: Applied Economics* 7 (1): 1–21. https://doi.org/10.1257/app.20140287.

Baranov, Victoria, Johannes Haushofer, and Chaning Jang. 2019. “Can Positive Psychology Improve Psychological Well-Being and Economic Decision-Making? Experimental Evidence from Kenya.” *Economic Development and Cultural Change* 68 (4): 1345–76. https://doi.org/10.1086/702860.

Bastagli, Francesca, Jessica Hagen-Zanker, Luke Harman, Valentina Barca, Georgina Sturge, and Tanja Schmidt. 2019. “The Impact of Cash Transfers: A Review of the Evidence from Low- and Middle-Income Countries.” *Journal of Social Policy* 48 (3): 569–94. https://doi.org/10.1017/S0047279418000715.

Bedoya, Guadalupe, Aidan Coville, Johannes Haushofer, Mohammad Isaqzadeh, and Jeremy P. Shapiro. 2019. “No Household Left Behind: Afghanistan Targeting the Ultra Poor Impact Evaluation,” NBER Working Papers, no. 25981 (June). https://doi.org/10.3386/w25981.

Beegle, Kathleen, Maddalena Honorati, and Emma Monsalve. 2018. “Reaching the Poor and Vulnerable in Africa Through Social Safety Nets.” In *Realizing the Full Potential of Social Safety Nets in Africa*, 49–86. Washington, D.C.: The World Bank. https://doi.org/10.1596/978-1-4648-1164-7_ch1.

Bernard, Tanguy, Stefan Dercon, Kate Orkin, and Alemayehu Seyoum Taffesse. 2015. “Will Video Kill the Radio Star? Assessing the Potential of Targeted Exposure to Role Models through Video.” *The World Bank Economic Review* 29 (suppl_1): S226–37. https://doi.org/10.1093/wber/lhv014.

Bernard, Tanguy, Stefan Dercon, Kate Orkin, and Alemayehu Seyoum Taffesse. 2019. “Parental Aspirations for Children’s Education: Is There a ‘Girl Effect’? Experimental Evidence from Rural Ethiopia.” *AEA Papers and Proceedings* 109 (May): 127–32. https://doi.org/10.1257/pandp.20191072.

Bernhardt, Arielle, Erica Field, Rohini Pande, Natalia Rigol, Simone Schaner, and Charity Troyer-Moore. 2018. "Male Social Status and Women's Work." *AEA Papers and Proceedings* 108:363-67. https://doi.org/10.1257/pandp.20181086.

Blattman, Christopher, Eric P. Green, Julian Jamison, M. Christian Lehmann, and Jeannie Annan. 2016. “The Returns to Microenterprise Support among the Ultrapoor: A Field Experiment in Postwar Uganda.” *American Economic Journal: Applied Economics* 8 (2): 35–64. https://doi.org/10.1257/app.20150023.

Blattman, Christopher, Julian C. Jamison, and Margaret Sheridan. 2017. “Reducing Crime and Violence: Experimental Evidence from Cognitive Behavioral Therapy in Liberia.” *American Economic Review* 107 (4): 1165–1206. https://doi.org/10.1257/aer.20150503.

Bold, Tessa, Mwangi Kimenyi, Germano Mwabu, Alice Ng'ang'a, and Justin Sandefur. 2018. "Experimental Evidence on Scaling up Education Reforms in Kenya." *Journal of Public Economics* 168 (December): 1–20. https://doi.org/10.1016/j.jpubeco.2018.08.007.

Bossuroy, Thomas, Estelle Koussobe, and Patrick Premand. 2020. "Constraints to Productive Employment Faced by Safety Nets Beneficiaries in the Sahel : Results of a Multi-Country Qualitative Assessment." Washington, DC: The World Bank. https://openknowledge.worldbank.org/handle/10986/33552.

Breza, Emily, and Cynthia Kinnan. 2018. "Measuring the Equilibrium Impacts of Credit: Evidence from the Indian Microfinance Crisis," NBER Working Papers, no. 24329 (February). https://ideas.repec.org/p/nbr/nberwo/24329.html.

Bursztyn, Leonardo, Alessandra L. González, and David Yanagizawa-Drott. 2020. "Misperceived Social Norms: Women Working Outside the Home in Saudi Arabia." *American Economic Review* 110 (10): 2997–3029. https://doi.org/10.1257/aer.20180975.

Campos, Francisco, Michael Frese, Markus Goldstein, Leonardo Iacovone, Hillary C. Johnson, David McKenzie, and Mona Mensmann. 2017. "Teaching Personal Initiative Beats Traditional Training in Boosting Small Business in West Africa." *Science* 357 (6357): 1287–90. https://doi.org/10.1126/science.aan5329.

Crépon, Bruno, Florencia Devoto, Esther Duflo, and William Parienté. 2015. "Estimating the Impact of Microcredit on Those Who Take It Up: Evidence from a Randomized Experiment in Morocco." *American Economic Journal: Applied Economics* 7 (1): 123–50. https://doi.org/10.1257/app.20130535.

Dalton, Patricio S., Sayantan Ghosal, and Anandi Mani. 2016. "Poverty and Aspirations Failure." *The Economic Journal* 126 (590): 165–88. https://doi.org/10.1111/ecoj.12210.

Davis, Benjamin, Sudhanshu Handa, Nicola Hypher, Natalia Winder Rossi, Paul Winters, and Jennifer Yablonski. 2016. *From Evidence to Action: The Story of Cash Transfers and Impact Evaluation in Sub-Saharan Africa*. FAO, UNICEF and Oxford University Press.

Field, Erica M., Rohini Pande, Natalia Rigol, Simone G. Schaner, and Charity Troyer Moore. 2019. "On Her Own Account: How Strengthening Women's Financial Control Affects Labor Supply and Gender Norms." *National Bureau of Economic Research Working Paper Series* No. 26294. https://doi.org/10.3386/w26294.

de Mel, Suresh, David McKenzie, and Christopher Woodruff. 2012. "One-Time Transfers of Cash or Capital Have Long-Lasting Effects on Microenterprises in Sri Lanka." *Science* 335 (6071): 962–66. https://doi.org/10.1126/science.1212973.

Fiszbein, Ariel, Norbert Schady, Francisco Ferreira, Margaret Grosh, Niall Keleher, Pedro Olinto, and Emmanuel Skoufias. 2009. "Conditional Cash Transfers: Reducing Present and Future Poverty." World Bank Policy Research Report. Washington, DC: The World Bank. https://openknowledge.worldbank.org/bitstream/handle/10986/2597/476030PUB0Cond101Official0Use0Only1.pdf?sequence=1.

Genicot, Garance, and Debraj Ray. 2017. "Aspirations and Inequality." *Econometrica* 85 (2): 489–519. https://doi.org/10.3982/ECTA13865.

Ghosal, Sayantan, Smarajit Jana, Anandi Mani, Sandip Mitra, and Sanchari Roy. 2020. "Sex Workers, Stigma and Self-Image: Evidence from Kolkata Brothels." *The Review of Economics and Statistics* 0 (ja):1-45. https://doi.org/10.1162/rest_a_01013 .

Hamedani, Mar Yam G., and Hazel Rose Markus. 2019. "Understanding Culture Clashes and Catalyzing Change: Culture Cycle Approach." *Frontiers in Psychology* 10 (700). https://doi.org/10.3389/fpsyg.2019.00700

Haushofer, Johannes, and Ernst Fehr. "On the Psychology of Poverty." *Science* 344, no. 6186 (2014): 862-867. https://doi.org/10.1126/science.1232491.

Haushofer, Johannes, and Jeremy Shapiro. 2016. "The Short-Term Impact of Unconditional Cash Transfers to the Poor: Experimental Evidence from Kenya." *The Quarterly Journal of Economics* 131 (4): 1973–2042. https://doi.org/10.1093/qje/qjw025.

Haushofer, Johannes, Robert Mudida, and Jeremy P. Shapiro. 2020. "The Comparative Impact of Cash Transfers and a Psychotherapy Program on Psychological and Economic Well-Being," NBER Working Papers, no. 28106 (November). https://www.nber.org/system/files/working_papers/w28106/w28106.pdf.

Jayachandran, Seema. 2020. "Social Norms as a Barrier to Women's Employment In Developing Countries." *Mimeo*, September. https://faculty.wcas.northwestern.edu/~sjv340/social_norms_flfp.pdf.

Karlan, Dean, Ryan Knight, and Christopher Udry. 2015. "Consulting and Capital Experiments with Microenterprise Tailors in Ghana." *Journal of Economic Behavior & Organization* 118 (C): 281–302. https://doi.org/10.1016/j.jebo.2015.04.005.

Karlan, Dean, and Jonathan Zinman. 2010. "Expanding Credit Access: Using Randomized Supply Decisions to Estimate the Impacts." *The Review of Financial Studies* 23 (1): 433–64. https://doi.org/10.1093/rfs/hhp092.

Karlan, Dean, and Jonathan Zinman. 2011. "Microcredit in Theory and Practice: Using Randomized Credit Scoring for Impact Evaluation." *Science* 332 (6035): 1278–84. https://doi.org/10.1126/science.1200138.

La Ferrara, Eliana. 2016. "Mass Media and Social Change: Can We Use Television to Fight Poverty?" *Journal of the European Economic Association* 14 (4): 791–827. https://doi.org/10.1111/jeea.12181

Laszlo, Sonia. 2019. "The Gender Transformative Potential of Graduation Programs." *Institute for the Study of International Development*, GWP-2019-25 – Research Contribution Paper, Accessed November 25, 2020. http://grow.research.mcgill.ca/publications/working-papers/gwp-2019-25.pdf.

Macours, Karen, Patrick Premand, and Renos Vakis. 2012. "Transfers, Diversification and Household Risk Strategies: Experimental Evidence with Lessons for Climate Change Adaptation." *World Bank Policy Research Working Paper*, no. 6053 (April). https://openknowledge.worldbank.org/bitstream/handle/10986/6055/WPS6053.pdf

Macours, Karen, and Renos Vakis. 2014. "Changing Households' Investment Behaviour through Social Interactions with Local Leaders: Evidence from a Randomised Transfer Programme." *The Economic Journal* 124 (576): 607–33. https://doi.org/10.1111/ecoj.12145.

Marguerie, Alicia, and Patrick Premand. 2021. "Savings and Capital Support in a Livelihood Package for the Poor: Micro-Entrepreneurship, Social Outcomes and Local Spill-Overs in Post-Conflict Côte d'Ivoire." *Mimeo*.

Meager, Rachael. 2019. "Understanding the Average Impact of Microcredit Expansions: A Bayesian Hierarchical Analysis of Seven Randomized Experiments." *American Economic Journal: Applied Economics* 11 (1): 57–91. https://doi.org/10.1257/app.20170299.

Mullainathan, Sendhil, and Eldar Shafir. 2013. *Scarcity: Why Having Too Little Means so Much*. New York: Times Books, Henry Holt and Company.

Muralidharan, Karthik, and Paul Niehaus. 2017. "Experimentation at Scale." *Journal of Economic Perspectives* 31 (4): 103–24. https://doi.org/10.1257/jep.31.4.103.

Nord, Mark, Carlo Cafiero, and Sara Viviani. 2016. "Methods for estimating comparable prevalence rates of food insecurity experienced by adults in 147 countries and areas." *Journal of Physics: Conference Series* https://doi.org/10.1088/1742-6596/772/1/012060.

Orkin, Kate, Robert Garlick, Mahreen Mahmud, Richard Sedlmayr, Johannes Haushofer and Stefan Dercon. 2020. "Aspirations, Assets, and Anti-Poverty Policies". Mimeo.

Paluck, Elizabeth Levy, and Laurie Ball. 2010. "Social Norms Marketing Aimed at Gender Based Violence: A Literature Review." International Rescue Committee. https://www.eldis.org/document/A62687.

Premand, Patrick, and Oumar Barry. 2020. "Behavioral Change Promotion, Cash Transfers and Early Childhood Development: Experimental Evidence from a Government Program in a Low-Income Setting." Policy Research Working Paper No. 9368. World Bank, Washington, DC. https://openknowledge.worldbank.org/handle/10986/34385.

Premand, Patrick, and Pascale Schnitzer. 2020. “Efficiency, Legitimacy, and Impacts of Targeting Methods: Evidence from an Experiment in Niger.” *The World Bank Economic Review*, September. https://doi.org/10.1093/wber/lhaa019.

Premand, Patrick, and Quentin Stoeffler. 2020. “Do Cash Transfers Foster Resilience? Evidence from Rural Niger.” Policy Research Working Paper No. 9473. World Bank, Washington, DC. https://openknowledge.worldbank.org/handle/10986/34774.

Ralston, Laura R., Colin Andrews, and Allan Jer-Yu Hsiao. 2017. “The Impacts of Safety Nets in Africa : What Are We Learning ?,” World Bank Policy Research Working Paper Series, no. 8255 (November). https://ideas.repec.org/p/wbk/wbrwps/8255.html.

Riley, Emma. 2017. "Role models in movies: the impact of Queen of Katwe on students’ educational attainment," CSAE Working Paper Series 2017-13, Centre for the Study of African Economies, University of Oxford. http://www.csae.ox.ac.uk/materials/papers/csae-wps-2017-13.pdf

Saraf, Priyam, Tasmia Rahman, and Julian Jamison. 2019. “Group-Based Cognitive Behavioral Therapy (CBT) Training Improves Mental Health of SME Entrepreneurs: Experimental Evidence from Conflict-Affected Areas of Pakistan.” World Bank Policy Research Working Paper Series no. 8872 (June). http://documents1.worldbank.org/curated/en/339861559669899428/pdf/Group-Based-Cognitive-Behavioral-Therapy-CBT-Training-Improves-Mental-Health-of-SME-Entrepreneurs-Experimental-Evidence-from-Conflict-Affected-Areas-of-Pakistan.pdf.

Sedlmayr, Richard, Anuj Shah, and Munshi Sulaiman. 2020. “Cash-plus: Poverty Impacts of Alternative Transfer-Based Approaches.” *Journal of Development Economics* 144 (May): 102418. https://doi.org/10.1016/j.jdeveco.2019.102418.

Stoeffler, Quentin, Bradford Mills, and Patrick Premand. 2020. “Poor Households’ Productive Investments of Cash Transfers: Quasi-Experimental Evidence from Niger.” *Journal of African Economies* 29 (1): 63–89. https://doi.org/10.1093/jae/ejz017.

Tankard, Margaret E., and Elizabeth Levy Paluck. 2016. “Norm Perception as a Vehicle for Social Change.” *Social Issues and Policy Review* 10 (1): 181–211. https://doi.org/10.1111/sipr.12022.

Tarozzi, Alessandro, Jaikishan Desai, and Kristin Johnson. 2015. “The Impacts of Microcredit: Evidence from Ethiopia.” *American Economic Journal: Applied Economics* 7 (1): 54–89. https://doi.org/10.1257/app.20130475.

Thomas, Catherine C., Nicholas G. Otis, Justin R. Abraham, Hazel Rose Markus, and Gregory M. Walton. 2020. "Toward a science of delivering aid with dignity: Experimental evidence and local forecasts from Kenya." *Proceedings of the National Academy of Sciences* 117 (27):15546. https://doi.org/10.1073/pnas.1917046117.

UNDP. 2018. “Human Development Report, 2018 Statistical Update”, UNDP, New York http://hdr.undp.org/en/2018-update

Walton, Gregory, and Timothy Wilson. 2018. “Wise Interventions: Psychological Remedies for Social and Personal Problems.” *Psychological Review* 125 (October): 617–55. https://doi.org/10.1037/rev0000115.

World Bank. 2017. Republic of Niger Priorities for Ending Poverty and Boosting Shared Prosperity : Systematic Country Diagnostic. World Bank, Washington, DC. https://openknowledge.worldbank.org/handle/10986/28994https://openknowledge.worldbank.org/bitstream/handle/10986/28994/NIGER-SCD-12012017.pdf

WFP (World Food Programme). 2008. ”Food Consumption Analysis: Calculation and Use of the Food Consumption Score in Food Consumption and Food Security Analysis.” Technical Guidance Sheet, Rome. https://documents.wfp.org/stellent/groups/public/documents/manual_guide_proced/wfp197216.pdf.

8 Figures

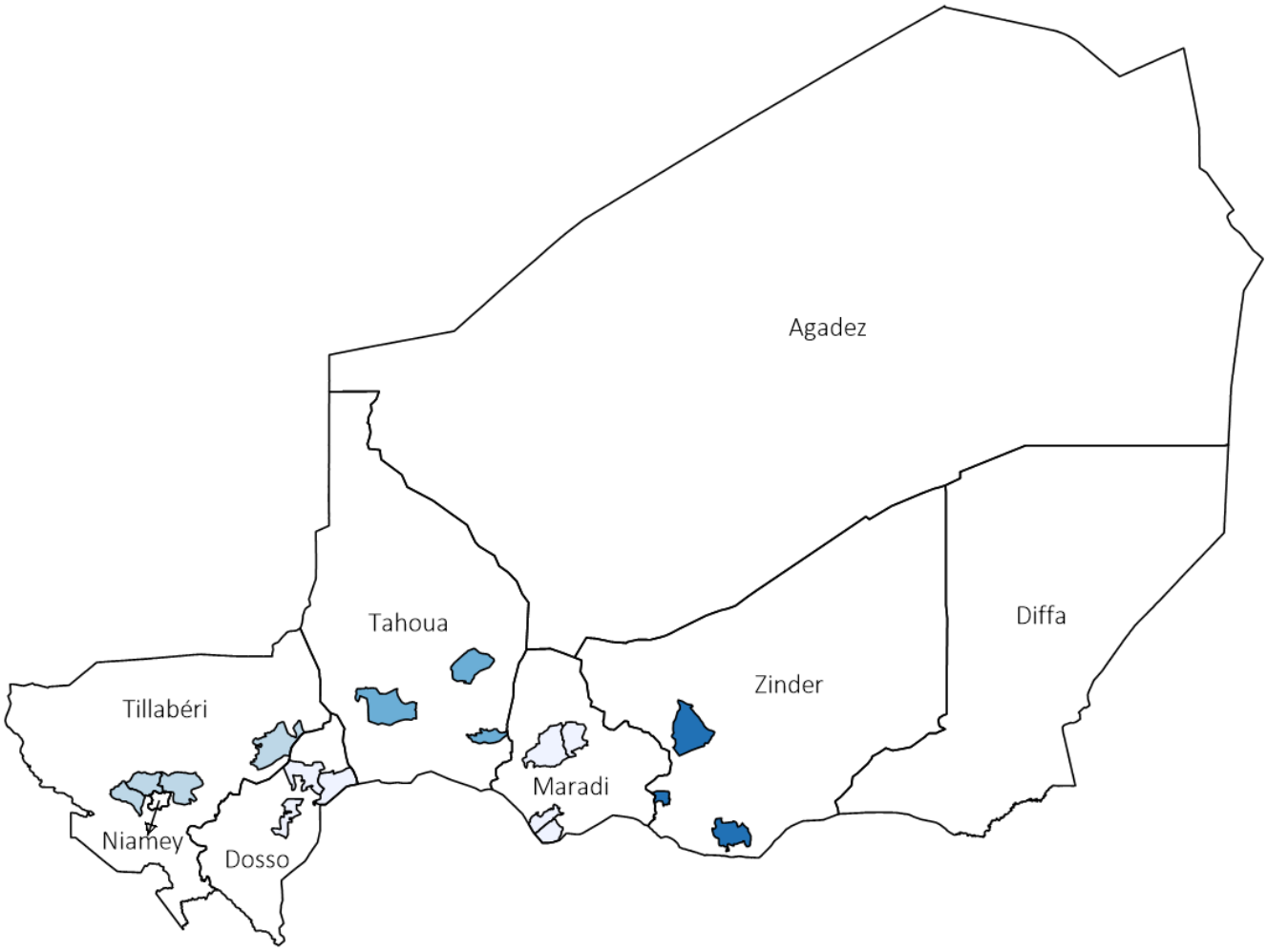
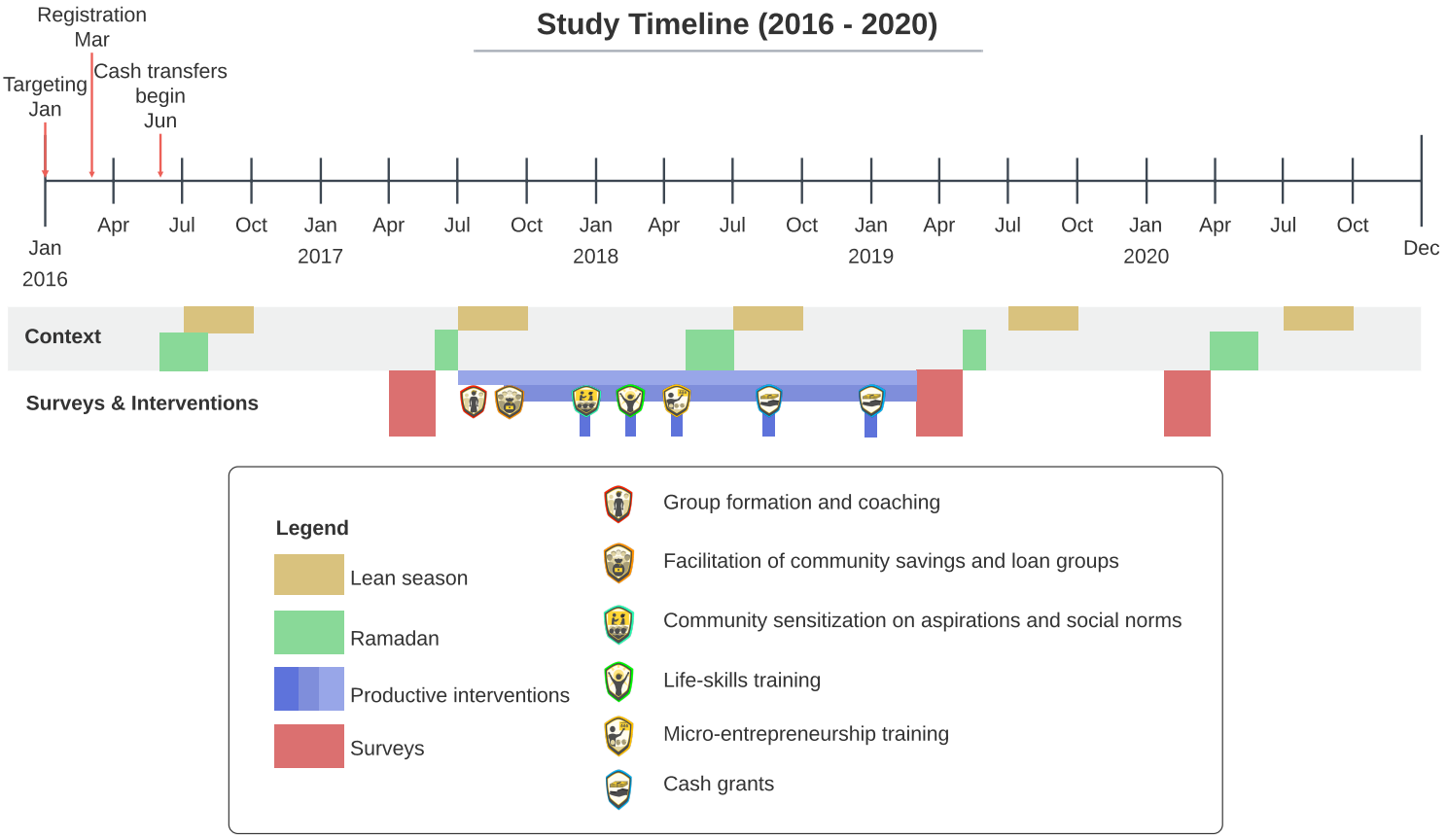


Figure 2: Communes in the sample

Figure 3: Study Timeline



9 Main Tables

Table 1: Primary Outcomes

	(1) Gross consumption (daily, USD/adult eq.)	(2) Food security (raw sum)	(3) Food consumption score
Followup 1 (6 months after cash grants)			
Capital	0.15***	0.52***	4.17***
	(0.05)	(0.12)	(0.84)
Psychosocial	0.09*	0.21*	2.71***
	(0.05)	(0.11)	(0.86)
Full	0.25***	0.66***	6.01***
	(0.06)	(0.11)	(0.93)
Observations	4405	4476	4476
Control mean	1.95	3.26	27.76
Control SD	1.12	2.49	16.59
p (Capital = Psychosocial)	0.179	0.013	0.097
p (Capital = Full)	0.069	0.268	0.043
p (Psychosocial = Full)	0.003	0.000	0.001
Followup 2 (18 months after cash grants)			
Capital	0.12***	0.50***	3.69***
	(0.04)	(0.12)	(1.05)
Psychosocial	0.18***	0.47***	2.78***
	(0.05)	(0.12)	(1.06)
Full	0.25***	0.63***	6.11***
	(0.05)	(0.13)	(1.13)
Observations	4238	4303	4303
Control mean	1.67	3.59	31.62
Control SD	0.99	2.48	16.91
p (Capital = Psychosocial)	0.204	0.787	0.357
p (Capital = Full)	0.003	0.285	0.018
p (Psychosocial = Full)	0.146	0.203	0.002
p (Followup 1 = Followup 2 for Capital)	0.493	0.845	0.597
p (Followup 1 = Followup 2 for Psychosocial)	0.120	0.067	0.937
p (Followup 1 = Followup 2 for Full)	0.995	0.783	0.923

Notes: Results presented are OLS estimates that include controls for randomization strata and, where possible, baseline outcomes. We assign baseline strata means to households surveyed at followup but not at baseline and we control for such missing values with an indicator. Robust standard errors are shown in parentheses, clustered at the village level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. All monetary amounts are PPP-adjusted USD terms, set at 2016 prices and deflated using CPI published by the World Bank. In 2016, 1 USD = 242.553 XOF PPP. All continuous variables are winsorized at the 98th and 2th percentiles at the most disaggregated level feasible. See Table A.3 for details on variable construction.

Table 2: Beneficiary Revenues

	(1) Business revenue (monthly, USD)	(2) Harvest value (yearly, USD)	(3) Wage earnings (yearly, USD)	(4) Livestock revenue (yearly, USD)
Followup 1 (6 months after cash grants)				
Capital	28.63***	-18.01	5.15**	5.18
	(4.64)	(16.11)	(2.31)	(4.44)
Psychosocial	17.05***	-14.18	2.61	10.46**
	(3.97)	(15.01)	(1.81)	(4.78)
Full	35.79***	-13.52	4.62**	6.13
	(5.04)	(15.21)	(1.81)	(4.38)
Observations	4476	4476	4476	4476
Control mean	22.36	59.39	3.78	27.13
Control SD	69.50	552.22	29.04	123.80
p (Capital = Psychosocial)	0.016	0.598	0.310	0.274
p (Capital = Full)	0.188	0.499	0.825	0.828
p (Psychosocial = Full)	0.000	0.923	0.296	0.336
Followup 2 (18 months after cash grants)				
Capital	19.62***	4.85	2.17	14.79***
	(3.81)	(3.76)	(1.61)	(5.43)
Psychosocial	9.92***	14.32***	0.21	8.46
	(3.43)	(4.87)	(1.69)	(5.90)
Full	20.62***	13.35***	3.51*	16.75***
	(4.11)	(4.18)	(1.79)	(5.87)
Observations	4252	4252	4252	4252
Control mean	20.25	18.69	2.91	29.82
Control SD	62.37	63.62	23.47	108.03
p (Capital = Psychosocial)	0.012	0.057	0.290	0.308
p (Capital = Full)	0.822	0.040	0.503	0.742
p (Psychosocial = Full)	0.010	0.853	0.067	0.176
p (Followup 1 = Followup 2 for Capital)	0.025	0.155	0.254	0.132
p (Followup 1 = Followup 2 for Psychosocial)	0.069	0.060	0.336	0.767
p (Followup 1 = Followup 2 for Full)	0.000	0.081	0.660	0.112

Notes: Results presented are OLS estimates that include controls for randomization strata and, where possible, baseline outcomes. We assign baseline strata means to households surveyed at followup but not at baseline and we control for such missing values with an indicator. Robust standard errors are shown in parentheses, clustered at the village level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. All monetary amounts are PPP-adjusted USD terms, set at 2016 prices and deflated using CPI published by the World Bank. In 2016, 1 USD = 242.553 XOF PPP. All continuous variables are winsorized at the 98th and 2th percentiles at the most disaggregated level feasible. See Table A.3 for details on variable construction.

Table 3: Beneficiary Labor Participation

	(1) Days spent in off-farm business	(2) Days spent in agriculture	(3) Days spent in salaried employment	(4) Days spent raising livestock
Followup 1 (6 months after cash grants)				
Capital	4.00***	-1.34	0.21	3.13***
	(0.53)	(1.58)	(0.15)	(0.53)
Psychosocial	3.56***	1.27	0.17	1.68***
	(0.52)	(1.79)	(0.13)	(0.61)
Full	4.85***	-0.37	0.31**	3.48***
	(0.55)	(1.74)	(0.15)	(0.56)
Observations	4476	4476	4476	4476
Control mean	6.19	30.72	0.77	16.94
Control SD	10.72	38.84	3.09	14.07
p (Capital = Psychosocial)	0.461	0.123	0.823	0.013
p (Capital = Full)	0.150	0.542	0.521	0.481
p (Psychosocial = Full)	0.030	0.365	0.368	0.003
Followup 2 (18 months after cash grants)				
Capital	2.97***	-1.65	-0.02	3.16***
	(0.51)	(1.86)	(0.17)	(0.57)
Psychosocial	2.19***	-1.02	-0.23	1.62**
	(0.51)	(1.90)	(0.17)	(0.63)
Full	3.68***	0.72	-0.09	2.85***
	(0.55)	(1.75)	(0.18)	(0.57)
Observations	4252	4252	4252	4252
Control mean	6.05	28.62	1.03	14.76
Control SD	10.21	37.67	4.58	14.21
p (Capital = Psychosocial)	0.175	0.745	0.197	0.015
p (Capital = Full)	0.229	0.175	0.684	0.578
p (Psychosocial = Full)	0.013	0.333	0.426	0.046
p (Followup 1 = Followup 2 for Capital)	0.057	0.890	0.266	0.957
p (Followup 1 = Followup 2 for Psychosocial)	0.014	0.308	0.054	0.944
p (Followup 1 = Followup 2 for Full)	0.014	0.608	0.079	0.338

Notes: Results presented are OLS estimates that include controls for randomization strata and, where possible, baseline outcomes. We assign baseline strata means to households surveyed at followup but not at baseline and we control for such missing values with an indicator. Robust standard errors are shown in parentheses, clustered at the village level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. We measure the number of days the beneficiary spent any time working on an activity, not the number of full days worked in the activity. Since beneficiaries can spend time on multiple activities in any given day, the sum between categories is not a proxy for total time worked. See Table A.3 for details on variable construction.

Table 4: Income Diversification (Household)

	(1) No. of income sources	(2) Off-farm business types	(3) Crop types	(4) Wage types	(5) Livestock types
Followup 1 (6 months after cash grants)					
Capital	0.39***	0.10***	0.02	0.01	0.26***
	(0.07)	(0.03)	(0.03)	(0.02)	(0.05)
Psychosocial	0.34***	0.12***	0.01	0.04*	0.19***
	(0.08)	(0.03)	(0.03)	(0.02)	(0.05)
Full	0.50***	0.12***	0.01	0.04*	0.33***
	(0.07)	(0.03)	(0.03)	(0.02)	(0.05)
Observations	4476	4476	4476	4476	4476
Control mean	4.68	0.72	2.07	0.15	1.74
Control SD	1.75	0.63	0.65	0.45	1.19
p (Capital = Psychosocial)	0.513	0.583	0.671	0.127	0.193
p (Capital = Full)	0.158	0.647	0.889	0.116	0.133
p (Psychosocial = Full)	0.049	0.898	0.758	0.854	0.006
Followup 2 (18 months after cash grants)					
Capital	0.28***	0.07**	-0.01	-0.01	0.23***
	(0.07)	(0.03)	(0.03)	(0.02)	(0.05)
Psychosocial	0.19***	0.07**	0.03	-0.03	0.14***
	(0.07)	(0.03)	(0.03)	(0.02)	(0.05)
Full	0.38***	0.08***	0.06*	-0.01	0.26***
	(0.07)	(0.03)	(0.03)	(0.02)	(0.05)
Observations	4303	4303	4303	4303	4303
Control mean	4.75	0.73	2.01	0.17	1.85
Control SD	1.69	0.63	0.63	0.46	1.21
p (Capital = Psychosocial)	0.226	0.998	0.252	0.410	0.100
p (Capital = Full)	0.151	0.587	0.033	0.922	0.681
p (Psychosocial = Full)	0.016	0.576	0.381	0.385	0.046
p (Followup 1 = Followup 2 for Capital)	0.172	0.248	0.465	0.500	0.561
p (Followup 1 = Followup 2 for Psychosocial)	0.122	0.111	0.522	0.029	0.375
p (Followup 1 = Followup 2 for Full)	0.184	0.332	0.218	0.117	0.130

Notes: Results presented are OLS estimates that include controls for randomization strata and, where possible, baseline outcomes. We assign baseline strata means to households surveyed at followup but not at baseline and we control for such missing values with an indicator. Robust standard errors are shown in parentheses, clustered at the village level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. See Table A.3 for details on variable construction.

Table 5: Off-Farm Activities (Household)

	(1) Household has a business {0,1}	(2) Beneficiary's main activity is off-farm {0,1}	(3) No. of household businesses	(4) Beneficiary's investments (yearly, USD)	(5) Business revenue (monthly, USD)	(6) Business profits (monthly, USD)	(7) Beneficiary's healthy business practices index
Followup 1 (6 months after cash grants)							
Capital	0.10***	0.12***	0.28***	27.99***	49.90***	14.10***	0.44***
	(0.02)	(0.02)	(0.05)	(4.17)	(8.31)	(2.75)	(0.06)
Psychosocial	0.11***	0.12***	0.28***	19.22***	36.40***	11.35***	0.31***
	(0.02)	(0.02)	(0.05)	(4.11)	(7.38)	(2.63)	(0.05)
Full	0.11***	0.16***	0.41***	38.72***	61.66***	20.34***	0.46***
	(0.02)	(0.02)	(0.05)	(4.82)	(9.47)	(3.44)	(0.06)
Observations	4476	4476	4476	4476	4476	4476	4283
Control mean	0.68	0.26	1.08	23.94	73.44	29.15	0.00
Control SD	0.47	0.44	1.04	68.25	153.94	57.70	1.00
p (Capital = Psychosocial)	0.431	0.875	0.905	0.055	0.121	0.363	0.028
p (Capital = Full)	0.334	0.021	0.013	0.035	0.248	0.084	0.706
p (Psychosocial = Full)	0.878	0.040	0.014	0.000	0.009	0.011	0.006
Followup 2 (18 months after cash grants)							
Capital	0.09***	0.08***	0.24***	13.59***	27.60***	8.61***	0.22***
	(0.02)	(0.02)	(0.05)	(2.75)	(8.35)	(2.85)	(0.04)
Psychosocial	0.08***	0.06***	0.25***	8.06***	23.32***	8.49***	0.16***
	(0.02)	(0.02)	(0.05)	(2.38)	(8.01)	(2.83)	(0.05)
Full	0.10***	0.12***	0.35***	14.96***	46.88***	15.46***	0.25***
	(0.02)	(0.02)	(0.05)	(2.93)	(8.75)	(3.12)	(0.04)
Observations	4303	4303	4303	4252	4303	4303	4134
Control mean	0.71	0.26	1.10	19.54	73.69	27.53	0.00
Control SD	0.45	0.44	0.99	44.89	187.51	59.33	1.00
p (Capital = Psychosocial)	0.622	0.344	0.884	0.046	0.611	0.969	0.192
p (Capital = Full)	0.559	0.072	0.037	0.666	0.029	0.027	0.538
p (Psychosocial = Full)	0.254	0.006	0.065	0.016	0.007	0.027	0.063
p (Followup 1 = Followup 2 for Capital)	0.789	0.142	0.513	0.000	0.008	0.097	0.000
p (Followup 1 = Followup 2 for Psychosocial)	0.162	0.021	0.523	0.002	0.154	0.400	0.016
p (Followup 1 = Followup 2 for Full)	0.578	0.059	0.252	0.000	0.117	0.173	0.000

Notes: Results presented are OLS estimates that include controls for randomization strata and, where possible, baseline outcomes. We assign baseline strata means to households surveyed at followup but not at baseline and we control for such missing values with an indicator. Robust standard errors are shown in parentheses, clustered at the village level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. All monetary amounts are PPP-adjusted USD terms, set at 2016 prices and deflated using CPI published by the World Bank. In 2016, 1 USD = 242.553 XOF PPP. All continuous variables are winsorized at the 98th and 2th percentiles at the most disaggregated level feasible. The dependent variables in columns 2, 4, and 7 in this table originate from survey questions that were only asked of the beneficiary while the other variables capture the entire household. See Table A.3 for details on variable construction.

Table 6: Agriculture (Household)

	(1) Cultivated any crop {0,1}	(2) Area of cultivated crops (ha)	(3) Harvest value (yearly, USD)	(4) Lost annual crop {0,1}	(5) Purchased seeds {0,1}	(6) Used chemical fertilizer {0,1}	(7) Used pytosanitary products {0,1}	(8) Used paid labor {0,1}	(9) Sold annual crop {0,1}	(10) Sale value (yearly, USD)	(11) Commercial-ization % (10)/(3)=(11)
Followup 1 (6 months after cash grants)											
Capital	0.00	0.17	-29.94	0.00	0.02	0.05**	0.03**	0.04***	0.02	17.61**	0.02**
	(0.01)	(0.13)	(51.71)	(0.01)	(0.02)	(0.02)	(0.01)	(0.01)	(0.02)	(7.47)	(0.01)
Psychosocial	0.00	0.30**	-22.01	0.01	0.01	0.02	0.01	0.03*	0.06***	18.32***	0.03***
	(0.01)	(0.12)	(46.52)	(0.01)	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)	(6.32)	(0.01)
Full	-0.00	0.28**	17.45	-0.01	0.02	0.05***	0.03***	0.08***	0.04*	16.67***	0.02*
	(0.01)	(0.12)	(53.05)	(0.01)	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)	(6.01)	(0.01)
Observations	4476	4476	4476	4476	4476	4476	4476	4476	4476	4476	3701
Control mean	0.96	3.56	538.74	0.10	0.54	0.14	0.09	0.14	0.45	61.65	0.12
Control SD	0.19	2.86	1,617.94	0.30	0.50	0.35	0.28	0.35	0.50	125.47	0.18
p (Capital = Psychosocial)	0.974	0.382	0.783	0.879	0.584	0.139	0.090	0.365	0.045	0.930	0.204
p (Capital = Full)	0.697	0.416	0.175	0.274	0.992	0.986	0.711	0.060	0.298	0.901	0.767
p (Psychosocial = Full)	0.717	0.895	0.244	0.271	0.620	0.066	0.033	0.007	0.272	0.802	0.114
Followup 2 (18 months after cash grants)											
Capital	-0.01	-0.04	31.09	0.01	-0.04*	0.05***	0.02	0.03	-0.00	2.75	0.00
	(0.01)	(0.13)	(21.28)	(0.02)	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)	(3.46)	(0.01)
Psychosocial	-0.00	0.15	89.71***	-0.02	-0.04*	0.01	0.01	0.02	0.02	9.72**	0.01
	(0.01)	(0.14)	(22.65)	(0.02)	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)	(3.85)	(0.01)
Full	-0.00	0.12	78.75***	-0.02	-0.03	0.06***	0.05***	0.09***	0.01	7.27*	-0.00
	(0.01)	(0.15)	(21.25)	(0.02)	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)	(4.04)	(0.01)
Observations	4303	4303	4303	4303	4303	4303	4303	4303	4303	4303	3530
Control mean	0.98	3.65	315.24	0.18	0.48	0.15	0.07	0.13	0.35	29.61	0.09
Control SD	0.14	2.75	347.81	0.39	0.50	0.35	0.25	0.34	0.48	68.49	0.17
p (Capital = Psychosocial)	0.796	0.138	0.016	0.088	0.955	0.046	0.757	0.609	0.243	0.078	0.562
p (Capital = Full)	0.389	0.231	0.031	0.024	0.647	0.590	0.016	0.001	0.429	0.252	0.620
p (Psychosocial = Full)	0.592	0.848	0.655	0.624	0.680	0.014	0.010	0.000	0.680	0.563	0.241
p (Followup 1 = Followup 2 for Capital)	0.256	0.126	0.273	0.672	0.009	0.963	0.557	0.327	0.376	0.038	0.114
p (Followup 1 = Followup 2 for Psychosocial)	0.386	0.335	0.026	0.272	0.046	0.841	0.557	0.514	0.076	0.181	0.017
p (Followup 1 = Followup 2 for Full)	0.988	0.300	0.277	0.405	0.037	0.620	0.391	0.565	0.274	0.148	0.078

Notes: Results presented are OLS estimates that include controls for randomization strata and, where possible, baseline outcomes. We assign baseline strata means to households surveyed at followup but not at baseline and we control for such missing values with an indicator. Robust standard errors are shown in parentheses, clustered at the village level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. All monetary amounts are PPP-adjusted USD terms, set at 2016 prices and deflated using CPI published by the World Bank. In 2016, 1 USD = 242.553 XOF PPP. All continuous variables are winsorized at the 98th and 2th percentiles at the most disaggregated level feasible. See Table A.3 for details on variable construction.

Table 7: Livestock (Household)

	(1) Livestock count (TLU)	(2) Livestock asset value (USD)	(3) Change in livestock count (yearly, TLU)	(4) Livestock purchase value (USD)	(5) Livestock revenue (yearly, USD)
Followup 1 (6 months after cash grants)					
Capital	0.74***	268.77***	0.35***	98.45***	7.92
	(0.14)	(76.89)	(0.09)	(10.49)	(18.46)
Psychosocial	0.39***	98.48	0.09	5.31	22.57
	(0.15)	(67.45)	(0.10)	(8.97)	(17.23)
Full	0.90***	305.51***	0.23**	107.35***	46.32**
	(0.16)	(75.82)	(0.10)	(10.07)	(18.08)
Observations	4476	4418	4476	4476	4476
Control mean	1.58	705.09	-0.28	67.24	138.82
Control SD	2.43	1,353.59	3.22	214.81	382.79
p (Capital = Psychosocial)	0.035	0.030	0.001	0.000	0.439
p (Capital = Full)	0.323	0.660	0.085	0.440	0.048
p (Psychosocial = Full)	0.004	0.006	0.086	0.000	0.192
Followup 2 (18 months after cash grants)					
Capital	0.52***	259.62***	-0.04	8.84	69.34***
	(0.16)	(80.47)	(0.09)	(7.48)	(17.28)
Psychosocial	0.31**	111.59*	-0.08	1.34	36.88**
	(0.13)	(66.91)	(0.09)	(7.61)	(17.48)
Full	0.80***	329.12***	-0.10	19.62**	71.49***
	(0.14)	(71.06)	(0.09)	(8.17)	(17.93)
Observations	4303	4263	4303	4303	4303
Control mean	1.41	641.69	-0.41	47.98	133.24
Control SD	2.32	1,260.90	1.83	187.24	305.75
p (Capital = Psychosocial)	0.233	0.096	0.652	0.317	0.090
p (Capital = Full)	0.104	0.448	0.485	0.178	0.910
p (Psychosocial = Full)	0.002	0.010	0.861	0.029	0.074
p (Followup 1 = Followup 2 for Capital)	0.110	0.910	0.001	0.000	0.002
p (Followup 1 = Followup 2 for Psychosocial)	0.519	0.845	0.203	0.728	0.500
p (Followup 1 = Followup 2 for Full)	0.442	0.710	0.009	0.000	0.250

Notes: Results presented are OLS estimates that include controls for randomization strata and, where possible, baseline outcomes. We assign baseline strata means to households surveyed at followup but not at baseline and we control for such missing values with an indicator. Robust standard errors are shown in parentheses, clustered at the village level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. All monetary amounts are PPP-adjusted USD terms, set at 2016 prices and deflated using CPI published by the World Bank. In 2016, 1 USD = 242.553 XOF PPP. All continuous variables are winsorized at the 98th and 2th percentiles at the most disaggregated level feasible. TLU represents Tropical Livestock Units. See Table A.3 for details on variable construction.

Table 8: Assets (Household)

	(1) Agricultural asset value (USD)	(2) Business asset value (USD)	(3) Household asset index
Followup 1 (6 months after cash grants)			
Capital	0.88	5.43	0.06
	(10.96)	(4.18)	(0.06)
Psychosocial	-8.26	4.45	0.13**
	(10.35)	(3.89)	(0.06)
Full	0.38	14.44***	0.18***
	(10.27)	(3.90)	(0.06)
Observations	4476	4476	4476
Control mean	187.09	32.33	-0.07
Control SD	244.65	86.33	1.31
p (Capital = Psychosocial)	0.404	0.829	0.279
p (Capital = Full)	0.962	0.046	0.050
p (Psychosocial = Full)	0.395	0.020	0.380
Followup 2 (18 months after cash grants)			
Capital	14.90	7.84**	0.04
	(11.10)	(3.38)	(0.06)
Psychosocial	0.92	6.56*	0.13**
	(10.72)	(3.74)	(0.06)
Full	17.33*	9.48***	0.15***
	(10.38)	(3.65)	(0.06)
Observations	4303	4303	4303
Control mean	176.99	29.87	-0.07
Control SD	220.70	76.69	1.28
p (Capital = Psychosocial)	0.209	0.751	0.097
p (Capital = Full)	0.816	0.659	0.040
p (Psychosocial = Full)	0.122	0.481	0.731
p (Followup 1 = Followup 2 for Capital)	0.202	0.560	0.696
p (Followup 1 = Followup 2 for Psychosocial)	0.350	0.618	0.892
p (Followup 1 = Followup 2 for Full)	0.099	0.235	0.614

Notes: Results presented are OLS estimates that include controls for randomization strata and, where possible, baseline outcomes. We assign baseline strata means to households surveyed at followup but not at baseline and we control for such missing values with an indicator. Robust standard errors are shown in parentheses, clustered at the village level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. All monetary amounts are PPP-adjusted USD terms, set at 2016 prices and deflated using CPI published by the World Bank. In 2016, 1 USD = 242.553 XOF PPP. All continuous variables are winsorized at the 98th and 2th percentiles at the most disaggregated level feasible. See Table A.3 for details on variable construction.

Table 9: Financial Engagement

	(1) Takes part in tontine/AVEC {0,1}	(2) Tontine/AVEC savings (3 months, USD)	(3) Other savings (3 months, USD)	(4) Total borrowed (yearly, USD)	(5) Total lent out (yearly, USD)	(6) Household transfers in (yearly, USD)	(7) Household transfers out (yearly, USD)
Followup 1 (6 months after cash grants)							
Capital	0.05***	0.72	1.61*	0.07	1.09***	-12.94	1.30
	(0.01)	(1.32)	(0.85)	(1.14)	(0.41)	(17.17)	(4.22)
Psychosocial	0.04***	-1.00	1.98**	-1.70	0.47	-0.90	4.79
	(0.01)	(1.31)	(0.94)	(1.11)	(0.35)	(21.66)	(4.12)
Full	0.04***	1.32	3.45***	-0.31	1.66***	-16.68	3.47
	(0.01)	(1.34)	(0.87)	(1.29)	(0.38)	(16.23)	(4.45)
Observations	4476	4476	4476	4476	4476	4476	4476
Control mean	0.93	18.78	3.67	11.10	2.23	131.42	12.87
Control SD	0.26	24.29	21.75	28.59	8.69	638.59	128.28
p (Capital = Psychosocial)	0.198	0.150	0.706	0.092	0.145	0.537	0.299
p (Capital = Full)	0.114	0.618	0.040	0.752	0.197	0.798	0.541
p (Psychosocial = Full)	0.829	0.051	0.128	0.248	0.002	0.356	0.724
Followup 2 (18 months after cash grants)							
Capital	0.31***	15.63***	2.11***	0.15	0.45	-28.36*	5.43*
	(0.03)	(2.98)	(0.79)	(1.05)	(0.29)	(15.05)	(2.93)
Psychosocial	0.27***	11.57***	0.53	-1.39	0.11	2.68	6.73**
	(0.03)	(2.71)	(0.72)	(0.90)	(0.30)	(18.50)	(3.25)
Full	0.33***	19.97***	3.09***	-2.81***	0.56*	-2.72	8.11***
	(0.03)	(3.47)	(0.88)	(0.91)	(0.30)	(16.48)	(2.77)
Observations	4303	4303	4303	4303	4303	4303	4302
Control mean	0.53	12.57	4.91	8.55	1.93	175.69	9.51
Control SD	0.50	45.03	18.13	22.15	6.96	429.85	49.84
p (Capital = Psychosocial)	0.106	0.216	0.052	0.128	0.290	0.079	0.713
p (Capital = Full)	0.363	0.237	0.300	0.003	0.737	0.094	0.364
p (Psychosocial = Full)	0.013	0.017	0.005	0.095	0.172	0.761	0.669
p (Followup 1 = Followup 2 for Capital)	0.000	0.000	0.664	0.951	0.162	0.446	0.426
p (Followup 1 = Followup 2 for Psychosocial)	0.000	0.000	0.188	0.790	0.395	0.885	0.664
p (Followup 1 = Followup 2 for Full)	0.000	0.000	0.742	0.065	0.015	0.498	0.302

Notes: Results presented are OLS estimates that include controls for randomization strata and, where possible, baseline outcomes. We assign baseline strata means to households surveyed at followup but not at baseline and we control for such missing values with an indicator. Robust standard errors are shown in parentheses, clustered at the village level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. All monetary amounts are PPP-adjusted USD terms, set at 2016 prices and deflated using CPI published by the World Bank. In 2016, 1 USD = 242.553 XOF PPP. All continuous variables are winsorized at the 98th and 2th percentiles at the most disaggregated level feasible. See Table A.3 for details on variable construction.

Table 10: Psychological Well-Being Indices

	(1) Mental health index	(2) Social worth index	(3) Future expectations index
Followup 1 (6 months after cash grants)			
Capital	0.13***	0.16***	0.12***
	(0.04)	(0.04)	(0.04)
Psychosocial	0.10**	0.22***	0.15***
	(0.04)	(0.04)	(0.04)
Full	0.23***	0.36***	0.28***
	(0.04)	(0.04)	(0.03)
Observations	4476	4476	4476
Control mean	0.00	-0.00	-0.00
Control SD	1.00	1.00	1.00
p (Capital = Psychosocial)	0.560	0.228	0.437
p (Capital = Full)	0.012	0.000	0.000
p (Psychosocial = Full)	0.002	0.000	0.001
Followup 2 (18 months after cash grants)			
Capital	0.15***	0.12***	0.11**
	(0.04)	(0.04)	(0.04)
Psychosocial	0.21***	0.20***	0.15***
	(0.04)	(0.04)	(0.05)
Full	0.26***	0.26***	0.20***
	(0.04)	(0.04)	(0.04)
Observations	4175	4175	4175
Control mean	0.00	-0.00	0.00
Control SD	1.00	1.00	1.00
p (Capital = Psychosocial)	0.149	0.075	0.505
p (Capital = Full)	0.007	0.001	0.047
p (Psychosocial = Full)	0.247	0.174	0.222
p (Followup 1 = Followup 2 for Capital)	0.625	0.368	0.948
p (Followup 1 = Followup 2 for Psychosocial)	0.022	0.814	0.920
p (Followup 1 = Followup 2 for Full)	0.569	0.043	0.087

Notes: Results presented are OLS estimates that include controls for randomization strata and, where possible, baseline outcomes. We assign baseline strata means to households surveyed at followup but not at baseline and we control for such missing values with an indicator. Robust standard errors are shown in parentheses, clustered at the village level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. All indices are standardized with respect to the control group in that same time period. See Table A.4 for details on variable construction. Results from components of each index are provided in Table A.7 (mental health index components), Table A.8 (social worth index components) and Table A.9 (future expectation index components).

Table 11: Social Well-Being Indices

	(1) Social support index	(2) Financial support index	(3) Intra-household dynamics index	(4) Social cohesion and community closeness index	(5) Collective action index
Followup 1 (6 months after cash grants)					
Capital	0.27***	0.29***	0.07	0.03	0.30***
	(0.06)	(0.05)	(0.04)	(0.05)	(0.05)
Psychosocial	0.24***	0.35***	0.07*	0.12***	0.34***
	(0.04)	(0.05)	(0.04)	(0.05)	(0.05)
Full	0.32***	0.48***	0.06	0.12***	0.42***
	(0.05)	(0.05)	(0.04)	(0.04)	(0.05)
Observations	4476	4476	4476	4476	4476
Control mean	0.00	0.00	-0.00	0.00	-0.00
Control SD	1.00	1.00	1.00	1.00	1.00
p (Capital = Psychosocial)	0.569	0.252	0.961	0.063	0.347
p (Capital = Full)	0.417	0.000	0.946	0.047	0.018
p (Psychosocial = Full)	0.075	0.012	0.982	0.929	0.119
Followup 2 (18 months after cash grants)					
Capital	0.13***	0.19***	0.02	0.08*	0.27***
	(0.04)	(0.04)	(0.04)	(0.05)	(0.05)
Psychosocial	0.18***	0.21***	0.04	0.13***	0.27***
	(0.05)	(0.04)	(0.04)	(0.04)	(0.05)
Full	0.18***	0.35***	-0.01	0.09**	0.35***
	(0.04)	(0.05)	(0.04)	(0.05)	(0.05)
Observations	4160	4252	4160	4160	4160
Control mean	0.00	-0.00	0.00	-0.00	0.00
Control SD	1.00	1.00	1.00	1.00	1.00
p (Capital = Psychosocial)	0.284	0.607	0.642	0.244	0.997
p (Capital = Full)	0.217	0.000	0.466	0.782	0.105
p (Psychosocial = Full)	0.968	0.004	0.210	0.341	0.092
p (Followup 1 = Followup 2 for Capital)	0.025	0.084	0.403	0.393	0.568
p (Followup 1 = Followup 2 for Psychosocial)	0.288	0.012	0.629	0.840	0.202
p (Followup 1 = Followup 2 for Full)	0.016	0.014	0.188	0.590	0.253

Notes: Results presented are OLS estimates that include controls for randomization strata and, where possible, baseline outcomes. We assign baseline strata means to households surveyed at followup but not at baseline and we control for such missing values with an indicator. Robust standard errors are shown in parentheses, clustered at the village level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. All indices are standardized with respect to the control group in that same time period. See Table A.4 for details on variable construction. Results from components of each index are provided in Table A.10 (social support index), Table A.11 (financial support index), Table A.12 (future expectation index), Table A.13 (social cohesion and closeness to community) and Table A.14 (collective action index).

Table 12: Decision-Making and Productive Agency Indices

	(1) Controls earnings index	(2) Controls HH resources index
Followup 1 (6 months after cash grants)		
Capital	0.27***	0.03
	(0.04)	(0.04)
Psychosocial	0.22***	0.05
	(0.04)	(0.04)
Full	0.34***	0.06
	(0.04)	(0.04)
Observations	4476	4161
Control mean	0.00	-0.00
Control SD	1.00	1.00
p (Capital = Psychosocial)	0.333	0.522
p (Capital = Full)	0.050	0.386
p (Psychosocial = Full)	0.005	0.777
Followup 2 (18 months after cash grants)		
Capital	0.25***	-0.01
	(0.05)	(0.05)
Psychosocial	0.16***	0.06
	(0.05)	(0.05)
Full	0.25***	0.04
	(0.04)	(0.05)
Observations	4252	4055
Control mean	0.00	-0.00
Control SD	1.00	1.00
p (Capital = Psychosocial)	0.075	0.110
p (Capital = Full)	0.891	0.218
p (Psychosocial = Full)	0.045	0.664
p (Followup 1 = Followup 2 for Capital)	0.735	0.493
p (Followup 1 = Followup 2 for Psychosocial)	0.210	0.937
p (Followup 1 = Followup 2 for Full)	0.077	0.676

Notes: Results presented are OLS estimates that include controls for randomization strata and, where possible, baseline outcomes. We assign baseline strata means to households surveyed at followup but not at baseline and we control for such missing values with an indicator. Robust standard errors are shown in parentheses, clustered at the village level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. All indices are standardized with respect to the control group in that same time period. See Table A.4 for details on variable construction. Results from components of each index can be found in Table A.15 (control over earnings and productive agency) and Table A.16 (control over household resources).

Table 13: Children's Outcomes

	(1) Child attended school {0,1}	(2) Child labor index	(3) Child chores index	(4) Weight/ height z-score
Followup 1 (6 months after cash grants)				
Capital	0.05*	0.06*	0.07**	0.01
	(0.03)	(0.03)	(0.03)	(0.05)
Psychosocial	0.00	0.12***	0.08***	-0.03
	(0.03)	(0.03)	(0.03)	(0.05)
Full	0.01	0.17***	0.04	-0.07
	(0.03)	(0.04)	(0.03)	(0.05)
Observations	13145	13145	13145	5017
Control mean	0.41	0.00	0.00	-0.77
Control SD	0.49	1.00	1.00	1.09
p (Capital = Psychosocial)	0.153	0.085	0.694	0.486
p (Capital = Full)	0.220	0.005	0.207	0.107
p (Psychosocial = Full)	0.742	0.287	0.102	0.396
Followup 2 (18 months after cash grants)				
Capital	0.06**	0.11***	0.03	-0.02
	(0.03)	(0.03)	(0.03)	(0.05)
Psychosocial	0.03	0.12***	0.04	-0.01
	(0.03)	(0.03)	(0.03)	(0.05)
Full	0.03	0.14***	-0.02	-0.03
	(0.03)	(0.03)	(0.03)	(0.05)
Observations	13939	13939	13939	5663
Control mean	0.42	-0.00	-0.00	-0.62
Control SD	0.49	1.00	1.00	1.20
p (Capital = Psychosocial)	0.332	0.757	0.927	0.976
p (Capital = Full)	0.273	0.343	0.054	0.813
p (Psychosocial = Full)	0.982	0.535	0.057	0.790
p (Followup 1 = Followup 2 for Capital)	0.259	0.260	0.280	0.685
p (Followup 1 = Followup 2 for Psychosocial)	0.101	0.895	0.205	0.767
p (Followup 1 = Followup 2 for Full)	0.271	0.574	0.130	0.403

Notes: Results presented are OLS estimates that include controls for randomization strata and, where possible, baseline outcomes. We assign baseline strata means to households surveyed at followup but not at baseline and we control for such missing values with an indicator. Robust standard errors are shown in parentheses, clustered at the village level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. The weight/height index is not standardized with respect to the control group. See Table A.4 for details on variable construction.

Table 14: Cost-benefit Analysis

		Capital	Psychosocial	Full
Panel 1: Program costs per beneficiary, USD PPP 2016				
	Program administration	78	78	78
	Identification, Communication	3	3	3
	Measure 0. Group formation	1	1	1
	Measure 1. Coaching	9	9	9
	Measure 2. Community sensitization on aspirations and social norms	0	38	38
	Measure 3. Facilitation of community savings and loan groups	2	2	2
	Measure 4. Life-skills training	0	64	64
	Measure 5. Micro-entrepreneurship training	65	65	65
	Measure 6. Cash grants	321	0	321
	Measure 7. Facilitation of market and information access	4	4	4
	Total costs, calculated as if all incurred immediately at beginning of year 0	482	263	584
(1)	Total costs, inflated to year 2 at 5% annual discount rate	531	290	644
Panel 2: Benefits per Household, USD PPP 2016, All Values Inflated to Year 2 at 5% annual social discount rate				
(2)	Year 1 Gross Consumption Treatment Effect, using 5% discount rate	228	131	373
(3)	Year 2 Gross Consumption Treatment Effect	196	298	425
(4)	B1: Year 3 Onward Gross Consumption Treatment Effect, assuming dissipation of 75%	61	93	133
	B2: Year 3 Onward Gross Consumption Treatment Effect, assuming dissipation of 50%	178	271	386
	B3: Year 3 Onward Gross Consumption Treatment Effect, assuming dissipation of 25%	491	745	1062
(5)	C: Year 3 Onward Gross Consumption Treatment Effect, assuming year 2 gains persist in perpetuity	3739	5679	8088
(6)	A: Total Benefits: 0.5*(2) + (3) = (6) using 5%, no impact after year 2	310	364	611
(7)	B1: Total Benefits: 0.5*(2) + (3) + (4) = (7) 5% discount rate, 75% annual dissipation	372	457	744
	B2: Total Benefits using 5% discount rate, 50% annual dissipation	489	635	997
	B3: Total Benefits using 5% discount rate, 25% annual dissipation	801	1109	1673
(8)	C: Total Benefits: 0.5*(2) + (3) + (5) = (8) using 5% discount rate, assuming year 2 gains persist in perpetuity	4049	6043	8699
Panel 3: Benefit/Cost Ratios				
(9)	A: Total Benefits/Total Costs Ratio: (6) / (1) = (9) at 5% discount rate	58%	126%	95%
	A: Benefit/Cost Ratio, at discount rate of 7%	57%	121%	92%
	A: Benefit/Cost Ratio, at discount rate of 10%	54%	115%	88%
(10)	B1: Total Benefits/Total Costs: (7) / (1) = (10), 5% discount, 75% annual dissipation	70%	158%	116%
	B2: Benefit/Cost Ratio using 5% discount rate, 50% annual dissipation	92%	219%	155%
	B3: Benefit/Cost Ratio using 5% discount rate, 25% annual dissipation	151%	383%	260%
(11)	C: Total Benefits/Total Costs Ratio: (8) / (1) = (11) using 5% discount rate, assuming year 2 gains persist in perpetuity	762%	2087%	1352%
(12)	Real Internal Rate of Return (IRR)			
	A: assuming dissipation of 100% after year 2, at 5% discount rate	-28%	13%	-3%
	B1: assuming annual dissipation of 75%	-16%	25%	8%
	B2: assuming annual dissipation of 50%	-2%	39%	21%
	B3: assuming annual dissipation of 25%	15%	54%	36%
	C: assuming effects are sustained in perpetuity	33%	70%	53%

Notes: We use 98% winsorized consumption estimates in our benefits calculation. Note that in rows 6, 7, and 8 we halve consumption benefits in year 1 since we measure these benefits 6 months after the intervention on average. All monetary amounts are PPP-adjusted USD terms, set at 2016 prices and deflated using CPI published by the World Bank. In 2016, 1 USD = 242.553 XOF PPP. We assume yearly impacts post-intervention.

Appendix A. Additional information on the psychosocial components

The psychosocial components included a community-wide sensitization and a life skills training. These were designed to simultaneously address multiple psychosocial constraints to beneficiaries' economic engagement, from individual- to community-level factors, and to do so in culturally responsive ways.

These design choices build on two foundational ideas in social and cultural psychology. First, beyond individual motivation, behavior is influenced by what the social context permits (Markus and Kitayama, 2010; Lewin, 1952). Accordingly, individual-level behavior change strategies, like life skills trainings, are expected to have greater and more sustained effects when, for instance, social norms are also supportive of the new behaviors (Walton and Yeager, 2020). Second, cultures across the world display different levels of collectivism and social norm enforcement, which shape individual behaviors (Gelfand et al., 2011; Hofstede, 2001; Leung and Cohen, 2011; Markus and Conner, 2014). Hausa and Zarma ethnic groups in Niger are predominantly Muslim, highly collectivistic, and gender roles are guided by strong social norms and religious practices.[1] In such normatively tight and interdependent sociocultural contexts, coordinating individuals' behavior and goals with those of their community and aligning the interventions with commonly-held values was expected to lead to greater individual motivation and social support (Markus, 2016; Riemer et al., 2014).

1. Community sensitization on aspirations and social norms

The sensitization aimed to introduce the productive interventions' objectives to the community and to promote social norms and aspirations supportive of women's economic activities.

Content of the intervention. The sensitization was an evening program in which beneficiaries and other family and community members were invited to gather to view a film projected on a large screen, followed by a guided group discussion. The activity lasted approximately 1.5 hours in total.

The 20-minute film showed an aspirational story that combined local stories collected during qualitative piloting with social and behavior change principles. It was recorded in Hausa and Zarma.[2] The film portrayed the story of a Muslim woman named Amina pursuing a new business (processing and selling hibiscus or "bissap" juice) after a drought affected her millet crop. Amina is shown using the support of her family and community to adapt her economic activities, including consulting her mother-in-law on adaptation and change, her cousin on making bissap juice, and her husband on their financial options. She and her husband overcome a conflict on her plan to save with her women's group, with the father-in-law being the mediator. In the end, she and her husband are shown selling bissap juice, food, and solar-based charging in their new shop as their children return from school. In the final scene, Amina shares what she has learned with other women in the village.

Immediately after the film, the audience was led through a group discussion of approximately 40-60 minutes. There were five discussion topics: summarizing the film's main themes; relating the film to the audience's experiences; sharing family and community stories about 'traditions of adaption'; identifying best practices for more secure future; and creating consensus around solidarity toward this future. Facilitators were encouraged to pick respondents from across the audience to elicit widespread participation and to elevate women's responses.

Aligning desired behaviors with communal values. Given strong social and religious norms in rural Niger, in certain areas women's economic engagement can lead to social censure, particularly if women are seen to be self-interested and ambitious. Some interventions in the international literature actively teach self-focus and personal initiative skills to improve outcomes of income-generating activities (Campos et al., 2017). However, the approach here considers a more interdependent model that

[1] For instance, see Hofstede Insights Country Comparison (www.hofstede-insights.com/country-comparison).
[2] See links to full video in Zarma and Hausa with French subtitles, and 4-minute clip with English subtitles.

recognizes the motivational power of matching a group's values and cultural ways of being, as opposed to overlooking or overriding them. The community sensitization thus sought to frame the goals of the economic inclusion interventions and women's economic activity as being aligned with binding, communal values, such as solidarity, filial piety, loyalty, and respect for authority (Feinberg and Willer, 2015; Leung and Cohen, 2011; Stephens et al., 2012; Thomas and Markus, forthcoming; Thomas et al., 2020). For instance, in the film Amina demonstrates her interdependent goals to help her children, her husband, and her community through her economic activities, beyond her own advancement, and she shows solidarity and loyalty to her peers by sharing her new knowledge with them. Amina shows filial piety and respect for authority by seeking out advice and mediation from her elders, who provide supportive advice based on their own experience adapting to changing circumstances in the past. Relatedly, the discussion asked the community to reflect on 'traditions of adaptation' from their ancestors so that upcoming changes in economic practices could be understood to represent, rather than defy, tradition and filial piety.

Community participation and social norms. Particularly in this more interdependent and normatively tight sociocultural study context, watching the film with close others was expected to better shift social norms around typical and appropriate economic behaviors for women and to generate more sustained social support (Bandura, 2001; Paluck, 2009). Accordingly, beneficiaries were encouraged to invite their husbands, family members, and friends. Given the importance of hierarchy and of local leaders in norm setting and enforcement (Paluck and Shepherd, 2012; San Martin et al., 2018), traditional leaders were engaged in conducting the event and, along with other elders, religious leaders, and economic leaders, were invited to attend. Leveraging group-based decision-making for social change (Lewin, 1952), the discussion prompted the audience to build consensus around practicing norms of mutual support and solidarity, particularly of the beneficiaries, that could advance community development.

Role models, aspirations, and goal setting. A goal of role modeling women's economic engagement through film was to build self-efficacy and promote aspirations for economic mobility both among beneficiaries and their community. According to social cognitive theory, the use of role models can encourage uptake of new behaviors via observational learning of social exemplars; it can also build self-efficacy through vicarious experience, which can in turn boost aspirations, motivation, and resilience to setbacks (Bandura, 2001). Because similarity and relatability of characters are central to narrative persuasion, the video involved local actors and the discussion prompted the audience to connect the film's story to their own lives (Slater and Rouner, 2002). The film also featured traditional music and proverbs in Hausa and Zarma.

Building on an evidence-based motivational strategy of WOOP, or Wish Outcome Obstacle Plan (Oettingen, 2014), the discussion further prompted participants to project themselves into the future, to consider the goal of creating a more secure future for the next generation in particular, and then to identify adaptation strategies that could advance this goal as well as difficulties that could stand in the way. The discussion leader closed by expressing positive expectations of a strong future for the community.

2. Life Skills Training

The life skills training was delivered over 7 half-days. It was supported by emerging research on the benefits of non-cognitive or soft skills trainings. Teaching soft skills such as self-worth, interpersonal communication, and sense of control have been shown to promote a range of positive life outcomes, including improved productivity, earnings, health, and educational outcomes (Acevedo et al., 2017; Adhvaryu, Kala, and Nyshadham, 2018; Blattman, Jamison, and Sheridan, 2017; Ashraf et al., 2020; Heckman, Stixrud, and Urzua, 2006). Several studies have found soft skills trainings to be as or more

effective in boosting employment and entrepreneurial outcomes compared to hard skills or technical trainings (Campos et al., 2017; Barrera-Osorio, Kugler, and Silliman, 2020).

The training was grounded in 'andragogy,' an approach to adult education that prioritizes self-directed, experiential, problem-centered, participatory, and personalized learning (Knowles, 1984). The training thus incorporated individual- and group-based exercises, including collective brainstorming sessions, case studies, role plays, games, open discussions, and illustrations.

The training included 9 modules:

1. Overview of the life skills curriculum, key competencies, and their utility for achieving one's aspirations and realizing one's values.

2. Our values and perspectives: Identification of one's three top communal and individual values (e.g., honor, dignity, generosity, loyalty, piety, education, family); understanding how one can exercise these values through their work.

3. Self-affirmation and self-worth: Identifying one's strengths, value to one's family and others, and role in society; linking self-worth to personal initiative and self-expression as well as to openness to feedback and change; understanding differences between self-worth and selfishness, aggressiveness, or passiveness.

4. Decision-making and problem solving: How to identify a problem; analyze relevant information; gather different perspectives; identify multiple solutions; anticipate consequences; make informed decisions that meet one's values, vision, and the interests of concerned persons; act on the decision; and reflect on the outcomes.

5. Second viewing of the sensitization film: Reinforcement of key themes and competencies displayed in Amina's story, including her values and decision-making, creativity in the face of shocks, leading by example, and contributions to her community's development.

6. Interpersonal communication and using one's voice: Understanding the significance of good communication, common obstacles, and key principles of good communication and self-expression (e.g., using a message clear and simple, credible information, productive circumstances and channels of communication, an approach tailored to the relationship and status of the other person, maintained eye contact, audible and slow speech, amicable and open verbal and non-verbal communication).

7. Financial education: Setting and prioritizing top financial goals and charting out intermediate steps; mental contrasting with future savings, building a culture of saving, defining one's capacity to save, and seeing savings as a source of resilience; budgeting across seasons and across expense types.

8. Leadership and gender: Identifying female leaders and role models and qualities of leaders (e.g., having strong networks; taking responsibility; mediating conflicts; being forward-looking, inspiring, calm, and courageous); discussing ways women can contribute to community decision-making and support their communities and families; and brainstorming ideas for actions that participants could take in their communities.

9. Third viewing of the sensitization film and summary: Analysis of the film in relation to the competencies displayed by different actors; summary of the session including an exchange of participants' experiences and lessons learned.

Appendix B. Additional information on the psychosocial outcomes

Process of measure selection, adaptation, and development

Through piloting, the research team selected and adapted items from existing scales as well as developed original measures with face validity, or subjective construct accuracy in the local context. We additionally included culturally meaningful indicators of psychological and social well-being (e.g., inner peace, enemyship). In the selection and development of psychosocial measures, careful attention was paid to cultural relevance and comprehensibility. All items, and their references where relevant, are described in Table A.4.

Psychological well-being indices

The psychological well-being outcomes assessed mental health and psychosocial assets, including self-efficacy, subjective social status, and future expectations. Broadly, mental health and psychosocial assets predict a range of positive economic, health, and empowerment outcomes (Operario, Adler, and Williams, 2004; Wuepper and Lybbert, 2017). In particular, poor mental health, self-efficacy, and hope have been posited to contribute to poverty through their effects on motivation and future-oriented decision-making (Dalton, Ghosal, and Mani, 2016; Duflo, 2012; Ridley et al., 2020; Wuepper and Lybbert, 2017).

Mental health included CESD-R-10, a depression screener designed for community samples; functional disability items from SRQ-20; life satisfaction using an adapted Cantril ladder; sense of inner peace; and self-assessed mental health. Disability items, assessing somatic symptoms and role functioning, and self-assessed mental health item were included to capture cultural differences in mental illness symptoms (e.g., somatization) and functional impairments (Thomas et al., 2016; Ali, Ryan, and De Silva, 2016). Inner peace was considered a culturally specific indicator of well-being, according to qualitative piloting and West African studies (Osei-Tutu et al., 2020).

Social worth assessed self-efficacy and social standing. Capturing judgments of one's capabilities, perceived self-efficacy is a motivational keystone, particularly of goal setting and pursuit, in Western psychological research (Bandura, 1997). Social standing assessed the MacArthur socioeconomic status ladder and three context-specific ladders of community standing: being respected, having one's opinion followed, and showing moral behavior. Such self-assessments of one's social position have been found to predict health, well-being, and feelings of financial security, above and beyond income (Operario, Adler, and Williams, 2004).

Future expectations gauged expectations for personal and intergenerational socioeconomic status as well as life satisfaction in the future, through adapted MacArthur ladders. Notably, hope, or positive expectations for the future, has been posited to contribute to graduation programs' effects on poverty reduction (Duflo, 2012). Additionally, Delavande et al. (2011) find that subjective expectations often accurately predict future behaviors and outcomes and, in this case, capture expected trajectories of mobility.

Social well-being indices

The social well-being outcomes were seen as potential determinants of women's economic outcomes in the low literacy, low resource, and normatively tight study setting where women's opportunities often come through their relationships and where reciprocal networks of support can be critical to cope with shocks (Woolcock and Narayan, 2000; Akyeampong et al., 2014). Moreover, social well-being is often integral to individual happiness and wellbeing among interdependent groups (Hitokoto and Uchida, 2015; Osei-Tutu et al., 2020).

Social support and *financial support* assessed women's level of social capital, both bonding and bridging (Woolcock and Narayan, 2000). Social support assessed the extent of one's instrumental support network, based on the number of relationships one has for acquiring information, advice, and opportunities. Financial support assessed the extent of one's financial support network, based on perceived ability to receive financial help in times of need and number of financial supporters. Together, these questions capture whether beneficiaries are able to develop informal systems of support for economic resilience and opportunity.

Social cohesion and closeness to community assessed expectations of social support, feelings of trust and closeness, experienced tension (reversed), and number of enemies (reversed). Of note, the idea of personal enemies, or people who wish to sabotage your success, is prevalent in West Africa where social interdependence can be high (Adams, 2005). Enemies can arise from envy and resentment that can, for instance, accompany inequality in new opportunities or resources. Number of enemies was included as a locally relevant indicator of social cohesion, in addition to feelings and experiences of cohesion.

Groups and collective action assessed community engagement and support through the number of groups belonged to, the number of leadership positions held, monetary and volunteer contributions to community projects, and self-reported collective initiative. This measure assessed whether the interventions may have indirect benefits to communities beyond direct benefits to beneficiaries.

Intrahousehold dynamics assessed perceived quality of intrahousehold relationships, including feelings of trust, closeness, and support as well as experienced conflicts (reversed). Given that many economic and behavioral decisions are made at the household level in the study setting, this measure gauged the extent to which beneficiaries felt aligned with and supported by members of their household in decision-making or experienced tensions (reversed). It also assessed the Inclusion of Other in Self visual scale and sense of trust as indicators of intrahousehold closeness and positive relationality (Aron, Aron, and Smollan, 1992).

Appendix C. Additional Tables

Table A.1: Balance and Attrition

	Control Mean/SE	Capital Mean/SE	Psychosocial Mean/SE	Full Mean/SE	T-test p-value						Joint F-test p-value	Pooled F-test p-value
Variable	(1)	(2)	(3)	(4)	(1)-(2)	(1)-(3)	(1)-(4)	(2)-(3)	(2)-(4)	(3)-(4)	(5)	(6)
Beneficiary is HH head	0.104	0.109	0.111	0.102	0.423	0.282	0.843	0.714	0.381	0.232	0.660	0.606
	(0.011)	(0.012)	(0.010)	(0.011)								
Beneficiary is handicapped	0.013	0.021	0.015	0.018	0.174	0.632	0.133	0.179	0.569	0.740	0.653	0.178
	(0.003)	(0.004)	(0.004)	(0.004)								
Female (HH head)	0.102	0.116	0.114	0.113	0.135	0.163	0.310	0.977	0.541	0.491	0.883	0.181
	(0.011)	(0.013)	(0.012)	(0.012)								
Female (beneficiary)	0.986	0.990	0.987	0.988	0.326	0.821	0.860	0.514	0.751	0.760	0.839	0.417
	(0.003)	(0.003)	(0.004)	(0.003)								
Polygamy (HH head)	0.285	0.263	0.266	0.300	0.498	0.292	0.300	0.968	0.077*	0.106	0.154	0.918
	(0.018)	(0.015)	(0.015)	(0.018)								
Polygamy (beneficiary)	0.266	0.252	0.255	0.284	0.810	0.508	0.213	0.929	0.117	0.106	0.213	0.772
	(0.017)	(0.015)	(0.014)	(0.017)								
Age (HH head)	47.607	47.201	47.240	46.562	0.496	0.188	0.106	0.853	0.307	0.152	0.468	0.155
	(0.478)	(0.433)	(0.509)	(0.478)								
Age (beneficiary)	37.818	37.971	37.821	37.095	0.412	0.679	0.348	0.314	0.037**	0.106	0.195	0.655
	(0.436)	(0.423)	(0.478)	(0.464)								
Education (years, HH head)	0.537	0.646	0.574	0.505	0.161	0.377	0.931	0.937	0.381	0.655	0.531	0.341
	(0.072)	(0.084)	(0.079)	(0.070)								
Education (years, beneficiary)	0.306	0.406	0.284	0.350	0.100	0.799	0.400	0.086*	0.933	0.252	0.271	0.290
	(0.042)	(0.053)	(0.044)	(0.052)								
Primary education (0/1, HH head)	0.025	0.027	0.030	0.024	0.743	0.120	0.658	0.146	0.771	0.528	0.653	0.349
	(0.005)	(0.006)	(0.006)	(0.005)								
Primary education (0/1, beneficiary)	0.015	0.015	0.010	0.012	0.786	0.201	0.416	0.484	0.899	0.869	0.777	0.468
	(0.004)	(0.004)	(0.003)	(0.003)								
Literate (HH head)	0.264	0.277	0.285	0.263	0.224	0.174	0.894	0.626	0.312	0.381	0.638	0.287
	(0.017)	(0.016)	(0.017)	(0.017)								
Literate (beneficiary)	0.071	0.082	0.071	0.075	0.156	0.963	0.454	0.379	0.814	0.767	0.619	0.431
	(0.007)	(0.010)	(0.009)	(0.010)								
Health index (HH head)	0.000	0.027	0.031	0.034	0.515	0.498	0.329	0.941	0.638	0.761	0.951	0.371
	(0.030)	(0.035)	(0.031)	(0.034)								
Health index (beneficiary)	-0.000	0.035	0.002	0.044	0.348	0.947	0.351	0.293	0.953	0.483	0.657	0.535
	(0.036)	(0.035)	(0.036)	(0.033)								

Continued on next page

Table A.1: Balance and Attrition – continued from previous page

	Control Mean/SE	Capital Mean/SE	Psychosocial Mean/SE	Full Mean/SE	T-test p-value						Joint F-test p-value	Pooled F-test p-value
Variable	(1)	(2)	(3)	(4)	(1)-(2)	(1)-(3)	(1)-(4)	(2)-(3)	(2)-(4)	(3)-(4)	(5)	(6)
No. of rooms in house	2.497	2.422	2.490	2.629	0.577	0.898	0.037**	0.471	0.004***	0.064*	0.019**	0.538
	(0.076)	(0.064)	(0.076)	(0.071)								
Minutes to heatlh center	47.079	46.827	50.488	51.100	0.460	0.400	0.477	0.371	0.447	0.938	0.617	0.702
	(2.707)	(3.579)	(3.448)	(2.733)								
Minutes to market	73.008	68.875	76.453	72.459	0.237	0.416	0.454	0.068*	0.748	0.250	0.271	0.616
	(3.523)	(4.124)	(3.686)	(3.487)								
Minutes to water source	12.143	12.413	12.586	12.652	0.882	0.948	0.494	0.252	0.876	0.387	0.914	0.768
	(1.144)	(1.089)	(1.227)	(0.930)								
Distance to capital of commune (km)	23.402	22.122	23.793	22.128	0.285	0.856	0.077*	0.574	0.975	0.397	0.525	0.415
	(1.200)	(1.102)	(1.294)	(1.140)								
N	1188	1165	1084	1171								
Clusters	81	80	78	83								
Response rate in actual baseline sample												
Follow-up 1	0.957	0.953	0.950	0.950	0.420	0.455	0.267	0.991	0.801	0.946	0.991	0.306
	(0.007)	(0.008)	(0.008)	(0.009)								
Follow-up 2	0.910	0.927	0.929	0.907	0.522	0.107	0.445	0.809	0.230	0.148	0.341	0.610
	(0.015)	(0.010)	(0.009)	(0.015)								
N	1188	1165	1084	1171								
Clusters	81	80	78	83								
Response rate in pre-baseline sample												
Baseline	0.985	0.978	0.975	0.973	0.060*	0.064*	0.020**	0.985	0.296	0.516	0.627	0.008***
	(0.004)	(0.004)	(0.005)	(0.005)								
Follow-up 1	0.955	0.950	0.949	0.945	0.356	0.486	0.214	0.874	0.620	0.796	0.919	0.247
	(0.007)	(0.008)	(0.008)	(0.009)								
Follow-up 2	0.906	0.922	0.925	0.899	0.588	0.106	0.357	0.803	0.160	0.123	0.249	0.667
	(0.015)	(0.010)	(0.009)	(0.016)								
N	1206	1191	1112	1203								
Clusters	81	80	78	83								

Notes: The values displayed for the t-tests are based on the differences in the means across the groups. Standard errors for all tests are clustered at the village level. Fixed effects using randomization strata are included in all estimation regressions. The joint F-test in column 5 shows the p-value from a test of equality of treatment arms. while the pooled F-test in column 6 shows the p-value from a test of pooled treatment (i.e., a regression with a dummy for any treatment arm). The health index variable is a z-score index standardized against the control group and generated using three physical activity variables: the reported difficulty of (1) lifting a 10 kg sac, (2) walking 4 hours, and (3) working all day in the field. These three components range from 1 to 4. In calculating the distance-to-commune variable, we assign commune centroids to households located more than 30 km away from this centroid (measured as the average location of non-outlying households in the commune). *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A.2: Compliance Based on Administrative Data

	Treatment Arm			
	Pooled	Capital	Psychosocial	Full
1. Percentage of targeted beneficiaries who received individual coaching each month	52.2%	51.9%	50.5%	54.1%
2. Attendance rates of beneficiaries at community savings and loan groups	92.0%	92.8%	91.7%	91.5%
3. Attendance rates of beneficiaries at community sensitization on aspirations and social norms	89.3%	-	89.0%	89.8%
4. Attendance rates of beneficiaries at micro-entrepreneurship training	95.0%	96.4%	94.9%	93.6%
5. Attendance rates of beneficiaries at life skills training	93.8%	-	94.0%	93.5%
6. Percentage of targeted beneficiaries who received their cash grant	99.9%	99.7%	-	100%

Notes: We show compliance data collected by the program's administrators. The cash grant provision and participation in training (rows 4-6) are measured at the individual level. Participation in coaching sessions and savings groups (rows 1 and 2) is measured at the group level. And participation in the community sensitization session (video screening, row 3) is measured at the village level.

Table A.3: Variable Definitions and Construction

Variable	Definition
	Table 1 Primary Outcomes
Gross consumption (daily, USD/adult eq.)	Total daily consumption per adult equivalent is the sum of daily household food and non-food consumption as well as expenditures on education, healthcare, household repairs, and celebrations, divided by the number of adult equivalents per household. For food consumption, we ask about household consumption of a variety of food products in the last week. To get food expenditure, we multiply amounts consumed by prices. For food products that are both purchased and consumed, we use reported purchase prices. For food products that are consumed but not purchased, we use median purchase prices. We winsorize consumed values within each food product and we divide weekly household totals by 7. For non-food consumption, we ask about monthly and yearly expenses on a wide variety of goods and services that are typically consumed on a monthly (yearly) basis. For education expenditures, we ask about spending in the last academic year on transportation and various school-related items such as tuition fees and accommodation. For health expenditures, we ask about monthly and yearly expenses such as doctor's consultations and vaccination costs. For celebrations, we ask about food, non-food, drink, and clothing expenditures made over the last year during events such as marriages or religious ceremonies. For household repair expenditures, we ask about costs incurred over the last year improving or repairing household features such as roofs, walls, or animal pens. For each of these expenditures, we winsorize values at the finest level possible and re-scale to daily values.
Food security scale	Using the FIES scale, we ask eight yes/no questions about a household's food security over the last year where 0 = "yes" and 1 = "no" and we present a raw sum. The questions are "have you or other members of your household 1) been worried about not having enough food, 2) been unable to eat nutritious and healthy foods, 3) had to eat a smaller variety of foods, 4) had to skip a meal, 5) eaten less than they thought they should, 6) run out of food, 7) been hungry but did not eat, and 8) gone an entire day without eating?" (Nord, Cafiero, and Viviani, 2016; Ballard, Kepple, and Cafiero, 2013)
Food consumption score	We ask beneficiaries about the number of days in the last week that the they consumed items in 8 different food groups, and we compute a linear combination of these items: (WFP, 2008) 2·cereals + 2·tubers + 3·pulses + vegetables + fruit + 4·meat/fish/eggs + 4·milk + 0.5·oil + 0.5·sugar
	Table 2 Beneficiary Revenues
Business revenue (monthly, USD)	For each business within the household, we ask directly about revenues generated over the last 30 days or in the last month that the business was in operation. We winsorize revenues at the business-level at the 98th percentile. We exclude businesses that are both owned and managed by someone outside the household and we divide revenues by the number of co-owners to get the beneficiary's share. Lastly, we only sum across beneficiary-owned/managed businesses.

Continued on next page

Table A.3 Variable Definitions and Construction – continued from previous page

Variable	Definition
Wage earnings (yearly, USD)	For employment, we ask beneficiaries whether they worked at least one hour as apprentices or employees for the state, a company, or anyone outside their household in the last 12 months. We ask them what their income was in that period and we winsorize responses at the job level.
Harvest value (yearly, USD)	To get harvest values, we multiply median prices of crops sold by the quantity of crops harvested. For crop prices, we ask about quantities sold and revenues generated, and we compute regional, unit-specific medians of revenue over quantity sold. We also ask about the quantity of each crop harvested in the last year in both the rainy and dry seasons across all the plots owned or managed by members of the household. We omit harvested quantities that have unconvertible units or whose values are extremely unlikely such as outliers and cases where sale value exceeds harvest value. After dropping outlying harvest values, we winsorize values at the 98th percentile. Because we collect harvest quantities at the crop level (not the plot level), if crops are grown on more than one plot, we divide harvest value in proportion to plot size. Finally, we divide harvest values evenly among the owners of a plot to get the beneficiary's share of the value.
Livestock revenue (yearly, USD)	To capture livestock revenue, we ask about the number of animals (bulls, cows, calves, muttons, sheep, goats, camels, donkeys, horses, chickens, and guinea fowls) that the household sold or slaughtered over the last year and we ask about the revenues generated from these sales. We also ask who controls the revenue generated. We winsorize revenues within each animal type and we divide the result by the number of people who control livestock revenues to get the beneficiary's share.
	Table 3 Beneficiary Labor Participation
Days spent in off-farm business	We ask the beneficiary how many days in the last month they worked in each household business. We sum across businesses within each household.
Days spent in agriculture	We ask the beneficiary how many days in the last rainy season (last 4 months) they worked on household plots. (Max = 120 for 4 months)
Days spent in salaried employment	We ask both the beneficiary and household head how many days they spent employed in the last week, how many weeks in the last month, and how many months in the last year. We compute total days employed per year and divide by 12 to get a monthly average number of days. (Max = 30 for each person)
Days spent raising livestock	We ask the beneficiary how many hours they spent rearing livestock in the last day, how many days in the last month, and how many months in the last year. We compute total days employed per year and divide by 12 to get a monthly average number of days.
	Table 4 Income Diversification (Household)
Number of income sources	We sum across the number of types of crop, business, livestock, and employment positions within each household.
Crop types	We count the number of crop types grown in a household in both the dry and rainy seasons that amount to six total types: cereals, pulses, tubers, vegetables/fruits, cash crops, and any counter-season (dry) crop.

Continued on next page

Table A.3 Variable Definitions and Construction – continued from previous page

Variable	Definition
Off-farm business types	We count the number of types of off-farm businesses that each household operated in the last 12 months. These amount to five types: 1) transportation or other services, 2) artisanship, tailoring, or petty trade, 3) construction or carpentry, 4) liberal profession or medicine, and 5) other activities.
Livestock types	We count the number of types of livestock owned by the household in the last 12 months. These amount to five types: 1) cows or bulls, 2) horses, donkeys, or camels, 3) sheep or goats, 4) poultry, and 5) other animals.
Wage types	We ask both the household head and the beneficiary what employment positions they have held over the last 12 months and we count these wage jobs for both.
	Table 5 Off-Farm Activities (Household)
Household has a business {0,1}	We ask about all the off-farm income generating activities (businesses) managed by household members in the last 12 months and report whether the household operated any of them.
Main activity off-farm {0,1}	For beneficiaries who confirm that they are engaged in a productive activity, we ask whether their main income-generating activity is an off-farm business.
No. of household businesses	Number of off-farm businesses owned or operated by a household member in the last 12 months.
Beneficiary's investments (yearly, USD)	We ask beneficiaries how much money they invested in each of these off-farm businesses over the last 12 months. We sum across different funding sources (e.g. NGOs, savings, or friends and family) and we winsorize values at the business level at the 98th percentile.
Business revenue (monthly, USD)	For each business within the household, we ask directly about revenues generated over the last 30 days or in the last month that the business was in operation. We winsorize revenues at the business-level at the 98th percentile. We exclude businesses that are both owned and managed by someone outside the household.
Business profits (monthly, USD)	Construction of profits is similar to revenues as we ask directly about profits from off-farm businesses in the last 30 days.
Beneficiary's healthy business practices index	For beneficiaries who confirm that they are engaged in a productive activity, we ask ten yes/no questions to understand whether they employ good business practices such as tracking creditors, monitoring profitability, seeking feedback from customers, and setting sales targets. Using these ten questions, we construct an index standardized against the control group.
	Table 6 Agriculture (Household)
Cultivated any crop {0,1}	We ask if any member of the household has cultivated any land whether owned of not in the last 12 months.
Area of cultivated crops (ha)	We ask about the size of this land (owned or cultivated) and we omit plots that are under 50 square meters or over 6 hectares when computing household totals.
Harvest value (yearly, USD)	Same variable as beneficiary harvest value in table 2 but without the scaling for the beneficiary's share.
Lost annual crop {0,1}	We ask about the status of household crops. Households can report that they finished harvesting a crop, that they started but have not yet finished, that they finished, or that they lost an entire harvest. This indicator captures whether a household lost the entire harvest.

Continued on next page

Table A.3 Variable Definitions and Construction – continued from previous page

Variable	Definition
Purchased seeds {0,1}	Indicator for whether a household bought some of the seeds it used on any plot during the rainy season.
Used chemical fertilizer {0,1}	Indicator for whether a household used inorganic or chemical fertilizer on any plot during the rainy season.
Used phytosanitary products {0,1}	Indicator for whether a household used phytosanitary products on any plot during the rainy season.
Used paid labor {0,1}	Indicator for whether a household used paid labor (in cash or in kind) on any plot during the rainy season.
Sold annual crop {0,1}	For crops that have been completely or partially harvested, we ask whether any portion has been sold.
Sale value (yearly, USD)	For sale values, we multiply regional, unit-specific median selling prices by quantities sold. As we did for harvest values, we omit sale quantities that have unconvertible units or whose values are extremely unlikely such as outliers and cases where sale value exceeds harvest value. After dropping outlying sales values, we winsorize values at the 98th percentile.
Commercialization %	Commercialization percent of crops (sale value ÷ harvest value)
	Table 7 Livestock (Household)
Livestock count (TLU)	If a household reports that any of its members owned or raised livestock in the last 12 months, we ask for the number of animals that currently belong to the household itself. We report these numbers using Tropical Livestock Units where conversion factors are as follows (Njuki et al., 2011): Camels = 1.1; Horses, mares, or donkeys = 0.8; Cows and calves = 0.70; Bulls = 0.5; Pigs = 0.20; Sheep, goats, and mutton = 0.10; Guinea Fowl = 0.03; Chicken = 0.01
Livestock types	See table 4
Livestock asset value (USD)	We ask each household about the quantity and expected sale value of different types of livestock they currently own. We compute and winsorize unit values at the livestock level.
Change in livestock count (yearly, TLU)	We also ask how many animals any household members owned 12 months ago to compute the change in livestock ownership. We present this change in Tropical Livestock Units as we do for livestock count above.
Livestock purchase value (USD)	If households purchased livestock in the last 12 months, we ask them about the value of their purchases. Like animal sale values, we winsorize purchase values at the animal level at the 98th percentile.
Livestock revenue (yearly, USD)	Same as beneficiary livestock revenue in table 2 but not reduced to beneficiary's share.
	Table 8 Assets (Household)
Agricultural asset value (USD)	We ask about agricultural equipment such as rakes, plows, and pickaxes currently owned by the household. We divide reported values by quantities to get unit values and we winsorize unit values within each asset type.
Business asset value (USD)	We ask about the value of equipment and materials the household currently owns and employs in its off-farm business activities.
Household asset index	We compute a PCA index using the reported current ownership of household assets such as televisions, cellphones, beds, and tables.
	Table 9 Financial Engagement

Continued on next page

Table A.3 Variable Definitions and Construction – continued from previous page

Variable	Definition
Takes part in tontine/AVEC {0,1}	We ask beneficiaries whether they take part in a savings group where savings groups are either tontines such that one contributor receives a payout every meeting or VSLAs where payouts are shared among the contributors at the end of every cycle.
Tontine/AVEC savings (3 months, USD)	We report beneficiaries' savings over the last 3 months by multiplying the size of contributions by their frequency and the number of months in the last 3 months that the beneficiary contributed. We then winsorize these monthly contributions and compute totals regardless of the type of savings group.
Other savings (3 months, USD)	We also ask beneficiaries if they deposited any savings in the last 3 months (1) formally with a bank, savings bank, or other institution, (2) informally in the form of credit with traders or suppliers, agricultural cooperatives, or mobile money or (3) as cash with friends, neighbors, or family members outside the household, or at home in a box or bag, or in the form of jewelry. We winsorize these values at the deposit level at the 98th percentile and we report totals across deposit locations.
Total borrowed (yearly, USD)	We ask whether beneficiaries have taken out personal loans in the last 12 months from savings groups (excluding tontines), microfinance institutions, friends or neighbors, family members outside the household, lenders, traders, or any other party. We report the amount of outstanding debt (principal and interest), winsorized at the 98th percentile.
Total lent out (yearly, USD)	We ask beneficiaries how much money other household members still owe them today and we winsorize responses at the 98th percentile.
Household transfers in (yearly, USD)	We ask the household head about the size and frequency of any transfer (money, products, or goods) that the household has received over the last 12 months from any person (family or otherwise) who is not currently a member of the household. We winsorize yearly totals at the 98th percentile.
Household transfers out (yearly, USD)	We ask the household head about the size and frequency of any transfer (money, products, or goods) that the household sent out over the last 12 months to any person (family or otherwise) who is not currently a member of the household. We winsorize yearly totals at the 98th percentile.

Notes: All continuous variables are winsorized at the 98th and 2th percentiles at the most disaggregated level feasible.

Table A.4: Index Definitions and Construction

Variable	Components	Sub-components (if any)	Possible answers
		Table 10 Psychological Well-Being Indices	
Mental health index	Less depression: Sum of 10 questions from CESD-R-10 (Radloff, 1977)	No. of days felt the details of life bothered you more than usual	0 - 7 days
		No. of days felt you had trouble concentrating on what you were doing	0 - 7 days
		No. of days felt sad	0 - 7 days
		No. of days felt that what you were doing took all your energy	0 - 7 days
		No. of days felt you were confident in the future (reversed)	0 - 7 days
		No. of days felt nervous, tense, or worried	0 - 7 days
		No. of days felt you had trouble sleeping peacefully	0 - 7 days
		No. of days felt happy (reversed)	0 - 7 days
		No. of days felt alone	0 - 7 days
		No. of days felt so tired that you could do nothing	0 - 7 days
	Less disability: Sum of 4 questions from SRQ-20 (Harding et al., 1980)	No. of days you have had a headache	0 - 7 days
		No. of days your digestion was bad	0 - 7 days
		No. of days you had difficulty fulfilling your family responsibilities	0 - 7 days
		No. of days you had difficulties in your daily work	0 - 7 days
	Life satisfaction today (MacArthur Scale)	(Operario, Adler, and Williams, 2004) †	1 lower - 10 higher
	Inner Peace (MacArthur Scale)		1 lower - 10 higher
	Self-reported mental health: standardized mental health assessment	In general, would you say that your mental health is excellent, very good, good, fair or poor?	1 bad - 5 excellent
Social worth index	Self-efficacy: Sum of 7 questions from GSE-10 (Schwarzer, Jerusalem, et al., 1995) and 1 from Rosenberg Self-Esteem (Rosenberg, 2015)	GSE 1: You can successfully solve problems if you put in enough effort.	1 not at all - 4 yes, absolutely

Continued on next page

Table A.4 Index Definitions and Construction – continued from previous page

Variable	Components	Sub-components (if any)	Possible answers
		GSE 2: If someone doesn't want you to do something, you can find a way to do whatever you want to do anyway.	1 not at all - 4 yes, absolutely
		GSE 3: It is easy for you to stay on the path you have set out for yourself and achieve your goals in life.	1 not at all - 4 yes, absolutely
		GSE 4: You are confident that you are able to cope well with unexpected events.	1 not at all - 4 yes, absolutely
		GSE 7: You can stay calm when you are faced with difficulties because you have the ability to adapt.	1 not at all - 4 yes, absolutely
		GSE 8: When you have to solve a problem, you can usually find more than one solution.	1 not at all - 4 yes, absolutely
		GSE 9: If you find yourself in a difficult situation, you can usually find a solution.	1 not at all - 4 yes, absolutely
		Rosenberg self-esteem: You are able to do things as well as most people.	1 not at all - 4 yes, absolutely
	Social Standing: Sum of 4 MacArthur Scale questions †	There are people who are not good people and who do not have good behavior (point down). But there are also people who have a lot of good qualities and who have a good behavior (point up)	1 lower - 10 higher
		At the top of the ladder there are the most respected people, such as the village chief and religious leaders, and at the bottom there are the least respected people, such as the excluded	1 lower - 10 higher
		At the top of the ladder there are the people whose opinion is followed the most in the community, and at the bottom there are the people whose opinion is the least followed	1 lower - 10 higher
		At the top of the stairs are the people with the most resources, the most education, and the most respected jobs. At the bottom are the lowest-status people who have the least money, the least education, and the least respected or unemployed jobs	1 lower - 10 higher

Continued on next page

Table A.4 Index Definitions and Construction – continued from previous page

Variable	Components	Sub-components (if any)	Possible answers
Future expectations index	Expected social status (MacArthur Scale)		1 lower - 10 higher
	Expected life satisfaction two years from now (MacArthur Scale)		1 lower - 10 higher
	Expected social position of child at age 30 (MacArthur Scale)		1 lower - 10 higher
	Table 11 Social Well-Being Indices		
Social support index	How many people do you know who have personally succeeded in life?		Integer
	How many people can you go to for advice on income-generating activities?		Integer
	How many people come to you for advice on income-generating activities?		Integer
	How many people can you go to for advice on arguments or disputes?		Integer
	How many people come to you for advice on arguments or disputes?		Integer
	How many people can you trust to sell your products in other markets?		Integer
Financial support index	Respondent can count on village community to help them in case of financial difficulties		1 not at all - 4 yes, absolutely
	Number of people whom respondent could ask for money	No. of siblings that you can ask for money	Integer
		No. of family members that you can ask for money	Integer
		No. of friends that you can ask for money	Integer
		No. of other people that you can ask for money	Integer
	What is the probability that you will be able to raise 30,000 XOF over the next month		1 not at all likely - 4 very likely
Intra-household dynamics index	Partner dynamics	When you disagree with your spouse, you feel comfortable telling him so	1 never - 4 most of the time
		Do you think your spouse will always do the things that are best for you?	1 never - 4 most of the time
		How close you feel to your partner? (hand gesture) ‡	1 independent - 4 integrated
	Household dynamics	Your household has NOT prevented you from visiting friends or family in the last 12 months	0 no - 1 yes
		In the last 6 months, have you had tensions with other members of your household? (reversed)	1 yes, a lot - 4 not at all
		How close you feel to your household? (hand gesture) ‡	1 independent - 4 integrated
Social cohesion and closeness to community index	You can count on the help of the women of your village when you have difficulties. Do you agree?		1 not at all - 4 yes, absolutely

Continued on next page

Table A.4 Index Definitions and Construction – continued from previous page

Variable	Components	Sub-components (if any)	Possible answers
	Out of 10 people in the village, how many are honest and trustworthy people?		1 - 10
	Are there people who hate you and wish you failed or to sabotage your success? (reversed)		1 yes, many - 4 none
	In the last 6 months, has there been tension between members of your community? (reversed)		1 yes, a lot - 4 not at all
	How close you feel to your community? (hand gesture)		1 independent - 4 integrated
Groups and collective action index	No. of groups or associations (such as youth groups or tontines) in which respondent has been a member over the last 2 months		Integer
	No. of positions of responsibility held in any group over the last 12 months		Integer
	Amount donated to funds for community projects over the last 2 months (winsorized)		Value (USD)
	No. of days volunteered in community activities over the last 2 months		Integer
	Works with community to achieve common goals		1 not at all - 4 yes, absolutely

Table 12 Decision-Making and Productive Agency Indices

Controls earnings index	Does your opinion matter in decisions regarding the money you earn?		1 does not matter at all - 3 matters a lot
	Could you make your own decisions without the advice of anyone regarding the money you earn?		1 does not matter at all - 3 matters a lot
	Does your opinion matter in decisions regarding agriculture?		1 does not matter at all - 3 matters a lot
	Does your opinion matter in decisions regarding livestock?		1 does not matter at all - 3 matters a lot
	Does your opinion matter in decisions regarding off-farm activities?		1 does not matter at all - 3 matters a lot
	Your household has NOT prevented you from working outside the home in the last 12 months		0 no - 1 yes
	You control any revenue from sale of a crop		0 no - 1 yes
	You own or manage an off-farm business		0 no - 1 yes
	You own livestock		0 no - 1 yes
	You control revenue from the sale of livestock		0 no - 1 yes
	You stayed a night outside the village for a productive (income-generating) purpose in the last 12 months		0 no - 1 yes
Controls household resources index	Does your opinion matter in decisions regarding the money your partner earns?		1 does not matter at all - 3 matters a lot

Continued on next page

Table A.4 Index Definitions and Construction – continued from previous page

Variable	Components	Sub-components (if any)	Possible answers
	Does your opinion matter in decisions regarding current household expenses?		1 does not matter at all - 3 matters a lot
	Does your opinion matter in decisions regarding major household purchases?		1 does not matter at all - 3 matters a lot
	Does your opinion matter in decisions regarding family planning?		1 does not matter at all - 3 matters a lot
	Does your opinion matter in decisions regarding your own healthcare?		1 does not matter at all - 3 matters a lot
	Does your opinion matter in decisions regarding your children's education?		1 does not matter at all - 3 matters a lot
	Could you make your own decisions without the advice of anyone regarding current household expenses?		1 does not matter at all - 3 matters a lot
	Could you make your own decisions without the advice of anyone regarding household purchases?		1 does not matter at all - 3 matters a lot
	Could you make your own decisions without the advice of anyone regarding family planning?		1 does not matter at all - 3 matters a lot
	Could you make your own decisions without the advice of anyone regarding your own healthcare?		1 does not matter at all - 3 matters a lot
	Table 13 Children's Outcomes		
Child attended school	Child (age 6 - 14) attended school in the last 12 months		0 no - 1 yes
Child labor index	Number of days that a child (age 6 - 14) in the household was involved in an off-farm activity		Integer
	Number of days that a child (age 6 - 14) in the household was involved in agricultural labor		Integer
	Number of days that a child (age 6 - 14) in the household was involved in tending livestock		Integer
Child chores index	Indicator for whether a child (age 6 - 14) in the household contributed to collecting firewood or water		0 no - 1 yes
	Indicator for whether a child (age 6 - 14) in the household helped in doing laundry		0 no - 1 yes
	Indicator for whether a child (age 6 - 14) in the household helped in shopping		0 no - 1 yes
Weight/height z-score	Child wasting index following WHO definition, based on the weight/height z-score for children ages 6-59 months		

Notes: The variable listed in the first column is a z-score index of the components listed in the second column (except for "child attended school" in table 13). Some components are made up of sub-components, which are shown to the right of the components. All indices are standardized against the control group.

†MacArthur Scale questions are phrased as follows using life satisfaction as an example: "please imagine a ladder, with steps numbered from 0 at the bottom to 10 at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you personally feel you stand at this time?"

‡Hand gestures for social closeness: surveyors spread their hands wider than their shoulders to signal independence and they join their hands to signal integration.

Table A.5: Multiple Hypothesis Test Corrections

MHT family	6 months post-intervention									18 months post-intervention								
	Capital Arm			Psychosocial Arm			Full Arm			Capital Arm			Psychosocial Arm			Full Arm		
Variable	Actual	FDR†	FWER‡	Actual	FDR	FWER	Actual	FDR	FWER	Actual	FDR	FWER	Actual	FDR	FWER	Actual	FDR	FWER
Table 1 Primary Outcomes																		
Gross consumption (daily, USD/adult eq.)	**0.002**	**0.002**	**0.007**	*0.083*	*0.083*	0.117	**0**	**0**	**0**	**0.007**	**0.007**	**0.016**	**0.001**	**0.001**	**0.003**	**0**	**0**	**0**
Food security (raw sum)	**0**	**0**	**0**	*0.058*	*0.083*	0.153	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.001**	**0.004**	**0**	**0**	**0**
Food consumption score	**0**	**0**	**0**	**0.002**	**0.005**	**0.016**	**0**	**0**	**0**	**0**	**0.001**	**0.002**	**0.009**	**0.009**	**0.019**	**0**	**0**	**0**
Table 2 Beneficiary Revenues																		
Business revenue (monthly, USD)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.004**	**0.008**	**0.031**	**0**	**0**	**0**
Harvest value (yearly, USD)	0.264	0.264	0.375	0.345	0.345	0.455	0.375	0.375	0.477	0.198	0.213	0.380	**0.004**	**0.008**	**0.044**	**0.002**	**0.003**	**0.007**
Wage earnings (yearly, USD)	**0.036**	*0.073*	0.169	*0.094*	0.126	0.234	**0.006**	**0.012**	**0.042**	0.213	0.213	0.281	0.465	0.465	0.517	0.101	0.101	0.141
Livestock revenue (yearly, USD)	0.244	0.264	0.494	**0.029**	*0.059*	0.161	0.162	0.216	0.377	**0.007**	**0.014**	**0.028**	0.152	0.203	0.356	**0.005**	**0.006**	**0.020**
Table 3 Beneficiary Labor Participation																		
Days spent in off-farm business	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Days spent in agriculture	0.398	0.398	0.442	0.479	0.479	0.536	0.833	0.833	0.847	0.377	0.503	0.651	0.593	0.593	0.616	0.682	0.682	0.698
Days spent in salaried employment	0.132	0.176	0.301	0.210	0.280	0.432	*0.061*	*0.081*	0.168	0.931	0.931	0.937	0.207	0.276	0.441	0.616	0.682	0.877
Days spent raising livestock	**0**	**0**	**0**	**0.006**	**0.012**	**0.034**	**0**	**0**	**0**	**0**	**0**	**0**	**0.010**	**0.020**	*0.067*	**0**	**0**	**0**
Table 4 Income Diversification (Household)																		
No. of income sources	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.007**	**0.017**	*0.061*	**0**	**0**	**0**
Crop types	0.534	0.646	0.813	0.848	0.848	0.863	0.607	0.607	0.636	0.786	0.786	0.808	0.329	0.329	0.390	*0.052*	*0.065*	0.141
Off-farm business types	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.013**	**0.021**	*0.064*	**0.010**	**0.017**	*0.059*	**0.001**	**0.002**	**0.013**
Livestock types	**0**	**0**	**0**	**0**	**0**	**0.001**	**0**	**0**	**0**	**0**	**0**	**0**	**0.004**	**0.017**	*0.051*	**0**	**0**	**0**
Wage types	0.646	0.646	0.671	*0.064*	*0.080*	0.189	0.103	0.128	0.249	0.539	0.674	0.807	0.224	0.280	0.485	0.566	0.566	0.611
Table 5 Off-Farm Activities (Household)																		
Household has a business {0,1}	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.002**	**0**	**0**	**0**
Beneficiary's main activity is off-farm {0,1}	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.003**	**0.001**	**0.001**	**0.009**	**0**	**0**	**0**
No. of household businesses	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Beneficiary's investments (yearly, USD)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.001**	**0.001**	**0.005**	**0**	**0**	**0**
Business revenue (monthly, USD)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.001**	**0.001**	**0.008**	**0.004**	**0.004**	**0.007**	**0**	**0**	**0**
Business profits (monthly, USD)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.003**	**0.003**	**0.009**	**0.003**	**0.003**	**0.008**	**0**	**0**	**0**
Beneficiary's healthy business practices index	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.001**	**0.005**	**0**	**0**	**0**
Table 6 Agriculture (Household)																		
Cultivated any crop {0,1}	0.843	0.843	0.855	0.858	0.858	0.850	0.845	0.845	0.877	0.293	0.538	0.918	0.412	0.462	0.496	0.819	0.819	0.846
Area of cultivated crops (ha)	0.186	0.341	0.752	**0.015**	**0.042**	0.197	**0.018**	**0.039**	0.195	0.746	0.884	0.972	0.270	0.422	0.901	0.410	0.564	0.882
Harvest value (method 2)	0.563	0.688	0.938	0.636	0.747	0.968	0.742	0.817	0.950	0.145	0.319	0.669	**0**	**0.001**	**0.007**	**0**	**0.001**	**0.009**
Lost annual crop {0,1}	0.705	0.775	0.928	0.629	0.747	0.987	0.496	0.607	0.888	0.433	0.596	0.888	0.292	0.422	0.853	0.125	0.228	0.573
Purchased seeds {0,1}	0.221	0.347	0.763	0.523	0.747	0.985	0.261	0.358	0.764	*0.055*	0.302	0.491	*0.055*	0.203	0.482	0.155	0.243	0.612

Continued on next page

Table A.5: Multiple Hypothesis Test Corrections – continued from previous page

MHT family	6 months post-intervention									18 months post-intervention								
	Capital Arm			Psychosocial Arm			Full Arm			Capital Arm			Psychosocial Arm			Full Arm		
Variable	Actual	FDR†	FWER‡	Actual	FDR	FWER	Actual	FDR	FWER	Actual	FDR	FWER	Actual	FDR	FWER	Actual	FDR	FWER
Used chemical fertilizer {0,1}	**0.014**	*0.070*	0.203	0.287	0.526	0.883	**0.003**	**0.017**	*0.063*	**0.006**	*0.063*	0.100	0.462	0.462	0.741	**0.001**	**0.003**	**0.023**
Used pytosanitary products {0,1}	**0.026**	*0.071*	0.237	0.679	0.747	0.911	**0.008**	**0.021**	0.118	0.118	0.319	0.697	0.232	0.422	0.911	**0**	**0.001**	**0**
Used paid labor {0,1}	**0.003**	**0.035**	*0.074*	*0.064*	0.141	0.435	**0**	**0**	**0**	0.116	0.319	0.679	0.293	0.422	0.893	**0**	**0**	**0**
Sold annual crop {0,1}	0.419	0.576	0.903	**0.003**	**0.015**	*0.068*	*0.052*	*0.095*	0.347	0.851	0.884	0.966	0.307	0.422	0.795	0.547	0.669	0.898
Sale value (yearly, USD)	**0.019**	*0.070*	0.193	**0.004**	**0.015**	*0.072*	**0.006**	**0.021**	*0.061*	0.428	0.596	0.924	**0.012**	*0.067*	0.219	*0.073*	0.161	0.451
Commercial- ization % (10)/(3)=(11)	**0.037**	*0.080*	0.290	**0**	**0.004**	**0.011**	*0.087*	0.136	0.409	0.884	0.884	0.892	0.445	0.462	0.870	0.726	0.798	0.938
Table 7 Livestock (Household)																		
Livestock count (TLU)	**0**	**0**	**0**	**0.007**	**0.036**	**0.048**	**0**	**0**	**0**	**0.001**	**0.002**	**0.013**	**0.019**	*0.089*	0.129	**0**	**0**	**0**
Livestock asset value (USD)	**0.001**	**0.001**	**0**	0.145	0.319	0.492	**0**	**0**	**0**	**0.001**	**0.002**	**0.018**	*0.096*	0.161	0.326	**0**	**0**	**0**
Change in livestock count (yearly, TLU)	**0**	**0**	**0.004**	0.403	0.504	0.722	**0.018**	**0.018**	*0.061*	0.666	0.666	0.689	0.396	0.495	0.666	0.277	0.277	0.304
Livestock purchase value (USD)	**0**	**0**	**0**	0.554	0.554	0.580	**0**	**0**	**0**	0.238	0.298	0.501	0.860	0.860	0.884	**0.017**	**0.021**	**0.046**
Livestock revenue (yearly, USD)	0.668	0.668	0.709	0.191	0.319	0.521	**0.011**	**0.014**	**0.042**	**0**	**0**	**0**	**0.036**	*0.089*	0.186	**0**	**0**	**0.001**
Table 8 Assets (Household)																		
Agricultural asset value (USD)	0.936	0.936	0.942	0.426	0.426	0.445	0.970	0.970	0.974	0.180	0.271	0.414	0.931	0.931	0.937	*0.096*	*0.096*	0.118
Business asset value (USD)	0.195	0.419	0.524	0.253	0.380	0.484	**0**	**0.001**	**0.005**	**0.021**	*0.063*	*0.098*	*0.080*	0.120	0.207	**0.010**	**0.015**	*0.050*
Household asset index	0.280	0.419	0.533	**0.027**	*0.080*	0.135	**0.002**	**0.003**	**0.013**	0.478	0.478	0.504	**0.020**	*0.060*	*0.088*	**0.007**	**0.015**	**0.035**
Table 9 Financial Engagement																		
Takes part in tontine/AVEC {0,1}	**0**	**0**	**0.016**	**0.001**	**0.005**	*0.098*	**0.001**	**0.003**	*0.055*	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Tontine/AVEC savings (3 months, USD)	0.583	0.816	0.941	0.444	0.518	0.717	0.326	0.456	0.832	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Other savings (3 months, USD)	*0.060*	0.140	0.362	**0.036**	0.124	0.254	**0**	**0**	**0**	**0.008**	**0.018**	*0.069*	0.457	0.640	0.858	**0.001**	**0.001**	**0.007**
Total borrowed (yearly, USD)	0.953	0.953	0.957	0.127	0.297	0.552	0.810	0.810	0.819	0.890	0.890	0.898	0.121	0.211	0.478	**0.002**	**0.004**	**0.022**
Total lent out (yearly, USD)	**0.008**	**0.028**	0.109	0.182	0.318	0.620	**0**	**0**	**0**	0.121	0.141	0.271	0.720	0.840	0.929	*0.067*	*0.078*	0.190
Household transfers in (yearly, USD)	0.452	0.790	0.937	0.967	0.967	0.970	0.305	0.456	0.745	*0.060*	*0.091*	0.270	0.885	0.885	0.897	0.869	0.869	0.883
Household transfers out (yearly, USD)	0.757	0.884	0.957	0.245	0.343	0.676	0.436	0.508	0.757	*0.065*	*0.091*	0.314	**0.039**	*0.092*	0.369	**0.004**	**0.005**	**0.030**
Table 10 Psychological Well-Being Indices																		
Mental health index	**0.003**	**0.003**	**0.009**	**0.016**	**0.016**	**0.025**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Social worth index	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.006**	**0.009**	**0.022**	**0**	**0**	**0**	**0**	**0**	**0**
Future expectations index	**0.002**	**0.003**	**0.009**	**0**	**0**	**0**	**0**	**0**	**0**	**0.011**	**0.011**	**0.021**	**0.002**	**0.002**	**0.006**	**0**	**0**	**0**
Table 11 Social Well-Being Indices																		
Social support index	**0**	**0**	**0.001**	**0**	**0**	**0**	**0**	**0**	**0**	**0.004**	**0.006**	**0.017**	**0**	**0**	**0**	**0**	**0**	**0**
Financial support index	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Intra-household dynamics index	0.114	0.143	0.269	*0.094*	*0.094*	0.126	0.108	0.108	0.147	0.634	0.634	0.671	0.323	0.323	0.367	0.787	0.787	0.791
Social cohesion and community closeness index	0.451	0.451	0.472	**0.009**	**0.012**	**0.034**	**0.006**	**0.008**	**0.025**	*0.094*	0.118	0.234	**0.003**	**0.003**	**0.012**	**0.043**	*0.054*	0.114
Collective action index	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Table 12 Decision-Making and Productive Agency Indices																		
Controls earnings index	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.001**	**0**	**0**	**0**	**0**
Controls HH resources index	0.496	0.496	0.532	0.167	0.167	0.198	0.142	0.142	0.172	0.776	0.776	0.784	0.234	0.234	0.264	0.419	0.419	0.456
Table 13 Children's Outcomes																		
Child attended school {0,1}	*0.076*	0.120	0.265	0.894	0.894	0.900	0.604	0.604	0.648	**0.026**	*0.051*	0.112	0.263	0.350	0.525	0.237	0.474	0.624

Continued on next page

Table A.5: Multiple Hypothesis Test Corrections – continued from previous page

	6 months post-intervention									18 months post-intervention								
MHT family	Capital Arm			Psychosocial Arm			Full Arm			Capital Arm			Psychosocial Arm			Full Arm		
Variable	Actual	FDR†	FWER‡	Actual	FDR	FWER	Actual	FDR	FWER	Actual	FDR	FWER	Actual	FDR	FWER	Actual	FDR	FWER
Child labor index	*0.090*	0.120	0.244	**0.001**	**0.002**	**0.015**	**0**	**0**	**0**	**0.002**	**0.007**	**0.021**	**0.001**	**0.002**	**0.006**	**0**	**0**	**0.003**
Child chores index	**0.011**	**0.045**	0.101	**0.004**	**0.009**	**0.032**	0.223	0.297	0.459	0.239	0.318	0.482	0.243	0.350	0.637	0.480	0.590	0.761
Weight/height z-score	0.888	0.888	0.902	0.540	0.720	0.806	0.120	0.240	0.419	0.756	0.756	0.787	0.781	0.781	0.802	0.590	0.590	0.622

Notes: At each survey phase and within each treatment arm, we correct p-values for multiple hypothesis testing within each family of variables. Columns labeled *actual* show the p-values used in the main tables. Italics: $p < 0.1$. Bold: $p < 0.05$. Bold and underlined: $p < 0.01$.

†: Columns labeled FDR show False Discovery Rate-adjusted q-values following the step-up approach of (Benjamini and Hochberg, 1995) which assumes that the p-values within a family are positively correlated.

‡: Columns labeled FWER show Family-Wise Error Rate-corrected p-values following the procedure outlined in (Barsbai et al., 2020), capturing the existing correlation between p-values by exploiting treatment randomization and runing a bootstrap resampling procedure.

Table A.6: Financial Engagement (Extensive Margins)

	(1) Takes part in tontine/AVEC {0,1}	(2) Takes part in tontine/AVEC (enumerator F.E.)	(3) Savings group: tontine {0,1}	(4) Savings group: AVEC {0,1}
Followup 1 (6 months after cash grants)				
Capital	0.05***	0.05***	-0.03*	0.10***
	(0.01)	(0.01)	(0.02)	(0.02)
Psychosocial	0.04***	0.04***	-0.04**	0.08***
	(0.01)	(0.01)	(0.02)	(0.02)
Full	0.04***	0.04***	-0.02	0.08***
	(0.01)	(0.01)	(0.02)	(0.02)
Observations	4476	4476	4476	4476
Control mean	0.93	0.93	0.23	0.84
Control SD	0.26	0.26	0.42	0.37
p (Capital = Psychosocial)	0.198	0.083	0.817	0.177
p (Capital = Full)	0.114	0.105	0.585	0.113
p (Psychosocial = Full)	0.829	0.806	0.405	0.921
Followup 2 (18 months after cash grants)				
Capital	0.31***	0.31***	-0.00	0.34***
	(0.03)	(0.03)	(0.01)	(0.03)
Psychosocial	0.27***	0.27***	-0.01	0.30***
	(0.03)	(0.03)	(0.01)	(0.03)
Full	0.33***	0.33***	0.00	0.35***
	(0.03)	(0.03)	(0.01)	(0.03)
Observations	4303	4303	4303	4303
Control mean	0.53	0.53	0.07	0.49
Control SD	0.50	0.50	0.26	0.50
p (Capital = Psychosocial)	0.106	0.068	0.439	0.086
p (Capital = Full)	0.363	0.425	0.586	0.477
p (Psychosocial = Full)	0.013	0.011	0.180	0.018
p (Followup 1 = Followup 2 for Capital)	0.000	0.000	0.200	0.000
p (Followup 1 = Followup 2 for Psychosocial)	0.000	0.000	0.303	0.000
p (Followup 1 = Followup 2 for Full)	0.000	0.000	0.243	0.000

Notes: Results presented are OLS estimates that include controls for randomization strata and, where possible, baseline outcomes. We assign baseline strata means to households surveyed at followup but not at baseline and we control for such missing values with an indicator. Robust standard errors are shown in parentheses, clustered at the village level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. All monetary amounts are PPP-adjusted USD terms, set at 2016 prices and deflated using CPI published by the World Bank. In 2016, 1 USD = 242.553 XOF PPP. All continuous variables are winsorized at the 98th and 2th percentiles at the most disaggregated level feasible. See Table A.3 for details on variable construction.

Table A.7: Mental Health Index Components

	(1) Mental health index	(2) Less depression {0-70}	(3) Less disability {0-28}	(4) Life satisfaction {1-10}	(5) Inner peace {1-10}	(6) Self-reported mental health
Followup 1 (6 months after cash grants)						
Capital	0.13***	0.60	0.24	0.40***	0.23**	-0.02
	(0.04)	(0.47)	(0.24)	(0.09)	(0.09)	(0.04)
Psychosocial	0.10**	0.60	0.15	0.29***	0.22**	-0.02
	(0.04)	(0.47)	(0.23)	(0.09)	(0.09)	(0.04)
Full	0.23***	1.22***	0.56**	0.62***	0.32***	0.01
	(0.04)	(0.47)	(0.22)	(0.09)	(0.09)	(0.04)
Observations	4476	4476	4476	4476	4476	4476
Control mean	0.00	46.72	21.27	5.16	6.74	0.01
Control SD	1.00	11.53	5.47	2.07	2.04	1.01
p (Capital = Psychosocial)	0.560	0.994	0.671	0.260	0.835	0.985
p (Capital = Full)	0.012	0.194	0.128	0.010	0.302	0.427
p (Psychosocial = Full)	0.002	0.208	0.041	0.001	0.221	0.425
Followup 2 (18 months after cash grants)						
Capital	0.15***	1.48***	0.62***	0.20**	0.22***	-0.01
	(0.04)	(0.42)	(0.21)	(0.09)	(0.07)	(0.04)
Psychosocial	0.21***	1.69***	0.84***	0.28***	0.26***	0.04
	(0.04)	(0.43)	(0.21)	(0.09)	(0.07)	(0.04)
Full	0.26***	2.06***	0.77***	0.45***	0.34***	0.01
	(0.04)	(0.45)	(0.19)	(0.09)	(0.07)	(0.04)
Observations	4175	4175	4175	4175	4175	4175
Control mean	0.00	45.24	20.81	5.40	6.81	-0.01
Control SD	1.00	11.35	5.16	1.90	1.91	1.01
p (Capital = Psychosocial)	0.149	0.636	0.306	0.407	0.604	0.245
p (Capital = Full)	0.007	0.178	0.422	0.003	0.092	0.563
p (Psychosocial = Full)	0.247	0.408	0.731	0.039	0.230	0.485
p (Followup 1 = Followup 2 for Capital)	0.625	0.141	0.183	0.089	0.881	0.926
p (Followup 1 = Followup 2 for Psychosocial)	0.022	0.063	0.013	0.881	0.689	0.332
p (Followup 1 = Followup 2 for Full)	0.569	0.167	0.411	0.156	0.833	0.924

Notes: Results presented are OLS estimates that include controls for randomization strata and, where possible, baseline outcomes. We assign baseline strata means to households surveyed at followup but not at baseline and we control for such missing values with an indicator. Robust standard errors are shown in parentheses, clustered at the village level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. See Table A.4 for details on variable construction.

Table A.8: Social Worth Index Components

	(1) Social worth index	(2) Self efficacy {7-32}	(3) Social standing {4-40}
Followup 1 (6 months after cash grants)			
Capital	0.16***	0.47***	0.87***
	(0.04)	(0.16)	(0.25)
Psychosocial	0.22***	0.62***	1.11***
	(0.04)	(0.15)	(0.24)
Full	0.36***	1.11***	1.73***
	(0.04)	(0.16)	(0.24)
Observations	4476	4476	4476
Control mean	-0.00	22.99	23.23
Control SD	1.00	3.86	6.19
p (Capital = Psychosocial)	0.228	0.310	0.350
p (Capital = Full)	0.000	0.000	0.001
p (Psychosocial = Full)	0.000	0.001	0.015
Followup 2 (18 months after cash grants)			
Capital	0.12***	0.40**	0.47*
	(0.04)	(0.17)	(0.27)
Psychosocial	0.20***	0.72***	0.75***
	(0.04)	(0.17)	(0.27)
Full	0.26***	0.89***	1.02***
	(0.04)	(0.16)	(0.24)
Observations	4175	4175	4175
Control mean	-0.00	22.75	24.10
Control SD	1.00	3.93	5.98
p (Capital = Psychosocial)	0.075	0.089	0.279
p (Capital = Full)	0.001	0.004	0.021
p (Psychosocial = Full)	0.174	0.297	0.260
p (Followup 1 = Followup 2 for Capital)	0.368	0.770	0.225
p (Followup 1 = Followup 2 for Psychosocial)	0.814	0.648	0.289
p (Followup 1 = Followup 2 for Full)	0.043	0.273	0.025

Notes: Results presented are OLS estimates that include controls for randomization strata and, where possible, baseline outcomes. We assign baseline strata means to households surveyed at followup but not at baseline and we control for such missing values with an indicator. Robust standard errors are shown in parentheses, clustered at the village level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. See Table A.4 for details on variable construction.

Table A.9: Future Expectation Index Components (kids under 30)

	(1) Future expectations index	(2) Expected social status	(3) Expected life satisfaction	(4) Expected child status (kids under 30)
Followup 1 (6 months after cash grants)				
Capital	0.12***	0.16*	0.28***	0.16**
	(0.04)	(0.09)	(0.08)	(0.07)
Psychosocial	0.15***	0.33***	0.30***	0.16**
	(0.04)	(0.09)	(0.09)	(0.07)
Full	0.28***	0.61***	0.54***	0.29***
	(0.03)	(0.08)	(0.08)	(0.07)
Observations	4476	4476	4476	4445
Control mean	-0.00	6.32	6.79	8.26
Control SD	1.00	2.27	2.02	1.85
p (Capital = Psychosocial)	0.437	0.073	0.779	0.969
p (Capital = Full)	0.000	0.000	0.001	0.058
p (Psychosocial = Full)	0.001	0.001	0.007	0.057
Followup 2 (18 months after cash grants)				
Capital	0.11**	0.23**	0.20**	0.14*
	(0.04)	(0.09)	(0.08)	(0.08)
Psychosocial	0.15***	0.36***	0.28***	0.09
	(0.05)	(0.10)	(0.09)	(0.08)
Full	0.20***	0.46***	0.38***	0.14*
	(0.04)	(0.09)	(0.08)	(0.08)
Observations	4175	4175	4175	4162
Control mean	0.00	6.43	6.88	7.95
Control SD	1.00	2.11	1.87	1.92
p (Capital = Psychosocial)	0.505	0.198	0.339	0.518
p (Capital = Full)	0.047	0.006	0.026	0.949
p (Psychosocial = Full)	0.222	0.264	0.253	0.475
p (Followup 1 = Followup 2 for Capital)	0.948	0.510	0.475	0.798
p (Followup 1 = Followup 2 for Psychosocial)	0.920	0.829	0.881	0.461
p (Followup 1 = Followup 2 for Full)	0.087	0.134	0.140	0.098

Notes: Results presented are OLS estimates that include controls for randomization strata and, where possible, baseline outcomes. We assign baseline strata means to households surveyed at followup but not at baseline and we control for such missing values with an indicator. Robust standard errors are shown in parentheses, clustered at the village level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. See Table A.4 for details on variable construction.

Table A.10: Social Support Index Components

	(1) Social support index	(2) No. of role models	(3) No. of activity advisors	(4) No. of activity mentees	(5) No. of conflict advisors	(6) No. of conflit mentees	(7) No. of market intermediaries
Followup 1 (6 months after cash grants)							
Capital	0.27***	0.70***	0.31***	0.57***	0.35*	0.15*	0.05
	(0.06)	(0.22)	(0.12)	(0.09)	(0.19)	(0.08)	(0.07)
Psychosocial	0.24***	0.47***	0.34***	0.54***	0.16*	0.18**	0.14*
	(0.04)	(0.15)	(0.09)	(0.09)	(0.08)	(0.08)	(0.07)
Full	0.32***	0.59***	0.47***	0.68***	0.31***	0.21**	0.18**
	(0.05)	(0.16)	(0.08)	(0.09)	(0.09)	(0.09)	(0.08)
Observations	4476	4476	4476	4476	4476	4476	4476
Control mean	0.00	3.45	2.22	1.30	2.48	1.72	1.54
Control SD	1.00	2.79	2.08	1.82	1.90	2.08	1.72
p (Capital = Psychosocial)	0.569	0.284	0.792	0.778	0.336	0.742	0.205
p (Capital = Full)	0.417	0.630	0.158	0.260	0.861	0.550	0.070
p (Psychosocial = Full)	0.075	0.415	0.175	0.170	0.112	0.768	0.523
Followup 2 (18 months after cash grants)							
Capital	0.13***	0.26	0.10	0.32***	0.15*	0.03	0.16**
	(0.04)	(0.18)	(0.09)	(0.09)	(0.09)	(0.09)	(0.07)
Psychosocial	0.18***	0.19	0.31**	0.39***	0.15*	0.22**	0.17**
	(0.05)	(0.17)	(0.12)	(0.09)	(0.08)	(0.09)	(0.08)
Full	0.18***	0.48**	0.28***	0.44***	0.06	0.12	0.22***
	(0.04)	(0.21)	(0.10)	(0.10)	(0.08)	(0.08)	(0.07)
Observations	4160	4160	4160	4160	4160	4160	4160
Control mean	0.00	3.36	2.37	1.55	2.54	1.79	1.68
Control SD	1.00	4.24	2.33	1.90	1.77	2.05	1.60
p (Capital = Psychosocial)	0.284	0.695	0.100	0.478	0.964	0.024	0.862
p (Capital = Full)	0.217	0.287	0.055	0.284	0.296	0.281	0.381
p (Psychosocial = Full)	0.968	0.141	0.820	0.685	0.286	0.192	0.573
p (Followup 1 = Followup 2 for Capital)	0.025	0.095	0.135	0.024	0.334	0.322	0.270
p (Followup 1 = Followup 2 for Psychosocial)	0.288	0.165	0.813	0.206	0.903	0.731	0.711
p (Followup 1 = Followup 2 for Full)	0.016	0.636	0.129	0.034	0.040	0.444	0.692

Notes: Results presented are OLS estimates that include controls for randomization strata and, where possible, baseline outcomes. We assign baseline strata means to households surveyed at followup but not at baseline and we control for such missing values with an indicator. Robust standard errors are shown in parentheses, clustered at the village level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. See Table A.4 for details on variable construction.

Table A.11: Financial Support Index Components

	(1) Financial support index	(2) Village financial support {1-4}	(3) No. of financial supporters	(4) Fundraising probability {1-4}
Followup 1 (6 months after cash grants)				
Capital	0.29***	0.10***	0.27	0.32***
	(0.05)	(0.04)	(0.24)	(0.04)
Psychosocial	0.35***	0.17***	0.84***	0.27***
	(0.05)	(0.04)	(0.25)	(0.04)
Full	0.48***	0.18***	0.97***	0.45***
	(0.05)	(0.03)	(0.23)	(0.05)
Observations	4476	4476	4476	4476
Control mean	0.00	2.60	6.30	1.49
Control SD	1.00	0.87	5.93	0.82
p (Capital = Psychosocial)	0.252	0.095	0.031	0.291
p (Capital = Full)	0.000	0.021	0.003	0.010
p (Psychosocial = Full)	0.012	0.745	0.604	0.000
Followup 2 (18 months after cash grants)				
Capital	0.19***	0.05	0.08	0.24***
	(0.04)	(0.04)	(0.22)	(0.04)
Psychosocial	0.21***	0.07*	0.40*	0.21***
	(0.04)	(0.04)	(0.24)	(0.04)
Full	0.35***	0.13***	0.46**	0.36***
	(0.05)	(0.04)	(0.23)	(0.04)
Observations	4252	4160	4252	4252
Control mean	-0.00	2.63	6.49	1.43
Control SD	1.00	0.87	5.64	0.78
p (Capital = Psychosocial)	0.607	0.670	0.156	0.553
p (Capital = Full)	0.000	0.041	0.078	0.005
p (Psychosocial = Full)	0.004	0.106	0.798	0.001
p (Followup 1 = Followup 2 for Capital)	0.084	0.357	0.532	0.060
p (Followup 1 = Followup 2 for Psychosocial)	0.012	0.039	0.130	0.204
p (Followup 1 = Followup 2 for Full)	0.014	0.270	0.105	0.099

Notes: Results presented are OLS estimates that include controls for randomization strata and, where possible, baseline outcomes. We assign baseline strata means to households surveyed at followup but not at baseline and we control for such missing values with an indicator. Robust standard errors are shown in parentheses, clustered at the village level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. See Table A.4 for details on variable construction.

Table A.12: Intra-Household Dynamics Index Components

	(1) Intra-household dynamics index	(2) Partner dynamics index	(3) Disagrees with partner {1-4}	(4) Trusts partner {1-4}	(5) Partner inclusiveness {1-4}	(6) Household dynamics index	(7) Household allows family visits {0,1}	(8) Household tensions infrequent {1-4}	(9) Household inclusiveness {1-4}
Followup 1 (6 months after cash grants)									
Capital	0.07	0.09*	0.06	-0.02	0.06**	0.04	0.01	-0.01	0.04
	(0.04)	(0.04)	(0.05)	(0.03)	(0.02)	(0.04)	(0.01)	(0.02)	(0.03)
Psychosocial	0.07*	0.08*	0.06	0.05*	0.02	0.02	-0.01	0.00	0.05*
	(0.04)	(0.04)	(0.05)	(0.03)	(0.02)	(0.04)	(0.01)	(0.02)	(0.03)
Full	0.06	0.03	-0.05	0.07**	0.02	0.06	0.00	0.00	0.06**
	(0.04)	(0.04)	(0.06)	(0.03)	(0.02)	(0.04)	(0.01)	(0.02)	(0.03)
Observations	4476	3880	3765	3768	3826	4476	4476	4476	4476
Control mean	-0.00	0.02	2.60	3.64	3.71	-0.00	0.93	3.82	3.38
Control SD	1.00	0.99	1.14	0.64	0.55	1.00	0.25	0.53	0.72
p (Capital = Psychosocial)	0.961	0.793	0.995	0.025	0.066	0.603	0.097	0.690	0.812
p (Capital = Full)	0.946	0.193	0.059	0.003	0.099	0.703	0.549	0.583	0.527
p (Psychosocial = Full)	0.982	0.242	0.040	0.514	0.778	0.346	0.282	0.878	0.675
Followup 2 (18 months after cash grants)									
Capital	0.02	0.01	0.09	-0.02	-0.01	0.02	-0.00	-0.00	0.04
	(0.04)	(0.05)	(0.06)	(0.03)	(0.02)	(0.04)	(0.01)	(0.02)	(0.03)
Psychosocial	0.04	0.12***	0.12**	0.03	0.04*	-0.04	-0.03**	-0.01	0.02
	(0.04)	(0.04)	(0.06)	(0.03)	(0.02)	(0.04)	(0.01)	(0.03)	(0.03)
Full	-0.01	0.02	0.06	-0.01	0.00	-0.03	-0.01	0.00	-0.03
	(0.04)	(0.04)	(0.05)	(0.03)	(0.02)	(0.04)	(0.01)	(0.02)	(0.03)
Observations	4160	3557	3493	3490	3498	4160	4160	4160	4160
Control mean	0.00	0.00	2.73	3.69	3.78	-0.00	0.91	3.76	3.30
Control SD	1.00	0.99	1.17	0.60	0.50	1.00	0.29	0.58	0.75
p (Capital = Psychosocial)	0.642	0.024	0.596	0.097	0.035	0.151	0.051	0.802	0.497
p (Capital = Full)	0.466	0.966	0.514	0.810	0.687	0.230	0.666	0.864	0.026
p (Psychosocial = Full)	0.210	0.017	0.237	0.147	0.084	0.798	0.145	0.672	0.109
p (Followup 1 = Followup 2 for Capital)	0.403	0.222	0.676	0.952	0.027	0.608	0.378	0.847	0.840
p (Followup 1 = Followup 2 for Psychosocial)	0.629	0.448	0.429	0.611	0.449	0.218	0.210	0.767	0.401
p (Followup 1 = Followup 2 for Full)	0.188	0.811	0.160	0.038	0.499	0.098	0.436	0.950	0.026

Notes: Results presented are OLS estimates that include controls for randomization strata and, where possible, baseline outcomes. We assign baseline strata means to households surveyed at followup but not at baseline and we control for such missing values with an indicator. Robust standard errors are shown in parentheses, clustered at the village level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. See Table A.4 for details on variable construction.

Table A.13: Social Cohesion and Closeness to Community

	(1) Social cohesion and community closeness index	(2) Trusts village women {1-4}	(3) No. of trusted villagers {1-10}	(4) Don't have enemies {1-4}	(5) Community tensions infrequent {1-4}	(6) Community inclusiveness {1-4}
Followup 1 (6 months after cash grants)						
Capital	0.03	0.09**	0.04	-0.03	-0.05	0.06
	(0.05)	(0.04)	(0.08)	(0.04)	(0.03)	(0.04)
Psychosocial	0.12***	0.16***	0.01	-0.03	0.00	0.15***
	(0.05)	(0.04)	(0.09)	(0.04)	(0.04)	(0.04)
Full	0.12***	0.15***	-0.01	0.03	-0.01	0.11***
	(0.04)	(0.03)	(0.08)	(0.04)	(0.04)	(0.04)
Observations	4476	4476	4476	4476	4476	4476
Control mean	0.00	2.79	4.95	2.87	3.63	2.54
Control SD	1.00	0.87	2.00	0.99	0.74	0.87
p (Capital = Psychosocial)	0.063	0.044	0.783	0.952	0.162	0.015
p (Capital = Full)	0.047	0.043	0.544	0.144	0.270	0.120
p (Psychosocial = Full)	0.929	0.737	0.796	0.111	0.727	0.292
Followup 2 (18 months after cash grants)						
Capital	0.08*	0.08**	0.03	0.02	0.03	0.02
	(0.05)	(0.03)	(0.07)	(0.04)	(0.04)	(0.04)
Psychosocial	0.13***	0.10***	0.08	0.09*	0.02	0.08**
	(0.04)	(0.03)	(0.07)	(0.05)	(0.04)	(0.04)
Full	0.09**	0.11***	0.10	-0.02	0.01	0.05
	(0.05)	(0.03)	(0.08)	(0.05)	(0.04)	(0.04)
Observations	4160	4160	4160	4160	4160	4160
Control mean	-0.00	2.82	4.90	2.86	3.50	2.48
Control SD	1.00	0.82	1.96	1.02	0.83	0.85
p (Capital = Psychosocial)	0.244	0.690	0.530	0.158	0.680	0.125
p (Capital = Full)	0.782	0.348	0.385	0.373	0.577	0.512
p (Psychosocial = Full)	0.341	0.620	0.782	0.029	0.888	0.413
p (Followup 1 = Followup 2 for Capital)	0.393	0.864	0.957	0.323	0.098	0.485
p (Followup 1 = Followup 2 for Psychosocial)	0.840	0.126	0.501	0.016	0.791	0.146
p (Followup 1 = Followup 2 for Full)	0.590	0.392	0.276	0.291	0.659	0.164

Notes: Results presented are OLS estimates that include controls for randomization strata and, where possible, baseline outcomes. We assign baseline strata means to households surveyed at followup but not at baseline and we control for such missing values with an indicator. Robust standard errors are shown in parentheses, clustered at the village level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. See Table A.4 for details on variable construction.

Table A.14: Collective Action Index Components

	(1) Collective action index	(2) No. of associations where member	(3) No. of association responsibilities	(4) Community project donations (USD)	(5) Volunteering days	(6) Works with community {1-4}
Followup 1 (6 months after cash grants)						
Capital	0.30***	0.35***	0.06***	0.32**	0.19	0.09***
	(0.05)	(0.05)	(0.02)	(0.14)	(0.14)	(0.03)
Psychosocial	0.34***	0.34***	0.10***	0.21	0.36***	0.13***
	(0.05)	(0.05)	(0.03)	(0.13)	(0.14)	(0.03)
Full	0.42***	0.37***	0.11***	0.70***	0.26*	0.12***
	(0.05)	(0.05)	(0.03)	(0.15)	(0.14)	(0.03)
Observations	4476	4476	4476	4476	4476	4476
Control mean	-0.00	0.74	0.17	0.77	1.13	2.99
Control SD	1.00	0.90	0.55	2.73	3.64	0.74
p (Capital = Psychosocial)	0.347	0.890	0.231	0.371	0.232	0.163
p (Capital = Full)	0.018	0.560	0.113	0.008	0.604	0.242
p (Psychosocial = Full)	0.119	0.496	0.692	0.000	0.492	0.748
Followup 2 (18 months after cash grants)						
Capital	0.27***	0.31***	0.08***	0.10**	0.06	0.09***
	(0.05)	(0.07)	(0.02)	(0.05)	(0.10)	(0.03)
Psychosocial	0.27***	0.29***	0.07***	0.14***	0.06	0.07**
	(0.05)	(0.07)	(0.02)	(0.05)	(0.11)	(0.03)
Full	0.35***	0.42***	0.10***	0.16***	0.11	0.08***
	(0.05)	(0.07)	(0.02)	(0.05)	(0.12)	(0.03)
Observations	4160	4160	4160	4160	4160	4160
Control mean	0.00	0.51	0.11	0.19	0.65	3.02
Control SD	1.00	1.30	0.46	1.03	2.45	0.69
p (Capital = Psychosocial)	0.997	0.786	0.852	0.453	0.992	0.730
p (Capital = Full)	0.105	0.116	0.320	0.256	0.614	0.857
p (Psychosocial = Full)	0.092	0.084	0.226	0.651	0.652	0.853
p (Followup 1 = Followup 2 for Capital)	0.568	0.613	0.708	0.129	0.422	0.998
p (Followup 1 = Followup 2 for Psychosocial)	0.202	0.545	0.452	0.614	0.077	0.206
p (Followup 1 = Followup 2 for Full)	0.253	0.581	0.696	0.001	0.400	0.309

Notes: Results presented are OLS estimates that include controls for randomization strata and, where possible, baseline outcomes. We assign baseline strata means to households surveyed at followup but not at baseline and we control for such missing values with an indicator. Robust standard errors are shown in parentheses, clustered at the village level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. All monetary amounts are PPP-adjusted USD terms, set at 2016 prices and deflated using CPI published by the World Bank. In 2016, 1 USD = 242.553 XOF PPP. All continuous variables are winsorized at the 98th and 2th percentiles at the most disaggregated level feasible. See Table A.4 for details on variable construction.

Table A.15: Control Over Earnings and Productive Agency Index Components

	(1) Controls earnings index	(2) Own earnings influence {1-3}	(3) Own earnings unil. power {1-3}	(4) Agriculture influence {1-3}	(5) Livestock influence {1-3}	(6) Off-farm business influence {1-3}	(7) Benef. free to work {0,1}	(8) Benef. controls crop revenue {0,1}	(9) Beneficiary has a business {0,1}	(10) Benef. owns livestock {0,1}	(11) Benef. controls livestock revenue {0,1}	(12) Benef. traveled for work {0,1}
Followup 1 (6 months after cash grants)												
Capital	0.27***	0.08***	0.00	0.01	0.10***	0.17***	0.01	0.01	0.18***	0.16***	0.02	-0.01
	(0.04)	(0.02)	(0.04)	(0.03)	(0.03)	(0.03)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)
Psychosocial	0.22***	0.03	0.04	0.04	0.08***	0.15***	-0.00	0.02	0.19***	0.06**	0.04**	-0.00
	(0.04)	(0.02)	(0.04)	(0.03)	(0.03)	(0.04)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)
Full	0.34***	0.09***	0.05	0.06*	0.12***	0.21***	0.01	0.01	0.22***	0.16***	0.02	-0.00
	(0.04)	(0.02)	(0.04)	(0.03)	(0.03)	(0.04)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.01)
Observations	4476	4042	4068	3944	3421	3230	4476	4476	4476	4476	4476	4476
Control mean	0.00	2.70	2.15	2.42	2.67	2.48	0.88	0.16	0.44	0.59	0.19	0.06
Control SD	1.00	0.60	0.92	0.73	0.63	0.76	0.33	0.37	0.50	0.49	0.39	0.23
p (Capital = Psychosocial)	0.333	0.024	0.361	0.497	0.344	0.665	0.195	0.807	0.995	0.000	0.127	0.254
p (Capital = Full)	0.050	0.610	0.249	0.125	0.553	0.157	0.999	0.872	0.118	0.961	0.849	0.354
p (Psychosocial = Full)	0.005	0.007	0.850	0.446	0.105	0.102	0.210	0.650	0.152	0.000	0.142	0.886
Followup 2 (18 months after cash grants)												
Capital	0.25***	0.01	0.09**	0.02	0.06**	0.12***	0.00	-0.00	0.14***	0.13***	0.07***	-0.00
	(0.05)	(0.02)	(0.04)	(0.03)	(0.02)	(0.04)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.01)
Psychosocial	0.16***	0.02	0.03	0.01	0.04	0.12***	-0.01	0.01	0.12***	0.06**	0.03	-0.00
	(0.05)	(0.02)	(0.04)	(0.03)	(0.03)	(0.03)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.01)
Full	0.25***	0.05**	0.06	-0.01	0.08***	0.15***	-0.01	-0.02	0.17***	0.14***	0.07***	-0.01**
	(0.04)	(0.02)	(0.04)	(0.03)	(0.03)	(0.03)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.00)
Observations	4252	3928	3945	3862	3305	3113	4160	4252	4252	4252	4252	4252
Control mean	0.00	2.78	2.36	2.61	2.74	2.57	0.89	0.13	0.51	0.57	0.21	0.02
Control SD	1.00	0.53	0.85	0.65	0.54	0.73	0.31	0.33	0.50	0.49	0.41	0.13
p (Capital = Psychosocial)	0.075	0.546	0.132	0.838	0.553	0.876	0.420	0.640	0.390	0.003	0.029	0.864
p (Capital = Full)	0.891	0.098	0.420	0.363	0.337	0.311	0.316	0.262	0.283	0.377	0.998	0.033
p (Psychosocial = Full)	0.045	0.278	0.414	0.450	0.139	0.219	0.914	0.097	0.054	0.000	0.027	0.018
p (Followup 1 = Followup 2 for Capital)	0.735	0.041	0.098	0.922	0.174	0.361	0.636	0.446	0.068	0.130	0.020	0.286
p (Followup 1 = Followup 2 for Psychosocial)	0.210	0.932	0.836	0.523	0.259	0.432	0.894	0.583	0.006	0.966	0.437	0.881
p (Followup 1 = Followup 2 for Full)	0.077	0.274	0.829	0.099	0.234	0.245	0.239	0.111	0.019	0.511	0.032	0.354

Notes: Results presented are OLS estimates that include controls for randomization strata and, where possible, baseline outcomes. We assign baseline strata means to households surveyed at followup but not at baseline and we control for such missing values with an indicator. Robust standard errors are shown in parentheses, clustered at the village level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. See Table A.4 for details on variable construction.

Table A.16: Control Over Household Resources Index Components

	(1) Controls HH resources index	(2) Daily spending influence {1-3}	(3) Daily spending unil. power {1-3}	(4) Large purchases influence {1-3}	(5) Large purchases unil. power {1-3}	(6) Family planning influence {1-3}	(7) Family planning unil. power {1-3}	(8) Own healthcare influence {1-3}	(9) Own healthcare unil. power {1-3}	(10) Partner's earnings influence {1-3}	(11) Child education influence {1-3}
Followup 1 (6 months after cash grants)											
Capital	0.03	0.03	0.00	0.05	-0.02	0.07*	0.01	0.00	-0.03	-0.01	0.01
	(0.04)	(0.02)	(0.03)	(0.03)	(0.04)	(0.04)	(0.04)	(0.02)	(0.04)	(0.03)	(0.02)
Psychosocial	0.05	0.04*	0.05	0.06**	0.03	0.02	-0.04	-0.02	0.02	0.05	0.01
	(0.04)	(0.02)	(0.04)	(0.03)	(0.04)	(0.04)	(0.05)	(0.02)	(0.04)	(0.03)	(0.02)
Full	0.06	0.05**	0.04	0.07**	0.01	0.00	-0.05	0.01	0.01	0.03	0.03
	(0.04)	(0.02)	(0.04)	(0.03)	(0.04)	(0.04)	(0.05)	(0.02)	(0.04)	(0.04)	(0.02)
Observations	4161	4078	4094	4079	4090	2730	2740	4171	4198	3843	3596
Control mean	-0.00	2.63	2.12	2.50	1.97	2.32	1.68	2.84	2.25	2.25	2.80
Control SD	1.00	0.60	0.90	0.71	0.91	0.82	0.87	0.43	0.90	0.82	0.49
p (Capital = Psychosocial)	0.522	0.589	0.230	0.558	0.220	0.202	0.280	0.204	0.152	0.099	0.983
p (Capital = Full)	0.386	0.273	0.402	0.301	0.410	0.103	0.213	0.600	0.240	0.249	0.428
p (Psychosocial = Full)	0.777	0.571	0.747	0.656	0.684	0.770	0.889	0.088	0.794	0.648	0.469
Followup 2 (18 months after cash grants)											
Capital	-0.01	0.02	0.03	0.02	0.03	-0.03	-0.07	-0.01	0.01	-0.02	-0.02
	(0.05)	(0.03)	(0.04)	(0.03)	(0.04)	(0.05)	(0.05)	(0.02)	(0.03)	(0.03)	(0.02)
Psychosocial	0.06	0.04	0.07*	0.05	0.07*	0.02	-0.04	0.00	0.05	0.04	-0.02
	(0.05)	(0.03)	(0.04)	(0.03)	(0.04)	(0.05)	(0.04)	(0.02)	(0.04)	(0.03)	(0.02)
Full	0.04	0.05	0.04	0.05	0.05	-0.08	-0.04	-0.00	0.05	0.01	0.00
	(0.05)	(0.03)	(0.03)	(0.03)	(0.04)	(0.05)	(0.04)	(0.02)	(0.03)	(0.04)	(0.02)
Observations	4055	4006	4016	4010	4006	2510	2539	4106	4111	3627	3520
Control mean	-0.00	2.63	2.27	2.50	2.08	2.28	1.82	2.84	2.34	2.32	2.86
Control SD	1.00	0.63	0.86	0.73	0.90	0.84	0.90	0.41	0.85	0.76	0.41
p (Capital = Psychosocial)	0.110	0.328	0.342	0.327	0.245	0.232	0.459	0.624	0.244	0.066	0.920
p (Capital = Full)	0.218	0.244	0.811	0.394	0.540	0.341	0.484	0.802	0.113	0.339	0.381
p (Psychosocial = Full)	0.664	0.859	0.419	0.901	0.519	0.032	0.950	0.766	0.836	0.412	0.335
p (Followup 1 = Followup 2 for Capital)	0.493	0.777	0.602	0.564	0.341	0.085	0.175	0.719	0.397	0.770	0.374
p (Followup 1 = Followup 2 for Psychosocial)	0.937	0.926	0.710	0.761	0.421	0.912	0.956	0.402	0.622	0.860	0.363
p (Followup 1 = Followup 2 for Full)	0.676	0.894	0.961	0.495	0.521	0.185	0.903	0.605	0.424	0.666	0.456

Notes: Results presented are OLS estimates that include controls for randomization strata and, where possible, baseline outcomes. We assign baseline strata means to households surveyed at followup but not at baseline and we control for such missing values with an indicator. Robust standard errors are shown in parentheses, clustered at the village level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. See Table A.4 for details on variable construction.

Table A17: Cost-benefit analysis (assuming linear growth of impacts post-intervention)

		Capital	Psychosocial	Full
Panel 1: Program costs per beneficiary, USD PPP 2016				
	Program administration	78	78	78
	Identification, Communication	3	3	3
	Measure 0. Group formation	1	1	1
	Measure 1. Coaching	9	9	9
	Measure 2. Community sensitization on aspirations and social norms	0	38	38
	Measure 3. Facilitation of community savings and loan groups	2	2	2
	Measure 4. Life-skills training	0	64	64
	Measure 5. Micro-entrepreneurship training	65	65	65
	Measure 6. Cash grants	321	0	321
	Measure 7. Facilitation of market and information access	4	4	4
	Total costs, calculated as if all incurred immediately at beginning of year 0	482	263	584
(1)	Total costs, inflated to year 2 at 5% annual discount rate	531	290	644
Panel 2: Benefits per Household, USD PPP 2016, All Values Inflated to Year 2 at 5% annual social discount rate				
(2)	Year 1 Gross Consumption Treatment Effect (linear growth for months 1-6)	69	39	112
(3)	Year 2 Gross Consumption Treatment Effect (linear growth for months 7-18)	215	228	411
(4)	B1: Year 3 Onward Gross Consumption Treatment Effect, assumed dissipation of 75%	67	71	128
	B2: Year 3 Onward Gross Consumption Treatment Effect, assumed dissipation of 50%	196	207	374
	B3: Year 3 Onward Gross Consumption Treatment Effect, assumed dissipation of 25%	539	571	1027
(5)	C: Year 3 Onward Gross Consumption Treatment Effect, assuming year 2 gains persist in perpetuity	4104	4348	7826
(6)	A: Total Benefits: (2) + (3) = (6) using 5%, no impact after year 2	284	268	523
(7)	B1: Total Benefits: (2) + (3) + (4) = (7) 5% discount rate, 75% annual dissipation	351	339	651
	B2: Total Benefits using 5% discount rate, 50% annual dissipation	480	475	897
	B3: Total Benefits using 5% discount rate, 25% annual dissipation	823	838	1550
(8)	C: Total Benefits: (2) + (3) + (5) = (8) using 5% discount rate, assuming year 2 gains persist in perpetuity	4388	4615	8349
Panel 3: Benefit/Cost Ratios				
(9)	A: Total Benefits/Total Costs Ratio: (6) / (1) = (9) at 5% discount rate	53%	92%	81%
	A: Benefit/Cost Ratio, at discount rate of 7%	53%	91%	80%
	A: Benefit/Cost Ratio, at discount rate of 10%	51%	88%	78%
(10)	B1: Total Benefits/Total Costs: (7) / (1) = (10), 5% discount, 75% annual dissipation	66%	117%	101%
	B2: Benefit/Cost Ratio using 5% discount rate, 50% annual dissipation	90%	164%	139%
	B3: Benefit/Cost Ratio using 5% discount rate, 25% annual dissipation	155%	289%	241%
(11)	C: Total Benefits/Total Costs Ratio: (8) / (1) = (11) using 5% discount rate, assuming year 2 gains persist in perpetuity	826%	1594%	1297%
(12)	Real Internal Rate of Return (IRR)			
	A: assuming dissipation of 100% after year 2, at 5% discount rate	-30%	-4%	-11%
	B1: assuming annual dissipation of 75%	-17%	8%	1%
	B2: assuming annual dissipation of 50%	-2%	22%	15%
	B3: assuming annual dissipation of 25%	15%	38%	31%
	C: assuming effects are sustained in perpetuity	34%	56%	49%

Notes: We use 98% winsorized consumption estimates in our benefits calculation. Note that we measure benefits 6 months after the intervention on average in year 1 and 18 months on average in year 2. All monetary amounts are PPP-adjusted USD terms, set at 2016 prices and deflated using CPI published by the World Bank. In 2016, 1 USD = 242.553 XOF PPP. We assume linear growth of impacts by month post-intervention.

Appendix References

Acevedo, Paloma, Guillermo Cruces, Paul Gertler, and Sebastian Martinez. 2017. "Living Up to Expectations: How Job Training Made Women Better Off and Men Worse Off". *NBER Working Paper No. 23264*.

Adams, Glenn. 2005. "The Cultural Grounding of Personal Relationship: Enemyship in North American and West African Worlds." Publisher: American Psychological Association, *Journal of personality and social psychology* 88 (6): 948.

Adhvaryu, Achyuta, Namrata Kala, and Anant Nyshadham. 2018. "The Skills to Pay the Bills: Returns to On-the-job Soft Skills Training". *NBER Working Paper No. 24313*. http://www.nber.org/papers/w24313.pdf.

Akyeampong, Emmanuel, Robert H. Bates, Nathan Nunn, and James Robinson. 2014. *Africa's Development in Historical Perspective*. Cambridge University Press.

Ali, Gemma-Claire, Grace Ryan, and Mary J. De Silva. 2016. "Validated Screening Tools for Common Mental Disorders in Low and Middle Income Countries: A Systematic Review". *PLOS ONE* 11 (6): e0156939. https://dx.plos.org/10.1371/journal.pone.0156939.

Aron, Arthur, Elaine N. Aron, and Danny Smollan. 1992. "Inclusion of Other in the Self Scale and the Structure of Interpersonal Closeness." *Journal of Personality and Social Psychology* 63 (4): 596–612. http://doi.apa.org/getdoi.cfm?doi=10.1037/0022-3514.63.4.596.

Ashraf, Nava, Natalie Bau, Corinne Low, and Kathleen McGinn. 2020. "Negotiating a Better Future: How Interpersonal Skills Facilitate Intergenerational Investment". *The Quarterly Journal of Economics* 135 (2): 1095–1151. https://academic.oup.com/qje/article/135/2/1095/5698825.

Ballard, Terri J, Anne W Kepple, and Carlo Cafiero. 2013. "The Food Insecurity Experience Scale: Development of a Global Standard for Monitoring Hunger Worldwide". *FAO, Rome*. http://www.fao.org/fileadmin/templates/ess/voh/FIES_Technical_Paper_v1.1.pdf.

Bandura, Albert. 1997. *Self-Efficacy: The Exercise of Control*. New York: W.H. Freeman.

— . 2001. "Social Cognitive Theory of Mass Communication". *Media Psychology* 3 (3): 265–299. http://www.tandfonline.com/doi/abs/10.1207/S1532785XMEP0303_03.

Barrera-Osorio, Felipe, Adriana Kugler, and Mikko Silliman. 2020. "Hard and Soft Skills in Vocational Training: Experimental Evidence from Colombia". *NBER Working Paper No. 27548*.

Barsbai, Toman, Victoria Licuanan, Andreas Steinmayr, Erwin Tiongson, and Dean Yang. 2020. "Information and the Acquisition of Social Network Connections". *NBER Working Paper No. 27346*.

Benjamini, Yoav, and Yosef Hochberg. 1995. "Controlling the False Discovery Rate: A Practical and Powerful Approach to Multiple Testing". *Journal of the Royal statistical society: series B (Methodological)* 57 (1): 289–300.

Blattman, Christopher, Julian C Jamison, and Margaret Sheridan. 2017. "Reducing Crime and Violence: Experimental Evidence From Cognitive Behavioral Therapy in Liberia". *American Economic Review* 107 (4): 1165–1206.

Campos, Francisco, Michael Frese, Markus Goldstein, Leonardo Iacovone, Hillary C Johnson, David McKenzie, and Mona Mensmann. 2017. "Teaching personal initiative beats traditional training in boosting small business in West Africa". *Science* 357 (6357): 1287–1290.

Dalton, Patricio S, Sayantan Ghosal, and Anandi Mani. 2016. "Poverty and Aspirations Failure". *The Economic Journal* 126 (590): 165–188.

Delavande, Adeline, Xavier Giné, and David McKenzie. 2011. "Measuring Subjective Expectations in Developing Countries: A Critical Review and New Evidence". *Journal of development economics* 94 (2): 151–163.

Duflo, Esther. 2012. "Human Values and the Design of the Fight Against Poverty". Tanner Lectures, Harvard University.

Feinberg, Matthew, and Robb Willer. 2015. "From Gulf to Bridge: When Do Moral Arguments Facilitate Political Influence?" *Personality and Social Psychology Bulletin* 41 (12): 1665–1681. http://journals.sagepub.com/doi/10.1177/0146167215607842.

Gelfand, Michele J., Jana L. Raver, Lisa Nishii, Lisa M. Leslie, Janetta Lun, Beng Chong Lim, Lili Duan, Assaf Almaliach, Soon Ang, and Jakobina Arnadottir. 2011. "Differences between Tight and Loose Cultures: A 33-Nation Study". *Science* 332 (6033): 1100–1104.

Harding, Timothy W, V De Arango, J Baltazar, CE Climent, HHA Ibrahim, L Ladrido-Ignacio, and NN Wig. 1980. "Mental Disorders in Primary Health Care: A Study of Their Frequency and Diagnosis in Four Developing Countries". *Psychological medicine* 10 (2): 231–241.

Heckman, James, Jora Stixrud, and Sergio Urzua. 2006. "The Effects of Cognitive and Noncognitive Abilities on Labor Market Outcomes and Social Behavior". *NBER Working Paper No. 12006*. http://www.nber.org/papers/w12006.pdf.

Hitokoto, Hidehumi, and Yukiko Uchida. 2015. "Interdependent Happiness: Theoretical Importance and Measurement Validity". *Journal of Happiness Studies* 16 (1): 211–239. https://doi.org/10.1007/s10902-014-9505-8.

Hofstede, Geert. 2001. *Culture's Consequences: Comparing Values, Behaviors, Institutions, and Organizations across Nations*. Thousand Oaks, Calif.; London: Sage. http://www.vlebooks.com/vleweb/product/openreader?id=none&isbn=9781452207933.

Knowles, Malcolm Shepherd. 1984. *Andragogy in Action: Applying Modern Principles of Adult Learning*. San Francisco, CA: Jossey Bass.

Leung, Angela K.-Y., and Dov Cohen. 2011. "Within-and between-Culture Variation: Individual Differences and the Cultural Logics of Honor, Face, and Dignity Cultures." Publisher: American Psychological Association, *Journal of personality and social psychology* 100 (3): 507.

Lewin, K. 1952. "Group Decision and Social Change". In *Readings in social psychology*, 459–473.

Markus, Hazel Rose. 2016. "What Moves People to Action? Culture and Motivation". *Current Opinion in Psychology*, Culture, 8:161–166. http://www.sciencedirect.com/science/article/pii/S2352250X15003048.

Markus, Hazel Rose, and Alana Conner. 2014. *Clash!: How to Thrive in a Multicultural World*. Penguin.

Markus, Hazel Rose, and Shinobu Kitayama. 2010. "Cultures and Selves: A Cycle of Mutual Constitution". Publisher: Sage Publications Sage CA: Los Angeles, CA, *Perspectives on psychological science* 5 (4): 420–430.

Njuki, Jemimah, Elizabeth J Poole, J Johnson, Isabelle Baltenweck, Pamela N Pali, Zaibet Lokman, and Samuel Mburu. 2011. *Gender, livestock and livelihood indicators*.

Nord, Mark, Carlo Cafiero, and Sara Viviani. 2016. "Methods for Estimating Comparable Prevalence Rates of Food Insecurity Experienced by Adults in 147 Countries and Areas". *Journal of Physics: Conference Series*. https://doi.org/10.1088/1742-6596/772/1/012060.

Oettingen, Gabriele. 2014. *Rethinking Positive Thinking: Inside the New Science of Motivation*. New York, NY: Current.

Operario, Don, Nancy E Adler, and David R Williams. 2004. "Subjective Social Status: Reliability and Predictive Utility for Global Health". *Psychology & health* 19 (2): 237–246.

Osei-Tutu, Annabella, Vivian A. Dzokoto, Adjeiwa Akosua Affram, Glenn Adams, Joakim Norberg, and Bertjan Doosje. 2020. "Cultural Models of Well-Being Implicit in Four Ghanaian Languages". *Frontiers in Psychology* 11:1798. https://www.frontiersin.org/article/10.3389/fpsyg.2020.01798/full.

Paluck, Elizabeth Levy. 2009. "What's in a Norm? Sources and Processes of Norm Change." *Journal of Personality and Social Psychology* 96 (3): 594–600. http://doi.apa.org/getdoi.cfm?doi=10.1037/a0014688.

Paluck, Elizabeth Levy, and Hana Shepherd. 2012. "The Salience of Social Referents: A Field Experiment on Collective Norms and Harassment Behavior in a School Social Network." *Journal of Personality and Social Psychology* 103 (6): 899–915. http://doi.apa.org/getdoi.cfm?doi=10.1037/a0030015.

Radloff, Lenore Sawyer. 1977. "The Ces-D Scale: A Self-Report Depression Scale for Research in the General Population". *Applied psychological measurement* 1 (3): 385–401.

Ridley, Matthew, Gautam Rao, Frank Schilbach, and Vikram Patel. 2020. "Poverty, Depression, and Anxiety: Causal Evidence and Mechanisms". *Science* 370 (6522). https://www.sciencemag.org/lookup/doi/10.1126/science.aay0214.

Riemer, Hila, Sharon Shavitt, Minkyung Koo, and Hazel Rose Markus. 2014. "Preferences Don't Have to Be Personal: Expanding Attitude Theorizing With a Cross-Cultural Perspective." *Psychological review* 121 (4): 619.

Rosenberg, Morris. 2015. *Society and the Adolescent Self-Image*. Princeton University Press.

San Martin, Alvaro, Marwan Sinaceur, Amer Madi, Steve Tompson, William W. Maddux, and Shinobu Kitayama. 2018. "Self-Assertive Interdependence in Arab Culture". Publisher: Nature Publishing Group, *Nature Human Behaviour* 2 (11): 830–837.

Schwarzer, Ralf, Matthias Jerusalem, et al. 1995. "Generalized Self-Efficacy Scale". *Measures in health psychology: A user's portfolio. Causal and control beliefs* 1 (1): 35–37.

Slater, Michael D., and Donna Rouner. 2002. "Entertainment—Education and Elaboration Likelihood: Understanding the Processing of Narrative Persuasion". *Communication Theory* 12 (2): 173–191. http://onlinelibrary.wiley.com/doi/abs/10.1111/j.1468-2885.2002.tb00265.x.

Stephens, Nicole M., Stephanie A. Fryberg, Hazel Rose Markus, Camille S. Johnson, and Rebecca Covarrubias. 2012. "Unseen Disadvantage: How American Universities' Focus on Independence Undermines the Academic Performance of First-Generation College Students." Publisher: American Psychological Association, *Journal of Personality and Social Psychology* 102 (6): 1178.

Thomas, Catherine C., and Hazel Rose Markus. Forthcoming. "Enculturating Development Science: Beyond the WEIRD Independent Paradigm". Mimeo.

Thomas, Catherine C., Nicholas G. Otis, Justin R. Abraham, Hazel Rose Markus, and Gregory M. Walton. 2020. "Toward a Science of Delivering Aid with Dignity: Experimental Evidence and Local Forecasts from Kenya". *Proceedings of the National Academy of Sciences* 117 (27): 15546–15553. http://www.pnas.org/lookup/doi/10.1073/pnas.1917046117.

Thomas, Catherine C., S.D. Rathod, M.J. De Silva, H.A. Weiss, and V. Patel. 2016. "The 12-Item WHO Disability Assessment Schedule II as an Outcome Measure for Treatment of Common Mental Disorders". *Global Mental Health* 3:e14. https://www.cambridge.org/core/product/identifier/S2054425116000078/type/journal_article.

Walton, Gregory M., and David S. Yeager. 2020. "Seed and Soil: Psychological Affordances in Contexts Help to Explain Where Wise Interventions Succeed or Fail". *Current Directions in Psychological Science* 29 (3): 219–226.

WFP. 2008. *Food Consumption Analysis: Calculation and Use of the Food Consumption Score in Food Security Analysis*.

Woolcock, M., and D. Narayan. 2000. "Social Capital: Implications for Development Theory, Research, and Policy". *The World Bank Research Observer* 15 (2): 225–249. https://academic.oup.com/wbro/article-lookup/doi/10.1093/wbro/15.2.225.

Wuepper, David, and Travis J. Lybbert. 2017. "Perceived Self-Efficacy, Poverty, and Economic Development". *Annual Review of Resource Economics* 9 (1): 383–404. http://www.annualreviews.org/doi/10.1146/annurev-resource-100516-053709.