Tanzania Youth Study of the Productive Social Safety Net (PSSN) Impact Evaluation: **Endline Report**

Tanzania Social Action Fund (TASAF)

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ACRONYMS

AIDS	Acquired Immunodeficiency Syndrome
ARV	antiretroviral
CCT	conditional cash transfer
CES-D	Centre for Epidemiological Studies-Depression scale
CHF	Community Health Fund
CSPro	Census and Survey Processing System
CT-OVC	Cash Transfer for Orphans and Vulnerable Children
DD	difference-in-differences
DHS	Demographic and Health Survey
ELDI	Enhanced Life Distress Index
FCS	food consumption score
HIV	Human immunodeficiency virus
IPV	intimate partner violence
MSPSS	multidimensional scale of perceived social support
NBS	National Bureau of Statistics
NGO	non-governmental Organization
OCGS	Office of Chief Government Statistician
PAAs	Project Authority Areas
PMT	proxy means test
pp	percentage points
PSS	Cohen Perceived Stress Scale
PSSN	Productive Social Safety Net
PWP	Public Works Program
RCT	randomized control trial
REPOA	Policy Research for Development
SSA	sub-Saharan Africa
STIs	sexually transmitted infections
TACAIDS	Tanzania Commission for AIDS
TASAF	Tanzania Social Action Fund
TZS	Tanzanian shilling
UCT	unconditional cash transfer
UNICEF	United Nations Children's Fund
VACS	Violence Against Children Survey
WEAI	Women's Empowerment in Agriculture Index
WHO	World Health Organization

CONTENTS

EXECUTIVE SUMMARY

This report provides endline results of the impact evaluation of the Government of the United Republic of Tanzania's Productive Social Safety Net (PSSN) on Tanzanian youth. The impact evaluation is an 18-month, mixed methods study to provide evidence on the effects that the programme has had on youth well-being and the transition to adulthood. The study was conducted among a sample of households comprising part of the fourth and fifth scale-up waves of the PSSN in 2015. For the study we conducted two waves of data collection: a baseline in August – October 2015 and an endline from March to May 2017. In both waves of data collection, quantitative and qualitative interviews were conducted with youths who were between the ages of 14 and 28 years at baseline (15–30 years at endline). The qualitative interviews were embedded in the quantitative study design, meaning that 16 youths from study households were selected to participate in in-depth qualitative interviews to help unpack pathways of impact and provide a deeper understanding of how the PSSN affects the lives of youth in participating households. At endline, households had received on average of 10 bimonthly cash payments.

The PSSN is the flagship social protection programme of Tanzania and is implemented by the Tanzania Social Action Fund (TASAF). As part of the main programme component, TASAF provides regular cash payments to participating households on a bimonthly basis (including an unconditional base transfer and additional amounts conditional on health check-ups and children's school attendance). Additional components of the PSSN include livelihoods training and support and a Public Works Program (PWP) to supplement household incomes during the lean season. In 2015, TASAF successfully implemented a massive scale-up of the PSSN from 250,000 households to over one million nationally. As of 2017, the programme had reached 1.1 million households (10.5 per cent of the population) in Tanzania.

UNICEF Office of Research – Innocenti and Policy Research for Development (REPOA, Tanzania) have designed a rigorous mixed-methods impact evaluation to estimate the effects of Tanzania's PSSN on youth well-being and the transition to adulthood. The study builds on learnings from the Transfer Project, a multi-organization consortium providing evidence on government-run cash transfers in Africa, with a focus on safe transitions to adulthood for youth. The evaluation utilizes a cluster randomized control trial (RCT) design, where TASAF randomized a total of 102 villages (on the mainland and in Zanzibar) into three arms: 35 villages to receive the conditional cash transfer (CCT), 26 villages to receive the CCT plus PWP, and 41 villages to receive the control condition (delayed entry after 18 months). The youth study sample from this evaluation consists of 1,357 youths in 801 households at baseline and 1397 youths in 766 households at endline (for a total of 1751 unique individuals over the entire survey period). Additionally, the qualitative study sample consists of 17 youths who were administered in-depth interviews.

The youth study for which results are reported here is being conducted in conjunction with a REPOA study to examine the impacts of the PSSN on women's empowerment. Data collection for the women's empowerment and youth portions were carried out by REPOA separately at baseline and simultaneously at endline by the same enumerator teams. Simultaneously, a parallel impact evaluation is also being conducted in separate geographical locations by the World Bank with Tanzania's National Bureau of Statistics (NBS) and the Office of Chief Government Statistician (OCGS) to examine PSSN programme impacts related to poverty, food security, health utilization and related outcomes.

Analysis previously presented in the baseline report (and to the TASAF mission in October 2016) demonstrated that the RCT design worked well, with outcomes of interest balanced between the treatment and controls groups, indicating a valid study design to measure programme impacts.[1] In the baseline report, we performed approximately 150 statistical tests for mean (or proportional) differences between the treatment and control groups across impact domains ranging from mental health, schooling and sexual behaviours to violence, risk-taking and future aspirations. We examined differences between the control group and 1) the pooled treatment group and 2) the CCT only and combined CCT plus public works arms and found very few (less than 5 per cent) statistically significant differences across the two groups. We therefore conclude that the cluster RCT design was successful at creating a valid control group.

For the current report, we conducted statistical analyses to understand 1) whether there were issues with selective attrition and 2) impacts of the PSSN on outcomes related to youth well-being and the transition to adulthood. To examine selective attrition, we ran statistical tests to identify whether there were differences between treatment and control groups among a) those who were lost to follow-up and b) the panel, or those who were interviewed at both baseline and endline. In general, we found little to no evidence of selective attrition, indicating that the internal validity of the study remains intact. Thus, differences between treatment and control groups at endline can be attributed to causal impacts of the programme. To estimate impacts of the PSSN on outcomes of interest, we ran variations of individual-level fixed effects difference-in-differences models, comparing changes in outcomes over time between the control and treatment groups, among the sample of youth in the longitudinal panel (those interviewed both at baseline in 2015 and at endline in 2017).

In addition, we conducted qualitative analyses to further illustrate how the PSSN has affected the lives of youth. Qualitative analysis was conducted in two phases: 1) rapid initial analysis to document observations during fieldwork and 2) in-depth analysis to increase overall understanding of participants' lives and the transition to adulthood. Transcribed texts were first reviewed to gain understanding of patterns, commonalities and differences on salient themes in narrative responses. Codes were then developed drawing on these themes and used to sort and group data into different thematic issues. We then undertook a systematic analysis of the information in the different themes to triangulate and illuminate mechanisms behind quantitative findings, and highlighted quotes that represented common or unique experiences in accordance with these themes. **Key findings** are highlighted here and more details are presented in the report.

- The PSSN had substantial impacts on children's schooling and time use:

  - **PSSN significantly improved children's education outcomes, increasing school attendance and literacy**. The PSSN also appeared to have increased the amount of time children spent studying during the week before the interview, again with similar impacts by gender. The positive programme effects on education are also comparable among children of primary-school age and older children. Education improvements may have been more pronounced in villages that received both CCT and PWP. It is possible that the joint programme allowed households to afford higher education expenditure relative to the cash only programme.

  - **PSSN also influenced child participation in economic activities.** Participation in livestock herding for the household during the year before the interview increased for children in recipient households, with similar impacts on subsamples by gender and age group. **We find**

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[1] Palermo T, et al. on behalf of the Tanzania PSSN Youth Study Evaluation Team, *Tanzania Youth Study: Productive Social Safety Net (PSSN) Impact Evaluation: Baseline Report*, UNICEF Office of Research and REPOA, Florence, Italy/Dar es Salaam, Tanzania, 2017.

that the PSSN increased household ownership of livestock by about 47 per cent with respect to the endline average in the control group, driving the observed shift into herding activities by children. The increased engagement in livestock activities was matched by a reduction in the prevalence of paid work outside the household, especially for older males. **We consider this shift to be welfare enhancing as a shift into work for the own household agricultural enterprise is likely a beneficial change for children and youth.**

– **PSSN did not affect child engagement in household chores** (collecting water, firewood, nuts; taking care of children, cooking, cleaning; or taking care of elderly or sick individuals) **or the prevalence of child labour as defined in Tanzania's legislation, including sub-components of child labour such as work below the minimum working age and economic activities that expose children to hazards.**

■ **PSSN impacts on youth economic activities and household chores are similar to those described for children.** PSSN resulted in an increase in participation in livestock herding for the household and in participation in the TASAF PWP. In villages where the PWP was implemented, youth significantly reduced their participation in the household non-farm business during the year before the interview. We do not observe an increase in school attendance or education outcomes among youth (aged 14–28 years at baseline).

■ **Turning to youth well-being outcomes, the PSSN has increased measures of material well-being, including ownership of blankets and shoes, particularly for females.** These increases in material well-being are also supported by the qualitative evidence, which indicates that transfers are being utilized for purchases which improve living conditions and provide basic needs to households and youth.

■ **There appear to be few quantitative impacts across a range of mental and physical well-being outcomes**, including depressive symptoms, hope, stress, social support and self-rated health. **In contrast, the PSSN has increased some measures of subjective well-being and aspirations** through increases in autonomy and, for females, self-assessed wealth and household decision making. The programme appears to have increased contraceptive *knowledge* among females (but not males); however, it had no impacts on contraceptive *use*. In addition, there were no impacts on fertility, which supports existing evidence from the region underscoring that cash transfer programmes do not increase fertility.

■ **There is no evidence that the PSSN affected sexual behaviour, including partnership formation, risk behaviours, transactional sex and perceived HIV risk** according to the quantitative data. The lack of impacts is in contrast to some of the qualitative narratives, which specifically tie risk behaviours – including for females, the need to engage in transactional sex – to poverty and lack of material goods.

■ **The PSSN had no impacts on experiences of emotional, physical or sexual violence** experienced by females.

Results of this evaluation are expected to inform the design of future iterations of the Government's social protection and other complementary programming supporting the safe transition of Tanzanian youth. Insights from this evaluation will also enable the Government of Tanzania, TASAF and other stakeholders such as UNICEF Tanzania and Tanzania Commission for AIDS (TACAIDS) to assess what other measures or interventions are necessary to improve adolescent and youth well-being and how these can complement and provide synergies with the government's institutionalized social protection strategy.

1. INTRODUCTION AND BACKGROUND

This report provides endline results of the impact evaluation of the Government of the United Republic of Tanzania's Productive Social Safety Net programme (PSSN) on Tanzanian youth. The impact evaluation, led by UNICEF's Office of Research – Innocenti and Policy Research for Development (REPOA Tanzania), is an 18-month, mixed methods study to provide evidence on the effects that the programme has had on youth well-being and the transition to adulthood. For the study, we conducted two waves of data collection: a baseline in August–October 2015 and an endline from March to May 2017. In both waves of data collection, quantitative and qualitative interviews were conducted with youth who were between the ages of 14 and 28 years at baseline (15–30 years at endline). The qualitative interviews were embedded in the quantitative study design, meaning that 16 youths from study households were selected to participate in in-depth qualitative interviews to help unpack pathways of impact and provide a deeper understanding of how the PSSN affects the lives of youth in participating households.

Tanzania's PSSN was initiated in 2012 by the Government of the United Republic of Tanzania and is implemented by the Tanzania Social Action Fund (TASAF). TASAF was established in 2000 as part of the Government of Tanzania's strategy to reduce poverty. Phase I (2000–2005) focused on improving social service delivery; capacity enhancement for communities, including overseeing 1,704 community-run sub-projects such as construction and rehabilitation of health care facilities, schools and other small-scale infrastructure; and a Public Works Program (PWP) component with 113,646 direct beneficiaries. The second Phase (2005–2013) built on the Millennium Development Goals and expanded the first stage commitments to address a shortage of social services, capacity enhancement (including 12,347 community sub-projects) and income poverty, including a pilot of community-based conditional cash transfers (CCT) reaching 11,576 households in communities that were strengthened during the first phase.[2] Activities managed by communities included screening of potential beneficiaries, communicating programme conditions, transferring funds to beneficiaries, and applying peer pressure for compliance with conditions.

TASAF implements its interventions using a community-driven development approach and activities managed by communities include electing community teams during village assembly who identify potential beneficiary households and conduct screening of potential beneficiaries using pre-determined criteria. Further, village/shehia council and village assembly play a key role in programme oversight while community management committees play key operational roles in programme components, monitoring, and supporting compliance with co-responsibilities, as well as transferring funds to beneficiaries.

Currently, the third phase of TASAF, the Tanzania Productive Social Safety Net (PSSN) project, supports a national social protection programme aimed at putting in place the building blocks of a permanent national social safety system. Key elements of this Project are the CCT programme complemented with public works and livelihoods enhancement. The programme provides cash transfers to poor and vulnerable households in Tanzania conditional on their use of health and education services along with opportunities to earn additional income through public works and livelihood. The objectives of this new phase, the consolidated PSSN, include: 1) increase consumption of the extremely poor on a permanent basis, 2) smooth consumption during lean seasons and shocks, 3) invest in human capital, 4) strengthen links with income generating activities, and 5) increase access to improved social services.

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2   Evans, D. K., et al., *Community Based Conditional Cash Transfers in Tanzania: Results from a Randomized Trial*, World Bank, Washington, DC, 2013.

It aims to improve consumption and human capital accumulation and to reduce the poverty headcount and poverty gap by 5 per cent and 30 per cent, respectively. The programme also aims to: improve vulnerable populations' ability to cope with shocks; invest in human capital; and increase access to improved social services. To receive the CCT component, participating households are required to comply with certain conditions related to children's school attendance and health care, although a portion of the cash transfer is fixed and unconditional and relies only on eligibility related to household poverty and the number of children in the household. The current phase (TASAF III/PSSN) was scaled up in six waves between 2013 and 2016. The project has continued to make good progress in the implementation of its planned interventions and has achieved the massive scale-up plan. To date, the number of households targeted/enrolled in the programme has moved from 39,473 households in eight Project Area Authorities (PAAs) (in 2013) to 1.1 million households in 161 PAAs and in more than 9,976 villages. This is approximately 10.5 per cent of the total population. All beneficiaries have received CCT payments starting from September/October 2015 payment windows. Eventually, all eligible households nationwide are expected to receive the programme.

1.1 Programme targeting and details

The programme utilizes a three-stage targeting process, including geographical targeting, community-based targeting and a proxy means test (PMT). In the first stage, national poverty maps are utilized to identify the poorest PAAs and villages. At the village level, committees comprised of community representatives elected during a Village Assembly then identify the poorest households. The households identified in this process are then enumerated for the PMT to ensure they meet the poverty criterion. Those that meet the poverty criterion (that score below the designated threshold) are then enrolled into the programme.

As previously mentioned, to accomplish the programme objectives, the PSSN has three components: 1) an unconditional cash transfer (UCT) paired with a variable CCT (the programme's core component), 2) a PWP component, and 3) a livelihoods enhancement component. Primary recipients of the cash transfers are adult women (the majority of whom are mothers or caretakers).

As detailed in Figure 1.1, the specific transfer amounts and value of components are as follows: The UCT (Tanzanian shillings (TZS) 10,000[3]) is provided to all enrolled households, with an additional transfer (TZS 4,000) to households with children under 18, per month. The CCTs offer: 1) a grant (TZS 4,000) to households with pregnant women or children under five who are in compliance with pre- and post-natal exams and regular child health check-ups; 2) a grant (TZS 2,000) to households with children demonstrating an 80 per cent primary school attendance rate; 3) an individual grant (TZS 4,000) for children demonstrating an 80 per cent lower secondary school attendance rate; and 4) an individual grant (TZS 6,000) for children demonstrating an 80 per cent upper secondary school attendance rate where such services are available, all on a monthly basis. The maximum total benefit per household excluding the PWP component is set at TZS 38,000 on a monthly basis, but payments are made bimonthly. Additionally, workshops are planned on topics related to beneficiaries' co-responsibilities and those related to good childcare practices, sanitation and hygiene, and education.

The cash transfer component aims to increase household income on a permanent basis, while the PWP component aims to reduce negative coping decisions during the lean season by providing a predictable

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3   As of May 2017 (midpoint of the endline data collection, US$1 = TZS 2,209).

income during this period.[4] Examples of PWP activities that PSSN beneficiaries may engage in include pavement of community rural roads and construction of Charco dams, water ponds and tree nurseries. Additionally, the PWP component or 'cash-for-work' provides TZS 2,300 per day (approx. US$1) for one able-bodied adult per household aged 18 and over for up to 60 days in four months.

The objective of the livelihoods component is to enhance households' income generation capacity so that vulnerable populations are better able to support themselves in the medium and long term. This objective is accomplished through bridging the gap between PSSN beneficiaries and the supply of programmes that can help them increase their productive potential, increasing their self-reliance and income diversification. There is a strong emphasis on savings promotion, building on the experience of the Community Savings Groups implemented in TASAF II as well as with additional individual savings mechanisms. Piloting of the livelihoods enhancement component began in 2017 and was not implemented in study communities over the course of the evaluation presented here.

Figure 1.1. Programme details[5]

The **Conditional Cash Transfer** provides:

- TZS 10,000 fixed benefit (approx. US$5);
- TZS 4,000 fixed benefit for each child if the household has a child under 18 years (approx. US$1.80);
- TZS 4,000 fixed additional for child under five, conditional on health compliance (approx. US$1.80);
- TZS 2,000 additional for each child (up to four children), conditional on enrollment in primary school;
- TZS 4,000–6,000 additional for child, conditional on enrollment of child in lower or upper secondary school (approx. US$1.80–2.70); and
- Maximum monthly transfer of TZS 38,000 (approx. US$18).

The **Public Works** component or 'cash-for-work' provides:

- TZS 2,300 TZS per day (approx. US$1 USD) for one able-bodied adult per household aged 18 and over for up to 60 days in four months.

The **Livelihoods Enhancement** component provides:

- Basic training to help prepare beneficiaries to access existing productive opportunities;
- Savings promotion and mobilizing beneficiaries to form savings groups;
- Support to households' income generating capacity and income diversification; and
- A productive grant.

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4   World Bank, 'Tanzania Productive Social Safety Net: Project Appraisal Document', Report No. 67116-TZ, Dar es Salaam, 2012.

5   Aide Memoire of the TASAF/PSSN Mid-Term Review and Implementation Support Mission. September 8–19, 2014.

1.2 Impact evaluation

In the 2015 scale-up, due to the phased scale-up design and for evaluation purposes, a set of households were randomized to delayed treatment (at the village level), which allowed the study of programme impacts. An impact evaluation measuring overall impact of the PSSN on key indicators related to the main programme objectives is being conducted by the World Bank with the National Bureau of Statistics (NBS) and Office of Chief Government Statistician (OCGS). The evaluation covers the subset of 16 PAAs randomly selected from the 99 PAAs in Waves four and five of the PSSN scale-up out of a total of 161 PAAs covered by the programme; an additional PAA was covered by the evaluation in Zanzibar. Simultaneously, a REPOA study examines PSSN impacts on women's empowerment and covers eight of these same mainland PAAs (and one PAA in Zanzibar), randomly selected among the 16 mainland PAAs covered in the World Bank/NBS/OCGS impact evaluation. The current youth impact evaluation is part of the REPOA study, examining a subset of the included households. Communities not selected for the World Bank/NBS/OCGS impact evaluation were randomly selected for the REPOA study, and thus none of the communities or households included in the REPOA/UNICEF study overlap with the World Bank/NBS/OCGS study. This reduces the possibility of survey fatigue among participating households. The REPOA/UNICEF study is being conducted in eight mainland districts (Misungwi, Kahama, Kilosa, Kisarawe, Handeni, Mbogwe, Itilima and Uyui). This sample differs from the larger REPOA sample, which additionally covers Unguja and two TASAF II pilot districts (Bagamoyo and Chamwino). However, for the youth study, we sampled households and youth living in mainland districts which started receiving cash transfers in 2015 as part of the PSSN. The study uses a longitudinal, experimental study design, combining quantitative surveys with qualitative in-depth interviews and is described in more detail below.

1.3 Focus on adolescents

The evaluation described in this report focuses on impacts among adolescents and young people related to well-being and the transition to adulthood. The study builds on learnings from the Transfer Project, a multi-organization consortium providing evidence on government-run cash transfers in Africa, with a focus on safe transitions to adulthood for youth.[6] Adolescence is a critical period in which events and transitions have long-term impacts on an individual's health, well-being and productivity. Decisions about sexual debut, schooling and partnerships determine an individual's trajectory and can impact earning potential, agency in marriage, future experience of violence and a range of outcomes that impact not only the individual but their future children as well. In Tanzania, adolescents face barriers to a safe transition to adulthood in the form of early marriage and pregnancy, violence, HIV risk and living without parents. Furthermore, the 2015 Tanzania Demographic and Health Survey (DHS) report[7] states that the percentage of women aged 15 to 19 years who have ever given birth or are pregnant is 27 per cent (an increase since 2004), and according to our own calculations with these data, 6 per cent of women aged 15 to 49 in Tanzania were married or in union before age 15, and 34 per cent of women aged 18 to 49 years were married or cohabiting before age 18. According to the 2009 nationally representative Violence Against Children Survey (VACS), three in ten females and one in seven males report having experienced sexual violence before age 18; and three quarters of males and

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6   The Transfer Project is currently operating in over 10 countries, including impact evaluations on youth in five countries. For further details see: https://transfer.cpc.unc.edu/

7   Ministry of Health, Community Development, Gender, Elderly and Children; National Bureau of Statistics (NBS); Office of Chief Government Statistician; ICF, *Tanzania Demographic and Health Survey and Malaria Indicator Survey 2015-2016*, NBS and ICF, Dar es Salaam, Tanzania, 2016.

females experienced physical violence by an adult or intimate partner before age 18.[8]

Cash transfers have recently been highlighted as having the potential to facilitate safe transitions to adulthood. Evidence on government cash transfer programmes across the region has demonstrated their ability to delay sexual debut[9], first pregnancy[10] and reduce transactional and age-disparate sex.[11] Adolescents often transition to sexual debut, marriage and pregnancy early in Tanzania and, to date, there is no evidence from this country on the transition to adulthood and the ability of cash transfers to offer protective impacts during this period. The exception is in the area of schooling, as a pilot CCT programme implemented by TASAF in Bagamoyo, Chamwino and Kibaha was shown to increase the likelihood of enrolment by four percentage points (pp) and the probability of completing Standard seven by 15 pp.[12] Over the next 10–15 years, Tanzania's largest ever youth population will enter their economically productive years.[13] It is therefore important to examine the potential for social protection programmes to facilitate safe transitions and maximize youth's future productivity and well-being.

1.4 Conceptual framework

This section describes the conceptual framework for the PSSN impact evaluation on youth well-being and the transition to adulthood. It identifies the relevant outcome indicators among youth and hypothesizes potential pathways of impact in a framework linking with cash transfer programming.

The overarching research questions guiding the youth study are: Does the PSSN positively impact youth well-being and the transition to adulthood and, if so, through what pathways?

Primary questions of interest include:

1. Does the programme delay sexual debut, marriage and/or pregnancy?

2. Does the programme improve youth mental health?

3. Does the programme increase youth schooling attendance and attainment?

4. Does the programme reduce youth participation in labour and productive activities?

5. Does the programme reduce risky sexual behaviours?

6. Does the programme reduce emotional, physical and sexual violence (including intimate partner violence (IPV)), experienced by female youth?

Figure 1.2 illustrates the pathways through which the PSSN can impact the primary adolescent and youth outcomes of the study, by first ravelling through mediators and eventually resulting in programme impacts. Households first receive programme inputs in the form of cash from the CCT and/

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8   United Nations Children's Fund Tanzania Country Office, United States Centers for Disease Control and Prevention (CDC), Muhimbili University of Health and Allied Sciences, 'Violence against Children in Tanzania: Findings from a National Survey, 2009. Summary Report on the Prevalence of Sexual, Physical and Emotional Violence, Context of Sexual Violence, and Health and Behavioural Consequences of Violence Experienced in Childhood', UNICEF Tanzania, Dar es Salaam, Tanzania, 2011.

9   Handa, S., et al., 'The government of Kenya's cash transfer program reduces the risk of sexual debut among young people age 15-25', *PLoS One,* vol. 9, no. 1, 2014, e85473-e85473.

10 Handa, S., et al., 'Impact of the Kenya Cash Transfer for Orphans and Vulnerable Children on Early Pregnancy and Marriage of Adolescent Girls', *Social Science & Medicine,* vol. 141, 2015, pp. 36–45.

11 Cluver, L., et al., 'Child-focused state cash transfers and adolescent risk of HIV infection in South Africa: a propensity-score-matched case-control study', *The Lancet Global Health,* vol. 1, no. 6, 2013, e362-e370.

12 Evans, D. K., *Community Based Conditional Cash Transfers in Tanzania*, Retrieved from Washington, DC, 2013.

13 Jenkins, A., and Bangser, M., 'The promise of adolescence: UNICEF Tanzania Country Office adolescent strategy to guide the 2016–2012 country programme', UNICEF Tanzania, Dar es Salaam, Tanzania, 2015.

or the PWP component. Immediate programme impacts will work through investment in consumption at the household level (including time allocation decisions). Since cash is given primarily to adult females, increased cash flow can result directly in increased household food security or material well-being for the youth and their households. Once immediate needs are met, the regular influx of cash may begin to affect additional outcomes, including investment and other productive activity, the use of services and the ability to free up older children to attend school. Following along the causal pathway, these mediators may, in turn, lead into the outcomes of interest for this study related to youth well-being. In addition to being an important mediating indicator of interest, schooling is also hypothesized to be a protective pathway for other positive outcomes, including delayed sexual debut, marriage and pregnancy. The ultimate outcome impacts among youth likely take longer to materialize as compared to household-level impacts such as increased food security and consumption. Further, effects of the PSSN may be moderated by household-level factors (family/social support) or local conditions in the community (access to markets and other services, prices, shocks and distance to schools or health facilities). Moderating effects are shown with dotted lines that intersect with the solid lines to indicate that they can influence the strength of the direct effect. The main outcomes of interest to be studied among youth are school attendance, aspirations, mental health, sexual debut, pregnancy, marriage, violence and future expectations.

Figure 1.2. The impact of cash transfers on adolescents and youth: A conceptual framework
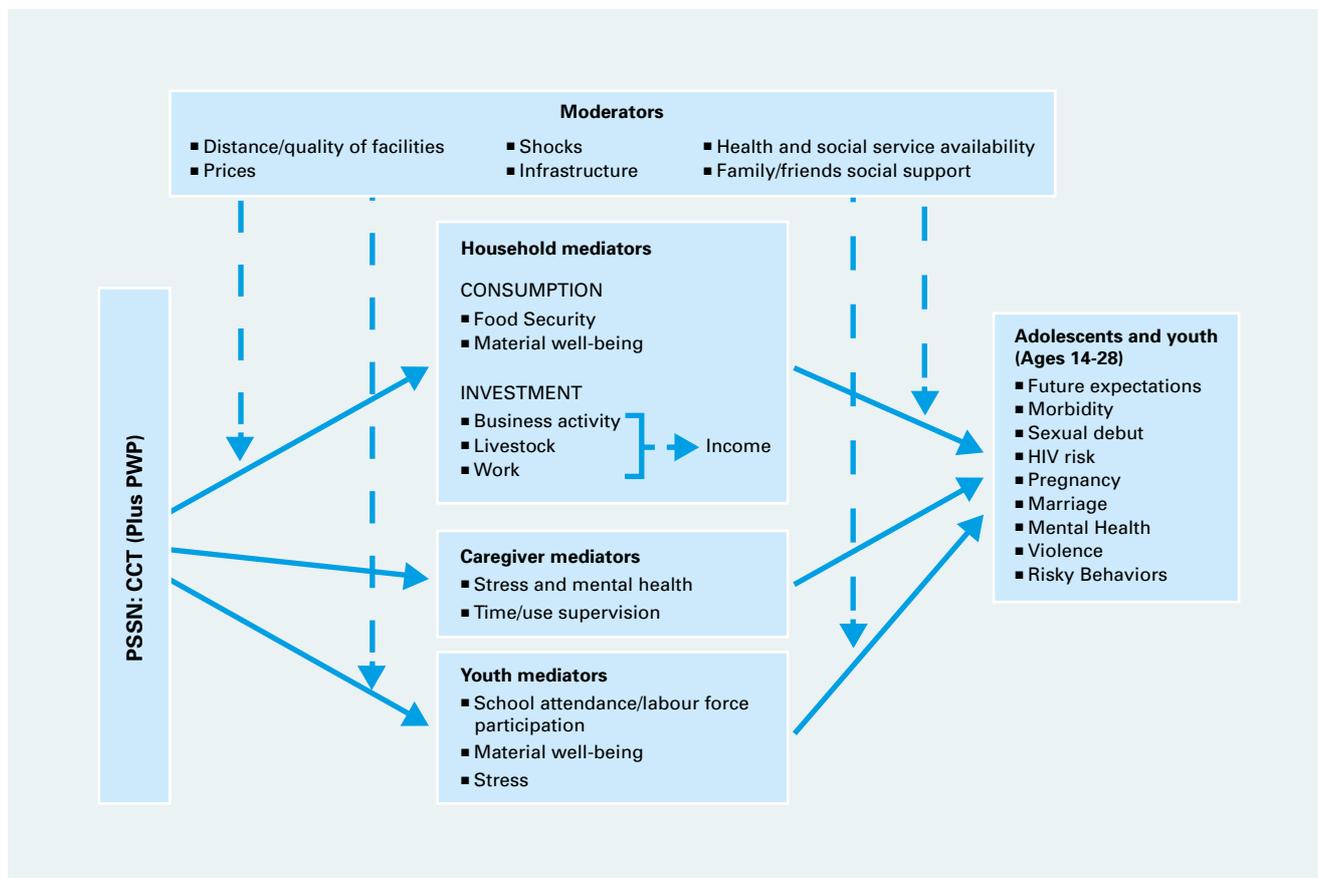
2. STUDY DESIGN AND SAMPLING

2.1 Study design

The study utilizes a cluster sample design, whereby clusters (communities) were randomized to one of three study arms, and households are nested within communities. In this rigorous study design, communities and households were randomly selected in a multi-stage process. There are 102 communities in the REPOA women's empowerment study, with 35 CCT only treatment communities, 26 CCT plus PWP treatment communities and 41 control communities. The REPOA women's empowerment study utilizes the Women's Empowerment in Agriculture Index (WEAI) methodology, developed by the International Food Policy Research Institute and partners. Following the WEAI guidelines, the study categorized households into three types: 1) Dual adult households (with both a male and female aged 18 and over); 2) Female adult households (with females aged 18 and over but no males aged 18 and over); and 3) Male adult households (with males aged 18 and over but no females aged 18 and over).[14] Guided by the WEAI requirements, the REPOA study only sampled two of these categories (dual adult and female adult households). The ratio for dual over female households was estimated at two thirds to one third (ranging between 60 and 80 per cent and 40 and 20 per cent, respectively) per village. Thus, in relation to the full sample of eligible households, the REPOA sample (and youth sample) excludes households in category three (male adult households only).

Logistically, the sampling was completed as follows: TASAF provided the list of targeted households for each village. Two enumerator supervisors (one for the northern and the other for southern districts) arrived in a village one day before the rest of the team to finalize local government survey permits. While in the village and after attaining all permits, supervisors worked with the village leader to conduct a simple random sampling of the listed households. Once a household was sampled the leaders helped to identify if it was a dual adult or female adult household. The process was repeated until the correct ratio sample between dual and female adult households was obtained. If a member (female or male) of a dual adult household was not home, a second attempt to interview both was made before replacing it with another dual adult household. Similarly, this was the process for obtaining a sample of female adult households. For polygamous households (especially Muslim households), the male was interviewed as a dual household in the household where he was during interview. In the case that an additional wife was present, a special code was created and this 'second' wife was also interviewed. Only one extra wife was allowed per male. However, in practice, this was rarely encountered because of the geographical distance between dwelling locations of wives.

For the REPOA/UNICEF youth study, which is nested within the aforementioned REPOA empowerment study, youth were interviewed in mainland communities only, resulting in youth interviewed in 36 control and 48 treatment communities (29 CCT only and 19 CCT plus PWP communities). This process of randomization produces groups (treatment and control) with a high probability of being statistically identical—that is, the groups will have statistically equivalent averages for individual- and household-level characteristics at baseline. This results in what is referred to as 'balanced' study arms. As detailed in the baseline report, and reviewed here, we found balance between treatment and control groups and concluded that the randomization was successful and the study design is valid to examine impacts attributable to the PSSN programme.

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14   Alkire, S., et al., 'Instructional Guide on the Women's Empowerment in Agriculture Index', 2013. https://www.ifpri.org/sites/default/files/Basic%20Page/weai_instructionalguide_1.pdf, accessed on 23 April 2016.

2.2 Sample design

The youth survey for the current study has been incorporated into REPOA's existing impact evaluation of the programme on women's empowerment. At baseline, a separate youth survey was conducted among youth in households in the REPOA study two months after REPOA's household surveys were completed (July 2015). The 18-month follow-up survey for youth was integrated within REPOA's empowerment study and thus administered at the same time as the household surveys for the overall empowerment impact evaluation. In total, the REPOA study has been conducted in eight PAAs from Tanzania Mainland and one PAA from Zanzibar (102 communities). There are two key differences between the youth sample for the current report and that of REPOA's overall impact evaluation sample: 1) the youth module was not conducted in Zanzibar (Unguja); and 2) the youth module was not conducted in TASAF II households (which were part of the previous evaluation and thus would already have been receiving transfers for several years at the time of the REPOA baseline) from Bagamoyo and Chamwino. Thus, the youth impact evaluation spans eight Mainland PAAs: Misungwi DC, Kahama TC, Kilosa DC, Kisarawe DC, Handeni DC, Mbogwe DC, Itilima DC and Uyui DC (see Appendix A for a map of the youth study communities by treatment arm).

Figure 2.1. Description of study sample
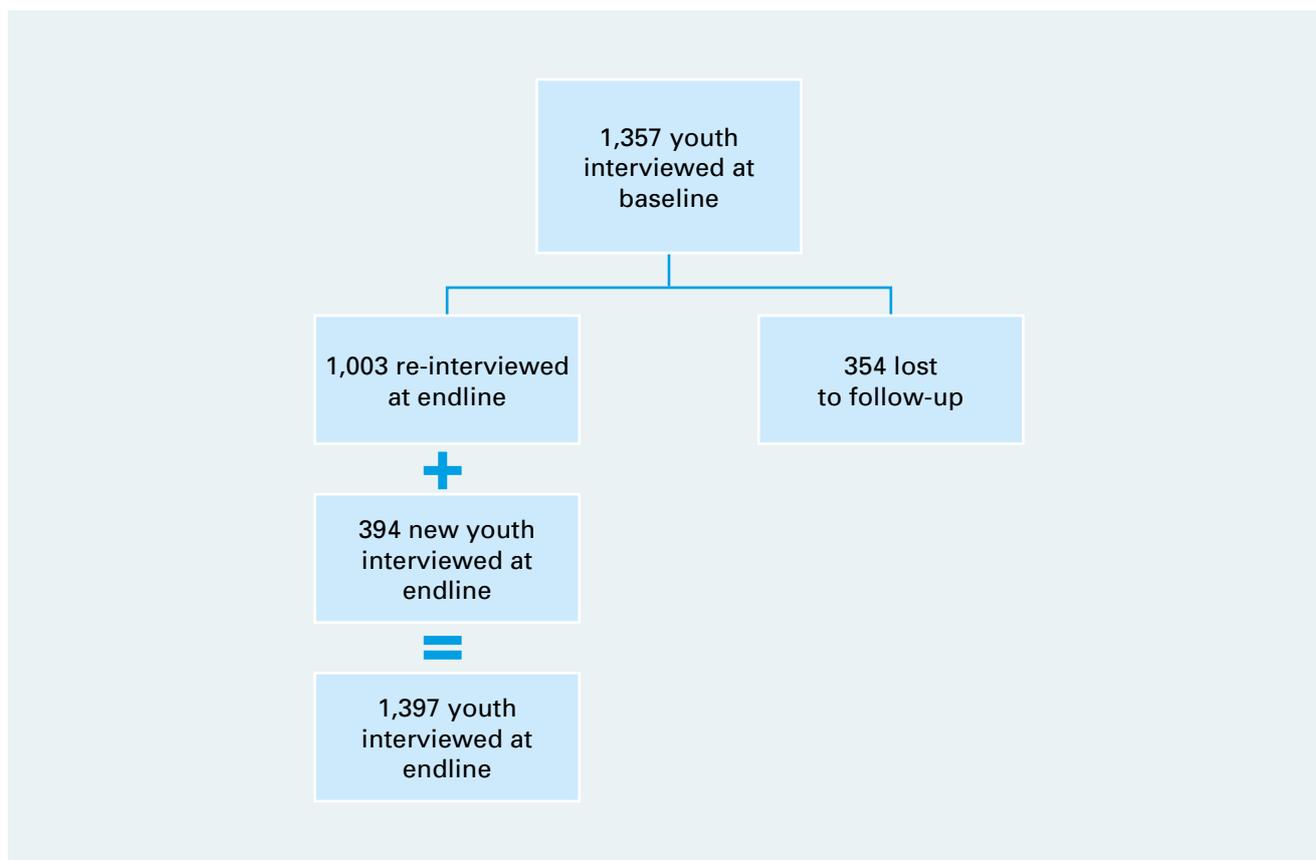
The sample size for the youth study is all youth aged 14–28 at baseline in the sampled households as described in Figure 2. 1. Interviewing all youth within the age range in participating households is a strength of the current study compared to many existing studies under the Transfer Project, which select a subset of youth in the target age range; in this way we reduce the possibility of selection bias

and the risk of a non-representative sample. Although the age definition of 'youth' varies by country, this age range was chosen based on past experience of the Transfer Project in collecting data on youth in sub-Saharan Africa (SSA), and to ensure a large enough sample size to be able to detect statistically significant differences between control and treatment groups, as indicated by power calculations. The baseline report illustrated household demographics and housing characteristics by eligibility (defined by having any youth aged 14–28 in household) for all households in the youth study regions. Households with youth in our target age range, and thus eligible for the current study on youth well-being, were more likely to be Christian (44 per cent versus 40 per cent in households with no eligible youth) or non-religious (20 per cent versus 15 per cent) and less likely to be Muslim (35 per cent versus 44 per cent) as compared to households without eligible youth. These households were also on average larger (6.6 persons versus 4.1 persons in ineligible households) and more highly educated as compared to households without eligible youth (see Baseline Report for more information; results not presented here). Given the age range of our youth sample at baseline (14–28 years), some of the youth may be heads of households. In the panel sample analysed in this report, 6 per cent of the youth are household heads and 9 per cent are the spouse of the household head. Given the low percentage of youth who are heads of households in this sample, it was not possible to examine impacts separately for this group in the remainder of this report.

2.3 Data collection and ethical guidelines

Youth surveys were conducted among household members aged 14–28 years (N=1,357) at baseline in 2015, and again at approximately 18 months follow-up among youth aged 15–30 years (N=1,397). Due to the sensitive nature of many topics, interviews were conducted in private locations (in Swahili) where other household members could not hear what was being discussed and were administered by same-sex enumerators. Based on the conceptual framework, the quantitative survey was multi-topical and included outcomes such as sexual debut and risky sexual behaviour, pregnancy, marriage, school attendance, aspirations, mental health, violence and future aspirations. Furthermore, data were collected on potential moderators of programme impacts, including propensity to take risks and perceived social support. Wherever possible, survey items were pulled from existing national survey instruments such as VACS, DHS, and WHO Multi-Country Study on Domestic Violence and Women's Health. In addition, similar youth modules have been previously implemented by the Transfer Project in countries such as Kenya, Malawi, Zambia and Zimbabwe and questionnaire design reflected learning from these evaluation experiences.

We conducted in-depth, semi-structured surveys with 16 youth at baseline and 17 youth at endline who were purposively chosen from eight PAAs to explore mechanisms and pathways for impacts on outcomes of interest. The semi-structured interview guide consisted primarily of open-ended questions, probes and follow-ups, with questions covering thematic areas including, among others, education, poverty, labour, sexual experiences, violence and experience with the PSSN programme. Interviews were conducted in Swahili, digitally recorded, transcribed and translated into English. Since the sample is 'embedded', the full range of information from the household survey is also available and the youths' responses and narratives as reported in the in-depth interviews can be compared to the quantitative data to gain a fuller picture in relation to study objectives.

Finally, data collection supervisors administered one community questionnaire to knowledgeable individuals in each community to assess topics such as access to markets, health facilities and schools; prices; village customs surrounding marriage and caregiving arrangements (who would be expected to take in a child if the parent dies); and shocks.

For the endline data collection, a supervisor training was held on 3 March 2017 and enumerator training was carried out over a three-week period (6–24 March 2017), led by researchers at UNICEF Office of Research – Innocenti and REPOA. The joint training covered the following surveys: 1) household surveys, 2) adult females and males for the WEAI surveys, 2) youth (results covered in the current report), and 3) community surveys. The training consisted of both paper and portable tablet training, and two pilots near Dar es Salaam, and included training on questionnaire modules, research ethics, and on collecting data on gender-based violence. Both quantitative and qualitative surveys were pre-translated into Swahili and pilot tested as well as discussed extensively during enumerator training to ensure common understanding of terminology.

Endline data collection was carried out between 1 April and 6 June 2017 by 44 quantitative enumerators, four qualitative enumerators (two male, two female), plus three supervisors (all male) using portable tablets and Survey CTO data entry programming.

Field conditions varied between communities and regions. In general, the field teams were well received by the local communities, including local leaders. Volunteer TASAF coordinators in each village provided support to the field teams in locating PSSN households. Field teams gathered in the evenings to review and troubleshoot any issues, and supervisors uploaded/transmitted data in the evenings. The team supervisors were in frequent contact with researchers checking for data quality issues at REPOA headquarters and UNICEF Office of Research – Innocenti, both during fieldwork observation visits and via text message and email throughout the duration of the data collection. Rains posed several challenges and in one community in each of Kisarawe and Kilosa fieldwork was discontinued and recommenced towards the end of the fieldwork period to finish data collection.

The research team adhered to the Ethical Principles and Guidelines for the Protection of Human Subjects of Research as outlined in the Belmont Report. Enumerators received instruction on ethical data collection and informed consent at data collection trainings. Informed consent was obtained from all youth aged 18–28 years, and caregiver/parental consent and youth assent was obtained for all youth aged 15–17 years. Sensitive questions in the violence module were asked only of females (all females aged 15 to 30 years in the household) and not of males in order to avoid potentially asking both partners of a couple questions about violence. Ethics approval for the study was granted by the Tanzania Commission for Science and Technology.

Following WHO guidelines[15], because of the sensitive nature of violence-related questions and because females may be in continued danger from perpetrators, we provided anonymized referral information to females participating in our surveys. This referral information included contact numbers for district social welfare officers and contact information for NGOs which provide additional services for GBV survivors in districts where such NGOs are present. Social welfare officers in the districts were contacted in advance to ensure they were aware of these referrals and to verify the services available. Enumerators offered all females interviewed the two numbers without further identifying information, but clearly indicating which organizations and agencies the numbers are for and what services they provide. In total, 42 per cent of female youth accepted the offer of information and were provided with referral numbers. In addition, enumerators also offered the option of taking down the youth's information directly and sharing this with appropriate personnel if they either needed immediate assistance or if they did not feel comfortable keeping the paper with the referral information (anonymized phone numbers); four out of the 706 interviewed females chose this option. We also

15   World Health Organization and Program for Appropriate Technology in Health, *Researching violence against women: a practical guide for researchers and activists*, WHO and PATH, Geneva, 2005. http://www.who.int/reproductivehealth/publications/violence/9241546476/en/

followed WHO guidelines for research on violence against women by training enumerators on GBV, conducting the interviews in a private setting and skipping violence-related questions if a private setting could not be ensured.

2.4 Data processing and analysis

2.4.1 Survey data

As data were collected via tablets using CTO Survey software at endline (and CSPro software at baseline), data entry occurred in real time and completed interviews were uploaded by supervisors each evening to a central server accessible only by REPOA and UNICEF researchers. Researchers at UNICEF Office of Research – Innocenti exported the data into the analysis software and performed frequent quality control data checks. Problems and inconsistencies were then communicated to field team supervisors to revisit questionnaires as needed.

To ensure data quality, we implemented several measures including the following: 1) the CTO Survey programme had quality control and logic measures embedded to prevent common errors with questionnaire skip patterns, etc.; 2) supervisors reviewed enumerators' questionnaires before uploading; and 3) once the full data set was received, a final round of quality and completeness review was conducted.

The evaluation team at UNICEF Office of Research – Innocenti conducted the main impact analysis from August to October 2017 in cooperation with REPOA, and other members of the evaluation team reviewed the findings and contributed to interpretation of the findings and report drafting in November 2017.

2.4.2 Quantitative analysis methodology

The main objective of the quantitative analysis is to understand the extent to which the PSSN changed the lives and well-being of youth living in the households. In order to do this, the researchers have to estimate what would have happened if the PSSN was not implemented (in research terms, this is referred to as the 'counterfactual'). To estimate the counterfactual, researchers need to compare individuals in a comparison group who are as similar to those in the treatment group as possible. In this study, we implemented a cluster RCT design to identify the comparison group (individuals who did not receive the PSSN). This is considered the 'gold standard' for impact evaluations, where villages (PAAs in TASAF terminology) were randomly assigned to either treatment or control (delayed treatment) groups.

For analysis, we employed a difference-in-differences (DD) strategy to compare the treatment and control groups and estimate programme impacts. The DD estimate strategy compares changes in the treatment group between baseline (2015) and endline (2017) to changes in the control group over the same time period. The control group allows researchers to identify changes that may have occurred due to other factors (e.g., floods, recession, inflation, rapid economic development), thus making it possible to isolate the impacts of the programme (see Figure 2.2 for an illustration).

Figure 2.2. Difference-in-differences design
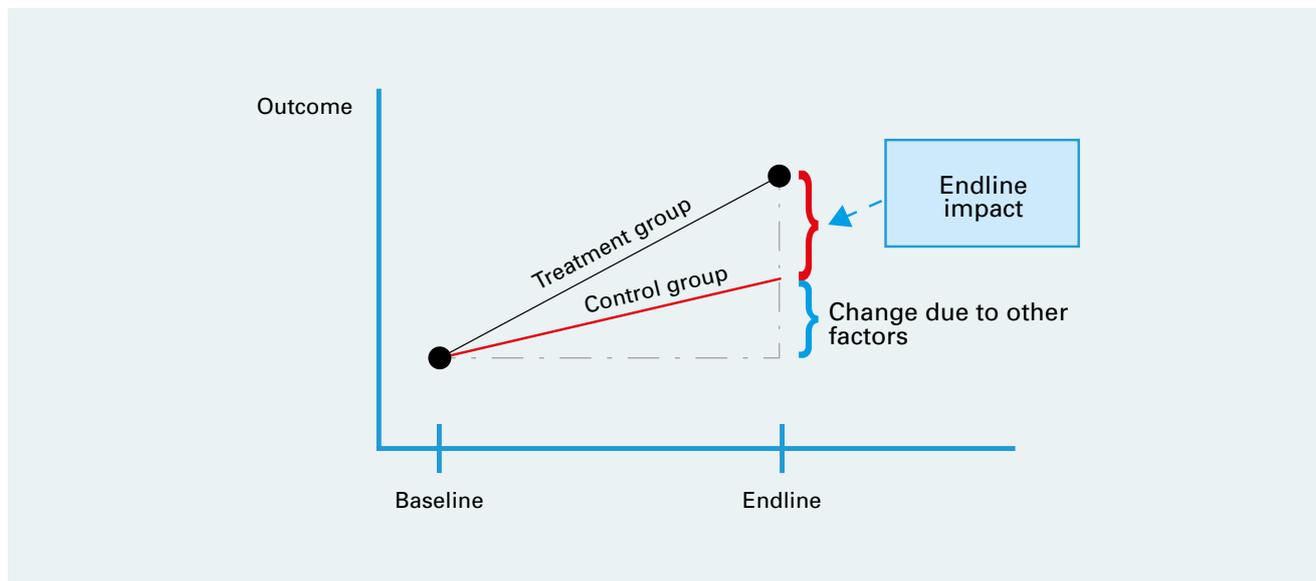
This estimation strategy relies on the so-called 'parallel assumption' or 'parallel trends assumption', which assumes that changes in the control group are a good approximation of changes that would have occurred in the treatment group had they not received the PSSN programme. Support for this assumption comes from the fact that the villages were randomly assigned to treatment and control arms. To assess similarity between the two groups at baseline, we conducted extensive statistical tests to examine baseline balance (before the PSSN was rolled out to the treatment communities) of the individual and household characteristics and outcomes of interest.

The DD model was specified as follows:

$$Y_{ijt} = \beta_0 + \beta_1 T_t + \beta_2 P_j \times T_t + \alpha_i + \varepsilon_{ijt} \tag{1}$$

Where Y_{ijt} is the outcome of interest for individual i who lives in community j at time t. T_t is a dummy (binary) variable equal to 1 if the observation is from the endline survey and to 0 if it is from the baseline. P_j is a binary variable set to 1 if community j is in the PSSN programme area and to 0 if it is in the control area, so that $P_j \times T_t$ is the interaction term of the programme and the endline indicator. We include individual fixed effects, α_i, which control for all time-invariant individual-level characteristics. Finally, ε_{ijt} is the error term.

The above model implies that our analyses were run on the balanced panel of individuals interviewed at both baseline and endline (for those outcomes that were only collected at endline, mainly education and labour, we used a different subsample, as described in more detail below). In all our regressions, standard errors were adjusted for clustering at the community level. We tested overall impacts between pooled treatment (CCT only and CCT + PWP) and control groups.

The coefficient of interest is β_2, the coefficient of the interaction term, which is the DD programme impact at endline. Its estimated value ($\widehat{\beta_2}$) is interpreted as the additional change in the outcome achieved between baseline and endline as a result of the community receiving the PSSN, relative to the change occurring in the control group, controlling for fixed unobserved differences between the individuals and communities.

The approach to the analysis of the education and productive activities was slightly different. As explained in Section 5.1 below, the considered labour outcomes were only collected at endline. So, the labour analysis is performed using single difference models, which compare treatment and control groups at endline. Moreover, data for these analyses came from the household surveys, where the main respondent reports education and labour information about children and youth.

These DD impacts ($\widehat{\beta_2}$) and single differences are what are reported in the 'PSSN Impact' columns in the tables throughout this report. For binary outcomes (such as attends school or not), this number can be interpreted as percentage point change in the probability of an outcome as a result of the programme. For example, if the PSSN impact is 0.059 for school attendance, this means that children in PSSN households are 5.9 percentage points (0.059 x 100 = 5.9) more likely to attend school than those in control households as a result of the programme. For continuous outcomes (such as number of hours spent tending livestock), this number can be interpreted as average change in the outcome as a result of the programme. For example, if the PSSN impact on number of hours spent in livestock herding were -0.086, this would mean that children in PSSN households spent 0.086 fewer hours in this activity than children in control households as a result of the programme.[16]

For impacts that were statistically significant in the overall sample, but then in subsample analyses were only significant among males but not females or vice versa (or other sub-groups including age groups), we ran an additional analysis to ensure that any non-significant impact in either subsample was not due to low power driven by reduced sample sizes. To do this, we examined whether the interaction between the DD impact and sub-group was statistically significant. If so, this confirmed that the PSSN differentially impacts the sub-group while accounting for subsample power differences. The household questionnaire was administered in the same eight mainland districts covered by the youth questionnaire (Handeni, Kisarawe, Kilosa, Itilima, Kahama, Mbogwe, Uyui and Misungwi) and in Zanzibar. Hence, the analysis presented in the education and labour section is based on a sample of households from a wider geographical area than the remaining youth results presented in this report. For further details on the sample and questionnaire and description of the household-level data collection, see Myamba and Grimard, 2017.[17]

2.4.3 Qualitative analysis methodology

Qualitative analysis was conducted in two phases: 1) rapid initial analysis to document observations during fieldwork and 2) in-depth analysis to increase overall understanding of participants' lives and the transition to adulthood. Transcribed texts were analysed manually. First, data were reviewed to gain understanding of patterns, commonalities and differences on salient themes in narrative responses. Codes were then developed drawing on these themes and used to sort and group data into different thematic issues. We then undertook a systematic analysis of the information across different themes. Key quotes were selected from interviews that were meant to represent majority opinion or, alternatively, cases of outliers according to topic. Where quotes are used to illustrate a theme or triangulate a finding, anonymous pseudonyms are used for ethical reasons to protect anonymity of the data.

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16 Note that, in the current study, this impact is not statistically significant.

17 Myamba, F. and Grimard, F. 'Assessing the impact of cash transfer programs on women's empowerment in Tanzania: A preliminary analysis of the baseline data using the WEAI methodology', forthcoming.

3. ATTRITION

Attrition within a longitudinal study refers to the loss of participants from the sample over time. These 'missing' observations can include entire households or just individuals within households if, such as ours, the study is conducted with the primary unit of analysis at an individual level. On the household level, there are a number of reasons why households may be lost to follow-up in subsequent survey waves. Common reasons that households may be difficult or even impossible to locate include entire households migrating in response to shocks such as drought or for increased income-generating opportunities, or the dissolution of households due to separation or divorce, or death of a household head. Additionally, even if households are located and surveyed, individuals within households may be missing. For the youth sample, which is a very mobile population, reasons for individual attrition include moving to start a new household or to join an existing household; leaving home temporarily for work or education opportunities; or visiting friends or relatives at the time of the survey.

The tracking protocol of the survey mandated that separate tracking forms be filled for each youth who was unavailable or unreachable during the time of the household interview. The tracking form included contact information (address, cell number) as well as information about who the youth was living with and their motivation for being absent. If the youth had moved within the districts being surveyed, an attempt was made to track that particular youth either during the main fieldwork or in a separate tracking and mop-up effort. If the youth had moved to Dar es Salaam, a similar effort was made to reach them. However, if youth were absent multiple times or moved outside the survey areas then they were permanently lost to follow-up.

Of the 1,357 youth interviewed at baseline, a total of 1,003 were also interviewed at endline, with 354 (26 per cent) lost to follow-up. The reasons for this were varied *(see Table 3.1)*. Among the known reasons, the majority had moved out of the household, while a number were also away temporarily for work or to visit relatives and friends. Only three refusals were recorded and 30 were omitted from the survey as they were discovered to have been incorrectly included at baseline due to incorrect age.

Table 3.1. Reason not interviewed among youth lost to follow-up

	N	Percentage
Visiting relatives/friends	31	8.76
Temporarily away for school	4	1.13
Temporarily away for work	35	9.89
Refusal	3	0.85
Incorrect age	30	8.47
Deceased	1	0.28
Moved out of household	64	18.08
Other (specify)	18	5.08
Reason unknown	168	47.46
Total	354	100

Attrition is a concern for longitudinal evaluations because 1) decreases in the sample size lead to less accurate estimates of programme impact and 2) attrition could potentially introduce bias into the sample.

There are two types of attrition that are of concern for longitudinal studies: differential and overall. Overall attrition refers to the change in the total share of observations from baseline to the follow-up surveys, regardless of treatment status. Although overall attrition decreases the total sample size and thus can lead to a less accurate estimate of programme impact, it does not necessarily reduce the study's internal validity. Differential attrition occurs when those who are lost at follow-up are different in terms of basic characteristics between treatment and control samples. This is a problem because differential attrition can reduce or eliminate the balance between the treatment and control groups that was achieved at baseline through the randomization process. It is also a concern because it can change the characteristics of the remaining sample of analysis, which in turn renders it less representative of the original population. This means the internal validity of the study is threatened, as treatment and control groups may no longer be equivalent and the study population is no longer representative of the sampled population. Ideally, both types of attrition should be avoided.

As previously stated, the overall attrition for the study is 26 per cent. To investigate if this attrition is differential between study arms, we run a simple cross-sectional regression with an indicator for a youth lost at follow-up as the dependent variable and treatment dummy as the independent variable. We control for district fixed effects and cluster standard errors at the community level. A significant treatment dummy in this regression would suggest that there is differential attrition by treatment status. However, we did not find this to be the case (p-value 0.903).

Second, we examine differential attrition by background characteristics of the sample. To do this we run similar regressions as above, using a treatment dummy to predict each characteristic among the sample lost to follow up. We examine the p-value of the coefficient on the treatment variable to see if the sample lost to follow-up varied significantly by programme arm in predicting the characteristic. We look at youth characteristics, household demographics, housing characteristics, and wealth and food security indicators at baseline. Among 29 characteristics, we found no differences between treatment and control groups lost to follow-up using a cut-off of p-value<0.05 *(see Table B.1, Column 7 in Appendix B)*. We also provide mean descriptive statistics for treatment and control arms by attrition status and mean tests to reconfirm balance of the analysis sample (Column 9), and we find only one difference between panel treatment and panel control, wherein panel youth are less likely to have been living in a household with an improved floor at baseline. These results suggest that according to background characteristics there is no differential attrition in the analysis sample.

In addition to the background characteristics for the youth sample, we also provide the same analysis for the sample of children utilized in the education analysis (presented in Section 5.1.1). We do not find statistically significant differences at the p<0.05 level between children in the treatment and control groups, indicating that as for youth sample, there is no differential attrition in the child sample (see Table B.3, Columns 7 and 9 in Appendix B).

4. RESULTS: DESCRIPTION OF STUDY COMMUNITIES

This study is set in eight districts that span across Tanzania. With the exception of Kahama and Mbogwe, which are both part of Geita region, each district is in a different region of the country. This expansive geographical range has the potential to result in varying community characteristics throughout our sample. Therefore, to provide some context for our study we administered community surveys at both baseline and endline. Additionally, since community characteristics could potentially moderate how the programme impacts outcomes on youth and given that imbalances on these characteristics could affect our impact estimates, we performed balance tests on a number of community characteristics at baseline, finding that treatment and control communities were indeed similar. Team supervisors and assistant supervisors implemented the survey to community leaders and other knowledgeable community members. The community survey collects information on access to key services, occurrences of recent positive and negative shocks, and information about the PSSN activities in the community. Although 84 communities are in the youth evaluation sample, survey data is missing from one community at endline.

Table 4.1 lists the number of communities within each district for those in the control arm and for those enrolled in the PSSN, by type of treatment. This differs slightly from baseline. Four communities in Misungwi were set for CCT plus PWP, but only three communities received the public works. Further, in two communities in Kisarawe the treatment status was switched during implementation (one listed as control was actually treatment, and vice versa). In the sample, more communities are part of the PSSN programme (48) than not (36). However, each district has some communities in each arm, and each district has some communities in either the CCT only treatment arm or the CCT plus PWP treatment arm.

Table 4.1. Number of communities, by district and treatment status

	Control	CCT Only	CCT plus PWP	Total
District				
Handeni	5	3	2	10
Kisarawe	5	4	2	11
Kilosa	5	3	2	10
Itilima	3	4	3	10
Kahama	3	4	3	10
Mbogwe	5	3	2	10
Uyui	5	3	2	10
Misungwi	5	5	3	13
Total	36	28	20	84

4.1 Access to services and facilities

Table 4.2 shows community access to markets, health facilities, schools and asphalt roads for all communities in the sample. Accessibility to basic services not only affects the pathways through which regular cash payments can impact households and youth but, in the case of conditionalities related to health and education, not having access to certain services can diminish the size of the transfer, making accessibility indicators especially relevant to interpreting programme impacts.

A community's access to markets can affect the pathway of the CCT intervention for the households living in the community. Regular access to food, agricultural inputs and sale outlets may moderate the impact the cash will have on purchases and spending. One in four communities surveyed has a weekly market, while only 6 per cent has a daily market. Fewer communities reported having markets at endline as compared to baseline, and this may partly be related to seasonal changes since the time of year differed between surveys. On average, communities are 10 km away from the nearest market.[18]

Access to primary and secondary schools may influence whether youth are able to meet conditions of the PSSN regarding school enrolment and attendance. Information was collected on accessibility to both primary and secondary government schools. Eighty per cent of communities have a primary school within the community, with the nearest primary school less than half a kilometre away. Access may also differ greatly on a household level, particularly if communities span large distances. However, just 16 per cent of communities report having a government secondary school. On average, children must travel an 11 km round trip from the community they live in to get to a government secondary school.

The PSSN also has conditions regarding health care for young children, making access to health care another important factor for programme implementation and impacts. One in five communities has a health clinic or facility within the community. The nearest facility is located, on average, about 4 km away. However, nearly three quarters of all communities have access to medicine, with the nearest place to purchase medicine being, on average, 2.3 km away. These indicators are all very similar to baseline, although more communities have access to medicine at endline.

Even when travelling small distances, uneven or treacherous terrain can result in difficulty accessing key goods and services such as markets, schools or health facilities, particularly when travelling with young, elderly or disabled household members. Very few communities reported having a tar/asphalt road (8 per cent), which is much lower than at baseline, and the distance to the nearest paved road is 27 km, on average.

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18   The distance to services/facilities is zero for communities with service or facility within community.

Table 4.2. Community access to services and facilities, endline

	Mean
Markets	
Has weekly market	0.23
Has daily market	0.06
Has any market	0.25
Distance to nearest market	10.32
Schools	
Has Government primary school	0.80
Distance to Government primary	0.42
Has Government secondary school	0.16
Distance to Government secondary	5.55
Health services	
Has health clinic	0.23
Distance to health clinic	4.36
Medicine available for purchase	0.72
Distance to medical supplies	2.29
Roads	
Has tar/asphalt road	0.08
Distance to nearest road	27.48
N	83

Notes: Distances are shown in kilometres and replaced with zero when service is located within the community. Some indicators have different N.

4.2 Shocks

Table 4.3 shows the proportion of communities that report shocks, both negative and positive, which occurred during the year prior to the survey. Negative shocks in the community, such as drought or flooding, can increase a household's vulnerability to negative health and well-being outcomes. Conversely, positive shocks, such as improved transportation, can increase opportunities or well-being of households which, in turn, can increase positive outcomes. Every community reports at least one negative shock within the year prior to the survey, with the most common being sharp changes in prices (90 per cent), drought (86 per cent) and crop disease (80 per cent). These are all closely connected with income generating activities and food production. Positive shocks are less common, with 80 per cent of communities having experienced a positive shock in the past year. The most frequently reported positive shocks are off-grid electricity (39 per cent), development programmes implemented in the community (31 per cent), improved transportation (29 per cent) and a new road (whether paid or not; 28 per cent).

Table 4.3. Community shocks past 12 months, endline

	Mean
Any negative shock	1.00
Drought	0.86
Flood	0.11
Crop disease	0.80
Livestock disease	0.58
Human epidemic/disease	0.46
Sharp change in prices	0.90
Massive job lay-offs	0.05
Loss of key social services	0.19
Power outages	0.19
Any positive shock	0.80
New employment opportunity	0.07
New health facility	0.13
New road	0.28
New school	0.12
On-grid electricity	0.23
Off-grid electricity	0.39
Improved transportation	0.29
Development programme	0.31
N	83

In qualitative interviews, youths were asked whether their respective families' ability to buy food or other basic needs had changed at all over the past year. Consistent with quantitative findings, youths mentioned drought and price increases as factors that negatively affected food availability:

> "...we are currently experiencing a lot of price fluctuations for consumable goods where a price of 1kg of flour went up from Tsh.1200/= to Tsh.1800/=, thus we buy a quarter at 450/- and the price keeps going up every day. Another issue is drought unlike the previous year. When we grow crops, they dry and we end up losing the seedlings without anything and we have wasted our time." [20-year-old female, Kisarawe].

> "It has changed the past years; we used to have food all the time but since the end of last year the situation has changed we are not getting food easily because we didn't get enough farm products because of drought, the price of flour is rising every day, you go to the shop knowing that you will get two kilos as a result you get half of it." [17-year-old female, Handeni].

> "My family's ability to provide for food and other basic needs has far dropped, we experience a lot of challenges - no seasonal rains, overwhelming price inflation of food products, we are now buying 5kgs of maize at Tsh.4,800/=while in previous time it was only Tsh.2500/=. Casual labour has become scarce because most of the people have stopped farming because of drought, and few who decide to cultivate hire casual workers and pay them low wages." [16-year-old female, Misungwi].

"Last year was much better because the crops that we cultivated where not dried up by the sun; therefore we had enough food in storage for selling and for food. Last year we could afford our basic needs as a result of successful agriculture. Last year we managed to cultivate; rice, beans and groundnuts but this year all the crops where dried up by the sun, we only managed to cultivate maize and tobacco. Last year we could afford to buy peas and sardines but this year we cannot afford because we don't have money." [25-year-old female, Uyui].

4.3 PSSN committee

A new module was implemented at endline only, asking questions about PSSN activities and programme implementation. We looked at PSSN committee characteristics as well as information on compliance monitoring and frequency of on-time payments of the cash benefits. We restricted this information for those who reported having PSSN in their community and who receive benefits according to TASAF.

Table 4.4 shows the characteristics of the PSSN committee within the community, as provided by the community leaders/those most knowledgeable about the PSSN activities. Each committee typically has about 15 members, with one in three members female. Eleven per cent are headed by a female chairperson and the same proportion report that some committee members also receive PSSN benefits. The average and median year of establishment is 2015.

Table 4.4. PSSN committee characteristics

	Mean
Number of members	14.67
Number members female	5.60
Committee chairperson female	0.11
Proportion receiving PSSN	0.11
Year committee established	2,015.16
N	45

Notes: Some indicators have different N.

As mentioned previously, along with an unconditional lump sum payment, the PSSN CCT grants supplement payments to households meeting certain health and education requirements, namely education requirements for both primary and secondary school attendance and health checks for children under five. The PSSN committee responsibilities include monitoring whether PSSN beneficiaries are following these requirements in order to continue receiving payments.

Table 4.5 provides information on if and how often the PSSN committee monitors these requirements. Most (90 per cent) report monitoring for education compliance and slightly fewer (84 per cent) report regularly monitoring households for health compliance. Nearly all communities which report regular monitoring of educational compliance monitor every two months or less, with just 7 per cent reporting a gap of three or more months between monitoring. The health compliance monitoring is slightly less rigorous, with 16 per cent of those reporting health monitoring doing so at intervals of more than three months.

Table 4.5. PSSN compliance indicators

	Mean
Monitors education compliance (1/0)	0.89
Frequency of monitoring education compliance	
Monthly	0.45
Every two months	0.47
Three plus months	0.07
Monitors health compliance (1/0)	0.84
Frequency of monitoring health compliance	
Monthly	0.47
Every two months	0.37
Three plus months	0.16
N	45

Notes: Some indicators have different N.

Regularity of payments can impact how households use the cash provided by the PSSN. Missed or inconsistent payments may affect income-generating activities, may result in missed payments for school enrolment fees or educational purchases, and can reduce consumption of basic needs. As shown in table 4.6, the majority of payments are always or usually made on time. However, almost one in four communities report that payments are never or almost never made on time.

Table 4.6. Frequency of on-time payments of PSSN benefits

	Mean
Always	0.38
Usually	0.27
About half the time	0.04
Less than half the time	0.09
Almost never	0.16
Never	0.07
N	45

5. RESULTS: HOUSEHOLD- AND INDIVIDUAL-LEVEL IMPACTS

5.1 Children's and youths' education, economic activities and household chores

This section describes the impact of the PSSN on child and youth education, economic activities and household chores. First, we consider the sample of children aged 4 to 16 years at baseline (approximately 5 to 17 at endline), then we focus on the sample of youths aged 14 to 28 at baseline (mostly 15 to 30 at endline).

All results presented in this section have been obtained using data from the household questionnaire, in which the main respondent is asked to provide education and labour information about all household members.

The household questionnaire was administered in the same eight mainland districts covered by the youth questionnaire (Handeni, Kisarawe, Kilosa, Itilima, Kahama, Mbogwe, Uyui and Misungwi) and in Zanzibar (Unguja). Hence, the analysis presented in this section is based on a sample of households from a wider geographical area than the remaining youth results presented in this report.

The education module of the household questionnaire asked about all household members aged 5 to 31 years and included a range of questions regarding, for instance, school attendance, highest grade completed and hours spent on homework or studying during the week before the interview. The labour module included information on economic activities during the year before the interview and during the week before the interview for all household members aged five years and older. Information on household chores during the day before the interview was also collected. For children up to age 17, the questionnaire also included information on exposure to work-related hazards and illnesses/injuries suffered in relation to the activities performed during the week before the interview. In this first sub-section, we start by reporting estimates of programme effects on children's education. Then, we assess impacts on child economic activities and household chores. Finally, we analyse impacts on child labour as defined in Tanzania's legislation and international conventions.

We focus on the sample of children who were present in the household both at baseline and at endline.[19] Table B.2 in Appendix B shows that the attrition rate was not affected by the programme. The study retention rate was approximately 82 per cent in the control group and not significantly different in the treatment group. Moreover, as shown in Table B.3, there are no substantive differences in the baseline characteristics of children from control and treatment villages in our sample.[20] Together, these findings give us confidence that the experimental panel sample can be used to obtain a reliable estimate of the effects of the PSSN on children's education and work.

5.1.1. Child education

In mainland Tanzania, the education system includes two years of preschool education (starting at age five), seven years of primary education (starting at age seven), four years of lower secondary education (starting at age 14) and two years of upper secondary education (starting at age 18). Primary and lower secondary education are mandatory and free. However, families still incur significant costs for their

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19 Out of a total of 4,134 children aged 4 to 16 years at baseline, 3,360 (81 per cent) were present at endline.

20 Table B.3 in Appendix B shows that attritors and panel children *are* significantly different at baseline, both in the control group (columns 1–3) and in the treatment group (columns 4–6). However, within the sample of children who attrit, we do not find statistically significant differences between treatment and control children. The same holds within the sample of panel children, which is the one we use in the econometric analysis.

children's education. These costs mainly relate to uniforms, transport to school and school lunches.[21]

Our analysis considers six education outcomes: 1) whether the child currently attends school; 2) whether the child can read and write; 3) highest grade of education completed; 4) whether the child attended school regularly during the week before the interview, defined as a binary variable equal to one if the child attended school on all days his/her school was open during the week before the interview (only for children attending school at the time of the interview); 5) whether the child spent at least one hour on homework or studying during the week before the interview; and 6) whether the child dropped out of school between baseline and endline (only for children who were attending school at baseline).

We first turn to school attendance and literacy. These outcome variables are observed both at baseline and at endline, allowing us to use a DD estimation strategy. Figure 5.1 represents lowess smoothed graphs of children's school attendance by treatment status at baseline (left panel) and endline (right panel). School attendance has an inverted U-shaped relationship with age and peaks around age 11, when it reaches about 90 per cent. At baseline, school attendance of children in the treatment and control groups mostly overlaps. At endline, children in the treatment group have higher school attendance than children in the control group across all ages, indicating that the PSSN had a beneficial effect on school participation.

Figure 5.1. Child school attendance by treatment status and interview wave
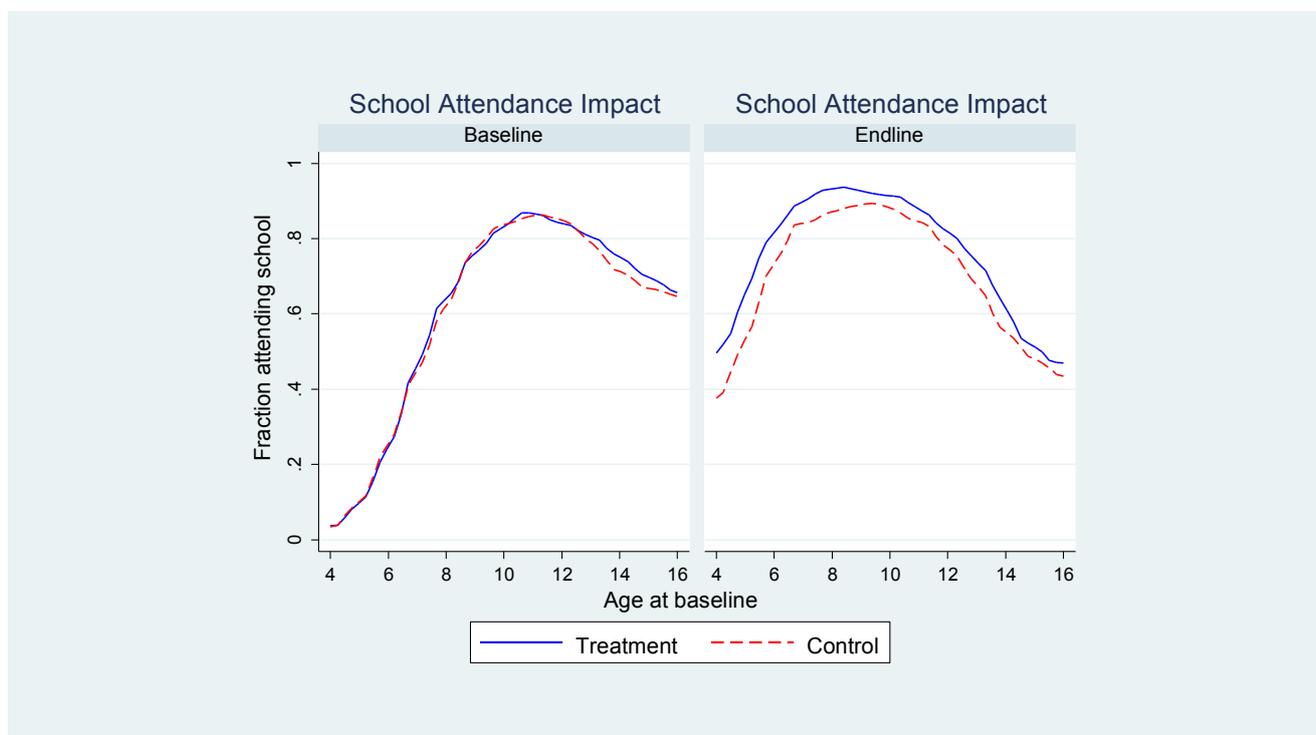
Accordingly, our estimates show that the programme had a positive impact on school attendance. Difference-in-differences estimates in column (1) of Table 5.1 indicate that the PSSN increased the probability that children attend school by about 5 percentage points (pp) on average, which represents a 7 per cent increase over the control group average of 70 per cent at endline. Similarly, the PSSN increased the probability that children can read and write by about 6 pp, which represents a 10 per cent increase over the control group average of 55 per cent at endline.

Table 5.1. PSSN impacts on child education (age 4–16 at baseline)

	PSSN	Baseline	Endline	Endline
	Impact	Treatment Mean	Treatment Mean	Control Mean
	(1)	(2)	(3)	(4)
Currently attending school	0.052*	0.572	0.767	0.703
	(2.099)			
Can read and write	0.055*	0.411	0.613	0.548
	(2.252)			
N	6,720	1,937	1,937	1,423

Notes: Linear probability models were estimated using difference-in-differences and individual-level fixed effects on the panel of individuals interviewed both at baseline and endline. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *$p<0.05$, **$p<0.01$.

Table 5.2 reports results for these same outcome variables by gender.

Although PSSN impacts on school attendance and literacy are statistically significant for only one gender group (boys and girls respectively), the difference in the size of the point estimates for the two groups is limited. We therefore cannot conclude that the PSSN had a differential impact on boys or girls. Impacts on literacy and school attendance appear stronger for younger children aged 4 to 10 years at baseline, i.e. children of primary school age (*see Table 5.3*)[22], although differences in programme impacts on attendance and literacy by age group are not statistically significant.[23]

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22   Our choice of the specific age groups is consistent with international conventions. We consider the age groups 4 to 10 years and 11 to 16 years at baseline. At endline, children in the first age group are mostly younger than 12 years, which is the minimum working age according to ILO Convention No. 138.

23   We find similar results for subsamples by highest grade of education completed at baseline. Impacts on attendance appear stronger for the subsample of children who completed no education or some primary education compared to children who completed primary or some secondary education, but again the difference is not statistically significant (results not shown).

Table 5.2. PSSN impacts on child education (age 4–16 at baseline), by gender

	PSSN Impact	Baseline Treatment Mean	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)	(4)
Females				
Currently attending school	0.032	0.592	0.777	0.740
	(1.032)			
Can read and write	0.054*	0.435	0.620	0.563
	(2.105)			
N	3,298	971	971	678
Males				
Currently attending school	0.072*	0.552	0.758	0.668
	(2.263)			
Can read and write	0.058	0.388	0.606	0.534
	(1.710)			
N	3,422	966	966	745

Notes: Linear probability models were estimated using difference-in-differences and individual-level fixed effects on the panel of individuals interviewed both at baseline and endline. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01.

Table 5.3. PSSN impacts on child education (age 4–16 at baseline), by age group

	PSSN Impact	Baseline Treatment Mean	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)	(4)
Age 4–10 at baseline				
Currently attending school	0.059*	0.449	0.804	0.728
	(2.033)			
Can read and write	0.074*	0.208	0.476	0.392
	(2.545)			
N	4,240	1,227	1,227	893
Age 11–16 at baseline				
Currently attending school	0.035	0.785	0.704	0.660
	(1.329)			
Can read and write	0.020	0.763	0.849	0.811
	(0.638)			
N	2,480	710	710	530

Notes: Linear probability models were estimated using difference-in-differences and individual-level fixed effects on the panel of individuals interviewed both at baseline and endline. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01.

In qualitative interviews, respondents reported improvements in the availability of basic school needs such as uniforms, exercise books and shoes, which had constrained school attendance before the programme:

> "My young brothers were having problems to attend school because they had no uniforms and exercise books, but now they attend school without any problems." [19-year-old male, Mbogwe]

> "Through that money my family has succeeded to save some amount but I don't know how much to reach our goals which was not possible in the previous time and every time when we receive money I'll hear my mother insisting on saving some amount so as to fulfil our needs such as renting land for farming, uniforms; exercise books, shoes and pen for the school children so that they don't miss school like how it used to be in the previous time." [21-year-old female, Misungwi]

> "There were many changes and the great changes were on the academic side for which my sister's kids managed to attend school without a problem and there was food for the entire period. Just as I mentioned about school, things like uniforms, shoes and other school requirements were solved using that money… Also at school there are normally other things that we are expected to go with; such as brooms and buckets for which that money helped to acquire." [17-year-old female, Kisarawe]

> "A lot of changes have been experienced, now I have money to buy clothes, school uniform for children, shoes, exercise books, pens unlike previously." [30-year-old female, Itilima].

We also estimated PSSN impacts on attendance and literacy, by treatment arm. These regressions were estimated by including in the same equation the two different treatment variables: cash only and cash plus PWP. In Table 5.4, we observe minor differences between the estimated effects of cash only and cash plus PWP. However, these differences are not statistically significant, suggesting that the two treatments had a similar impact on school attendance and literacy.

Table 5.4. PSSN impacts on child education (age 4–16 at baseline), two treatment arms

	PSSN Cash	PSSN Cash & PWP	Baseline Cash	Baseline Cash & PWP	Endline Cash	Endline Cash & PWP	Endline
	Impact	Impact	Treatment Mean	Treatment Mean	Treatment Mean	Treatment Mean	Control Mean
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Currently attending school	0.060	0.043	0.558	0.590	0.760	0.776	0.703
	(1.776)	(1.502)					
Can read and write	0.039	0.077**	0.407	0.416	0.592	0.639	0.548
	(1.265)	(2.900)					
N	6,720	6,720	1,102	835	1,102	835	1,423

Notes: Linear probability models were estimated using difference-in-differences and individual-level fixed effects on the panel of individuals interviewed both at baseline and endline. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01.

Next, we report the estimated impact of PSSN on the remaining education outcomes. Data on these additional education outcomes were only collected at endline, so for these outcomes we used a simple cross-section estimation comparing children in treatment and control groups at endline. Table 5.5 reports our findings for the whole sample, showing that the PSSN significantly increased the probability that children spent at least one hour studying during the week before the interview. There also appears to be an increase in the highest grade of education completed, although this impact is not statistically significant. Other outcomes are not significantly affected, although the table shows a negative relationship between the PSSN and the probability that children dropped out of school during the time interval between baseline and endline.[24]

Table 5.5. PSSN impacts on child education, additional outcomes (age 4–16 at baseline)

Dependent Variable	PSSN Impact	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	
Highest grade of education completed	0.196	3.504	3.201
	(1.951)		
Attended school regularly, past week	-0.004	0.831	0.834
	(-0.149)		
Spent at least one hour studying, past week	0.057*	0.301	0.256
	(2.356)		
Dropped out of school between baseline and endline	-0.019	0.116	0.137
	(-0.913)		
N	3,360	1,937	1,423

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Regressions include age, sex and district fixed effects. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. Regular school attendance results are based on the sample of children who were attending school at the time of the interview and whose school was open at least one day during the week before the interview (N=1,896). School dropout is defined as a binary variable equal to one if the child dropped out of school between baseline and endline (only for children who were attending school at baseline, N=1,905). *p<0.05, **p<0.01

Impacts on these education outcomes are comparable for the male and female sample *(see Table C.1 in Appendix C)*. As for school attendance and literacy, we find positive and statistically significant PSSN effects on education outcomes for younger children, but again differences in impacts by age group are not statistically significant *(see Table C.2 in Appendix C)*.

Finally, the estimated coefficients for the two treatments are not significantly different for children living in villages receiving cash transfers only and children living in villages receiving cash plus PWP, except for the school dropout outcome *(see Table C.3 in Appendix C)*. Children in villages receiving cash and PWP are 6 pp less likely to have dropped out of school between baseline and endline, a 40 per cent reduction in dropout compared to the control group average. We did not find any significant impact of cash only on school dropout.

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24 Most dropouts abandoned school after completing primary school (57 per cent). The endline questionnaire also collected information on the reasons why children did not continue their education. The most frequently reported reasons are 'Failed promotion exam' (reported for about 30 per cent of dropouts); 'No money for fees/uniforms' (13 per cent of dropouts); 'Not interested' (11 per cent); and 'Acquired all education wanted' (4 per cent). Other reported reasons include 'Illness or disability', 'Pregnancy' and 'Had to work or help at home'.

5.1.2. Children's economic activities

We now examine children's participation in the following economic activities: 1) farm work for the household (excluding livestock), 2) livestock herding for the household, 3) fishing for the household, 4) work in the household non-agricultural business, 5) paid work outside the household and 6) participation in the TASAF PWP. Detailed data on children's economic activities are only available for the endline survey. Therefore, impacts on economic activities are analysed with a cross-section estimation.

Based on endline data for the control group, about 39 per cent of children participated in any economic activities during the year before the interview. Of the children who engage in economic activities, about half participated in two or more of the examined activities. The most commonly reported activity is farm work for the household (excluding livestock), followed by livestock herding for the household, and paid work outside the household. It is not common for children to work in a household non-agricultural business or to fish for the household and, as expected, participation in the PSSN PWP is zero in the control group.

Figure 5.2 shows the fraction of children who participated in any economic activities during the year before the endline survey by age. The trends reported in this graph mainly follow the trends in farm work for the household given that, as above mentioned, this is the most commonly reported activity for children. The graph shows participation rates for the treatment group (solid line) and the control group (dashed line). The rate of participation in economic activities increases with age, from about 10 per cent at age 5 (age 4 at baseline) to about 60 per cent at age 17 (age 16 at baseline) in the control villages. Differences between treatment and control groups are limited at younger ages, while older children in the treatment group are less likely to have participated in economic activities during the year before the survey than children in the control group.

Figure 5.2. Child participation in economic activities, past year at endline
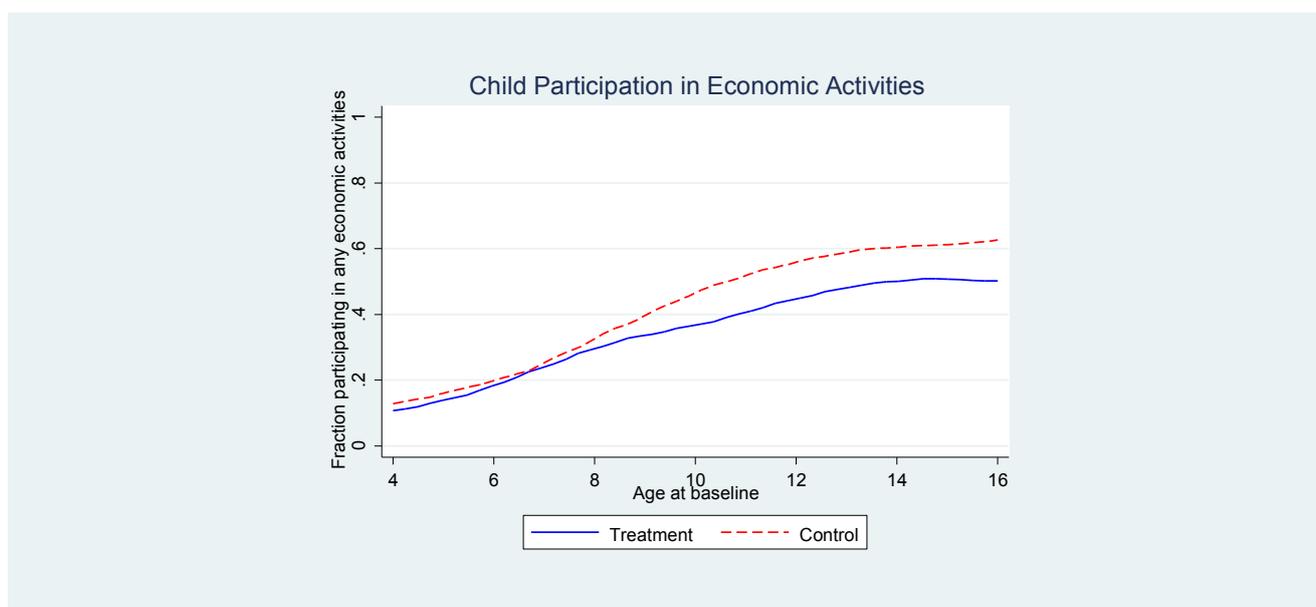
Considering the different types of economic activities separately, we find that the programme induced a shift from paid work outside the household to work within the household. Table 5.6 shows that the probability that children participated in livestock herding for the household during the year before the survey is 4 pp higher in treated households than in control households, representing a 23 per cent difference over the control mean of 17 per cent. The probability that children participate in paid work outside the household, in contrast, is 2 pp lower for children in treatment households compared to children in control households, representing a 39 per cent difference over the control mean of 5 per cent.

To better interpret the above results, we estimated PSSN impacts on household livestock ownership. These estimates are reported in Table C.4 in Appendix C. The PSSN increased the probability that households (with children) own any livestock by 20.4 pp, representing a 47 per cent increase over the control group average at endline. Households mainly increased ownership of goats, sheep and pigs and ownership of chickens, pigeons, ducks and turkeys. In PSSN households, ownership of these livestock types more than doubled since baseline. We also estimated PSSN impacts on non-livestock farming activities during the last growing season and on household non-farm businesses during the 12 months before the interview. We did not find any statistically significant impact of PSSN on these outcomes (results not shown).[25] In short, the PSSN increased household investment in livestock (largely poultry) and induced children to participate in caring for the additional animals raised on the household farm.

Children in treatment households are also significantly more likely to participate in the TASAF PWP as compared to children in control households. This result may seem puzzling since the minimum age for participating in PWP is 18 years. However, there are at least three factors which may explain this result. First, age may have been measured with some error in the household survey, so that our sample may include some individuals aged 18 years and above. Second, age rules may not have been strictly followed in public works' implementation and hence some children under the age of 18 may participate in PWP activities. This is an issue we have not been able to confirm but also cannot rule out. Finally, respondents may be reporting participation in employment-related schemes other than the TASAF PWP, as they may not be aware of the differences. These other similar programmes may be associated with different age restrictions.

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25 For household farming activities, we consider the following outcomes: whether the household owned/operated any land; number of plots owned/operated; whether the household made any improvement on land; value of land in thousands of TZS; and whether the household obtained any revenues on land. For household non-farm businesses, we consider the following outcomes: whether anyone in the household owned/operated any non-farm business; number of non-farm businesses owned/operated; revenues from the primary business in thousands of TZS; and total revenues from non-farm businesses in thousands of TZS.

Table 5.6. PSSN impacts on child participation in economic activities, past year (age 4–16 at baseline)

	PSSN Impact	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)
Any economic activities	-0.007	0.324	0.386
	(-0.399)		
Farm work for the household, excluding livestock	-0.003	0.297	0.351
	(-0.148)		
Livestock herding for the household	0.037*	0.188	0.168
	(2.269)		
Fishing for the household	0.002	0.005	0.004
	(0.912)		
Household business	-0.005	0.008	0.013
	(-1.288)		
Paid work outside the household	-0.022*	0.029	0.054
	(-2.614)		
TASAF Public Works Program	0.009**	0.010	0.000
	(3.571)		
N	3,360	1,937	1,423

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Regressions include age, sex and district fixed effects. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01.

Table 5.7 presents results by gender. The reduction in participation in paid work outside the household is significantly stronger for males than females. This is because males are more likely to engage in work for pay to begin with. Overall, estimated PSSN impacts on child education and economic activities suggest that both males and females at least partly replace time spent in paid work outside the household with time spent in school, herding livestock for the household and working in the TASAF PWP. This substitution effect is significantly stronger for males, who are more likely than females to participate in paid work outside the household in the absence of the programme.

Table 5.7. PSSN impacts on child participation in economic activities, past year (age 4–16 at baseline), by gender

	PSSN	Endline	Endline
	Impact	Treatment Mean	Control Mean
	(1)	(2)	(3)
Females			
Any economic activities	0.003	0.316	0.367
	(0.126)		
Farm work for the household, excluding livestock	0.004	0.296	0.342
	(0.149)		
Livestock herding for the household	0.039*	0.174	0.149
	(2.096)		
Fishing for the household	0.003	0.003	0.000
	(1.729)		
Household business	-0.002	0.008	0.012
	(-0.434)		
Paid work outside the household	-0.009	0.029	0.038
	(-0.808)		
TASAF Public Works Program	0.008**	0.009	0.000
	(2.645)		
N	1,649	971	678
Males			
Any economic activities	-0.018	0.331	0.403
	(-0.895)		
Farm work for the household, excluding livestock	-0.009	0.298	0.360
	(-0.479)		
Livestock herding for the household	0.034	0.203	0.185
	(1.601)		
Fishing for the household	0.001	0.007	0.007
	(0.179)		
Household business	-0.008	0.007	0.013
	(-1.269)		
Paid work outside the household	-0.037**	0.030	0.068
	(-3.516)		
TASAF Public Works Program	0.010**	0.010	0.000
	(3.372)		
N	1,711	966	745

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Regressions include age, sex and district fixed effects. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01.

Table 5.8 reports estimated PSSN impacts by age group. Results indicate that the observed increase in livestock herding for the household is comparable across age groups, while impacts on participation in paid work outside the household and participation in the TASAF PWP are (not surprisingly) mainly associated with older children.

Table 5.8. PSSN impacts on child participation in economic activities, past year (age 4–16 at baseline), by age group

	PSSN	Endline	Endline
	Impact	Treatment Mean	Control Mean
	(1)	(2)	(3)
Age 4–10 at baseline			
Any economic activities	0.011	0.237	0.260
	(0.561)		
Farm work for the household, excluding livestock	0.017	0.215	0.228
	(0.861)		
Livestock herding for the household	0.034*	0.142	0.113
	(2.188)		
Fishing for the household	0.001	0.002	0.001
	(0.563)		
Household business	-0.003	0.002	0.003
	(-1.385)		
Paid work outside the household	-0.000	0.014	0.015
	(-0.007)		
TASAF Public Works Program	0.003	0.002	0.000
	(1.720)		
N	2,120	1,227	893
Age 11–16 at baseline			
Any economic activities	-0.034	0.473	0.598
	(-1.101)		
Farm work for the household, excluding livestock	-0.027	0.438	0.558
	(-0.915)		
Livestock herding for the household	0.044	0.269	0.260
	(1.486)		
Fishing for the household	0.004	0.011	0.008
	(0.653)		
Household business	-0.008	0.018	0.028
	(-0.894)		
Paid work outside the household	-0.057**	0.056	0.121
	(-3.026)		
TASAF Public Works Program	0.021**	0.023	0.000
	(3.187)		
N	1,240	710	530

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Regressions include age, sex and district fixed effects. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01.

As expected, impacts on child participation in the PWP are stronger in villages that were assigned to the cash plus PWP treatment arm and are not significant in the cash transfer only arm *(see Table 5.9)*. For the other outcomes, estimated PSSN effects are not significantly different between villages that received cash only and villages that received cash and public works.

Table 5.9 PSSN impact on child participation in economic activities, past year (age 4–16 at baseline), two treatment arms

	PSSN Cash only	PSSN Cash & PWP	Endline Cash only	Endline Cash & PWP	Endline
	Impact	Impact	Treatment Mean	Treatment Mean	Control Mean
	(1)	(2)	(3)	(4)	(5)
Any economic activities	-0.008	-0.007	0.324	0.322	0.386
	(-0.352)	(-0.301)			
Farm work for the household, excluding livestock	-0.001	-0.004	0.299	0.293	0.351
	(-0.035)	(-0.201)			
Livestock herding for the household	0.031	0.045*	0.182	0.196	0.168
	(1.678)	(2.352)			
Fishing for the household	0.003	0.000	0.006	0.003	0.004
	(1.206)	(0.103)			
Household business	-0.005	-0.005	0.007	0.008	0.013
	(-1.206)	(-1.086)			
Paid work outside the household	-0.020*	-0.024*	0.029	0.029	0.054
	(-2.286)	(-2.454)			
TASAF Public Works Program	0.004	0.017**	0.003	0.017	0.000
	(1.728)	(3.468)			
N	3,360	3,360	1,102	835	1,423

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Regressions include age, sex and district fixed effects. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *$p<0.05$, **$p<0.01$.

We also estimated programme impacts on child economic activities during the week before the interview. In this case, we are able to assess both impacts on participation (extensive margin) and on hours worked (intensive margin). The estimated impact on participation in livestock herding for the household during the week before the interview is marginally statistically significant (p-value=0.071), consistent with the results presented above for activities during the year before the interview *(see Table 5.10)*. However, in contrast with the estimates presented before, we do not find any statistically significant impact of PSSN on child participation in paid work outside the household or on participation in the TASAF PWP. These differences in results could be driven by seasonality (PWP is implemented during the lean season), particularly for the PWP, which is only implemented at specific times in the year. In addition, we find no statistically significant impacts of the programme on hours worked by children *(see Table 5.11)*.

Table 5.10. PSSN impacts on child participation in economic activities, past week (age 4–16 at baseline)

	PSSN Impact	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)
Any economic activities	0.031	0.303	0.305
	(1.256)		
Farm work for the household, excluding livestock	0.022	0.255	0.263
	(0.899)		
Livestock herding for the household	0.037	0.142	0.105
	(1.826)		
Fishing for the household	0.011	0.045	0.024
	(0.666)		
Household business	0.010	0.053	0.032
	(0.617)		
Paid work outside the household	0.008	0.060	0.045
	(0.462)		
TASAF Public Works Program	0.011	0.045	0.024
	(0.655)		
N	3,360	1,937	1,423

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Regressions include age, sex and district fixed effects. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *$p<0.05$, **$p<0.01$.

Table 5.11. PSSN impacts on hours in economic activities by children, past week (age 4–16 at baseline)

	PSSN Impact	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)
Hours in any economic activities	0.101	4.187	4.588
	(0.215)		
Hours in farm work for the household, excluding livestock	0.169	2.791	3.219
	(0.434)		
Hours in livestock herding for the household	-0.086	0.793	0.835
	(-0.620)		
Hours in fishing for the household	0.032	0.069	0.030
	(1.531)		
Hours in household business	0.037	0.206	0.148
	(0.467)		
Hours in paid work outside the household	-0.080	0.255	0.327
	(-0.797)		
Hours in TASAF Public Works Program	0.031	0.073	0.029
	(1.424)		
N	3,360	1,937	1,423

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Regressions include age, sex and district fixed effects. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *$p<0.05$, **$p<0.01$.

Tables C.5–C.8 in Appendix C report programme effects on participation in economic activities and hours of economic activities during the week before the survey, by gender and age group. We do not find statistically significant gender differences in impacts, whereas we do find that programme effects on participation in any economic activities during the week before the interview are significantly stronger for younger children (aged 4–10 at baseline). This age difference in impacts appears to be driven by more pronounced programme effects on participation in livestock herding for the household for children in the younger age group.

5.1.3. Child participation in household chores

We also estimate PSSN impacts on child participation in household chores during the day before the interview. We consider the following household chores: 1) collecting water; 2) collecting firewood (or other fuel materials); 3) collecting nuts or other tree fruits (either for own household use and consumption or for sale); 4) taking care of children, cooking or cleaning; and 5) taking care of elderly or sick household members. As with economic activities, data on chores are only available at endline. Hence, our analysis is cross-sectional, comparing outcomes between children in treatment and control households at endline.

Based on endline data for the control group, about 55 per cent of children participated in any household chores during the day before the interview. Of these children, about two thirds participated in two or more of the measured household chores. The most commonly reported chore is collecting water (about 47 per cent of children engages in this activity). Collecting firewood and taking care of other children, cooking or cleaning follow (nearly 30 per cent of children). The fraction of children who took care of elderly or sick household members during the day before the interview amounted to 11 per cent, while about 8 per cent collected nuts or other tree fruits.

As expected, girls are significantly more likely than boys to perform any household chores. Based on endline averages for the control group, about 62 per cent of girls and 49 per cent of boys performed any household chores during the day before the interview. Except for collecting nuts and other tree fruits, all types of household chores are more prevalent among girls than boys. The type of household chore showing the greatest gender difference is taking care of children, cooking and cleaning. About 37 per cent of girls and 20 per cent of boys were engaged in this activity during the day before the interview.

In qualitative interviews, all female youths including those still in school described their typical day as starting with household chores such as cleaning and fetching water.

> "When I wake up in the morning I sweep the house, I wash the utensils and then I go to the farm to cultivate cassava and groundnuts. When I come back I prepare lunch then take a rest. When I wake up I prepare supper and fetch water. The challenge that I encounter is that the time I have to do my daily activities is not enough, if I could have got enough time I would have managed to do all my activities on time and have more time to rest." [17-year-old female, Kahama].

> "I normally wake up at 6:00 a.m., I take bath, brush my teeth, clean the house, wash clothes, make porridge for my child so that when she gets up, she finds her breakfast ready. I also fetch water, cook for my family and take a one hour rest when there is nothing to be done." [30-year-old female, Kisarawe].

"I usually wake up at 6:00 a.m., the first thing I attend to is general house cleaning, then I go to fetch water for home use, I wash utensils then I go out for shamba work till noon after which I return home to prepare lunch for the kids. Often, I rest from 1:00 p.m. to 2:00 p.m., then at 3:00 p.m. I go for other activities after lunch." [30-year-old female, Itilima].

"I wake up in the morning first of all before going to school we have time to pray, then we clean the house and the surrounding environment, wash dishes and we prepare ourselves ready for going to school. We are two girls here so we organize ourselves and divide the activities in the morning accordingly. When we get back from school we have to do laundry and also we go to our sister's house to help her to cook food for her husband, she is gone for mourning. We also use this time after school to prepare juice and cakes for selling. This business also is not ours. The business is owned by our sister. Today we managed to prepare about 105 cakes and 86 packets of juice for her. As you see my young sister Nasra went to sell it." [Female, age unknown, Kilosa].

Figure 5.3 represents children's participation in any household chores during the day before the interview, by treatment status. The trends reported in this graph mainly follow those observed for collecting water— the most commonly reported chore for children. Participation in household chores increases with age, at a diminishing rate. Participation in household chores is not substantially different between children in the treatment and control groups.

Figure 5.3. Child participation in household chores, by age and treatment status
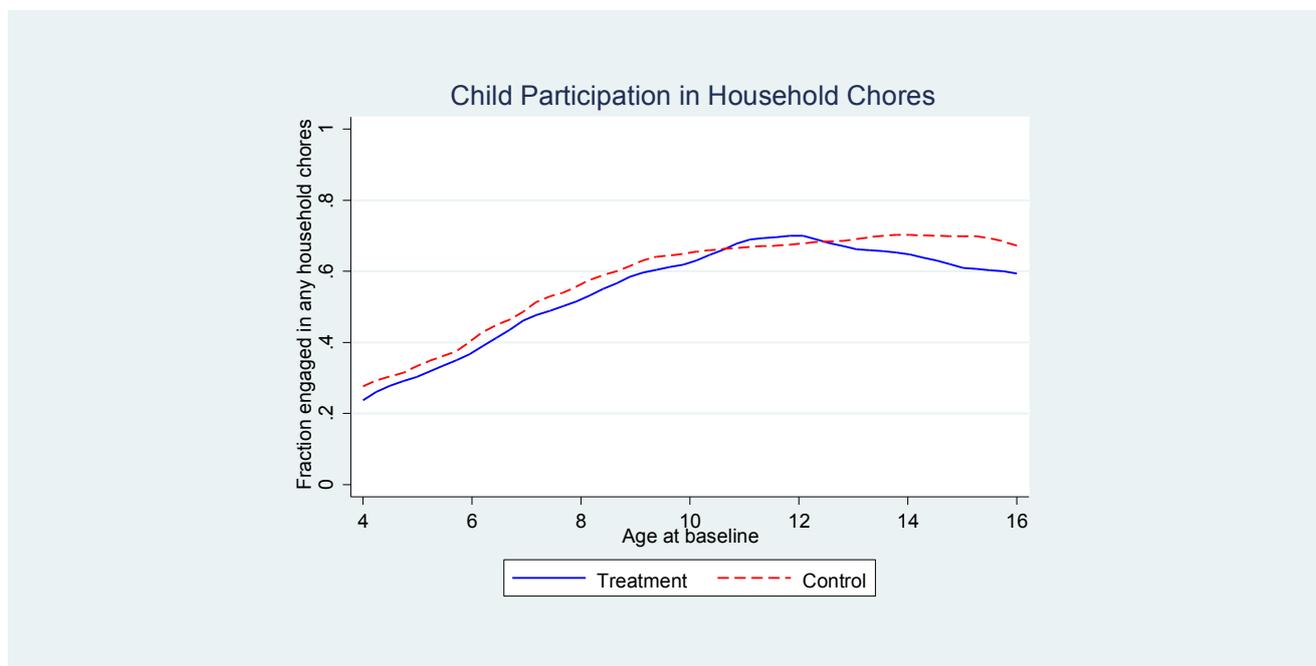
Table 5.12 reports the estimated effects of the PSSN on child participation in household chores during the day before the interview. We do not find any statistically significant effect of the programme on child participation in household chores overall or on participation in any of the considered chores. The same holds when estimating programme impacts on participation in household chores by gender and age group *(see Tables C.9 and C.10 in Appendix C).*

Table 5.12. PSSN impacts on child participation in household chores, past day (age 4–16 at baseline)

	PSSN Impact	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)
Any chores	0.000	0.524	0.550
	(0.017)		
Collecting water	0.001	0.449	0.469
	(0.044)		
Collecting firewood	0.021	0.294	0.287
	(0.844)		
Collecting nuts	0.027	0.097	0.079
	(1.427)		
Taking care of children, cooking or cleaning	0.011	0.279	0.278
	(0.485)		
Taking care of elderly or sick	0.025	0.130	0.112
	(1.056)		
N	3,360	1,937	1,423

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Regressions include age, sex and district fixed effects. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01.

In Appendix C, we also report the estimated impact of PSSN on hours spent in household chores during the day before the interview. When considering the full sample of children, we do not find any statistically significant impact *(see Table C.11)*. The same holds when separating younger and older children *(see Table C.13)*. When we separate males and females, we do find a statistically significant impact of the programme on hours spent in collecting nuts or other tree fruits for females only, but this gender difference in impacts is not statistically significant *(see Table C.12)*.

5.1.4. Child labour

To some extent, children's engagement in economic activities and household chores can have positive consequences for children, such as increased material well-being, on the job learning, and pride and responsibility from making a positive contribution to the household. In contrast, child labour refers to activities that can be harmful for the child, either because they entail some hazards or because the child works for an excessive number of hours or below the minimum working age. We define child labour as follows.[26]

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26 The Tanzania Law of the Child 2009 sets the minimum working age at 14 years, but allows children to do 'light work.' According to international conventions, the minimum age for light work is 12 years (ILO Convention N. 138, Article 7). Therefore, participation in economic activities (for any amount of time) performed below age 12 is considered child labour. In our definition, we also take into account the amount of time spent in household chores. All considered hour thresholds are in accordance with standard international practice (ILO. *Report III: Report of the Conference*. ICLS 19th Conference, 2013).

1. For activities within the general production boundary (economic activities or household chores per week), child labourers include:

   - Children 5 to 11 years of age who spent one hour or more in economic activities, or 20 hours or more in household chores;

   - Children 12 to 13 years of age who spent 14 hours or more in economic activities, or 20 hours or more in household chores;

   - Children 15 to 17 years of age who spent 40 hours or more in economic activities, or 40 hours or more in household chores;

2. Any child below the age of 18 who is engaged in hazardous activities (hazardous sectors or occupations or work under hazardous conditions) is classified as a child labourer.

We also consider an alternative definition of child labour, which is equivalent to the above for children aged 5 to 11 years, but combines hours in economic activities and household chores for older children. In this definition, the thresholds for the combined amount of time spent in economic activities and household chores are 28 hours for children aged 12 to 13 years and 40 hours for children aged 15 to 17 years.[27]

Questions on hazardous activities were asked about any child below age 18 who performed any economic activities during the week before the interview or any household chores during the day before the interview. We consider nine types of hazards. These include five hazards tested extensively by the UNICEF Multiple Indicator Cluster Survey team (e.g. carrying heavy loads; working with dangerous tools; exposure to dusts, fumes or gases; exposure to extreme cold, heat or humidity; exposure to loud noise or vibration), plus other hazards considered by Tanzania's legislation (work on bodies of water, such as seas, lakes or rivers; work at night; exposure to bullying, intimidation and violence; work in bars, hotels and places of entertainment).[28] We also collected information on whether the child suffered any injuries/illnesses and on the number of days of daily activities missed due to the most serious of these injuries/illnesses, if any occurred.

Approximately 39 per cent of children in the control group engage in activities that can be defined as child labour. About a third of children carries out economic activities below the minimum working age or engages in excessive working hours. About 15 per cent of children engage in hazardous economic activities and household chores. The most common hazards include carrying heavy loads (10 per cent in the control group), working with dangerous tools (8 per cent), exposure to dust, fumes or gas (7 per cent), and exposure to extreme heat, cold or humidity (4 per cent). According to results in Table 5.13, PSSN did not have any statistically significant effect on the prevalence of child labour or on the prevalence of excessive hours and hazardous activities, the only exception being work on water bodies. However, the prevalence of working on bodies of water is approximately 1 per cent of the sample, so that this impact is unlikely to represent a relevant hazard for children.

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27 These thresholds follow recommendations from Dayo Iu, 'Impact of Unpaid Household Services on the Measurement of Child Labor', MICS Methodological Papers No. 2, Statistics and Monitoring Section, Division of Policy and Strategy, UNICEF New York, 2013.

28 Articles 78 and 82 of the Law of the Child 2009 (Annex 3).

Table 5.13. PSSN impacts on child labour (age 4–16 at baseline)

	PSSN Impact	Endline Treatment Mean	Endline Control Mean
	(1)	**(2)**	**(3)**
Child labour	0.027	0.386	0.389
	(1.288)		
Child labour (economic activities and chores combined)	0.021	0.375	0.381
	(0.988)		
Excessive hours or work below the minimum working age	0.036	0.328	0.323
	(1.588)		
Excessive hours or work below the minimum working age (economic activities and chores combined)	0.030	0.318	0.315
	(1.259)		
Any hazards	0.010	0.150	0.150
	(0.583)		
Carrying heavy loads	-0.004	0.098	0.103
	(-0.244)		
Work with dangerous tools	0.003	0.076	0.081
	(0.206)		
Exposed to dusts, fumes or gases	0.005	0.072	0.074
	(0.460)		
Exposed to extreme cold, heat or humidity	0.014	0.052d	0.039
	(1.490)		
Exposed to loud noise or vibrations	0.002	0.005	0.004
	(0.712)		
Work on water bodies (such as sea, lakes, rivers)	0.011*	0.016	0.006
	(2.393)		
Work at night	0.004	0.004	0.001
	(1.692)		
Exposed to bullying, intimidation or violence	0.001	0.003	0.001
	(1.059)		
Work in bars, hotels and places of entertainment	0.001	0.002	0.000
	(1.790)		
Ever hurt or suffered from illnesses/injuries, past week	-0.002	0.005	0.007
	(-0.920)		
Days of activities missed due to most serious illness/injury	-0.039	0.027	0.080
	(-1.197)		
N	3,360	1,937	1,423

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Regressions include age, sex and district fixed effects. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis.
*p<0.05, **p<0.01.

5.1.5. Youth education

In this section, we focus on education impacts for the sample of youth aged 14 to 28 years at baseline, the same age range examined in the remainder of this report. In the following section, we will assess impacts on youth economic activities and household chores.

While the majority of youth (approximately 80 per cent) can read and write, only a minority (approximately 20 per cent) were in school at endline. Moreover, the average number of grades completed is below seven (i.e. primary school level). This finding is in line with the results presented above, which show that school attendance rates peak at the age of 11 and then drop quite rapidly. Tables 5.14 and 5.15 report estimates of the impact of PSSN on youth education, showing that the programme did not affect education in the sample of youth. In other terms, a positive effect of the PSSN programme on education has only been verified for younger children. This finding is in line with expectations, given the higher opportunity costs of school attendance for youth (including returns on the labour market and the increased importance of child rearing) and the fact that PSSN schooling conditions only apply to children below age 18.

Table 5.14. PSSN impacts on youth education (age 14–28 at baseline)

	PSSN Impact	Baseline Treatment Mean	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)	(4)
Currently attending school	-0.004	0.306	0.187	0.190
	(-0.191)			
Can read and write	-0.013	0.802	0.800	0.765
	(-0.690)			
N	3,308	991	991	663

Notes: Linear probability models were estimated using difference-in-differences and individual-level fixed effects on the panel of individuals interviewed both at baseline and endline. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01.

Table 5.15. PSSN impacts on youth education, additional outcomes (age 14–28 at baseline)

	PSSN Impact	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)
Highest grade of education completed	0.172	6.667	6.324
	(0.706)		
Attended school regularly, past week	-0.053	0.829	0.882
	(-1.049)		
Spent at least one hour studying, past week	0.004	0.130	0.128
	(0.251)		
Dropped out of school between baseline and endline	0.067	0.465	0.436
	(1.613)		
N	1,654	991	663

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Regressions include age, sex and district fixed effects. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01.

However, qualitative interviews suggest that increased cash in the household can also have a positive impact on older youth in secondary school. For example:

> *"I have seen big improvements in my life and family as a whole. I have school uniforms, food and exercise books. I see myself as having someone to hold my hand and assist me, and for now I am hoping to study up to form six if TASAF will continue to release funds. As a family we own chickens and goats and we are planning to have more as assets. I am working hard in my class and I am sure I will perform well in my exams".* [17-year-old male, Itilima].

It is worth noting however, that the same youth mentioned abolition of school fees in secondary schools as another positive change for his schooling:

> *"I attended school very confidently last year; this was because of the President's decision on free education from primary to secondary school. Frankly speaking it was not easy for us to be able to pay for it. I am happy that God answered my prayers."* [17-year-old male, Itilima].

5.1.6. Youth economic activities and household chores

Table 5.16 presents estimated programme effects on youth participation in economic activities during the year before the interview. We again find that youth in recipient households are significantly more likely to participate in livestock herding for the household and to work in the TASAF PWP compared to youths in control households. These effects correspond to those documented for children but effects for youth are of higher magnitude. For example, we find that the transfer increases the probability of livestock herding for the household by 11 pp, corresponding to a 42 per cent increase over the control group at endline. Moreover, for youth we also find a positive and statistically significant impact of the transfer on participation in fishing activities for the household. We again find a negative relationship between the PSSN and participation in paid work outside the household. However, in the youth sample the estimated coefficient on paid work is not statistically significant.

Table 5.16. PSSN impact on youth participation in economic activities, past year (age 14–18 at baseline)

	PSSN Impact	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)
Any economic activities	0.025	0.662	0.667
	(0.947)		
Farm work for the household, excluding livestock	0.021	0.577	0.596
	(0.719)		
Livestock herding for the household	0.114**	0.376	0.271
	(4.200)		
Fishing for the household	0.022**	0.023	0.002
	(3.173)		
Household business	-0.017	0.075	0.094
	(-1.124)		
Paid work outside the household	-0.017	0.192	0.219
	(-0.885)		
TASAF Public Works Program	0.097**	0.106	0.003
	(5.750)		
N	1,654	991	663

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Regressions include age, sex and district fixed effects. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01.

Qualitative interviews affirm the findings on increased investment in livestock in PSSN households:

"The positive changes that we have had due to TASAF cash is that we bought five goats. One of the goats died in May when it was about to give birth therefore we remained with four goats. We also bought four chickens." [18-year-old female, Kahama].

"We have managed to buy three goats, school uniforms for my young siblings, food, furniture and hiring a two acre at TZS.50,000/= per acre for planting cassava." [21-year-old female, Misungwi]

"There are changes because after joining TASAF is when she bought goats, chicken and ducks, so if we don't have food we sell one of those to get money for buying food while waiting for the time of receiving money from TASAF. If we had enough rain we wouldn't have hunger problems, may be other problems like not having your own house, we could use the money that we are using to buy food for other needs like buying clothes." [17-year-old female, Handeni]

"The situation started to be good since our family started to receive TASAF cash in 2015, we buy food, we have bought corrugated iron sheets, and two houses have been roofed using corrugated iron sheets. We have bought three goats, five chickens, a bed and school children have got uniforms. The situation started to be good since 2015 when we started receiving TASAF cash." [19-year-old male, Mbogwe].

Results for the subsamples of males and females are reported in Table C.14 in Appendix C. Estimated programme impacts are not significantly different between males and females (with the exception of fishing). Next, we assess the separate impact of the two different PSSN treatments on youth participation in economic activities during the year before the interview. Results in Table 5.17 show that both treatment arms increased the likelihood that youth participated in livestock herding for the household. We observe the same pattern for fishing. As expected, we also find that the impact of PSSN on youth participation in the PWP is significantly higher (at the 1 per cent level) in cash-plus-PWP villages compared to the cash-only villages. The statistically significant impact of cash only on youth participation in PWP may be explained by misreporting of respondents, who may have reported participation in employment-related schemes other than the TASAF PWP. Finally, we also observe that in villages where PWP was implemented, youth significantly reduced their participation in the household non-farm business. This trend is not observed in cash only villages.

Table 5.17. PSSN impact on youth participation in economic activities, past year (age 14–28 at baseline), by treatment arm

	PSSN Cash only	PSSN Cash & PWP	Endline Cash only	Endline Cash & PWP	Endline
	Impact	Impact	Treatment Mean	Treatment Mean	Control Mean
	(1)	(2)	(3)	(4)	(4)
Any economic activities	0.023	0.027	0.666	0.657	0.667
	(0.730)	(0.900)			
Farm work for the household, excluding livestock	0.016	0.027	0.580	0.573	0.596
	(0.457)	(0.780)			
Livestock herding for the household	0.130***	0.094***	0.388	0.362	0.271
	(3.914)	(3.087)			
Fishing for the household	0.026***	0.017*	0.026	0.019	0.002
	(2.773)	(1.850)			
Household business	-0.006	-0.030*	0.083	0.064	0.094
	(-0.295)	(-1.964)			
Paid work outside the household	-0.021	-0.012	0.184	0.200	0.219
	(-1.002)	(-0.478)			
TASAF Public Works Program	0.047***	0.156***	0.055	0.163	0.003
	(3.052)	(5.809)			
N	1,654	1,654	527	464	663

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Regressions include age, sex and district fixed effects. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01.

In Appendix C, we also report estimated programme effects on youth economic activities and hours worked during the week before the interview. Again, we find that youth in treatment households are significantly more likely to work in livestock herding for the household compared to youth in control households (by 9 pp, *see Table C.15 in Appendix C*). We also find a positive and statistically significant impact of the programme on hours spent in economic activities (2.5 hours a week). Table C.16 in Appendix C shows that youths in recipient households work a significantly higher number of hours in livestock herding and in the TASAF PWP compared to those in control households (0.6 hours a week). As in the case of children, we do not find evidence that the programme significantly affected participation or hours spent in household chores *(see Tables C.17 and C.18 in Appendix C)*.

In summary, the PSSN significantly improved child education outcomes, increasing school attendance and literacy, with no statistically significant differences in impacts between males and females. The programme also appeared to have increased the amount of time children spent studying during the week before the interview, again with similar impacts by gender. The positive effects of PSSN on education are also comparable between children of primary-school age and older children. Education improvements may have been more pronounced in villages that received both cash and PWP. It is possible that the joint programme allowed households to afford higher education expenditure relative to the cash only programme.

The PSSN also influenced child participation in economic activities. Participation in livestock herding for the household during the year before the interview increased for children in recipient households, with similar impacts on subsamples by gender and age group. We find that the PSSN increased household ownership of livestock by about 47 per cent with respect to the endline average in the control group. This increased household investment in livestock likely drives the observed shift into herding activities by children. The increased engagement in livestock activities was matched by a reduction in the prevalence of paid work outside the household, suggesting that children partly replace time spent in paid work with time spent at school. This substitution effect is more pronounced for older males, who are relatively less likely to participate in paid work outside the household as a result of the programme. We consider this shift to be welfare enhancing. Work outside the household for pay is often hard work under challenging circumstances. A shift into work for the own household agricultural enterprise is likely to be a beneficial change for children and youth.[29]

Older children (both males and females) also increased their participation in the TASAF PWP. As expected, programme effects on participation in the TASAF PWP are only statistically significant in villages receiving both cash and public works. The PSSN did not affect child engagement in household chores and did not affect the prevalence of child labour or sub-components of child labour such as work below the minimum working age and economic activities that expose children to hazards.

Results for the youth sample show that PSSN did not affect youth education, most likely because of the higher opportunity cost of schooling for adolescents than for children (i.e., older children could earn more in paid work than younger children). Results regarding youth economic activities are consistent with results presented for children. PSSN resulted in an increase in participation in livestock herding for the household and in participation in the TASAF PWP. In villages where the PWP was implemented, youth significantly reduced their participation in the household non-farm business during the year before the interview.

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29 This same pattern of increased child participation in livestock herding and decreased participation in work for pay outside the household was documented as part of a study examining the impacts of the Malawi Social Cash Transfer Program and Zambia's Multiple Categorical Targeting Grant. In these countries too, this pattern is driven by household investment of cash transfers in livestock activities. De Hoop, J., V. Groppo, and S. Handa, 'Household Micro-entrepreneurial Activity and Child Wellbeing: Evidence from Two Cash Transfer Experiments', Working paper, 2017.

5.2 Material needs and spending

Although youth are not directly provided cash unless they are the recipient of the programme (e.g. older youth in the sample), there is potential for them to benefit financially from living within PSSN households, either through purchases made for youth or through cash handed down from the recipient to be spent by the youth. Thus, we examine impacts on material well-being, including owning shoes, a blanket and two pairs of clothing, as well as on personal spending.

The items measured here, including blankets, clothing and shoes, are deemed necessary for supporting orphans and vulnerable children and are part of the recommended personal well-being scale suggested by UNICEF.[30] Overall, material support can be characterized as low. At baseline, approximately one in four of the panel sample had all three items – 29 per cent of the control group and 23 per cent of the treatment group – however this increases slightly among both groups over time. As shown in Table 5.18, the PSSN has increased some measures of material well-being, including ownership of blankets and shoes, particularly for females. There is a 10.8 pp increase in ownership of shoes overall (an approximate 21 per cent increase over endline control mean), and among the female subsample (18.4 pp increase, or an approximate 38 per cent increase over endline control mean). However, the difference in impact between genders is not statistically significant (interaction between DD impact and gender; test not displayed). The observed difference in the estimated effects by subsamples is likely related to females having much lower rates of shoe ownership at baseline rather than to differential effects by gender. There are no overall impacts on either ownership of a blanket or having two sets of clothing, however there is an increase in ownership of blankets for females, with a 16.2 pp impact. When looking at ownership of all three items combined, there are no impacts.

Table 5.18. PSSN impacts on basic material needs (age 14–28 at baseline)

	PSSN Impact (1)	Baseline Treatment Mean (2)	Endline Treatment Mean (3)	Endline Control Mean (4)
Shoes	0.108*	0.366	0.561	0.514
	(2.234)			
N	2,006	565	565	438
Females	0.184**	0.267	0.535	0.479
	(3.154)			
N	1,006	288	288	215
Males	0.029	0.469	0.588	0.547
	(0.401)			
N	1,000	277	277	223
Blanket	0.062	0.413	0.484	0.487
	(1.131)			
N	2,002	564	564	437
Females	0.162*	0.299	0.479	0.460

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30   The material well-being scale is a recommended indicator to measure care and support for orphaned and vulnerable children. See United Nations Children's Fund, *Guide to monitoring and evaluation of the national response for children orphaned and made vulnerable by HIV/AIDS*, UNICEF, New York, 2005. Available at http://www.measuredhs.com/hivdata/guides/ovcguide.pdf

	(2.071)			
N	1,006	288	288	215
Males	-0.043	0.533	0.489	0.514
	(-0.604)			
N	996	276	276	222
Two sets of clothing	0.017	0.733	0.841	0.822
	(0.420)			
N	2,006	565	565	438
Females	0.036	0.688	0.854	0.860
	(0.671)			
N	1,006	288	288	215
Males	-0.007	0.780	0.827	0.785
	(-0.127)			
N	1,000	277	277	223
All three needs met	0.046	0.232	0.309	0.320
	(0.926)			
N	2,002	564	564	437
Females	0.112	0.125	0.316	0.316
	(1.634)			
N	1,006	288	288	215
Males	-0.025	0.344	0.301	0.324
	(-0.327)			
N	996	276	276	222

Notes: Linear probability models were estimated using difference-in-differences and individual-level fixed effects on the panel of individuals interviewed both at baseline and endline. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01

Although there was no impact found on having all three needs met, it is worth noting that there is some imbalance on the panel youth for this indicator, which appears to be driven by ownership of a blanket *(see Table B4 in Appendix B)*. Although this imbalance was not found on the full sample at baseline, when restricted to panel the proportion who reported having a blanket and all three items was statistically larger for control than for treatment at baseline. This imbalance may have led us to underestimate the treatment effect on the indicator of all three items.

In qualitative interviews, some youth gave details of an expanded set of basic needs – including food, mattresses and beds, and improved dwellings – that they were now able to have due to the PSSN:

> *"Our house was thatched by grass and was leaking during rainy season, but we now live in a good house roofed with corrugated iron sheets and also we were sleeping on the floor but we now, as a result of TASAF, sleep on a bed and sleeping mattress."* [19-year-old male, Mbogwe]

> *"Things are different this year comparing to last year. Now we get our basic needs different from last year where we could not afford soap and cooking oil."* [17-year-old female, Kahama]

"The ability of my family to buy food and to meet other basic needs has changed since you came last year. Since I started getting assistance from TASAF, life has changed to some extent. Our lives have now improved compared to the previous years. I managed to get a place to live with my family after building my own house, however the house is not so good but at least I have somewhere to stay with my family. It hides my family secret, no one can know my life with my family." [27-year-old male, Handeni].

"Yes, since last year we have been receiving money from the TASAF program, we received like 40,000/= thousand in total. We spent the money on food because there was food scarcity due to the damage that was caused by the heavy rainfall. We bought a bag of maize flour and a bag of beans, the remaining money we used it to buy iron sheets and chicken. TASAF money has contributed to my household improvements because we used the money to buy those iron sheets, although they were already used." [27-year-old female, Kilosa].

At endline only, five questions were asked regarding purchases made in cash or in-kind by youth for items/products for personal consumption in the four weeks prior to the survey. The five categories of spending include: 1) clothing, 2) communication (airtime, data, phone charging), 3) personal goods/ hygiene items (soap, makeup, hairdressing), 4) transportation (*boda boda* (motorcycle taxi), buses, bike repairs), and 5) entertainment (sports, shows, going out with friends/partners for food). All five categories of spending were reported in TZS and summed to create a total expenditure indicator. We analyse values in TZS, however we also ran logged measures to account for outliers and possible skewed distributions and to find consistent results. As displayed in Table 5.19, there are impacts on spending for entertainment for females of around TZS 380, or equivalent to about a 460 per cent increase on average over the control mean at baseline. However, the overall expenditure on entertainment is very small. Females report spending the equivalent of about 15 cents (US$) on average during the previous four weeks on entertainment at endline, much lower than their male peers. In fact, males report spending almost twice as much as females in total across these five categories.

Table 5.19. PSSN impacts on personal expenditure in the last four weeks (age 14–28 at baseline)

	PSSN Impact	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)
Total reported expenditure	1,156.289	15,045.382	15,414.114
	(0.458)		
N	1,003	565	438
Females	3,088.265	12,718.083	10,018.447
	(1.719)		
N	503	288	215
Males	-448.136	17,465.101	20,616.215
	(-0.095)		
N	500	277	223
Clothing	1,788.304	7,306.549	6,641.580
	(0.952)		

N	1,003	565	438
Females	1,514.285	6,486.111	5,309.321
	(1.125)		
N	503	288	215
Males	2,213.635	8,159.567	7,926.045
	(0.615)		
N	500	277	223
Communication	-1,228.601	1,472.758	2,929.461
	(-1.048)		
N	1,003	565	438
Females	364.491	839.611	573.507
	(1.758)		
N	503	288	215
Males	-2,837.028	2,131.047	5,200.897
	(-1.217)		
N	500	277	223
Personal goods/hygiene items	216.771	2,511.858	2,283.452
	(0.840)		
N	1,003	565	438
Females	268.154	2,871.875	2,596.521
	(0.587)		
N	503	288	215
Males	170.571	2,137.545	1,981.614
	(0.677)		
N	500	277	223
Transportation	257.600	2,898.614	2,774.452
	(0.497)		
N	1,003	565	438
Females	561.561	2,074.306	1,432.567
	(1.197)		
N	503	288	215
Males	91.965	3,755.657	4,068.197
	(0.100)		
N	500	277	223
Entertainment	122.214	855.604	785.169
	(0.520)		
N	1,003	565	438
Females	379.774*	446.181	106.530
	(2.184)		
N	503	288	215
Males	-87.279	1,281.285	1,439.462
	(-0.212)		
N	500	277	223

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01

Overall, the PSSN has increased measures of material well-being, including ownership of blankets and shoes, particularly for females. These increases in material well-being are also supported by the qualitative evidence, which indicates that transfers are being utilized for purchases that increase the quality of living conditions and provide basic needs to households and youth. However, these same increases are not observed among a range of personal spending categories, including expenditure on personal clothing, communications and transportation.

5.3 Health, subjective well-being and aspirations

Although mental and physical health, subjective well-being and aspirations for the future may not be affected directly through PSSN, there is potential for indirect impacts on these outcomes to occur. For example, improved food security and nutrition, increased school enrolment and decreased economic insecurity are all pathways that can hypothetically improve mental states, outlook on future life and hopefulness. In addition, the direct health inputs (food) and environmental factors (improved dwelling and housing) can contribute to improved physical health. As shown in this section, results were mixed, with no impacts found on mental or physical health but some, mostly heterogeneous, programme impacts found on subjective well-being and future aspirations.

5.3.1 Mental health

Poverty and poor mental health are thought to be linked in a reinforcing cycle. Persistent food insecurity, exposure to violence and other poor outcomes associated with living in poverty can increase stress and depression and impact motivation and productivity, thereby perpetuating the cycle of poverty. [31] Recently, more attention has been given to psychosocial well-being in low- and middle-income countries through platforms like the Sustainable Development Goals[32], the WHO Mental Health Action Plan[33] and a *Lancet* series dedicated to highlighting the burden of mental health issues.[34] Although there is potential for poverty alleviating programs to improve mental health, evidence on the impacts of cash transfer programmes is limited.

There is some evidence that cash transfers can improve mental health in youth. Two studies – one in Zomba, Malawi and another in Kenya – demonstrated the ability of cash transfer programmes to improve mental health, although impacts were mixed. The evaluation of a cash transfer programme among female youth in Malawi showed positive impacts on mental health outcomes, though impacts were only observed in the unconditional arm (not the conditional arm), and these impacts disappeared when measured after the transfers stopped (both immediately and two years later).[35] Additionally, the Kenyan Government's Cash Transfer for Orphans and Vulnerable Children (CT-OVC) programme had positive impacts on mental health overall, however impacts were only significant for males and not females.[36]

We measured mental health at both baseline and endline using a shortened version of the Centre for Epidemiological Studies-Depression (CES-D) scale and Snyder's Hope Scale. Additional modules on

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31 Lund, C., et al., 'Poverty and mental disorders: breaking the cycle in low-income and middle-income countries', *Lancet*, vol. 378, 2011, pp. 1502–14.

32 Target 3.4 requests that countries: "By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and wellbeing."

33 http://www.who.int/mental_health/action_plan_2013/en/

34 Patel, V., et al. 'A renewed agenda for global mental health', *Lancet,* vol. 378, no. 9801, 2011, p. 1441.

35 Baird, S., De Hoop, J. and B. Özler, 'Income shocks and adolescent mental health', *Journal of Human Resources,* vol. 48, no. 2, 2013, pp. 370–403.

36 Kilburn, K., et al., 'Effects of a large-scale unconditional cash transfer program on mental health outcomes of young people in Kenya', *Journal of Adolescent Health*, vol. 58, no. 2, 2016, pp. 223–229.

stress were administered at endline only. The internationally validated[37,38,39] 10-item short-form of the CES-D scale includes 10 questions regarding feelings and behaviours in the past seven days, with responses given using a four-point Likert scale. To calculate the CES-D, scores are summed for all 10 questions, ranging from 0 to 30, with higher scores reflecting more depressive symptoms. We then created a binary indicator to assess whether youth scored greater than or equal to 10 on the CES-D scale – a cut-off used in previous studies implemented in Africa[40] – to define the presence of depressive symptoms. The Cronbach's alpha, a measure of inter-item reliability for the CES-D in the overall sample is 0.73 at baseline and 0.75, indicating a good consistency between indicators. A score greater than 0.70 is generally considered acceptable.[41]

The Hope scale measures two concepts thought to comprise what it means to be 'hopeful' as defined by Snyder via agency and pathways.[42] Agency refers to an individual's perceived ability to *act toward* a desired goal; pathways refer to their ability to *find ways* to reach goals. Six questions are administered to measure the respondents' hopefulness using a five-point Likert Scale (1=Strongly disagree; 5=Strongly agree). These were summed to create the Snyder Hope Scale, ranging from 6 to 30.

Table 5.20 shows there were no impacts found on depressive symptoms or on hopefulness for both the pooled sample and by gender. Among both females and males at endline, 59 per cent of the treatment and 60 per cent of the control group exhibited depressive symptoms (had a score equal to or greater than 10 on the CES-D). Rates were similar for both males and females, with slightly higher rates for males, as can be seen in Figure 5.4. For the Snyder Hope Scale, the scores were fairly consistent between treatment and control at endline, being 18.96 and 19.07 respectively. This is nearly a point higher than scores at baseline, which were 18.10 for treatment and 18.06 for control *(see Table B5 in Appendix B)*.

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37 Boey, K. W., 'Cross validation of a short form of the CES D in Chinese elderly', *International Journal of Geriatric Psychiatry,* vol. 14, no. 8, 1999, pp. 608–617.

38 Bojorquez Chapela, I. and N. Salgado de Snyder, 'Psychometric characteristics of the Center for Epidemiological Studies-depression Scale (CES-D), 20-and 10-item versions, in women from a Mexican rural area', *Salud Mental*, vol. 32, no. 4, 2009, pp. 299–307.

39 Cheung, Y.B., Liu, K.Y.and P.S. Yip, 'Performance of the CES-D, and its short forms in screening suicidality and hoplessness in the Community', *Suicide and Life-Threatening Behavior*, vol. 37, no. 1, 2007, pp. 79–88.

40 Onuoha, F.N., et al., 'Negative mental health factors in children orphaned by AIDS: natural mentoring as a palliative care', *AIDS and Behavior*, vol. 13, no. 5, 2009, pp. 980–988.

41 Nunnally J and Bernstein L., *Psychometric theory*, McGraw-Hill Higher, INC, New York, 1994.

42 Snyder, C., et al., 'The development and validation of the Children's Hope Scale', *J Pediatr Psychol,* vol. 22, no. 3, 1997, pp. 399–421.

Table 5.20. PSSN impacts on mental health (age 14–28 at baseline)

	PSSN Impact	Baseline Treatment Mean	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)	(4)
CES-D>=10	-0.076	0.643	0.588	0.601
	(-1.404)			
N	1,766	485	485	398
Females	-0.013	0.727	0.591	0.521
	(-0.151)			
N	872	242	242	194
Males	-0.132	0.560	0.584	0.676
	(-1.939)			
N	894	243	243	204
CES-D scale (0–30)	-0.795	11.697	11.056	11.457
	(-1.468)			
N	1,766	485	485	398
Females	-0.156	12.860	10.926	10.021
	(-0.198)			
N	872	242	242	194
Males	-1.344	10.539	11.185	12.824
	(-1.657)			
N	894	243	243	204
Snyder hope scale (6–30)	-0.066	18.057	18.963	19.073
	(-0.120)			
N	1,742	488	488	383
Females	-0.641	17.620	18.741	19.299
	(-0.743)			
N	898	255	255	194
Males	0.511	18.536	19.206	18.841
	(0.763)			
N	844	233	253	189

Notes: Linear probability models were estimated using difference-in-differences and individual-level fixed effects on the panel of individuals interviewed both at baseline and endline. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01. *Don't know/Refused* responses result in missing values for CES-D and Snyder Hope Scale.

Figure 5.4. Average CES-D score for females and males, endline
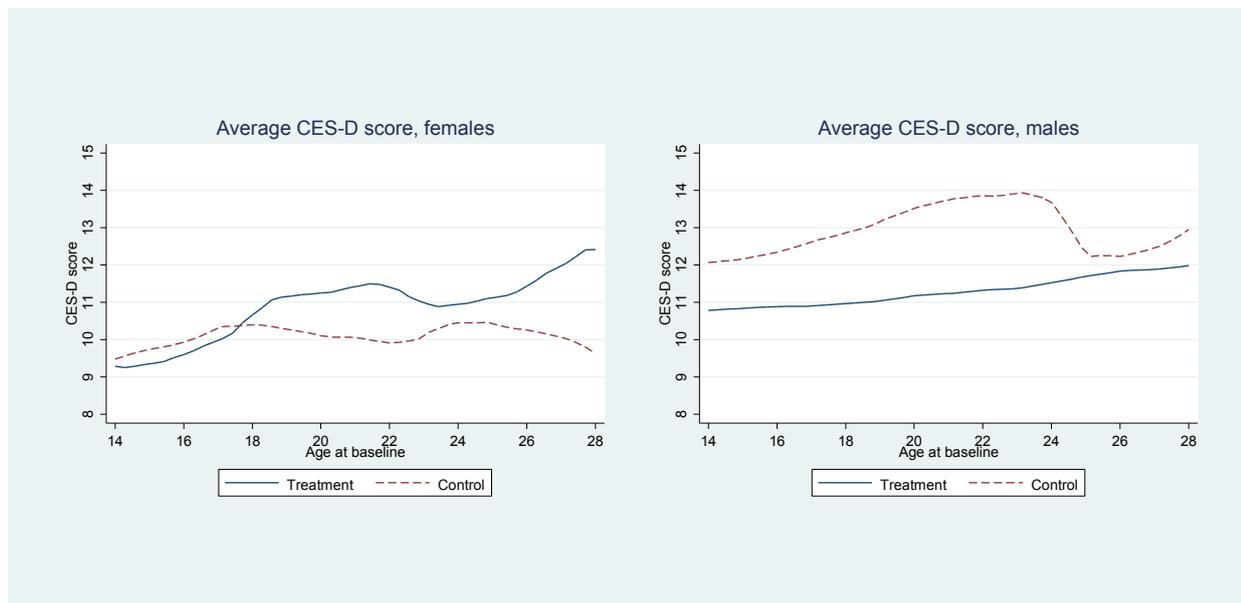
According to Table B5 in Appendix B, attrited youth in control households were more likely to exhibit depressive symptoms at baseline (73 per cent) than control youth interviewed at both waves (58 per cent; p<.05). Although this does not result in an imbalance between treatment and control for panel youth (column 10), it does suggest that youth with depressive symptoms in treatment households could be marginally protected from leaving home. Additionally, youth in the sample at baseline exhibited much higher levels of depressive symptoms than similar populations in Kenya, Zimbabwe and Zambia.[43] We also find differences for the Snyder Hope Scale, where there are no PSSN impacts. In this case however, those lost to follow-up in control households were *more* hopeful than those who stayed in the households. However, since the Hope scale measures agency, youth who felt they could make changes in their lives may be more likely to leave households with fewer resources. Overall, levels of depressive symptoms and hopefulness did not change dramatically between baseline and endline and there were no impacts of the PSSN on these outcomes.

It is worth noting however, that in qualitative interviews some youth in PSSN households reported improvements in mental health and well-being, primarily through pathways such as improved food availability:

> *"No problems have been experienced so far, rather there is happiness in the family because even the kids get enough food through the farms we are renting using money from TASAF. Before the family was generally unhappy because of food shortage and other family needs."* [30-year-old female, Itilima]

> *"The cash has contributed to the happiness of my young brothers because they attend school now without any problem. They used to absent themselves from school because they had no uniforms, exercise books and shoes. There is no problem now, they attend school and get food when they come back from school."* [19-year-old male Mbogwe]

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43 Palermo, T., et al., *Tanzania Youth Study: Productive Social Safety Net (PSSN) Impact Evaluation: Baseline Report*, UNICEF Office of Research and REPOA, Florence, Italy/Dar es Salaam, Tanzania, 2017.

5.3.2 Stress

Stress reduction is a key pathway through which poverty alleviation programmes are hypothesized to influence physical and mental health, violence, family relationships and caregiving practices. Because food security is a major source of chronic stress in this setting, it is hypothesized that programmes such as the PSSN, which aim to improve food security, may in turn reduce stress at the household level. A number of measures of stress have been developed, mostly in Western settings, but few have been developed or validated in a sub-Saharan African context. A popular scale is the Cohen Perceived Stress Scale (PSS)[44], which was developed among populations in the Midwestern United States and is frequently used in sub-Saharan Africa.

Stress levels were measured at endline using two indicators: 1) Cohen's PSS and 2) the Enhanced Life Distress Index (ELDI).[45] Because these measures were only collected at endline, we conduct a cross-sectional analysis and report endline means for these indicators. Cohen's PSS is a validated scale[46] comprised of 10 questions meant to measure perceptions of stress during the past four weeks. Questions include, among others, how often an individual had been upset due to something that happened unexpectedly, how often they felt nervous and 'stressed', and how often they could not cope with all the things they had to do. The possible range of scores is 0 to 40, with higher scores indicating higher levels of stress. The Cronbach's alpha for the PSS is 0.620, indicating a performance slightly lower than typically used acceptable measures.

The ELDI is a tool being developed by UNICEF as an alternative way to measure stress, considering that Cohen's 10 item PSS may be inadequate to capture stress in the sub-Saharan African context.[47] The ELDI asks how worried the respondent has been about 13 categories over the past seven days. The categories include economic stressors, such as employment, education and lack of access to food, as well as relationship stressors with family or romantic partners, and other stressors, such as risk of theft or pregnancy. Each stressor was ranked on a 1–5 scale based on how 'worried' this item made the respondent, with higher numbers indicating greater distress and zero if they are not worried about the item at all, resulting in a scale with scores ranging from 0 to 65. The Cronbach's alpha for this index is 0.730, suggesting a good reliability for the index.

Table 5.21 shows no impacts on the ELDI, while the Cohen's PSS has mixed results, with no impacts on the overall sample but indicated decreased stress among males and increased stress among females. This difference in impact by gender is statistically significant (results not shown), indicating that the programme increased stress among females and decreased stress among males. However, as previously mentioned, the alpha score of Cohen's PSS is below the commonly recognized threshold (0.70), suggesting the items that make up the PSS are not a reliable scale in our population.

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44 Cohen S, Kamarck T, Mermelstein R., 'A global measure of perceived stress', *Journal of health and social behavior*, vol. 24, no. 4, Dec. 1983, pp. 385–396.

45 The ELDI is a new quantitative measure of stress being developed by researchers led by Tia Palermo and Jacob de Hoop at UNICEF Office of Research – Innocenti and is loosely based on the Life Distress Index developed by Thompson et al. described in Thompson, M., Yoshioka, M., and Ager, R., 'Life distress inventory', in *Measures of clinical practice: A sourcebook*, 2nd ed., edited by Fischer, J. and Corcoran, K., Free Press, New York, 1994, pp. 267.

46 Cohen, Kamarck and Mermelstein 'global measure of perceived stress', pp. 385–396.

47 Hjelm L., et al., 'Poverty and perceived stress: Evidence from two unconditional cash transfer programs in Zambia', *Social Science & Medicine*, vol. 177, 2017, pp. 110–117.

Table 5.21. PSSN impacts on stress (age 14–28 at baseline)

	PSSN Impact	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)
Enhanced Life Distress Index (0–65)	0.077	13.434	13.212
	(0.115)		
N	1,003	565	438
Females	0.831	11.333	10.814
	(0.944)		
N	503	288	215
Males	-0.703	15.617	15.525
	(-0.791)		
N	500	277	223
Cohen perceived stress scale (0–40)	-0.111	19.487	19.696
	(-0.280)		
N	1,003	565	438
Females	1.159*	19.642	18.684
	(2.320)		
N	503	288	215
Males	-1.416*	19.325	20.673
	(-2.278)		
N	500	277	223

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01

5.3.3 Self-rated health

To measure general health, respondents were asked about their current overall health status and then again about their health in relation to the year prior. First, current self-rated health was measured using a five-point scale (poor, fair, good, very good, excellent). Then, the respondent was asked whether their health was better, about the same or worse when compared to the previous year. Although PSSN makes no conditions for cash to be spent on health for older children or young adults, there is potential for the cash to be spent on curative care or that extra income can reduce activities which negatively impact health, such as manual labour for any member of the household.

No impacts were found on self-rated health indicators at endline, as shown in Table 5.22 At baseline, 63 per cent of the panel sample reported that their health was good, very good or excellent, and this increased over time for both control and treatment groups (70 per cent and 73 per cent, respectively at endline), however with no change attributable to the programme. The rates are similar between males and females. When comparing their health to the year prior, the majority of youth reported that their health was the same or better (88 per cent for treatment and 87 per cent for control).

Table 5.22. PSSN impacts on self-rated health (age 14–28 at baseline)

	PSSN Impact	Baseline Treatment Mean	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)	(4)
Good/excellent self-rated health	0.031	0.625	0.724	0.701
	(0.641)			
N	1,950	547	547	428
Females	0.053	0.605	0.730	0.735
	(0.778)			
N	984	281	281	211
Males	0.007	0.647	0.718	0.668
	(0.101)			
N	966	266	266	217
Same or better health compared with one year ago	0.006	0.825	0.879	0.869
	(0.176)			
N	1,978	555	555	434
Females	0.022	0.787	0.847	0.864
	(0.456)			
N	1,002	287	287	214
Males	-0.011	0.866	0.914	0.873
	(-0.223)			
N	976	268	268	220

Notes: Linear probability models were estimated using difference-in-differences and individual-level fixed effects on the panel of individuals interviewed both at baseline and endline. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01

No evidence of selective attrition was found between panel youth in treatment versus control households *(see Table B5, column 10 in Appendix B)*.

Despite lack of quantitative impacts on related outcomes, in qualitative interviews youth in treatment households reported increased opportunity to access health care because of enrolment in Community Health Fund (CHF):

> *"Yes, there are some. We have become the member of Community Health Fund and we have already paid TZS10,000 fee for the family health insurance in the period of one year. Now any family member is assured of medical service when he/she falls sick compared to the previous time where it was hard to have cash every time when a person in the family was sick."* [21-year-old female, Misungwi]

> *"...We also have health insurance due to TASAF, whereby we attend at Sagehe dispensary for medicine and check-up."* [18-year-old female, Kahama].

> *"A lot of changes have happened in my parents family; though I was not able to complete my studies; my siblings now are able to attend school with nice uniforms, and regardless of rainfall challenges still the family can have food in a day and when someone is sick*

he/she can easily attend the hospital because they have paid for CHF compared to the previous time where cash was needed to access medical treatment." [16-year-old female, Misungwi].

5.3.4 Subjective well-being

We measure subjective well-being by asking respondents a series of questions on five aspects of their life. Respondents were shown a step ladder ranging from 1 (the lowest step) to 10 (highest) and explained that the lowest step indicated the worst possible rating and the highest the best. Respondents were then asked to indicate where they felt they belonged on the ladder by pointing to a location. The five categories are: 1) Satisfaction with leisure time (doing things they enjoy); 2) Self-assessed wealth, as compared to others in their community; 3) Life evaluation using Cantril's Self-Anchoring Scale[48]; 4) Household decision making power; and 5) Autonomy in their lives.

Table 5.23 presents programme impacts on the five subjective well-being indicators using a cross-sectional analysis since these measures were only collected at endline. While the pooled sample only shows impacts on autonomy (PSSN youth report an increase of 0.40, or an approximate 9 per cent increase over control mean values at endline), there were significant impacts among females on self-assessed wealth and household decision making indicators. In fact, household decision making increased by nearly a point in PSSN households for females, or by approximately 20 per cent over control mean values at endline. Self-assessed wealth, which was low for both treatment and control, increased by almost half a point for females. For the overall impact on autonomy, the gender difference in impacts approaches statistical significance (p<.10) so there may have been differential programme impacts on this outcome.

Table 5.23. PSSN impacts on subjective well-being (1–10) (age 14–28 at baseline)

	PSSN Impact	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)
Satisfied with leisure time	0.076	4.988	4.845
	(0.313)		
N	1,003	565	438
Females	0.069	5.278	5.121
	(0.220)		
N	503	277	233
Males	-0.008	4.686	4.578
	(-0.029)		
N	500	273	227
Self-assessed wealth	0.202	2.779	2.614
	(1.648)		
N	1,003	565	438
Females	0.461*	3.146	2.698

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48 The respondent rates his or her current life where 1 is "the worst possible life for you" and 10 is "the best possible life for you."

	(2.550)		
N	503	288	215
Males	-0.070	2.397	2.534
	(-0.414)		
N	500	277	233
Life evaluation ('has a good life')	0.031	3.770	3.696
	(0.196)		
N	1,003	565	438
Females	0.306	3.833	3.516
	(1.498)		
N	503	288	215
Males	-0.270	3.704	3.870
	(-1.008)		
N	500	277	233
Can make household decisions	0.281	4.414	4.144
	(1.663)		
N	1,003	565	438
Females	0.783**	4.670	3.870
	(3.771)		
N	503	288	215
Males	-0.268	4.148	4.408
	(-0.926)		
N	500	277	233
Autonomy ('has control over their life')	0.371*	4.520	4.164
	(2.085)		
N	1,003	565	438
Females	0.670**	4.722	4.005
	(2.960)		
N	503	288	215
Males	0.024	4.310	4.318
	(0.079)		
N	500	277	233

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01

Figure 5.5. Distribution of subjective well-being indicators, by gender and treatment status, endline
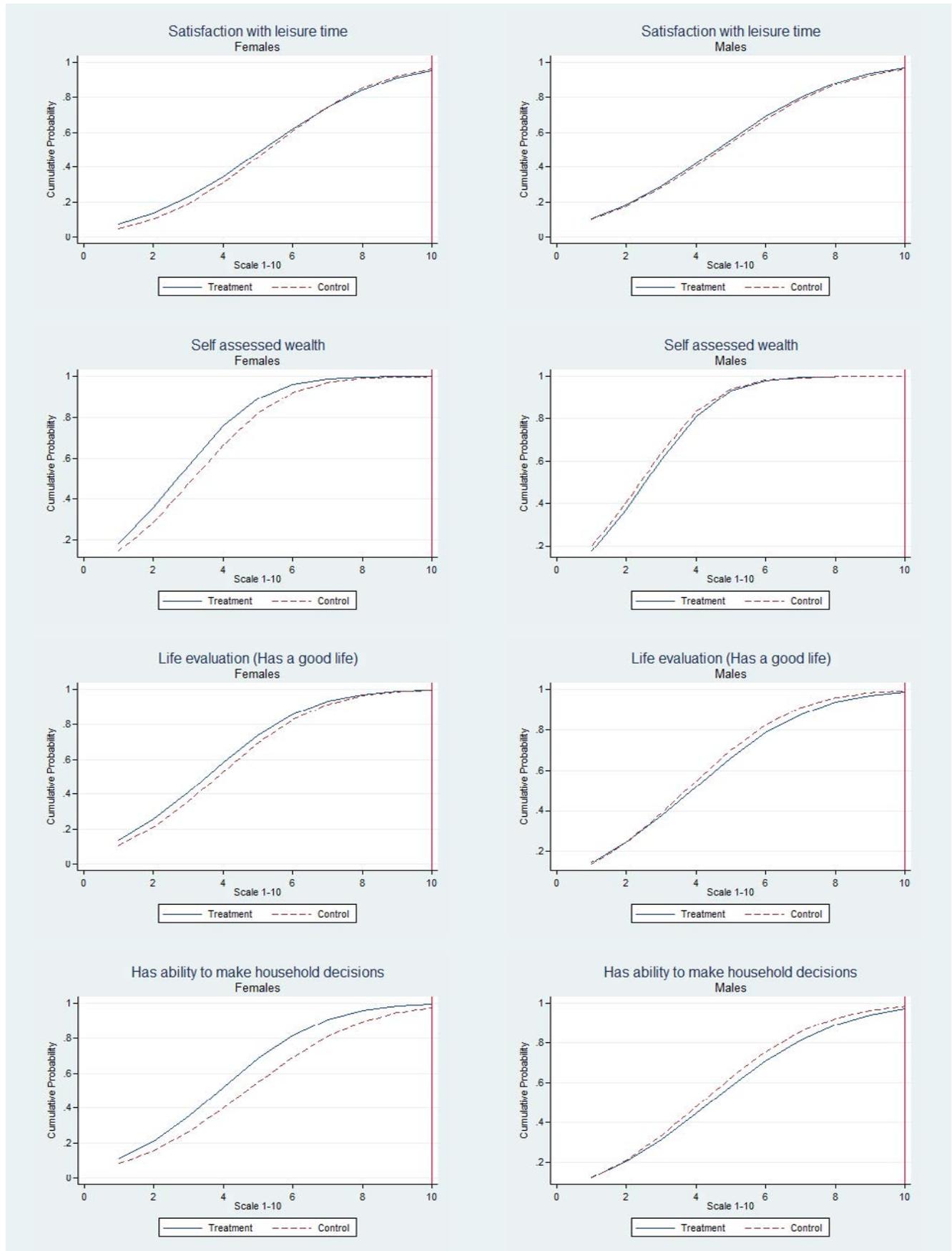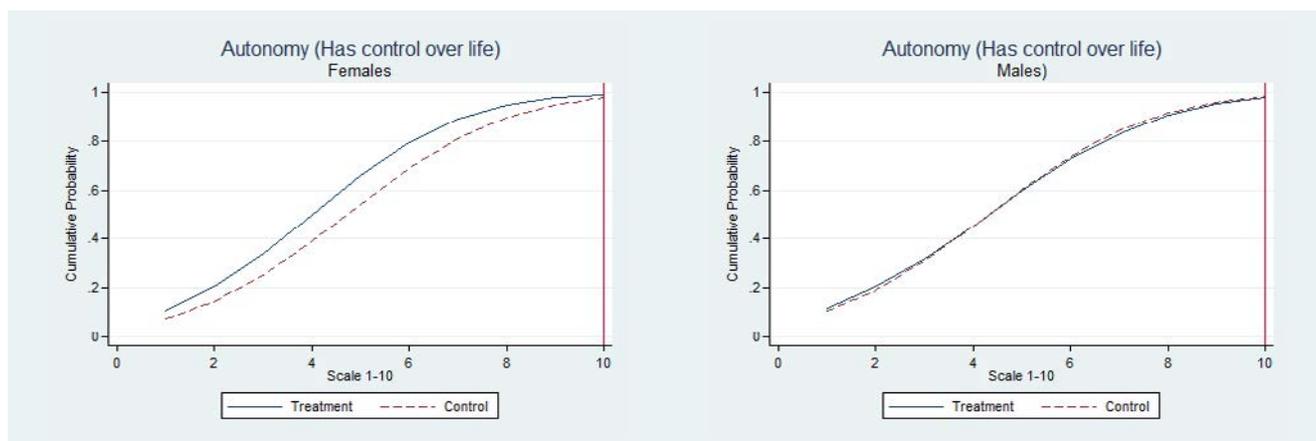
5.3.5 Future aspirations

We present results of the analysis showing programme impacts on future ideals or aspirations in Table 5.24. These measures were only collected at endline. Overall, just over half of youth aspire to a higher education level (defined as college diploma or vocational degree), among which the proportion of males in PSSN households is 11 pp higher (at 64 per cent) than those in control households (at 53 per cent). No impacts were found on this indicator for females or in the pooled sample. The ideal number of children is lower for PSSN youth, with treatment youth wanting 0.3 fewer children than control youth, on average. Interestingly, the ideal age at first marriage for unmarried youth is approximately 24 years (slightly higher for males than females), but the age at which youth (married and unmarried) hope their children will marry is younger, at 21 years. This is likely due to the fact that the former sample excludes those youth who married young as it was only asked of those not already married.

Table 5.24. PSSN impacts on aspirations (age 14–28 at baseline)

	PSSN Impact	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)
Aspires to higher level education†	0.047	0.584	0.548
	(1.385)		
N	1,003	565	438
Females	-0.019	0.531	0.563
	(-0.496)		
N	503	288	215
Males	0.111*	0.639	0.534
	(2.590)		
N	500	277	223
Ideal number of children	-0.316*	4.602	4.838
	(-2.136)		
N	1,003	565	438
Females	-0.262	4.587	4.660
	(-1.597)		

N	503	288	215
Males	-0.384	4.617	5.009
	(-1.964)		
N	500	277	223
Ideal age of marriage (unmarried youth)	0.264	24.445	24.349
	(0.810)		
N	656	364	292
Females	0.252	23.086	22.974
	(0.504)		
N	255	139	116
Males	0.308	25.284	25.256
	(0.783)		
N	401	225	176
Ideal age for child's marriage	0.371	21.262	21.091
	(1.316)		
N	1,003	565	438
Females	0.451	21.313	21.307
	(1.221)		
N	503	288	215
Males	0.311	21.209	20.883
N	500	273	227

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01

†Higher education is defined as college diploma or vocational degree.

In qualitative interviews, responding to a question regarding the ideal age at first marriage, some female youths explained why they were in favour of delaying marriage. Reasons included inability to cope with many responsibilities that married women undertake, likelihood of being abused if married too young, and making sure one has own means of livelihood before getting married.

> *"I used to believe that at the age of 18 is when a girl can work hard and she is mentally matured. In our society, a married woman is expected to work frequently in the farms and cook for the family and the major means of production is agriculture; when you go to farm in the morning you will be back in the evening and most of the Sukuma families are extended families with 10 people or more, and you will be required to cook for family as well. So when the girl is young, how can she serve all the wife responsibilities she is expected to such as cooking and farming? At least at the age of 18, she is capable to handle such responsibilities."* [30-year-old female, Itilima].

> *"This will help a lot since you will be employed therefore it will be easy for you to deal with minor issues at home. This has been my plan for a long time because I have been seeing young girls who rushed for marriage and they are now begging for food on the streets to feed their kids. Also I have seen some ladies being abused by their husbands because they do not earn anything so they wholly depend on their husbands. I personally do not want to go through that that's why I want to have my own job before getting married."* [17-year-old female, Kisarawe].

"I think it is an appropriate age because a girl at that age is mentally matured and she has self awareness. Also she is likely to live with and respect other people such as Mother in Law. She can also struggle for life and she can manage even to advise her husband and if a girl is married at the age less than that she will be behaving childish." [16-year-old female, Misungwi].

"I would like to get married after completing my studies, since I would like to have my own life before getting married to avoid humiliation by men. There are few men who don't have such behaviour. I want to have children when I will be 30 years old, since I want to prepare for my life first, to have all important things like my own room for living and others." [Female, age unknown, Kilosa].

In a different question on whether youth not attending school would aspire to go back to school, married female youths felt it was impossible to go back to school and attain higher levels of education even if they would have liked to do so because of caregiving responsibilities in their households.

"Now that I am married it is difficult to go back to school because I have a lot of family responsibilities to attend to. On my side I had no income, I totally depended on my parents to pay my school fees, but unfortunately they failed, so when I was returned home, my schooling ended there. The only thing I wish for now is tailoring training." [16-year-old female, Misungwi].

"I am not ready; my age doesn't allow me and I have a lot of family responsibilities to attend to compared to previous time when I was still young and single now that I am married and I have children to take care I can't do it anymore." [30-year-old female, Itilima].

"I cannot go back to school even if there was a possibility of me getting back to school because now I have responsibilities of taking care of my child who is still at a tender age and also the fact that now I am married means I cannot go to school." [25-year-old female, Uyui].

In summary, there appear to be few quantitative impacts across a range of outcomes including depressive symptoms, hope, stress and self-rated health. However, the PSSN has increased subjective well-being through increases in autonomy and, for females, self-assessed wealth and household decision making. In addition, youth in PSSN households indicate a smaller ideal number of children as compared to youth in control households. Moreover, male youth in PSSN households aspire to higher levels of education as compared to youth in control households. While qualitative findings largely triangulate findings, they also indicate that youth in PSSN households are happier and have a better outlook on their physical health due to the programme.

5.4 Social support

Social support is associated with physical and mental health and has been found to be protective of psychosocial well-being in situations of acute stressors and disasters.[49] Although social support may play a role in well-being in the African context, little has been studied to date on the protective nature of social support regarding negative outcomes in these populations. Cash transfers could potentially have a direct impact on the social support available to youth. However, the more likely role of social support in relation to cash transfer programmes is, as described in the conceptual framework, working as a moderator and thereby supporting the translation of the cash transfers into positive outcomes for the youth.

In this study, two different measures of social support were used. The first measure asks how many family members and close friends are available to provide the youth with social support. The second measure of social support is a modified version of the multidimensional scale of perceived social support (MSPSS).[50] The MSPSS scale was constructed from eight items: 1) "My friends really try to help me"; 2) "I have friends with whom I can share my joys and sorrows"; 3) "I can count on my friends when things go wrong"; 4) "I can talk about my problems with my friends"; 5) "My family really tries to help me"; 6) "I get the help and support I need from my family"; 7) "I can talk about my problems with my family"; and 8) "My family is willing to help me make decisions". Each item is ranked on a five-point Likert scale ranging from: strongly disagree to strongly agree. The scale was created through averaging the scores across all questions (possible range of 1–5). Thus, a higher score indicates a higher level of social support. The scale was also further divided into two sub-scales: support from family and support from friends. Those who answered that they had no friends were not asked the questions included in the friends sub-scale; they were instead given the lowest score, strongly disagree, for questions relating to support from friends. The sub-scales were created for all individuals that had answered at least two out of four questions. The overall scale was constructed for those that had answered at least two questions from each sub-scale.

At baseline, panel youth had approximately 10 family members with whom they were in regular contact and three close friends, defined as people they could confide in about personal issues *(see Table 5.25)*. The number of family members drastically decreased at endline, with only three and a half at endline. The number of friends also decreased over time for panel youth to just under two, on average, at endline. This could be due to decreasing social support over age. Results show a small impact on the MSPSS for males, but this is primarily due to a decrease in the score for control youth rather than any improvements in the treatment group. There is no evidence of selective attrition for the social support indicators *(see Table B6 in Appendix B)*, but panel youth in beneficiary households exhibit higher levels of familial social support than those who attrited, as shown by the MSPSS family sub-scale.

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49 Solomon, S. D., et al., 'Social involvement as a mediator of disaster induced stress', *Journal of Applied Social Psychology*, vol. 17, no. 12, 1987, pp. 1092–1112.

50 Zimet, G.D., et al., 'Psychometric characteristics of the Multidimensional Scale of Perceived Social Support', *Journal of Personality Assessment*, vol. 55, no. 3–4,, 1990, pp. 610–617.

Table 5.25. PSSN impacts on social support indicators (age 14–28 at baseline)

	PSSN Impact	Baseline Treatment Mean	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)	(4)
Number of family members	0.061	9.727	3.376	3.537
	(0.071)			
N	1,996	564	564	434
Females	-0.600	7.230	2.474	2.816
	(-0.823)			
N	998	287	287	212
Males	0.564	12.314	4.310	4.225
	(0.408)			
N	998	277	277	222
Number of close friends	-0.436	2.923	1.872	1.835
	(-1.052)			
N	1,942	548	548	423
Females	-0.142	1.586	1.454	1.460
	(-0.939)			
N	950	273	273	202
Males	-0.778	4.251	2.287	2.176
	(-0.970)			
N	992	275	275	221
Multidimensional scale of perceived social support	0.134	3.358	3.596	3.457
	(1.815)			
N	1,968	552	552	432
Females	0.051	3.105	3.513	3.469
	(0.415)			
N	982	280	280	211
Males	0.200*	3.618	3.681	3.445
	(2.245)			
N	986	272	272	221
Multidimensional scale of perceived social support, friends sub-scale	0.195	3.024	3.278	3.062
	(1.732)			
N	1,972	553	553	433
Females	0.149	2.667	3.121	2.959
	(0.908)			
N	982	280	280	211
Males	0.224	3.390	3.440	3.160
	(1.697)			
N	990	273	273	222
Multidimensional scale of perceived social support, family sub-scale	0.062	3.694	3.910	3.855
	(0.799)			

N	1,990	562	562	433
Females	-0.075	3.561	3.904	3.983
	(-0.545)			
N	1,000	288	288	212
Males	0.182	3.834	3.916	3.732
	(1.593)			
N	990	274	274	221

Notes: Linear probability models were estimated using difference-in-differences and individual-level fixed effects on the panel of individuals interviewed both at baseline and endline. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01

In qualitative interviews, youths described different types of support provided by those in their personal networks (family members e.g. parents, grandparents, siblings and spouses), friends and neighbours. Support from family members was mainly financial support from parents/grandparents for personal expenses and advice on social and personal issues such as the importance of, among others, working hard, self-respect and good behaviour. Support from friends mainly involved getting together for social activities and chats about e.g. football, girlfriends and schoolwork for those still in school, as well as advice on life issues including relationships, how to protect oneself from sexually transmitted infections (STIs) and what economic activities to engage in so as to generate income. Friends were also lending each other money and doing business together. Some youths had no friends, which one youth attributed to being too busy with work and other obligations.

5.5 Fertility and contraception

Contraceptive use has broad, positive impacts on women's health and also on infant and child health and survival through increasing birth spacing and other pathways.[51] Over 88,000 maternal deaths in SSA were estimated to have been averted in 2008 alone through modern contraceptive use, and it is estimated that an additional 59,000 maternal deaths could be averted annually in the region by fulfilling unmet need for contraception.[52] Our survey asked youth who had ever had sex about current use of contraceptive methods by either themselves or their partner. Modern methods were defined as male or female sterilization, injectables, implants, intrauterine devices, pills, condoms (male or female), diaphragms, foam or jelly, or emergency contraceptive pills. These are in contrast to lactational amenorrhea method, withdrawal or rhythm method, which are all considered to be traditional or non-modern methods of contraception and have lower efficacy rates. We find no issues with selective attrition among marriage, fertility and contraceptive use outcomes, supporting the internal validity of our programme impact estimates on these outcomes *(see Table B7 in Appendix B)*.

When examining rates of contraceptive knowledge and use at endline across the age distribution, females in the treatment group have higher rates of modern contraceptive knowledge than those in the control group, particularly after age 19 *(see Figure 5.6)*. Usage rates show a somewhat different pattern: while rates are very similar until age 19, the lines then criss-cross with females in the control group having higher usage rates between the ages of 20 and 24 and treatment females having higher usage rates between ages 24 and 31 years. Among males, those in the treatment group generally have

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51   Cleland, J., et al., 'Contraception and health', *Lancet*, vol. 380, no. 9837, 2012, pp. 149–156.

52   Ahmed, S., et al., 'Maternal deaths averted by contraceptive use: an analysis of 172 countries', *Lancet*, vol. 380, no. 9837, 2012, pp. 111–125.

lower rates of knowledge, and differences in usage rates vary by age: treatment males have lower rates of modern contraceptive use below age 23 and higher rates after age 23, compared to males in the control group *(see Figure 5.7)*.

Figure 5.6. Percentage of females knowing a modern contraceptive method and using a modern contraceptive method, endline
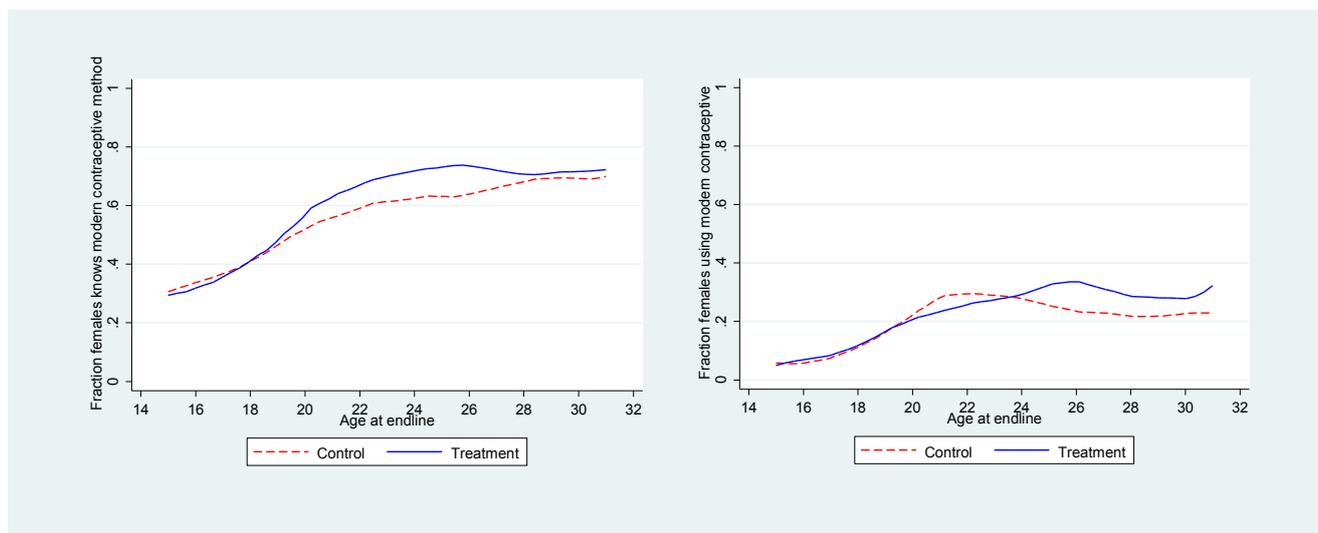
Figure 5.7. Percentage of males knowing a modern contraceptive method and using a modern contraceptive method, endline
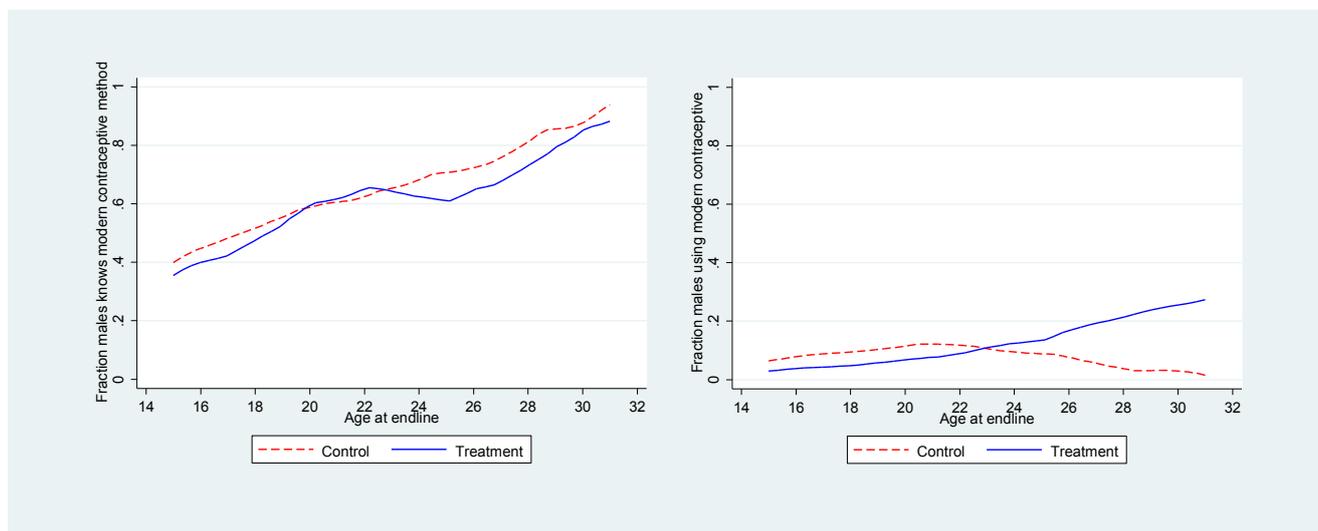
Among both females and males, 55 per cent in the treatment and 54 per cent in the control group were able to name a modern contraceptive method *(see Table 5.26)*. We found positive programme impacts on females' modern contraceptive knowledge. Females (but not males) in the treatment group were 10 percentage points more likely than those in the control group to be able to name a contraceptive method as a result of the programme. This finding may be due to increased interaction with health care providers due to programme conditions around taking children to check-ups.

Table 5.26. PSSN impacts on modern contraceptive knowledge, (age 14–28 at baseline)

	PSSN Impact	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)
Knows contraceptive method	0.018	0.563	0.559
	(0.534)		
N	974	552	422
Females	0.081*	0.563	0.514
	(1.999)		
N	496	284	212
Males	-0.043	0.563	0.605
	(-0.893)		
N	478	268	210
Knows modern contraceptive method	0.029	0.551	0.536
	(0.853)		
N	974	552	422
Females	0.101*	0.560	0.491
	(2.430)		
N	496	284	212
Males	-0.039	0.541	0.581
	(-0.829)		
N	478	268	210

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01

However, despite these programme impacts on modern contraceptive knowledge, there were no impacts on actual contraceptive use, which increased slightly among women over the course of the impact evaluation in both treatment (from 15 to 19 per cent) and control (from 15 to 18 per cent) groups. Among males, reported contraceptive use decreased slightly from 11 per cent at baseline to 9 per cent among treatment and 10 per cent among control group at endline (differences not statistically significant). Usage rates of traditional methods of contraception remained low among both females (0.7 per cent at baseline compared to 0.4 and 2 per cent among treatment and control groups, respectively, at endline) and males (<1 per cent at both waves).

Table 5.27. PSSN impacts on contraceptive use (age 14–28 at baseline)

	PSSN Impact	Baseline Treatment Mean	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)	(4)
Currently using any contraceptive	-0.013	0.140	0.149	0.143
	(-0.451)			
N	1,896	536	536	412
Females	-0.003	0.165	0.200	0.190
	(-0.065)			
N	992	285	285	211
Males	-0.025	0.112	0.092	0.095
	(-0.649)			
N	904	251	251	201
Currently using modern contraceptive	-0.006	0.132	0.146	0.136
	(-0.244)			
N	1,896	536	536	412
Females	0.005	0.154	0.193	0.175
	(0.138)			
N	992	285	285	211
Males	-0.021	0.108	0.092	0.095
	(-0.541)			
N	904	251	251	201
Currently using traditional contraceptive	-0.007	0.006	0.006	0.012
	(-0.940)			
N	1,896	536	536	412
Females	-0.013	0.007	0.004	0.019
	(-1.001)			
N	992	285	285	211
Males	-0.001	0.004	0.008	0.005
	(-0.117)			
N	904	251	251	201

Notes: Linear probability models were estimated using difference-in-differences and individual-level fixed effects on the panel of individuals interviewed both at baseline and endline. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01

Next we examine PSSN impacts on fertility-related outcomes, as policymakers often fear that cash transfer programmes may increase childbearing through beliefs around qualifying and maintaining eligibility for such programmes. Despite these beliefs, the evidence from cash transfer programmes (conditional and unconditional) in Latin America and Africa shows either no or, in exceptional cases, very little evidence of increased fertility as a result of cash transfers.[53] Alternatively, cash transfers may decrease the number of births per women if they are better able to exercise their preferences for fewer births, either through increased access to health care or increased autonomy and/or decision making within the household, where disagreements exist between partners around fertility. In fact, South Africa's Child Support Grant reduced adolescent pregnancy and increased birth intervals among female caregivers receiving the grant, as compared to similar caregivers not receiving the grant.[54,55] Further, Kenya's CT-OVC delayed first pregnancies among females aged 15–25 years.[56] Despite this promise, there were no impacts found on early fertility outcomes in Transfer Project evaluations in Malawi or Zambia (both unconditional cash transfers targeted to labour-constrained households) among females aged 12 to 24 at baseline over an approximate three-year period.[57]

Figure 5.8 illustrates that, at endline, rates of ever having been pregnant are similar between treatment and control females. Examining this outcome over time, rates of ever having been pregnant increased slightly from 51 to 52 per cent of the treatment group and remained steady at 51 per cent of the control group (differences not statistically significant), while 43 per cent of the treatment group and 40 per cent of the control had ever had a live birth (compared to 42 per cent at baseline; *see Table 5.28*).

Figure 5.8. Percentage of females reporting ever being pregnant over age at endline

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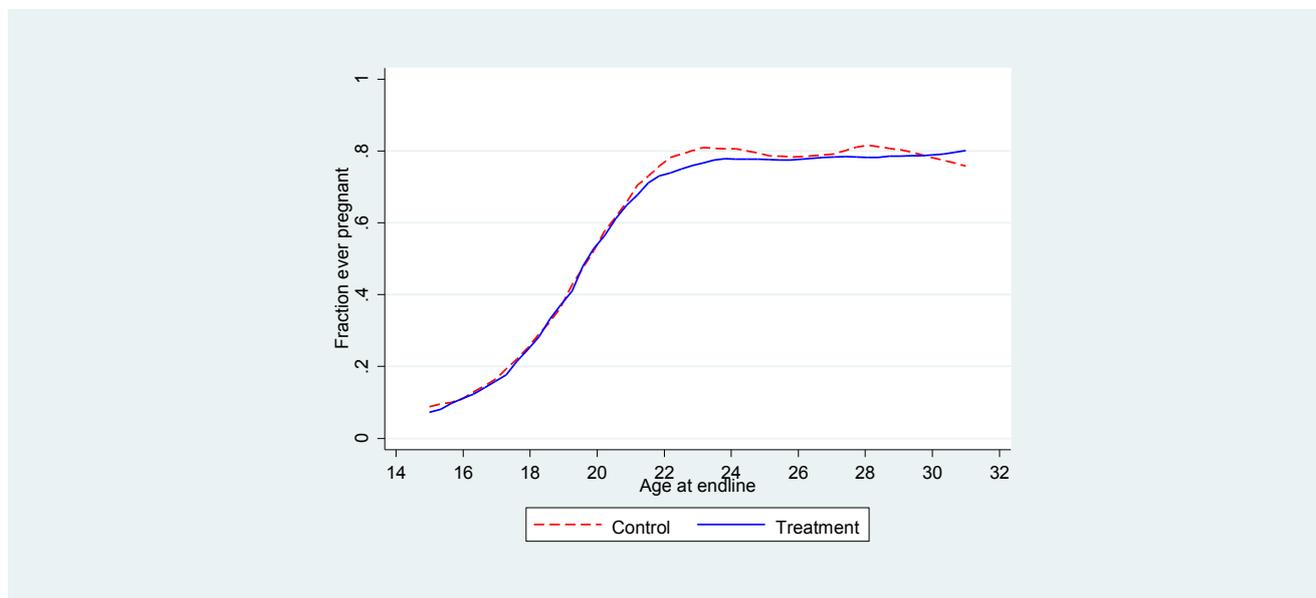
53   Handa, S., et al., 'Myth busting? Confronting Six Common Perceptions about Unconditional Cash Transfers as a Poverty Reduction Strategy in Africa', *UNICEF Office of Research – Innocenti Working Paper WP-2017-11*, Florence, Italy, 2017, https://www.unicef-irc.org/publications/899/.

54   Heinrich, C., et al., 'The South African Child Support Grant Impact Assessment', Department of Social Development, South African Social Security Agency, UNICEF, South Africa, 2012.

55   Rosenberg, M., et al., 'Relationship between Receipt of a Social Protection Grant for a Child and Second Pregnancy Rates among South African Women: A Cohort Study', *PLoS One,* vol. 10, no. 9, e0137352, 2015.

56   Handa, S., et al., 'Impact of the Kenya Cash Transfer for Orphans and Vulnerable Children on Early Pregnancy and Marriage of Adolescent Girls', *Social Science & Medicine,* vol. 141, 2015, pp. 36–45.

57   Dake, F., et al., 'Income transfers, early marriage and fertility in Malawi and Zambia', *Working paper, the Transfer Project,* 2017.

Further examining variations of fertility outcomes among those who had been pregnant, the average age at first pregnancy was 18 years among both treatment and control groups (remained steady from baseline). The proportion of the sample reporting a current pregnancy was 8 per cent of the treatment group and 7 per cent of the controls (as compared to 7 per cent at baseline; no programme impacts). Total fertility was 1.4 and 1.5 children among the treatment and control groups, respectively at endline (up from 1.2 children at baseline). At baseline, the average woman in the sample had 0.07 children who were born alive and later died (compared to 0.07 among the treatment and 0.09 among the control group at endline; differences not statistically significant). Further, 12 per cent of the treatment and 10 per cent of control group at endline had ever had a pregnancy end in miscarriage, abortion or stillbirth (compared to 12 per cent at baseline). There are no significant impacts across any of the fertility outcomes. On the one hand, this indicates, similar to other evaluations, that there is no adverse impact of the programme on fertility. On the other hand, there appears to be no support for delayed fertility among youth as a beneficial additional effect of the programme.

Table 5.28. PSSN impacts on fertility-related outcomes, females (age 14–28 at baseline)

	PSSN Impact	Baseline Treatment Mean	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)	(4)
Ever pregnant	0.010	0.505	0.516	0.505
	(0.242)			
N	1,002	287	287	214
Age at first pregnancy	-0.092	17.741	18.027	18.422
	(-0.318)			
N	404	112	112	90
Currently pregnant	0.039	0.070	0.081	0.066
	(1.085)			
N	994	284	284	213
Total fertility	-0.170	1.244	1.359	1.509
	(-1.227)			
N	1,002	287	287	214
Total children born & later died	-0.020	0.077	0.066	0.085
	(-0.610)			
N	1,000	287	287	213
Total children born & still living	-0.152	1.167	1.293	1.432
	(-1.138)			
N	1,000	287	287	213
Ever had live birth	0.017	0.415	0.432	0.404
	(0.365)			
N	1,000	287	287	213
Ever had pregnancy end in miscarriage/abortion/stillbirth	-0.040	0.122	0.115	0.103
	(-1.884)			
N	1,000	287	287	213

Notes: Linear probability models were estimated using difference-in-differences and individual-level fixed effects on the panel of individuals interviewed both at baseline and endline. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01

Among males, we examined the proportion reporting ever having made a female pregnant and found some discrepancies in the reporting over time (19 per cent reported this outcome at baseline compared to 14 per cent of the treatment group and 9 per cent of the controls at endline; differences not statistically significant). Therefore, although there is no significant treatment effect, it is likely that this indicator suffered from reporting bias.

Table 5.29. PSSN impacts on fertility-related outcomes, males (age 14–28 at baseline)

	PSSN Impact	Baseline Treatment Mean	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)	(4)
Ever made female pregnant/fathered child	0.042	0.185	0.140	0.090
	(1.300)			
N	984	271	271	271

Notes: Linear probability models were estimated using difference-in-differences and individual-level fixed effects on the panel of individuals interviewed both at baseline and endline. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01

We find no issues with selective attrition on any of the contraceptive and fertility-related outcomes *(see Tables B7–B9 in Appendix B)*, however contraceptive knowledge was measured only at endline and so we could not test for baseline balance between treatment and control groups in this outcome.

Qualitative interviews showed mixed knowledge of the fertility cycle, contraceptives and the possibility of pregnancy after unprotected sex, with some youth also admitting that they had not agreed on or discussed their fertility preferences with their partners:

> *"We don't use condoms or any other contraceptive, we only study the calendar days of her menstrual cycle to avoid her conceiving before we get married and bear children."* [18-year-old male, Mbogwe].

> *"With her it was the same; we used to meet just to have sex. I used protection with her and it was my choice because I heard that she had other men. She did not want us to use protection but I forced it. I think that maybe she just trusted me or wanted to have a baby but she did not give me a reason."* [24-year-old male, Kahama]

> *"I have heard of protection but I am not sure I understand it much. They say condoms prevent/protect but I do not use them; they say that if you use these condoms when you have an 'affair outside your marriage' they will protect you from getting infected with HIV/AIDS. I have heard this on the radio… I don't like using them; I don't expect to use them with my husband. I don't even know what they would be for."* [28-year-old female, Itilima]

> *"We were always using condom and he was the one who made that decision that he was afraid that I may get pregnant and he wasn't ready to have a child at that time. He wanted us to get children after our marriage because that was the right time as we would be ready to raise the family."* [25-year-old female, Kilosa]

Further discussion around condom use specifically was linked to HIV/AIDS and STIs *(see next section)*. To summarize, the programme appears to have increased contraceptive knowledge among females but to have had no impacts on contraceptive use, which remains low among the sample of youth. It is possible that increased knowledge of modern contraceptives resulting from the programme is due to increased interaction with health care providers as a result of health conditions required by the PSSN, but we are unable to test this hypothesis with our data. In addition, there were no differences between treatment and control groups on fertility and related outcomes, which supports existing evidence from the region underscoring that cash transfer programmes do not have the unintended consequence of increasing fertility.[58]

5.6 Partnerships, sexual behaviour and HIV risk

Poverty and early partnership (including marriage and cohabitation), sexual debut and risk taking are intertwined in a cycle that heightens vulnerability to each condition or behaviour, decreasing future potential productivity and well-being. Evidence from some existing cash transfers (including two in Africa—in Malawi and Kenya) has demonstrated the programmes' abilities to delay sexual debut and marriage among youth.[59,60] However, these impacts are not automatic, as demonstrated by recent reviews on what works to prevent child marriage[61] and more recent literature, particularly on marriage and cohabitation transitions, which fails to identify a positive programme impact among household-level cash transfers in Africa.[62, 63]

We first examine the impact of the PSSN on sexual debut and partnership formation. Figure 5.9 shows that, for both outcomes, the endline sample demonstrates large increases over age. At the lowest age, 14 years, outcomes are low, ranging from 0 to 20 per cent, with increases particularly in the 16–20 age range at baseline and a levelling off around age 22 for sexual debut and age 24 for marriage or cohabitation. At endline, this equates to a prevalence for sexual debut of approximately 50 per cent (higher for females as compared to males) and a prevalence of marriage or cohabitation of approximately 18 per cent (again higher for females as compared to males). These levels indicate that a large percentage of youth sexual partnerships are among dating partners, rather than spousal partnerships. For both outcomes, the lines for treatment and control are fairly similar, indicating likelihood that there is no marked treatment effect.

58 Palermo, T., et al., 'Unconditional Government Social Cash Transfer in Africa Does Not Increase Fertility', *Journal of Population Economics,* vol. 29, no. 4, 2015, pp. 1083–1111.

59 Baird, S., et al., 'The short-term impacts of a schooling conditional cash transfer programme on the sexual behavior of young women', *Health Economics*, vol. 19, S1, 2010, pp. 55–68.

60 Handa, S., et al., 'The Government of Kenya's Cash Transfer Programme Reduces the Risk of Sexual Debut among Young People Age 15-25', *PloS one*, vol. 9, no. 1, 2014, p. e85473.

61 Kalamar, A.M., et al., 'Interventions to Prevent Child Marriage Among Young People in Low- and Middle-Income Countries : A Systematic Review of the Published and Gray Literature' *Journal of Adolescent Health*, vol. 59, no. 3, 2016, pp. 16–21.

62 Handa, S. et al., 'Impact of the Kenya Cash Transfer for Orphans and Vulnerable Children on early pregnancy and marriage of adolescent girls', *Social Science & Medicine*, vol. 141, 2015, pp. 36–45.

63 Dake et al., 'Income transfers, early marriage and fertility in Malawi and Zambia', *Working paper, the Transfer Project,* 2017.

Figure 5.9. Proportion of endline sample reporting sexual debut and marriage/cohabitation over age at baseline by treatment status
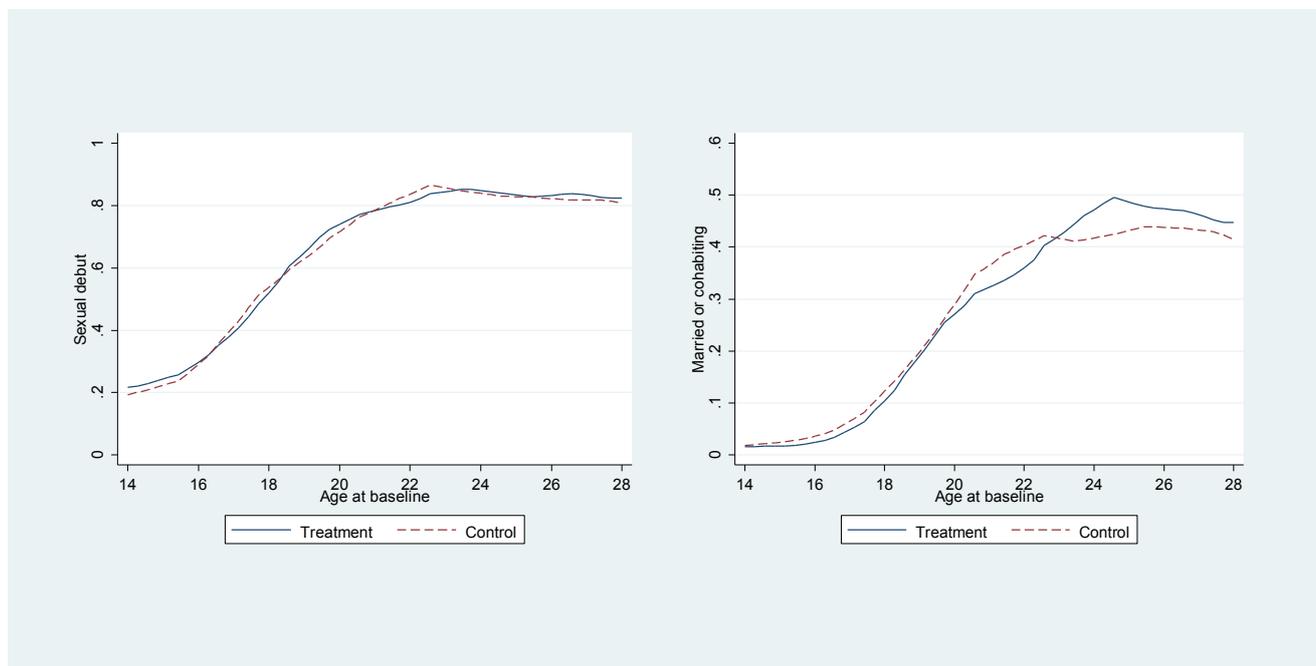
Table 5.30 shows impacts on the three outcomes: 1) sexual debut, 2) married or cohabiting partner and 3) married, cohabiting or dating partner.[64] In no case is there evidence of a statistically significant effect of the PSSN on these measures. This main result holds if we consider a sample at endline of youth who report not having debuted at baseline (since debut is a one-time outcome, those who have already debuted at baseline cannot be affected by the programme), or if we consider a fully adjusted model taking into account youth characteristics. Although point estimates are in the expected direction for partnership indicators, impacts are not significant in either case (when considering dating partners, or when restricting analysis to married and cohabiting partners). However, it is probable that our analysis is not set up to fully measure partnership dynamics. For example, due to our tracking protocol we are not able to fully track youth to new households and thus our analysis sample may partially miss marriage and cohabitation dynamics, particularly among female youth who traditionally will move to cohabit with partner and partners' families.

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64 Among the sexual debut indicators there were 28 observations and among the partnership indicators there were 11 observations with refused, don't know or missing data, respectively.

Table 5.30. PSSN impacts on sexual debut and partnership status (age 14–28 at baseline)

	PSSN Impact	Baseline Treatment Mean	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)	(4)
Sexual debut	0.018	0.579	0.507	0.473
	(0.436)			
N	1,978	556	556	433
Females	0.005	0.578	0.592	0.579
	(0.098)			
N	1,002	287	287	214
Males	0.024	0.580	0.416	0.370
	(0.379)			
N	976	269	269	219
Married or cohabiting partner	-0.019	0.226	0.187	0.170
	(-0.549)			
N	1,984	557	557	435
Females	-0.006	0.326	0.274	0.233
	(-0.110)			
N	1,006	288	288	215
Males	-0.031	0.119	0.093	0.109
	(-0.801)			
N	978	269	269	220
Married, cohabiting or dating partner	-0.040	0.485	0.537	0.522
	(-1.249)			
N	1,984	557	557	435
Females	-0.039	0.545	0.590	0.558
	(-0.998)			
N	1,006	288	288	215
Males	-0.041	0.420	0.480	0.486
	(-0.883)			
N	978	269	269	220

Notes: Linear probability models were estimated using difference-in-differences and individual-level fixed effects on the panel of individuals interviewed both at baseline and endline. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01

In addition to sexual debut, we examined various indicators of risky sexual behaviours, including: 1) lifetime number of sexual partners; 2) number of sexual partners in the last 12 months; 3) concurrent relationships in the last 12 months; 4) condom use at last sex (last 12 months); and 5) age-disparate sex in last partnership (defined as partner five or more years older for females and five years younger for males). For all risky sex outcomes, they are defined as negative. For example, instead of condom used, we present no condom used (where those who had not had sex in the past 12 months are coded zero). Table 5.31 shows the results for all indicators. Baseline youth reported having had, on average, 1.8 lifetime sexual partners (females reported 1.4, while males reported 2.3 on average). In the past 12 months, the average number of sexual partners at baseline was just under one (0.92 partners) and approximately 10 per cent reported concurrent sexual relationships at baseline. Approximately 42 per cent had unprotected sex (did not use a condom) at their last sex within the past 12 months. There are no significant impacts on any of the risky sex behaviours, and this holds when we restrict the sample to those youth who have sexually debuted and those who have had sex in the last year. In addition, the age disparate sex results hold when considering an age cut-off of 10 years older/younger. In this case, the endline mean for females is approximately 6–8 per cent and for males less than 1 per cent. Although statistics on first sex were also collected for descriptive purposes, the percentage of youth sexually debuting within the programme period is too small to warrant analysis as this is the only sample which could credibly be affected by the programme.

Table 5.31. PSSN impacts on risky sexual behaviour (age 14–28 at baseline)

	PSSN Impact	Baseline Treatment Mean	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)	(4)
Lifetime number of sexual partners	0.212	1.839	1.360	1.482
	(0.634)			
N	1,960	553	553	427
Females	-0.232	1.401	1.324	1.575
	(-1.022)			
N	998	287	287	212
Males	0.612	2.312	1.398	1.391
	(1.081)			
N	962	266	266	215
Number of sexual partners (last 12 months)	0.140	0.919	0.655	0.672
	(1.027)			
N	1,978	556	556	433
Females	0.089	0.868	0.676	0.664
	(0.678)			
N	1,002	287	287	214
Males	0.183	0.974	0.632	0.680
	(0.809)			
N	976	269	269	219
Concurrent sexual relationships (last 12 months)	0.017	0.104	0.045	0.063

	(0.621)			
N	1,976	556	556	432
Females	0.018	0.066	0.028	0.056
	(0.565)			
N	1,002	287	287	214
Males	0.015	0.145	0.063	0.069
	(0.343)			
N	974	269	269	218
Did not use condom at last sex (within last 12 months)	-0.008	0.420	0.368	0.335
	(-0.235)			
N	1,992	560	560	436
Females	-0.034	0.460	0.463	0.447
	(-0.691)			
N	1,004	287	287	215
Males	0.012	0.377	0.267	0.226
	(0.214)			
N	988	273	273	221
Last sex: partner 5 or more years older/younger	0.010	0.133	0.146	0.123
	(0.307)			
N	1,696	481	481	367
Females	-0.002	0.185	0.204	0.206
	(-0.041)			
N	898	260	260	189
Males	0.021	0.072	0.077	0.034
	(0.670)			
N	798	221	221	178

Notes: Linear probability models were estimated using difference-in-differences and individual-level fixed effects on the panel of individuals interviewed both at baseline and endline. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01

In qualitative interviews, some respondents discussed decision making around condom use and negotiating their use with sexual partners. Issues of lack of trust among partners as well as not being ready for a child were raised, as was fear of HIV/AIDS and other STIs.

"We used condoms, and I was the one who insisted that we should use condoms. I thought it was necessary to use condoms because I was already educated about the safe usages while in school. After meeting for several times, we didn't use condoms anymore." [20-year-old female, Kisarawe].

"…She didn't see a reason why we had to use condom but for me, because I know what I have been reading in the books about HIV/AIDS and other STDs, I had to make decision that we must use condom during sexual intercourse until we go for testing." [24-year-old male, Handeni]

Nevertheless, some participants reported not using condoms during sexual intercourse for various reasons including being too young to understand the significance of using protection. There was also a group of youths who claimed to have used protection for a while but later stopped after they had tested negative to HIV/AIDS or had gotten married.

> *"Truly speaking, at that time…and that is why I said our brains had not yet even matured so we had unprotected sex; we did not even have the thought of using condoms."* [22-year-old male, Misungwi].

> *"At first we were using condom but we later agree on having a child so we stopped using it. But that was after testing for HIV/AIDS and negative results."* [19-year-old female, Kisarawe**]**

> *"With the first girl we had a good relationship but we only met to have sex, this is the only reason I would meet with her. I did not use condoms with her and neither with the second one."* [17-year old male, Mbogwe]

When asked about the practices of others, youth generally responded that they did not think other youth were practicing safe sex, for reasons including caring less about HIV/AIDS and lack of adequate knowledge on HIV/AIDS prevention.

> *"Really, when it comes to prevention I do not think that adolescents concern themselves with the matters of prevention; it is not so easy. Consider that this is a village and people do not know the importance of prevention; they don't hear much about these things."* [22-year-old male, Misungwi]

> *"I don't think they care to protect themselves from HIV/AIDS because if they do protect themselves they won't get pregnant may be if they go for test before starting sexual relationship."* [18-year-old female, Handeni]

> *"They go ahead and have unprotected sex; there are those who use protection but many have unprotected sex because here we are in the bush and they do not understand well that now there are many diseases out there."* [24-year-old male, Kahama]

Transactional sex, or the exchange of sex or sexual acts for financial support, is thought to be a risk factor for adverse outcomes, including age disparate partnerships, lack of power or autonomy in relationships and the contraction of HIV/AIDS.[65] We analyse two different sets of questions on transactional sexual relationships. First, we present indicators following the VACS which ask the youth if they have given or received food, favours, gifts or money in exchange for sex in the past 12 months. We collect these indicators both at baseline and at endline, and present analyses of indicators of having 1) received, 2) given and 3) a combined measure of either received or given *(see Table 5.32)*. At baseline, approximately 20 per cent of the sample reports having given or received food, favours, gifts or money in exchange for sex. For the female sample, respondents primarily received items (16 per cent of females versus 5 per cent who gave items), while for the male sample, this was reversed (22 per cent of males reported giving items versus 7 per cent who received). We find no statistically significant programme impact on the traditional VACS transactional sex measures across indicators and samples of male and females. However, the endline means across indicators are low in comparison to the baseline, indicating that there could have been under-reporting at endline.

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65 Stoebenau, K. et al., 'Revisiting the Understanding of "transactional sex" in sub-Saharan Africa: A review and synthesis of the literature', *Social Science & Medicine*, vol. 168, 2016, pp. 186–197.

Table 5.32. PSSN impacts on transactional sex, traditional measures (last 12 months, age 14–28 at baseline)

	PSSN Impact	Baseline Treatment Mean	Endline Treatment Mean	Endline Control Mean
Last 12 months:	**(1)**	**(2)**	**(3)**	**(4)**
Received food, favours, gifts or money for sex	0.011	0.117	0.037	0.037
	(0.389)			
N	1,842	514	514	407
Females	-0.007	0.162	0.053	0.066
	(-0.168)			
N	926	266	266	197
Males	0.033	0.069	0.020	0.010
	(1.052)			
N	916	248	248	210
Gave food, favours, gifts or money for sex	0.016	0.135	0.016	0.032
	(0.631)			
N	1,840	512	512	408
Females	-0.015	0.053	0.023	0.030
	(-0.556)			
N	924	265	265	197
Males	0.032	0.223	0.008	0.033
	(0.783)			
N	916	247	247	211
Gave or received food, favours, gifts or money for sex	0.013	0.200	0.045	0.059
	(0.392)			
N	1,848	515	515	409
Females	-0.019	0.161	0.056	0.081
	(-0.413)			
N	930	267	267	198
Males	0.037	0.242	0.032	0.038
	(0.826)			
N	918	248	248	211

Notes: Linear probability models were estimated using difference-in-differences and individual-level fixed effects on the panel of individuals interviewed both at baseline and endline. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01

Additionally, we analyse measures aimed at unpacking the underlying motivation for transactional relationships as motivated by recent scholarly work led by the London School of Hygiene and Tropical Medicine *(see Table 5.33)*. We analyse three primary indicators: 1) If financial reasons motivated current or start of last relationship; 2) If youth were ever given money by their most recent partner; and 3) If youth would leave their current relationship if their partner did not financially support them. These questions are meant to measure a more nuanced concept of transactional sex, recognizing that in many relationships and cultures it is normal to exchange financial support within a committed relationship. Thus, the key concept is understanding the motivation for the formation and continuation of the relationships, rather than explicitly asking about an exchange for sex. For example, approximately 14 per cent of the sample at endline indicated that they had started a relationship in the last 12 months or are currently in a relationship which was financially motivated (any of the top three reasons given). The top motivation for relationship was love/romance and looks/attraction. Approximately 19 to 20 per cent of the sample indicated that they had been given money by their most recent partner in the last 12-month period (33 to 36 per cent for females). These figures are much higher than those obtained using the traditional VACS questions. Finally, approximately 4 per cent of the sample (6 per cent of females) indicate that they would leave their current relationship if their partner did not financially support them. The PSSN did not have a significant impact on these measures in any of the cases.

Table 5.33. PSSN impacts transactional sex alternative measures including motivation for relationships (endline cross section, age 14–28 at baseline)

	PSSN Impact	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)
Financial reasons motivate current or start of last relationship	-0.001	0.135	0.135
	(-0.038)		
N	1,000	563	437
Females	-0.018	0.241	0.251
	(-0.486)		
N	501	286	215
Males	0.008	0.025	0.023
	(0.598)		
N	499	277	222
Given money by most recent partner	-0.008	0.187	0.197
	(-0.317)		
N	998	562	436
Females	-0.038	0.330	0.360
	(-0.848)		
N	502	288	214
Males	0.002	0.036	0.041
	(0.088)		
N	496	274	222
Would leave relationship if partner did not financially support	0.003	0.032	0.030

	(0.201)		
N	1,002	565	437
Females	-0.001	0.059	0.061
	(-0.040)		
N	502	288	214
Males	0.003	0.004	0.000
	(1.023)		
N	500	277	223

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01

In qualitative interviews, female youth in particular cited financial reasons for initiation of sexual relationships, including marital partnerships, driven by poverty and lack of financial support for basic needs:

"I decided to be involved in love affairs so as to provide for myself some basic needs such as food and clothing. My family was experiencing a lot of problems, sometimes we had no food to consume and I was forced myself in sexual relations to get money." [16-year-old married female, Misungwi].

"Life hardship really influenced me to start this relationship. I needed money for my personal need. I needed bathing soaps, skin lotion and makeup powder." [21-year-old single female, Misungwi].

"When I failed Standard-VII in 2005, my parents decided to find a man to marry me even without my consent. I was unhappy with it but I had no way except to accept everything they wanted and they were given 12 cows for my bride price. A month later after the dowry, my husband arrived home and I was called and forced to enter one of room in our home where my husband was there waiting for me to have sexual intercourse; though I was not satisfied with what was going on it was difficult to reject because he was powerful and my parents were outside in case I refuse." [30-year-old married female, Itilima].

However, romantic partnerships provide many different forms of support beyond financial support or transactions, including emotional support, friendship and advice. This was exemplified by several youth speaking about their dating partners:

"He always supports me when I need money for something or when the child gets sick he provides me money for treatment cost at the hospital and when my family doesn't have money for food he will help them out. He will always be by my side. Even if I have travelled to Dar es Salam, he will be there to take care of me, even when we have funeral, he always condoles me and encourages me to be strong. Even when the child is sick, he always advises me to take her to hospital for treatments he keep on saying that I have to be strong." [20-year-old female, Kisarawe).

"Ester supports me by giving only love; sometimes she can support me by giving some money like TZS. 2000. We also advise each other on how to work, self-respect and respect our friendship. She gives me some advice on how to get money in the future through working hard in farming and buying some livestock such as cows and goats." [18-year-old male, Mbogwe].

Evidence is largely lacking on cash transfers' abilities to prevent the transmission of HIV[66], despite the aforementioned growing body of evidence on intermediate outcomes (i.e., those related to sexual behaviours). One evaluation in the Zomba district of Malawi found that the programme reduced the odds of contracting HIV[67], though there were very few HIV-positive individuals in the sample and the weighted results may have driven the statistically significant findings.[68] More recently, two school-based CCTs among adolescent girls in South Africa found no impacts on HIV incidence but did find decreases in Herpes Simplex Virus 2 incidence and/or other behavioural impacts. Although these results are preliminary, it is likely that targeting and low incidence of HIV among this population led to low power to detect impacts.[69, 70]

We did not collect biomarkers in this study to test actual HIV incidence or prevalence— however, we asked youth to assess their own risk of contracting HIV and thus report a self-assessment measure. Nearly 20 per cent of youth considered themselves at moderate or high risk for HIV, with no significant differences between treatment and control youth (see Table 5.34.).[71] Lifetime reported testing rates for HIV were approximately 42 per cent at baseline, ranging from 50 per cent for females to 33 per cent for males. We analyse 12-month reported measures here as these are sensitive to programme impact. At baseline, approximately 31 per cent of the sample reported testing for HIV in the last 12 months, and this percentage increases to 40 per cent among treatment youth and to 34 per cent among control youth (the increase is larger among the female sample). Despite the larger mean increase in the PSSN sample, the impact of 3.8 pp is not statistically significant. We also asked if youth received their results from testing and nearly all (99 per cent) said that they had done so, thus it is impossible analyse in a regression framework.

Table 5.34. PSSN impacts on HIV testing and perceptions (age 14–28 at baseline)

	PSSN Impact (1)	Baseline Treatment Mean (2)	Endline Treatment Mean (3)	Endline Control Mean (4)
Perceived HIV risk: moderate/high	0.004	0.198	0.194	0.163
	(0.111)			
N	1,660	475	475	355
Females	0.021	0.218	0.192	0.152
	(0.393)			
N	800	229	229	171
Males	-0.011	0.179	0.195	0.174
	(-0.196)			

66 Pettifor, A., et al., 'Can money prevent the spread of HIV? A review of cash payments for HIV prevention', *AIDS and Behavior*, vol. 16, no. 7, 2012, pp. 1729–1738.

67 Baird, S.J., et al., 'Effect of a cash transfer programme for schooling on prevalence of HIV and herpes simplex type 2 in Malawi: a cluster randomised trial', *The Lancet*, vol. 379, no. 9823, 2012, pp. 1320–1329.

68 Webb, E.L., Hayes, R.J., and Glynn, J.R., 'Cash transfer scheme for reducing HIV and herpes simplex type 2', *The Lancet*, vol. 380, no. 9844, 2012, p. 802.

69 Karim, Q.A. & CAPRISA 007 Team, 'Impact of conditional cash incentives on HSV-2 and HIV in rural high school students in South Africa', Presentation, ISA Vancouver, July 2015.

70 Pettifor, A. et al., 'The effect of a conditional cash transfer on HIV incidence in young women in rural South Africa (HPTN 068): a phase 3, randomised controlled trial', *The Lancet Global Health*, vol. 4, no. 12, 2017, e978-e988.

71 When asked about HIV risk, in 31 cases youth refused to answer and in 146 cases youth responded "don't know," thereby reducing the sample size to 1,829 observations.

N	860	246	246	184
Tested for HIV (last 12 months)	0.038	0.308	0.397	0.340
	(0.873)			
N	1,976	559	559	429
Females	0.049	0.367	0.497	0.420
	(0.850)			
N	996	286	286	212
Males	0.025	0.245	0.293	0.263
	(0.417)			
N	980	273	273	217

Notes: Linear probability models were estimated using difference-in-differences and individual-level fixed effects on the panel of individuals interviewed both at baseline and endline. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01

Through qualitative data we also examined people's perception of HIV/AIDS and how the situation is for those who have HIV/AIDS in the community, with a focus on access to treatment. The findings were mixed with respect to access to treatment and care. While some claimed that the situation in health centres and organizations was favourable for people with HIV/AIDS, others stated that the only available care was antiretroviral (ARV) therapy and care provided by their own relatives.

> *"There are those who get help from an organization which is in Kilosa; patients get various things such as soap, sheets, and sugar because their family alone cannot provide all the basic needs due to poor financial conditions of these families. There is also a group of those who take care of their family members without any help they just help each other and get help from other relatives."* [25-year-old female, Kilosa]

> *"We have a dispensary here at the village so people with HIV/AIDS go there for treatment and they go to take ARVs. They go secretly; it's not easy to see when they are going or how they get services so if there are any challenges faced it will not be easy for us to know."* [19-year-old female, Kisarawe]

> *"Let me just say that there is no care they get but there are a few who go to the hospital, get tested and start clinic sessions, for reducing the impact of HIV/AIDS and increasing living days; these are the ones that use this care service a lot, it is the sort of care I see them getting."* [22-year-old male, Misungwi]

In addition to the general situation concerning HIV/AIDS infection in the communities, our in-depth interviews also explored whether youth personally knew an HIV/AIDS infected person. Their experiences are reflected in the following:

> *"My aunt was affected with HIV/AIDS and it is from her that I knew about HIV/AIDS. She was being taken care of by her family and her husband. Most families in this community are responsible for taking care of their family member living with HIV/AIDS."* [28-year-old male, Uyuwi]

> *"I have a relative who is affected by HIV, a close relative of mine and I have seen how she suffers and I will tell you even if they are given ARVs it's not easy for a person who has HIV because living with HIV knowing you will die from it?! It's so hard for them."* [25-year-old female, Uyuwi]

> *"Yes, I have had close friends of mine get this disease. I got to the point where I felt all that was left was for me to protect myself as I saw many students died from the disease. I saw them suffering a lot such as cough every now and again as well as other health. Some struggled even with getting food to eat."* [24-year-old male, Kahama]

When we asked about challenges facing people with HIV/AIDS in the community, the issues that came out the most were that of stigma and the difficulties in caring for this group of people. Also highlighted was the concern about poverty levels experienced by many of the infected people and thus the inability to acquire basic necessities.

> *"…they get various challenges; within a family an infected person is almost with no one to take care for. It is perceived that if you care for infected person, especially you touch them you too will also be infected. This leads to isolation and stigmatization."* [22-year-old female, Misungwi]

> *"I know there are people in the community who stigmatize and segregate people with HIV/ AIDS. For example, we may be in for a meeting and you will hear people saying negative things about them. Some are ok sitting with them but others will separate themselves and say things or just look at them."* [28-year-old female, Itilima]

> *"Some of these people are from poor households. They may need even vegetables or fruits but given their poor living conditions these things are not there; it is hard to afford. Like here in the village they are also far from here. You have to go all the way to Kisesa, and the cost is another thing. The cost becomes too much and the family is unable to provide these services for the person. In this and in other cases family members may find these needs as bothersome and simply ignore."* [22-year-old male, Misungwi]

In summary, there appears to be no evidence that the PSSN influenced sexual behaviour (including partnership formation), risk behaviours, transactional sex or perceived HIV risk according to the quantitative data. This could be in part due to the short evaluation time period as these outcomes typically take longer to materialize. There is only one case across all outcome indicators where there appears to be differential attrition, thus jeopardizing the internal validity of the analysis for the indicator of having ever received money, gifts, food or favours for sex in the past 12 months ($p<0.05$; *see Table B.10 in Appendix B*). Given the age range of the sample studied (14 to 28 years at baseline), a non-negligible proportion of the sample was married or cohabiting at baseline (approximately 20 per cent). It is possible that the programme could have had differential impacts on those youth who were married/cohabiting versus not married/cohabiting at baseline. Thus, all analyses in this section were also run separately for those married/cohabiting and for those not married/cohabiting at baseline *(see Appendix D)*. In these additional analyses, we still found no impacts on the outcomes studied (the same as the main tables presented here). Thus we conclude that the programme did not have differential impacts on married/cohabiting youth and other youth. The lack of quantitative impacts are in contrast to some of the qualitative narratives, which specifically tie risk behaviours to poverty and lack of material goods including, for females, the need to engage in transactional sex.

5.7 Physical, sexual and emotional violence among females

Violence has adverse impacts on individuals' lives, including across health, social and economic domains. Gender-based violence is pervasive around the world, including in Tanzania. It comprises various forms of violence, including physical, sexual and emotional, and can be perpetrated by intimate partners (spouses, boyfriends/girlfriends), family members, authority figures, friends, strangers, and more. Globally, it is estimated that one in three women experience physical or sexual violence at the hand of an intimate partner[72], and IPV has adverse effects not only on women's health and well-being but also on the health and survival of their children.[73,74] Additionally, 7.2 per cent of females experience forced sex by a non-partner in their lifetime.[75] The Tanzanian VACS was conducted among adolescents in 2009 and showed that 14 per cent of females aged 14 to 17 had experienced sexual violence and 51 per cent had experienced physical violence in the previous 12 months. Based on our own calculations using the most recent Tanzania DHS from which data on IPV are available (2015), among women aged 15 to 30 years residing in the regions of the current study and among the poorest wealth quintile of survey respondents, an estimated 30 per cent of ever married/cohabiting women have experienced physical IPV, 43 per cent have experienced emotional IPV, and 14 per cent have experienced sexual IPV in the past 12 months. Further, 36 per cent of these women had experienced physical or sexual IPV (a composite indicator) in the past 12 months.[76]

In this section we examine impacts of the PSSN on emotional, physical and sexual violence experienced by females. To assess females' experiences of violence in the study sample, we used validated survey items from VACS and DHS previously implemented in Tanzania. We assessed physical violence experience through questions about whether anyone had done the following in the previous 12 months: (1) slapped or pushed her; (2) hit her with a fist; (3) kicked her or beat her up; (4) tried to choke her or burn her on purpose; (5) threatened or attacked her with a knife, gun or any other weapon. For both emotional and physical violence, we asked about perpetrators and grouped these into intimate partner (spouse/boyfriend/girlfriend), family member, authority figure (including teachers), peers, or other. We then asked whether females had ever tried to seek help or tell someone about the emotional and physical violence they had experienced and classified these help-seeking behaviours into formal (police, doctor/health worker, priest/religious leader, counsellor, NGO/women's organization, or local leader) and informal (friends, family, husband/partner's family, neighbours). Finally, sexual violence (12-month and lifetime experience) was assessed by asking whether anyone had ever: (1) physically forced her to have sexual intercourse or (2) forced her to perform other sexual acts that she did not want to. We also asked whether her sexual debut was forced, pressured or tricked, and classified women responding in the affirmative as also having experienced sexual violence.

Table 5.35 reports programme impacts on physical and emotional violence and related help-seeking behaviours. As violence indicators were only collected for females due to ethical considerations (males and females should not be interviewed in the same households regarding violence outcomes as per WHO guidelines), the panel sample size for analysis of emotional and physical violence was n=994. Then, among those who did experience violence, the panel sample size for help-seeking analyses was

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72 Devries, K. M., et al., 'The Global Prevalence of Intimate Partner Violence Against Women', *Science,* vol. 340, 2013, pp. 1527–1528.

73 Ackerson, L.K and Subramanian, S., 'Domestic violence and chronic malnutrition among women and children in India', *American Journal of Epidemiology*, vol. 167, no. 10, pp. 1188–1196.

74 Åsling-Monemi, K., 'Violence against women increases the risk of infant and child mortality: a case-referent study in Nicaragua', *Bulletin of the World Health Organization*, vol. 81, no. 1, 2003, pp. 10–6.

75 Abrahams, N., et al., 'Worldwide prevalence of non-partner sexual violence: a systematic review', *The Lancet,* vol. 383, no. 9929,2014, pp. 1648–1654.

76 Ministry of Health, Community Development, Gender, Elderly and Children; Ministry of Health (Zanzibar); National Bureau of Statistics (NBS); Office of Chief Government Statistician (Zanzibar); and ICF, *Tanzania Demographic and Health Survey and Malaria Indicator Survey 2015–2016*, NBS and ICF Macro, Dar es Salaam, Tanzania, 2015.

n=76. Rates of reported emotional and physical violence dropped between baseline and endline. For example, for emotional violence, the rates decreased from 57 per cent at baseline to 28 per cent among treatment and 26 per cent among control females (no significant programme impacts). This drop in violence rates between survey waves could indicate differences in disclosure rates between baseline and endline.

Column 2 indicates that at baseline, approximately 57, 32, and 17 per cent of females experienced emotional, physical and sexual violence, respectively, in the previous 12 months. Then at endline, 28 per cent of treatment females and 26 per cent of control females had experienced emotional violence in the previous 12 months. Further, approximately 18 per cent and 14 per cent of treatment and control females had experienced physical violence in the previous 12 months, respectively, at endline (down from 31.6 per cent at baseline). When examining combined violence indicators, we see that 22 and 19 of treatment and control females, respectively, had experienced physical or sexual violence in the 12 months prior to endline (down from 41 per cent at baseline). With respect to the combined measure of emotional, physical or sexual violence in the previous 12 months, 24 and 33 of treatment and control females, respectively, had experienced this at endline (down from 67 per cent at baseline). We found no programme impacts on the experience of emotional, physical or sexual violence; however, we did find impacts on help-seeking. Females from PSSN households who experienced physical or emotional violence were 31 pp more likely to seek formal help than those in control households. However, this estimate results from a small sample size and should be interpreted with caution. There were no impacts on informal help-seeking.

Table 5.35. PSSN impacts on physical, sexual and emotional violence, females (age 14–28 at baseline)

	PSSN Impact	Baseline Treatment Mean	Endline Treatment Mean	Endline Control Mean
Last 12 months:	(1)	(2)	(3)	(4)
Experienced emotional abuse	0.002	0.565	0.284	0.255
	(0.040)			
N	994	285	285	212
Experienced physical violence	-0.022	0.316	0.175	0.142
	(-0.409)			
N	994	285	285	212
Experienced sexual violence	-0.070	0.174	0.066	0.065
	(-1.588)			
N	1,004	288	288	214
Experienced physical/sexual violence	-0.061	0.410	0.219	0.186
	(-1.045)			
N	1,006	288	288	215
Experienced physical/sexual/emotional violence	-0.020	0.667	0.340	0.325
	(-0.351)			
N	994	285	285	212
Experienced emotional or physical violence from partner/spouse	0.047	0.140	0.168	0.142
	(1.205)			
N	994	285	285	212

Sought help for emotional/physical violence	0.339	0.458	0.583	0.357
	(1.532)			
N	76	24	24	14
Sought informal help for emotional/physical violence	0.030	0.417	0.375	0.357
	(0.124)			
N	76	24	24	14
Sought formal help for emotional/physical violence	0.310*	0.042	0.208	0.000
	(2.508)			
N	76	24	24	14

Notes: Linear probability models were estimated using difference-in-differences and individual-level fixed effects on the panel of individuals interviewed both at baseline and endline. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01

Figure 5.10. Prevalence of physical intimate partner violence (last 12 months) over age, by treatment
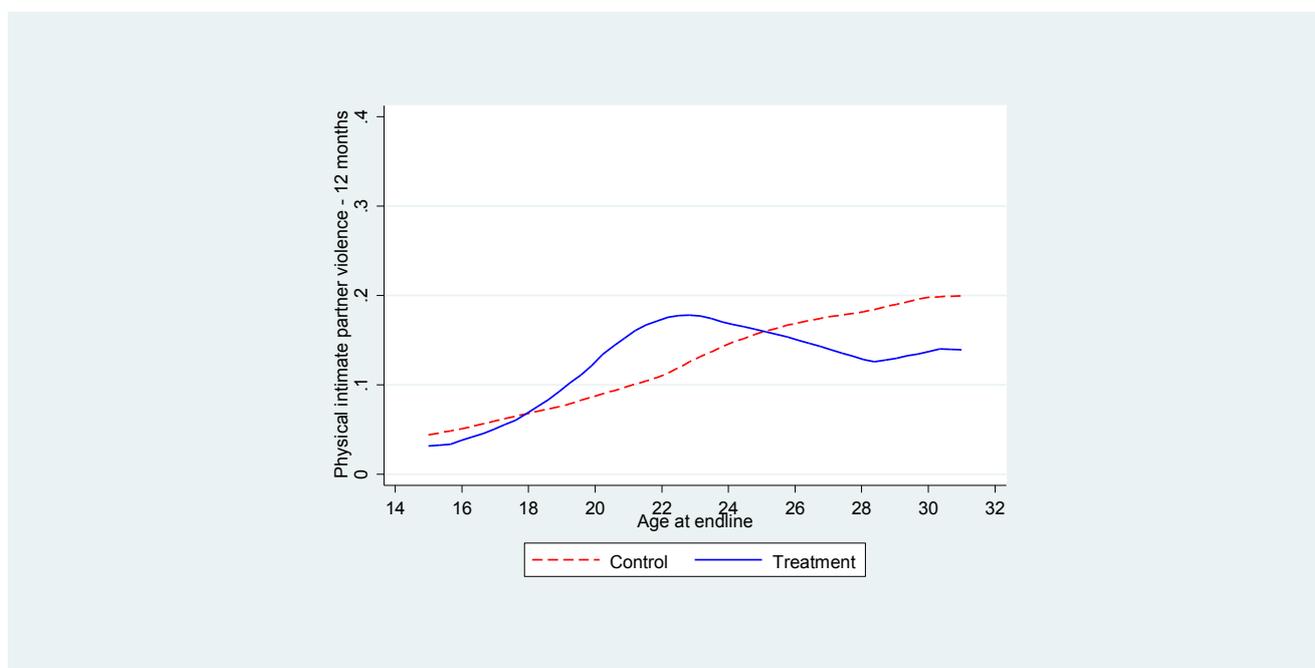
In Figure 5.10, we examine physical IPV, a type of violence that female adolescent and youth are at increasing risk of as they age and thus enter relationships. We see from the figure that rates are similar in late adolescence (ages 15–19 years) between treatment and control females, and that by age 30, approximately one in five women has experienced physical IPV in the previous year.

We did not examine impacts on violence by perpetrator type (with the exception of intimate partners) due to low sample sizes. However, for illustrative purposes, we examined the percentage of respondents reporting emotional and physical violence by reported perpetrator, treatment status and wave *(see Figure 5.11)*. We did not collect perpetrator information related to sexual violence. For both emotional and physical violence, the most commonly reported perpetrators were family members followed by partners/spouse at baseline, which switched at endline (partners/spouse were most common perpetrators followed by family members).

Figure 5.11. 12-month physical and emotional violence experience among female youth (aged 14–28 years at baseline), by perpetrator, treatment and time
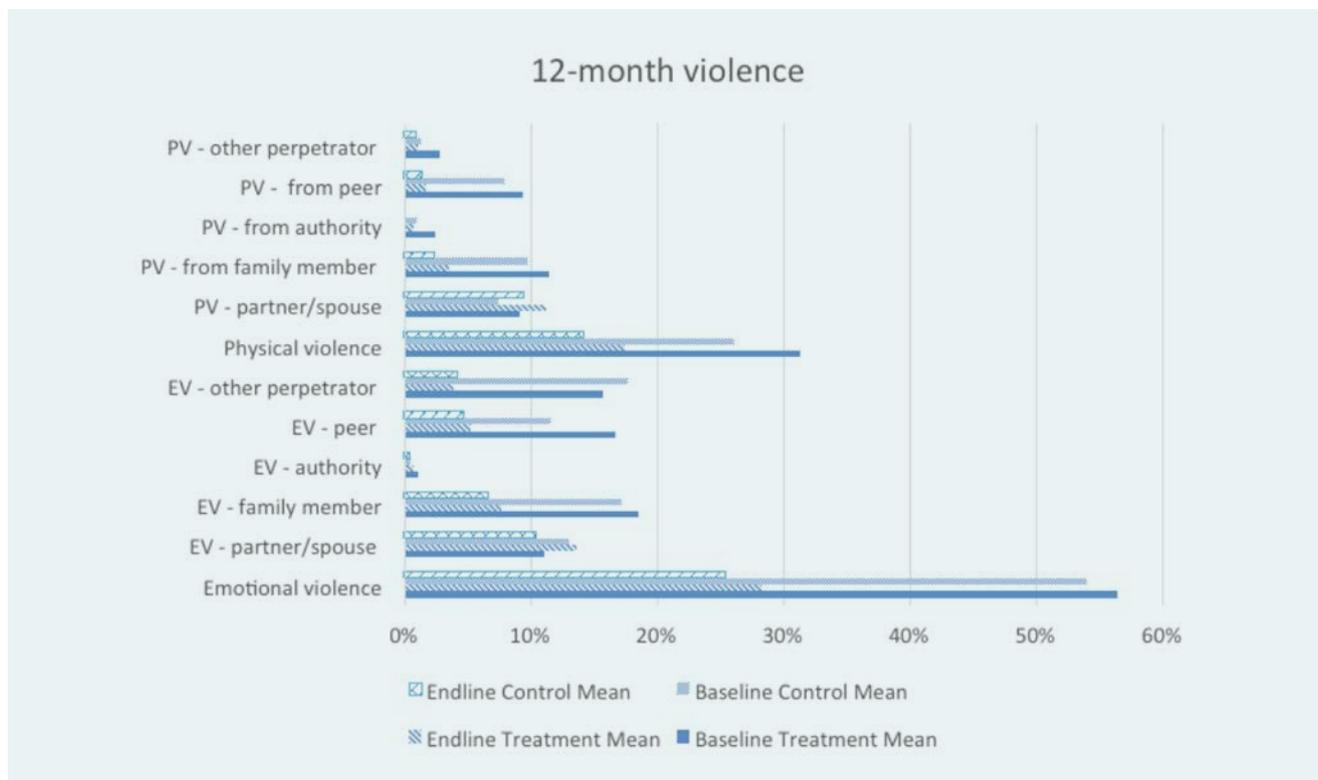
We find no issues with selective attrition among violence and help-seeking indicators *(see Table B11 in Appendix B).*

In qualitative interviews, female youths were asked to talk about a time when they experienced violence in their romantic relationships or in another context (e.g. at home, in school or in the community). Some female respondents narrated experiences of violence, including verbal and physical abuse by spouses, physical abuse by relatives, and emotional and physical abuse by domestic employers:

> *"It happened to me at home. When I got pregnant, I was really beaten by my Uncle and chased me away from home, and he told me I should go and live with the man who impregnated me."* [20-year-old female, Kisarawe].

> *"It sometimes happens, especially when I ask for money and when I tell him about my personal needs, he insults me and shows me disrespect."* [16-year-old female, Misungwi].

> *"I remember the time when we had the problem of food shortage, my husband became angry and beat me when I asked him to provide us food."* [30-year-old female, Itilima].

> *"I experienced that. I went to Tanga town to work as a house maid the lady who was my boss was harassing me, I was working but when she came back from work she would say that I am doing nothing and start abusing me and I used to eat once a day only at night when she was around. When she was not around she used not to leave food for me, only for her child who was four years."* [17-year-old female, Handeni].

"We have minor misunderstandings sometimes. For example when I come back home very late and delay to feed the baby he usually shouts at me but later he calms down. When I was young I experienced violence in school from my fellow student whereby we fought over an exercise book, my hand was injured but after two weeks I was okay." [27-year-old female, Kilosa].

Although in many of these examples the source of conflict was financial or related to poverty, it was not clear from the responses whether there had been any changes since they started receiving cash from the programme.

In summary, we find no protective impacts of the PSSN regarding emotional, physical or sexual violence experienced by females in the past 12 months. We do, however, find evidence to suggest that the programme may have increased the likelihood of formal help-seeking among those females who experienced emotional or physical violence. However, this finding should be interpreted with caution as the sample size on which these impacts were estimated was small.

6. CONCLUSION

This report on youth well-being and youth transition to adulthood complements the overall impact evaluation being conducted on the PSSN led by the National Bureau of Statistics and the World Bank, which is examining effects on food security, consumption, health and other indicators of well-being and productive activities. The findings from this evaluation of the PSSN highlight that, after 18 months, the programme has had positive impacts on children's education outcomes. Relatedly, children's labour participation shifted from paid work outside the household to (preferred) activities within the household.[77] Further, we find improvements in material well-being. These positive impacts relate to outcomes under the PSSN's primary objectives (consumption and human capital).

Additionally, we find positive impacts of the PSSN on knowledge (of modern contraceptives), aspirations (for higher education), social support (among males) and certain forms of empowerment (among females), including perceived ability to make household decisions and having control over their own lives. These may be considered moderators which help beneficiaries leverage the PSSN for increased impacts, or even 'pathway' indicators through which substantive impacts on youth may eventually be realized. In addition, these outcomes can be seen as important improvements in well-being in their own right.

Conversely, we find few or no effects on other outcomes, both relating to primary objectives (human capital in the form of health outcomes), as well as broader indicators of well-being. The lack of impacts on youth outcomes contrasts with a larger body of evidence from SSA which suggests that cash transfers have this potential and have (in some contexts) been shown to delay sexual debut, pregnancy and marriage; improve mental health; reduce HIV infections and risky sexual behaviours; and reduce violence. For example, we find no impacts of the PSSN on sexual debut, pregnancy, partnership formation, perceived HIV risk, or risky sexual behaviours. We also find no impacts on broadly defined health outcomes such as self-perceived health, mental health (depressive symptoms), contraceptive use and violence.

Taken together, these findings suggest that the PSSN may have future impacts on indicators of youth well-being and transitions to adulthood by working through some of the pathway outcomes (education, aspirations and knowledge) over longer time horizons. Indeed, a previous study illustrates that positive impacts of the TASAF II pilot CCT among young children (an age group of particular focus in the programme's co-responsibilities) on health-seeking and morbidity were not evident after 1.5 years and only materialized after 2.5 years[78], supporting the idea that some impacts of the PSSN may take longer to materialize than the time period examined here (18 months). This potential relies on strong household level impacts on poverty, food security and human capital related indicators, and thus should be assessed in conjunction with broader impact evaluation findings from the World Bank and National Bureau of Statistics.

Nevertheless, there appear to be constraints on school and health facility access which may have played a role in lower impacts on related outcomes. This problem is further confounded by the conditional nature of the PSSN, whereby households not meeting schooling and health conditions receive lower overall transfers. Thus, further impacts may not materialize without addressing these supply-side constraints.

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77 De Hoop, J., Groppo, V., and Handa S., 'Household Micro-entrepreneurial Activity and Child Well-being: Evidence from two Cash Transfer Experiments', UNICEF Office of Research – Innocenti, unpublished manuscript, 2017.

78 Evans, D., Holtemeyer, B., and Kosec, K., 'Cash Transfers and Health: Evidence from Tanzania' *The World Bank Economic Review*, 2017, pp. 1–19.

These findings also underscore vulnerabilities related to the intersection of poverty and gender, including early pregnancy and marriage, violence and poverty-driven transactional sex, and highlight the limitations of the PSSN programme alone to solve all these problems. The current report illustrates that the PSSN has been successful in achieving progress towards investing in human capital and increasing income-generating activities (livestock investments). However, objectives related to "increasing consumption of the extremely poor on a permanent basis" and, relatedly, breaking the intergenerational cycle of poverty, will require even more investments in youth and adolescents, who will soon form the next generation of households and start families. This suggests that complementary programming, facilitation of linkages to services, and supply-side strengthening (around schools, livelihood opportunities and health, including sexual and reproductive health) may be needed to further boost the impacts of the PSSN and help youth reach their healthy and productive potential in adulthood. Their preparation for productive futures, ability to have control over when they have children and healthy transitions to adulthood will largely determine whether Tanzania is able to take advantage of population changes related to the demographic boom and turn this one-time window of opportunity into a demographic dividend, with implications for strong economic growth.

APPENDIX A: TANZANIA YOUTH STUDY MAP
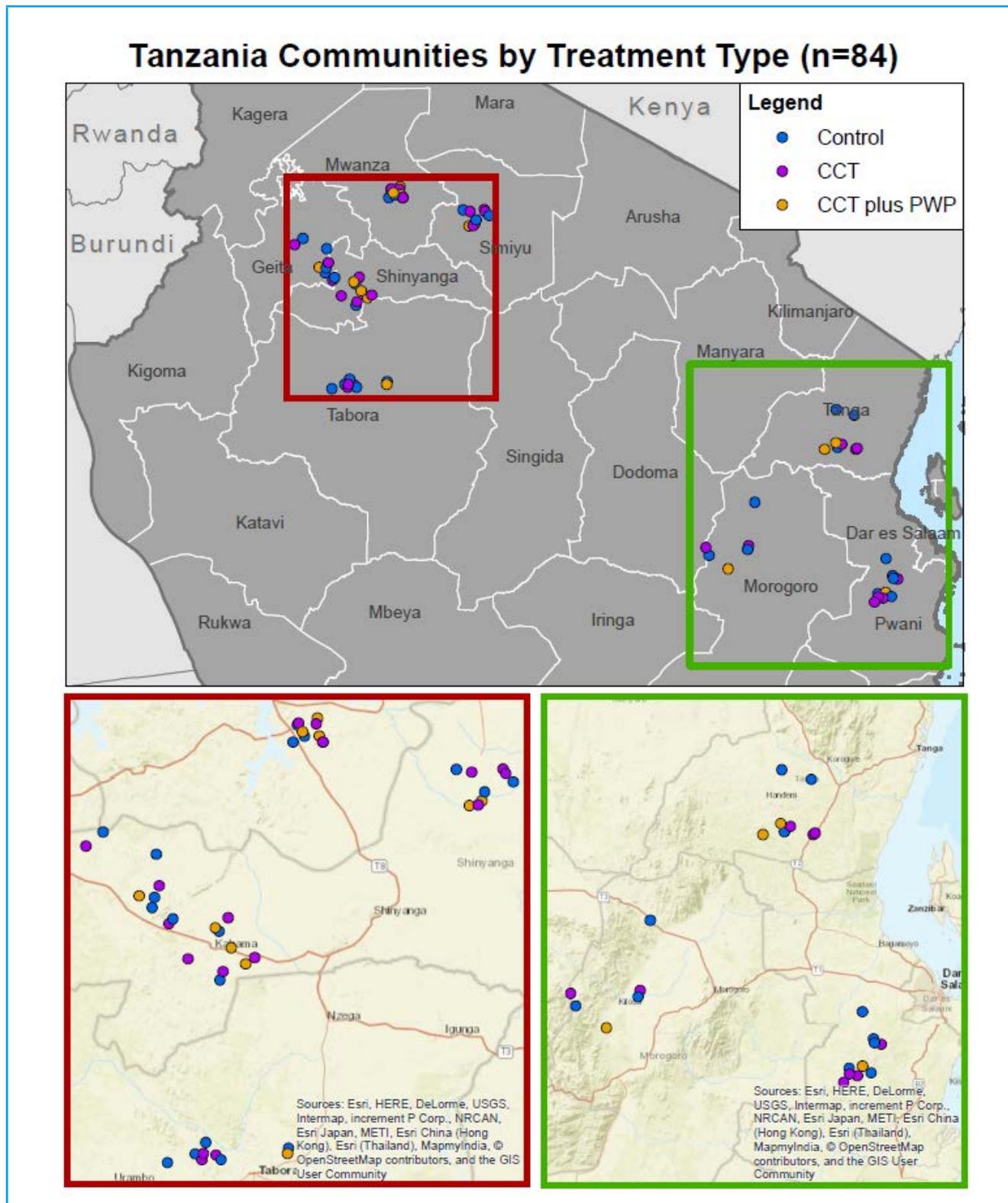
Note: Maps reflect initial allocation of CCT-only and CCT+PWP allocations as reported in 2015.

APPENDIX B: ATTRITION

Table B.1. Attrition and baseline balance of youth characteristics, by panel and treatment status (age 14–28 at baseline)

	Control			Treatment			Difference		Difference	
	Attrited	Panel	P-value	Attrited	Panel	P-value	Col(1)-Col(4)	P-value	Col(2)-Col(5)	P-value
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Individual-level characteristics										
Age in years	19.53	18.66	0.00	19.73	19.09	0.06	-0.21	0.85	-0.42	0.22
Female	0.53	0.49	0.17	0.53	0.51	0.53	-0.00	0.88	-0.02	0.53
Single/never married	0.76	0.81	0.14	0.77	0.76	0.23	-0.01	0.21	0.05	0.49
Ever had spouse	0.24	0.19	0.14	0.23	0.24	0.23	0.01	0.21	-0.05	0.49
No education	0.20	0.17	0.41	0.19	0.12	0.00	0.01	0.70	0.05	0.18
Some primary	0.22	0.31	0.00	0.23	0.33	0.00	-0.01	0.49	-0.02	0.29
Completed primary	0.45	0.38	0.07	0.47	0.41	0.08	-0.02	0.96	-0.04	0.90
Has at least some secondary education	0.13	0.14	0.81	0.11	0.13	0.48	0.02	0.76	0.00	0.71
Household-level characteristics										
Christian household	0.44	0.40	0.51	0.56	0.52	0.70	-0.12	0.43	-0.12	0.34
Muslim household	0.38	0.39	0.73	0.25	0.28	0.73	0.13	0.96	0.11	0.79
Non-religious household	0.19	0.21	0.34	0.19	0.20	0.54	-0.01	0.33	0.01	0.22
Female headed household	0.29	0.27	0.76	0.24	0.25	0.64	0.05	0.46	0.02	0.65
Household size	7.37	7.47	0.54	7.47	7.27	0.40	-0.10	0.85	0.20	0.26
Dependency ratio	1.23	1.32	0.33	1.19	1.20	0.79	0.05	0.64	0.12	0.13
Adults in household have no education	0.13	0.11	0.35	0.12	0.08	0.14	0.01	0.59	0.03	0.23
Highest education for adults is some primary	0.08	0.11	0.26	0.07	0.10	0.13	0.01	0.90	0.00	0.89
Highest education for adults is primary completed	0.59	0.55	0.32	0.62	0.59	0.49	-0.03	0.85	-0.03	0.79
Highest education for adults is at least some secondary	0.20	0.23	0.31	0.19	0.23	0.26	0.00	0.87	-0.00	0.84
Improved roof	0.37	0.39	0.75	0.39	0.42	0.30	-0.02	0.99	-0.02	0.80
Improved floor	0.02	0.03	0.72	0.05	0.07	0.19	-0.03	0.17	-0.04	0.02
Dwelling in poor conditions	0.60	0.53	0.09	0.54	0.47	0.06	0.06	0.38	0.06	0.32
Wealth Index	-0.03	0.12	0.09	0.01	0.12	0.13	-0.04	0.92	0.00	0.41
Lowest tertile	0.37	0.27	0.02	0.33	0.31	0.79	0.04	0.35	-0.04	0.15

Middle tertile	0.28	0.34	0.08	0.34	0.32	0.34	-0.06	0.06	0.01	0.82
Highest tertile	0.35	0.39	0.44	0.33	0.36	0.26	0.02	0.41	0.03	0.29
Food Consumption Score (FCS)	33.59	33.82	0.99	34.50	34.47	0.31	-0.91	0.15	-0.65	0.46
FCS Poor	0.20	0.21	0.35	0.20	0.21	0.27	-0.00	0.87	-0.00	0.67
FCS Borderline	0.43	0.43	0.77	0.40	0.40	0.79	0.03	0.18	0.03	0.49
FCS Acceptable	0.37	0.36	0.70	0.40	0.39	0.21	-0.03	0.12	-0.03	0.31
N	154	444		200	559					

Mean values represent unadjusted statistics, while p-values in Column 8 are from the coefficient on 'treatment' from a regression predicting each characteristic listed in the table, among the panel sample. All regression control for district fixed effects and standard errors are clustered at the community level. N may differ by indicator.

Table B.2. Differential attrition for child sample (education, productive activities and hazardous labour)

Dependent variable	Observed at endline
	(1)
Treatment	-0.019
	(0.277)
Observations	4,134
Control average	0.819

Uses district fixed effects and clusters on the community level.

Table B.3. Attrition and baseline means of child characteristics, by panel and treatment status (age 4–16 at baseline)

	Control			Treatment			Difference		Difference	
	Attritors	Panel	P-value	Attritors	Panel	P-value	Col (1) - Col (4)	P-value	Col (2) - Col (5)	P-value
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Individual-level characteristics										
Age	11.276	9.235	(0.000)	11.342	9.290	(0.000)	-0.066	(0.962)	-0.055	(0.605)
Female	0.511	0.476	(0.338)	0.521	0.501	(0.381)	-0.010	(0.974)	-0.025	(0.098)
Attends school	0.435	0.560	(0.001)	0.512	0.572	(0.017)	-0.077	(0.399)	-0.012	(0.698)
No education	0.314	0.375	(0.092)	0.290	0.342	(0.037)	0.025	(0.824)	0.032	(0.355)
Some primary	0.463	0.584	(0.002)	0.490	0.600	(0.000)	-0.027	(0.819)	-0.016	(0.587)
Completed primary	0.178	0.020	(0.000)	0.124	0.024	(0.000)	0.054	(0.078)	-0.004	(0.578)
Has at least some secondary education	0.044	0.022	(0.078)	0.096	0.034	(0.002)	-0.051	(0.098)	-0.012	(0.255)
Household-level characteristics										
Christian	0.340	0.370	(0.762)	0.373	0.393	(0.184)	-0.033	(0.521)	-0.023	(0.735)
Muslim	0.495	0.471	(0.375)	0.495	0.439	(0.362)	0.001	(0.752)	0.032	(0.121)
Non-religious	0.165	0.159	(0.860)	0.133	0.168	(0.388)	0.032	(0.327)	-0.009	(0.507)
Female household head	0.289	0.298	(0.656)	0.285	0.238	(0.430)	0.003	(0.755)	0.060	(0.162)
Household size	7.286	7.482	(0.444)	7.309	7.274	(0.497)	-0.024	(0.884)	0.208	(0.056)
Dependency ratio	1.613	1.867	(0.003)	1.611	1.807	(0.061)	0.002	(0.370)	0.060	(0.820)
Highest education for adults is no education	0.175	0.150	(0.374)	0.150	0.150	(0.778)	0.024	(0.709)	0.000	(0.665)
Highest education for adults is some primary	0.108	0.108	(0.923)	0.096	0.083	(0.761)	0.012	(0.451)	0.025	(0.515)
Highest education for adults is primary completed	0.530	0.542	(0.668)	0.473	0.504	(0.852)	0.057	(0.641)	0.038	(0.643)
Highest education for adults is at least some secondary	0.187	0.200	(0.910)	0.281	0.263	(0.816)	-0.094	(0.440)	-0.063	(0.500)
Wealth index tertile: poorest	0.251	0.233	(0.325)	0.322	0.341	(0.055)	-0.072	(0.503)	-0.108	(0.114)
Wealth index tertile: middle	0.362	0.355	(0.924)	0.342	0.310	(0.204)	0.020	(0.857)	0.045	(0.434)
Wealth index tertile: richest	0.387	0.413	(0.636)	0.336	0.350	(0.755)	0.052	(0.710)	0.063	(0.596)
N	315	1,423		459	1,937					

Mean values represent unadjusted statistics, while p-values in Column 8 are from the coefficient on 'treatment' from a regression predicting each characteristic listed in the table, among the group of Attritors, while Column 10 is the same among the panel sample. All regression control for district fixed effects and standard errors are clustered at the community level. N may differ by indicator. The dependency ratio is defined as the ratio between the number of dependents (aged below 15 or above 64 years) and the number of working age household members (aged 15 to 64 years). The wealth index is obtained using Principal Component Analysis (PCA) on a number of asset and housing indicators. Poorer households rank lower on the index and better off households rank higher. From this index, tertiles were created, indicating the poorest, middle and richest households in the sample.

Table B.4. Attrition and baseline balance of youth material needs and spending, by panel and treatment status (age 14–28 at baseline)

| | Control | | | Treatment | | | Difference | | Difference | |
	Attrited	Panel	P-value	Attrited	Panel	P-value	Col(1)-Col(4)	P-value	Col(2)-Col(5)	P-value
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Shoes	0.42	0.43	0.98	0.36	0.37	0.94	0.06	0.09	0.06	0.06
Blanket	0.47	0.48	0.69	0.41	0.41	0.93	0.06	0.19	0.07	0.02
Two sets of clothing	0.76	0.73	0.51	0.71	0.73	0.61	0.05	0.56	-0.00	0.75
All three needs met	0.26	0.29	0.45	0.23	0.23	0.88	0.03	0.43	0.06	0.02
N	154	444		200	559					

Mean values represent unadjusted statistics, while p-values in Column 8 are from the coefficient on 'treatment' from a regression predicting each characteristic listed in the table, among the group of Attritors, while Column 10 is the same among the panel sample. All regression control for district fixed effects and clustering at the community level. N may differ by indicator.

Table B.5. Attrition and baseline balance of youth health and well-being, by panel and treatment status (age 14–28 at baseline)

| | Control | | | Treatment | | | Difference | | Difference | |
	Attrited	Panel	P-value	Attrited	Panel	P-value	Col(1)-Col(4)	P-value	Col(2)-Col(5)	P-value
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
CES-D>=10	0.73	0.58	0.00	0.65	0.64	0.89	0.08	0.02	-0.06	0.12
CES-D scale (0–30)	12.95	11.30	0.01	12.01	11.70	0.49	0.94	0.07	-0.39	0.46
Snyder hope scale (6–30)	19.04	18.10	0.10	17.39	18.06	0.16	1.65	0.01	0.04	0.80
Life will be the same or better 5 years from now	0.79	0.72	0.06	0.71	0.72	0.80	0.08	0.22	-0.00	0.90
Good/excellent self-rated health	0.68	0.63	0.18	0.55	0.63	0.15	0.13	0.01	0.01	0.68
Same or better health compared with one year ago	0.79	0.82	0.41	0.77	0.83	0.25	0.02	0.89	-0.00	0.81
N	136	398		183	488					

Mean values represent unadjusted statistics, while p-values in Column 8 are from the coefficient on 'treatment' from a regression predicting each characteristic listed in the table, among the group of Attritors, while Column 10 is the same among the panel sample. All regression control for district fixed effects and clustering at the community level. Largest N provided, as sample differs slightly for each indicator.

Table B.6. Attrition and baseline balance of youth social support, by panel and treatment status (age 14–28 at baseline)

	Control			Treatment			Difference		Difference	
	Attrited	Panel	P-value	Attrited	Panel	P-value	Col(1)-Col(4)	P-value	Col(2)-Col(5)	P-value
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Number of family members	9.28	9.94	0.41	8.93	9.73	0.14	0.36	0.30	0.22	0.65
Number of close friends	2.03	2.44	0.10	2.46	2.92	0.65	-0.44	0.13	-0.48	0.18
Multidimensional scale of perceived social support	3.27	3.36	0.48	3.32	3.36	0.46	-0.05	0.66	-0.00	0.64
Multidimensional scale of perceived social support, friends sub-scale	2.82	3.00	0.18	3.07	3.02	0.76	-0.25	0.40	-0.02	0.73
Multidimensional scale of perceived social support, family sub-scale	3.73	3.71	0.60	3.58	3.69	0.05	0.15	0.13	0.02	0.71
N	149	437		204	564					

Uses district fixed effects and clusters on the community level.

Table B.7. Attrition and baseline balance of youth characteristics, by panel and treatment status (age 14–28 at baseline)

	Control			Treatment			Difference		Difference	
	Attrited	Panel	P-value	Attrited	Panel	P-value	Col(1)-Col(4)	P-value	Col(2)-Col(5)	P-value
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Currently using contraceptive	0.22	0.13	0.01	0.14	0.14	0.51	0.08	0.45	-0.01	0.64
Currently using modern contraceptive	0.22	0.12	0.01	0.14	0.13	0.49	0.08	0.33	-0.01	0.65
Currently using traditional contraceptive	0.00	0.00	0.21	0.00	0.01	0.93	-0.00	0.29	-0.00	0.71

Uses district fixed effects and clusters on the community level.

Table B.8. Attrition and baseline balance of female youth fertility and contraceptive use, by panel and treatment status (age 14–28 at baseline)

	Control			Treatment			Difference		Difference	
	Attrited	Panel	P-value	Attrited	Panel	P-value	Col(1)-Col(4)	P-value	Col(2)-Col(5)	P-value
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Ever pregnant	0.54	0.50	0.70	0.49	0.50	0.79	0.05	0.59	-0.00	0.58
Age at first pregnancy	17.48	17.91	0.20	18.12	17.77	0.39	-0.65	0.37	0.13	0.84
Currently pregnant	0.07	0.09	0.23	0.08	0.07	0.78	-0.01	0.72	0.02	0.17
Total fertility	1.43	1.22	0.32	1.31	1.24	0.85	0.12	0.60	-0.02	0.58
Total children born & later died	0.12	0.07	0.46	0.12	0.08	0.38	0.01	0.62	-0.00	0.86
Total children born & still living	1.32	1.14	0.32	1.20	1.16	0.98	0.12	0.66	-0.02	0.56
Ever had live birth	0.38	0.40	0.70	0.36	0.41	0.30	0.02	0.72	-0.01	0.98
Ever had pregnancy end in miscarriage/abortion/stillbirth	0.11	0.07	0.31	0.14	0.12	0.68	-0.03	0.49	-0.05	0.14

Uses district fixed effects and clusters on the community level.

Table B.9. Attrition and baseline balance of male youth fertility, by panel and treatment status (age 14–28 at baseline)

	Control			Treatment			Difference		Difference	
	Attrited	Panel	P-value	Attrited	Panel	P-value	Col(1)-Col(4)	P-value	Col(2)-Col(5)	P-value
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Ever made female pregnant/fathered child	0.22	0.18	0.46	0.31	0.19	0.02	-0.09	0.19	-0.01	0.98

Uses district fixed effects and clusters on the community level.

Table B.10. Attrition and baseline balance of partnership formation, sexual behaviour and HIV risk, by panel and treatment status (age 14–28 at baseline)

	Control			Treatment			Difference		Difference	
	Attrited	Panel	P-value	Attrited	Panel	P-value	Col(1)-Col(4)	P-value	Col(2)-Col(5)	P-value
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Sexual debut	0.66	0.55	0.02	0.64	0.59	0.27	0.02	0.96	-0.04	0.77
Currently married or with cohabiting partner	0.19	0.19	0.97	0.26	0.23	0.52	-0.07	0.34	-0.04	0.78
Currently has dating, marital or cohabiting partner	0.48	0.41	0.18	0.49	0.50	0.95	-0.02	0.65	-0.09	0.15
Lifetime number of sexual partners	2.48	2.10	0.45	2.06	1.88	0.13	0.42	0.59	0.22	0.38
Number of sexual partners (last 12 months)	1.20	1.04	0.50	0.90	0.94	0.72	0.30	0.35	0.09	0.46
Concurrent sexual relationships (last 12 months)	0.15	0.13	0.60	0.12	0.11	0.35	0.03	0.84	0.01	0.77
Did not use condom at last sex (last 12 months)	0.43	0.37	0.19	0.46	0.43	0.51	-0.03	0.87	-0.05	0.36
Last sex: partner 5 or more years older/younger	0.18	0.11	0.10	0.17	0.14	0.32	0.01	0.83	-0.02	1.00
Last sex: partner 10 or more years older/younger	0.04	0.05	0.87	0.02	0.04	0.36	0.02	0.75	0.01	0.32
Received food, favours, gifts or money for sex (last 12 months)	0.19	0.12	0.07	0.10	0.12	0.70	0.09	0.01	-0.00	0.83
Gave food, favours, gifts or money for sex (last 12 months)	0.14	0.16	0.49	0.12	0.15	0.56	0.03	0.52	0.01	0.63
Given or received food, favours, gifts or money for sex (last 12 months)	0.25	0.22	0.59	0.18	0.22	0.80	0.07	0.13	0.00	0.85
Perceived HIV risk: moderate/high	0.21	0.17	0.25	0.24	0.21	0.20	-0.03	0.39	-0.04	0.06
Tested for HIV: Lifetime	0.51	0.41	0.03	0.45	0.41	0.33	0.06	0.36	-0.00	0.73
Tested for HIV: 12 months	0.37	0.29	0.10	0.29	0.31	0.89	0.08	0.18	-0.01	0.74

Uses district fixed effects and clusters on the community level.

Table B.11. Attrition and baseline balance of female youth violence, by panel and treatment status (age 14–28 at baseline)

| Last 12 months: | Control | | | Treatment | | | Difference | | Difference | |
	Attrited	Panel	P-value	Attrited	Panel	P-value	Col(1)-Col(4)	P-value	Col(2)-Col(5)	P-value
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Experienced emotional abuse	0.56	0.54	0.79	0.52	0.56	0.48	0.04	0.64	-0.02	0.31
Experienced physical violence	0.29	0.26	0.96	0.28	0.31	0.65	0.01	0.83	-0.05	0.23
Experienced sexual violence	0.17	0.10	0.14	0.13	0.17	0.26	0.04	0.43	-0.07	0.11
Experienced physical/sexual violence	0.38	0.32	0.65	0.37	0.41	0.58	0.01	0.73	-0.09	0.08
Experienced physical/sexual/emotional violence	0.63	0.63	0.59	0.61	0.67	0.47	0.02	0.92	-0.03	0.23
Experienced emotional or physical violence from partner/spouse	0.16	0.16	0.99	0.13	0.14	0.59	0.03	0.30	0.02	0.10
Sought help for emotional/physical violence	0.42	0.33	0.63	0.41	0.46	0.54	0.01	0.63	-0.13	0.07
Sought informal help for emotional/physical violence	0.39	0.31	0.62	0.31	0.38	0.43	0.07	0.37	-0.07	0.29
Sought formal help for emotional/physical violence	0.00	0.03	0.12	0.06	0.03	0.57	-0.06	0.10	-0.01	0.85

Uses district fixed effects and clusters on the community level.

APPENDIX C

Table C.1. PSSN impacts on child education, additional outcomes (age 4–16 at baseline), by gender

	PSSN Impact	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	
Females			
Highest grade of education completed	0.170	3.579	3.412
	(1.604)		
Attended school regularly, past week	-0.004	0.845	0.845
	(-0.144)		
Spent at least one hour studying, past week	0.040	0.307	0.285
	(1.461)		
Dropped out of school between baseline and endline	-0.015	0.047	0.065
	(-1.288)		
N	1,649	971	678
Males			
Highest grade of education completed	0.221	3.430	3.009
	(1.605)		
Attended school regularly, past week	-0.009	0.818	0.822
	(-0.249)		
Spent at least one hour studying, past week	0.073*	0.296	0.230
	(2.552)		
Dropped out of school between baseline and endline	-0.029	0.116	0.143
	(-1.050)		
N	1,711	966	745

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Regressions include age, sex and district fixed effects. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. Regular school attendance results are based on the sample of children who were attending school at the time of the interview and whose school was open at least one day during the week before the interview (N =1,896). School dropout is defined as a binary variable equal to one if the child dropped out of school between baseline and endline (only for children who were attending school at baseline, N=1,905). *p<0.05, **p<0.01

Table C.2. PSSN impacts on child education, additional outcomes (age 4–16 at baseline), by age group

	PSSN Impact	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)
Age 4–10 at baseline			
Highest grade of education completed	0.174*	2.067	1.831
	(2.316)		
Attended school regularly, past week	0.004	0.832	0.821
	(0.124)		
Spent at least one hour studying, past week	0.075**	0.245	0.181
	(2.919)		
Dropped out of school between baseline and endline	-0.007	0.008	0.015
	(-1.626)		
N	2,120	1,227	893
Age 11–16 at baseline			
Highest grade of education completed	0.219	5.989	5.509
	(1.155)		
Attended school regularly, past week	-0.017	0.830	0.856
	(-0.542)		
Spent at least one hour studying, past week	0.024	0.399	0.381
	(0.694)		
Dropped out of school between baseline and endline	0.004	0.124	0.130
	(0.203)		
N	1,240	710	530

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Regressions include age, sex and district fixed effects. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. Regular school attendance results are based on the sample of children who were attending school at the time of the interview and whose school was open at least one day during the week before the interview (N =1,896). School dropout is defined as a binary variable equal to one if the child dropped out of school between baseline and endline (only for children who were attending school at baseline, N=1,905). *p<0.05, **p<0.01.

Table C.3. PSSN impacts on child education, additional outcomes (age 4–16 at baseline), two treatment arms

Dependent	PSSN Cash	PSSN Cash & PWP	Endline Cash	Endline Cash & PWP	Endline
Variable	Impact	Impact	Treatment Mean	Treatment Mean	Control Mean
	(1)	(2)	(3)	(4)	(5)
Highest grade of education completed	0.148	0.257*	3.356	3.699	3.201
	(1.350)	(1.985)			
Attended school regularly, past week	-0.001	-0.008	0.833	0.828	0.834
	(-0.041)	(-0.265)			
Spent at least one hour studying, past week	0.061*	0.051	0.310	0.289	0.256
	(2.183)	(1.791)			
Dropped out of school between baseline and endline	0.008	-0.055**	0.139	0.087	0.137
	(0.330)	(-2.719)			
N	3,360	3,360	1,102	835	1,423

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Regressions include age, sex and district fixed effects. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. Regular school attendance results are based on the sample of children who were attending school at the time of the interview and whose school was open at least one day during the week before the interview (N=1,896). School dropout is defined as a binary variable equal to one if the child dropped out of school between baseline and endline (only for children who were attending school at baseline, N=1,905). *p<0.05, **p<0.01

Table C.4. PSSN impacts on household livestock ownership

	PSSN	Baseline	Endline	Endline
	Impact	Treatment Mean	Treatment Mean	Control Mean
	(1)	(2)	(3)	(4)
Owns any livestock	0.204**	0.521	0.579	0.430
	(4.810)			
Cattle	0.016	0.070	0.090	0.060
	(0.759)			
Goats, sheep, pigs	0.182**	0.101	0.243	0.102
	(5.695)			
Chickens	0.158**	0.455	0.475	0.370
	(3.574)			
Pigeons, ducks, turkeys	0.040*	0.059	0.056	0.027
	(2.485)			
Fish	-0.001	0.001	0.000	0.000
	(-1.005)			
N	2,576	769	769	519

Notes: The sample is limited to households with children aged 4–16 at baseline. Linear probability models were estimated using difference-in-differences and household-level fixed effects on the panel of households interviewed both at baseline and endline. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01.

Table C.5. PSSN impacts on child participation in economic activities, past week (age 4–16 at baseline), by gender

	PSSN	Endline	Endline
	Impact	Treatment Mean	Control Mean
	(1)	(2)	(3)
Females			
Any economic activities	0.030	0.291	0.301
	(1.139)		
Farm work for the household, excluding livestock	0.010	0.248	0.273
	(0.424)		
Livestock herding for the household	0.035	0.122	0.090
	(1.654)		
Fishing for the household	0.011	0.038	0.021
	(0.730)		
Household business	0.006	0.042	0.031
	(0.376)		
Paid work outside the household	0.014	0.050	0.034
	(0.818)		
TASAF Public Works Program	0.009	0.036	0.021
	(0.574)		
N	1,649	971	678
Males			
Any economic activities	0.033	0.314	0.309
	(1.148)		
Farm work for the household, excluding livestock	0.035	0.261	0.254
	(1.173)		
Livestock herding for the household	0.040	0.164	0.119
	(1.648)		
Fishing for the household	0.010	0.052	0.027
	(0.580)		
Household business	0.014	0.064	0.034
	(0.764)		
Paid work outside the household	0.003	0.070	0.055
	(0.144)		
TASAF Public Works Program	0.013	0.054	0.027
	(0.716)		
N	1,711	966	745

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Regressions include age, sex and district fixed effects. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01.

Table C.6. PSSN impacts on child participation in economic activities, past week (age 4–16 at baseline), by age group

	PSSN	Endline	Endline
	Impact	Treatment Mean	Control Mean
	(1)	(2)	(3)
Age 4–10 at baseline			
Any economic activities	0.060*	0.229	0.186
	(2.567)		
Farm work for the household, excluding livestock	0.039	0.187	0.159
	(1.873)		
Livestock herding for the household	0.038*	0.114	0.069
	(1.995)		
Fishing for the household	0.016	0.045	0.020
	(1.114)		
Household business	0.019	0.048	0.022
	(1.305)		
Paid work outside the household	0.026	0.056	0.025
	(1.770)		
TASAF Public Works Program	0.012	0.042	0.022
	(0.836)		
N	2,120	1,227	893
Age 11–16 at baseline			
Any economic activities	-0.011	0.430	0.506
	(-0.306)		
Farm work for the household, excluding livestock	0.001	0.372	0.438
	(0.013)		
Livestock herding for the household	0.036	0.192	0.166
	(1.261)		
Fishing for the household	0.003	0.045	0.030
	(0.150)		
Household business	-0.004	0.062	0.049
	(-0.169)		
Paid work outside the household	-0.022	0.068	0.079
	(-0.919)		
TASAF Public Works Programme	0.010	0.049	0.026
	(0.470)		
N	1,240	710	530

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Regressions include age, sex and district fixed effects. Standard errors were adjusted for clustering at the community–level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<.01.

Table C.7. PSSN impacts on hours in economic activities by children, past week (age 4–16 at baseline), by gender

	PSSN	Endline	Endline
	Impact	Treatment Mean	Control Mean
	(1)	(2)	(3)
Females			
Hours in any economic activities	-0.203	3.574	4.177
	(-0.443)		
Hours in farm work for the household, excluding livestock	-0.369	2.544	3.357
	(-1.018)		
Hours in livestock herding for the household	-0.117	0.471	0.541
	(-0.702)		
Hours in fishing for the household	0.049	0.079	0.031
	(1.727)		
Hours in household business	0.110	0.195	0.078
	(1.457)		
Hours in paid work outside the household	0.072	0.201	0.149
	(1.027)		
Hours in TASAF Public Works Program	0.052	0.084	0.021
	(1.830)		
N	1,649	971	678
Males			
Hours in any economic activities	0.346	4.803	4.962
	(0.492)		
Hours in farm work for the household, excluding livestock	0.648	3.040	3.094
	(1.133)		
Hours in livestock herding for the household	-0.047	1.117	1.102
	(-0.198)		
Hours in fishing for the household	0.014	0.059	0.028
	(0.753)		
Hours in household business	-0.048	0.217	0.212
	(-0.356)		
Hours in paid work outside the household	-0.234	0.308	0.490
	(-1.316)		
Hours in TASAF Public Works Program	0.013	0.061	0.036
	(0.587)		
N	1,711	966	745

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Regressions include age, sex and district fixed effects. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01.

Table C.8. PSSN impacts on hours spent in economic activities by children, past week (age 4–16 at baseline), by age group

	PSSN	Endline	Endline
	Impact	Treatment Mean	Control Mean
	(1)	(2)	(3)
Age 4–10 at baseline			
Hours in any economic activities	0.284	2.521	2.452
	(0.847)		
Hours in farm work for the household, excluding livestock	-0.019	1.548	1.795
	(-0.079)		
Hours in livestock herding for the household	0.059	0.584	0.512
	(0.335)		
Hours in fishing for the household	0.033	0.061	0.020
	(1.743)		
Hours in household business	0.108	0.145	0.038
	(1.896)		
Hours in paid work outside the household	0.096*	0.138	0.057
	(2.268)		
Hours in TASAF Public Works Program	0.007	0.045	0.030
	(0.423)		
N	2,120	1,227	893
Age 11–16 at baseline			
Hours in any economic activities	-0.100	7.066	8.187
	(-0.094)		
Hours in farm work for the household, excluding livestock	0.601	4.941	5.619
	(0.687)		
Hours in livestock herding for the household	-0.328	1.154	1.379
	(-0.943)		
Hours in fishing for the household	0.032	0.083	0.045
	(0.927)		
Hours in household business	-0.099	0.311	0.334
	(-0.524)		
Hours in paid work outside the household	-0.380	0.456	0.783
	(-1.417)		
Hours in TASAF Public Works Program	0.074	0.121	0.026
	(1.823)		
N	1,240	710	530

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Regressions include age, sex and district fixed effects. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis.
*p<0.05, **p<0.01.

Table C.9. PSSN impacts on child participation in household chores, past day (age 4–16 at baseline), by gender

	PSSN Impact	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)
Females			
Any chores	-0.013	0.586	0.622
	(-0.556)		
Collecting water	-0.024	0.492	0.537
	(-0.941)		
Collecting firewood	0.002	0.331	0.335
	(0.073)		
Collecting nuts	0.028	0.092	0.072
	(1.563)		
Taking care of children, cooking or cleaning	-0.002	0.354	0.369
	(-0.086)		
Taking care of elderly or sick	0.021	0.136	0.127
	(0.800)		
N	1,649	971	678
Males			
Any chores	0.019	0.462	0.485
	(0.610)		
Collecting water	0.026	0.405	0.407
	(0.864)		
Collecting firewood	0.042	0.257	0.244
	(1.529)		
Collecting nuts	0.026	0.102	0.085
	(1.106)		
Taking care of children, cooking or cleaning	0.031	0.204	0.196
	(1.155)		
Taking care of elderly or sick	0.032	0.124	0.098
	(1.237)		
N	1,711	966	745

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Regressions include age, sex and district fixed effects. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01.

Table C.10. PSSN impacts on child participation in household chores, past day (age 4–16 at baseline), by age group

	PSSN Impact	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)
Age 4–10 at baseline			
Any chores	-0.001	0.447	0.470
	(-0.037)		
Collecting water	-0.009	0.374	0.400
	(-0.340)		
Collecting firewood	0.024	0.243	0.235
	(0.979)		
Collecting nuts	0.023	0.086	0.072
	(1.346)		
Taking care of children, cooking or cleaning	0.033	0.232	0.207
	(1.481)		
Taking care of elderly or sick	0.030	0.108	0.081
	(1.473)		
N	2,120	1,227	893
Age 11–16 at baseline			
Any chores	0.006	0.658	0.685
	(0.215)		
Collecting water	0.022	0.577	0.585
	(0.666)		
Collecting firewood	0.025	0.382	0.375
	(0.748)		
Collecting nuts	0.033	0.117	0.091
	(1.264)		
Taking care of children, cooking or cleaning	-0.017	0.361	0.398
	(-0.480)		
Taking care of elderly or sick	0.018	0.168	0.164
	(0.569)		
N	1,240	710	530

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Regressions include age, sex and district fixed effects. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01.

Table C.11. PSSN impacts on hours spent by children in household chores, past day (age 4–16 at baseline)

	PSSN Impact	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)
Hours in any chores	0.028	1.701	1.766
	(0.255)		
Hours in collecting water	-0.000	0.557	0.586
	(-0.011)		
Hours in collecting firewood	0.017	0.354	0.362
	(0.509)		
Hours in collecting nuts	0.023	0.112	0.100
	(1.017)		
Hours in taking care of children, cooking or cleaning	-0.004	0.481	0.496
	(-0.088)		
Hours in taking care of elderly or sick	-0.008	0.198	0.221
	(-0.213)		
N	3,360	1,937	1,423

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Regressions include age, sex and district fixed effects. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01.

Table C.12. PSSN impacts on hours spent by children in household chores, past day (age 4–16 at baseline), by gender

	PSSN Impact	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)
Females			
Hours in any chores	-0.037	1.986	2.137
	(-0.301)		
Hours in collecting water	-0.012	0.604	0.645
	(-0.394)		
Hours in collecting firewood	-0.017	0.391	0.423
	(-0.408)		
Hours in collecting nuts	0.042*	0.106	0.077
	(2.013)		
Hours in taking care of children, cooking or cleaning	-0.030	0.668	0.723
	(-0.474)		
Hours in taking care of elderly or sick	-0.021	0.216	0.270
	(-0.444)		
N	1,649	971	678
Males			
Hours in any chores	0.111	1.415	1.428
	(0.790)		
Hours in collecting water	0.010	0.509	0.533
	(0.228)		
Hours in collecting firewood	0.053	0.316	0.306
	(1.260)		
Hours in collecting nuts	0.004	0.118	0.122
	(0.111)		
Hours in taking care of children, cooking or cleaning	0.031	0.292	0.290
	(0.670)		
Hours in taking care of elderly or sick	0.013	0.180	0.177
	(0.302)		
N	1,711	966	745

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Regressions include age, sex and district fixed effects. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01.

Table C.13. PSSN impacts on hours spent by children in household chores, past day (age 4–16 at baseline), by age group

	PSSN Impact	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)
Age 4–10 at baseline			
Hours in any chores	0.105	1.355	1.333
	(0.948)		
Hours in collecting water	-0.005	0.451	0.477
	(-0.150)		
Hours in collecting firewood	0.012	0.285	0.300
	(0.350)		
Hours in collecting nuts	0.018	0.100	0.095
	(0.815)		
Hours in taking care of children, cooking or cleaning	0.052	0.367	0.323
	(1.333)		
Hours in taking care of elderly or sick	0.027	0.152	0.138
	(0.899)		
N	2,120	1,227	893
Age 11–16 at baseline			
Hours in any chores	-0.062	2.299	2.496
	(-0.407)		
Hours in collecting water	0.013	0.739	0.770
	(0.267)		
Hours in collecting firewood	0.037	0.472	0.466
	(0.723)		
Hours in collecting nuts	0.030	0.132	0.109
	(0.908)		
Hours in taking care of children, cooking or cleaning	-0.080	0.677	0.789
	(-1.072)		
Hours in taking care of elderly or sick	-0.063	0.277	0.362
	(-0.992)		
N	1,240	710	530

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Regressions include age, sex and district fixed effects. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01.

Table C.14. PSSN impact on youth participation in economic activities (age 14–28 at baseline), past year (by gender)

	PSSN	Endline	Endline
	Impact	Treatment Mean	Control Mean
	(1)	(2)	(3)
Females			
Any economic activities	0.037	0.669	0.652
	(1.097)		
Farm work for the household, excluding livestock	0.038	0.571	0.559
	(1.126)		
Livestock herding for the household	0.087**	0.365	0.282
	(2.648)		
Fishing for the household	0.038**	0.040	0.003
	(2.816)		
Household business	-0.021	0.088	0.107
	(-1.070)		
Paid work outside the household	-0.030	0.233	0.263
	(-1.165)		
TASAF Public Works Program	0.088**	0.096	0.003
	(4.584)		
N	885	520	365
Males			
Any economic activities	0.005	0.654	0.685
	(0.170)		
Farm work for the household, excluding livestock	-0.011	0.584	0.641
	(-0.307)		
Livestock herding for the household	0.140**	0.389	0.258
	(3.495)		
Fishing for the household	0.004	0.004	0.000
	(1.450)		
Household business	-0.015	0.059	0.077
	(-0.739)		
Paid work outside the household	-0.008	0.146	0.164
	(-0.317)		
TASAF Public Works Program	0.106**	0.117	0.003
	(5.467)		
N	769	471	298

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Regressions include age, sex and district fixed effects. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01.

Table C.15. PSSN impacts on youth participation in economic activities, past week (age 14–28 at baseline)

	PSSN Impact	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)
Any economic activities	0.041	0.604	0.579
	(1.189)		
Farm work for the household, excluding livestock	0.049	0.496	0.472
	(1.467)		
Livestock herding for the household	0.089*	0.283	0.192
	(2.622)		
Fishing for the household	0.001	0.057	0.047
	(0.040)		
Household business	-0.029	0.098	0.118
	(-0.939)		
Paid work outside the household	-0.004	0.160	0.163
	(-0.151)		
TASAF Public Works Programme	0.039	0.098	0.047
	(1.418)		
N	1,654	991	663

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Regressions include age, sex and district fixed effects. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *$p<0.05$, **$p<0.01$.

Table C.16. PSSN impacts on hours spent in economic activities by youth, past week (age 14–28 at baseline)

	PSSN Impact	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)
Hours in any economic activities	2.467*	15.636	13.753
	(2.020)		
Hours in farm work for the household, excluding livestock	1.445	8.943	8.291
	(1.527)		
Hours in livestock herding for the household	0.588*	1.749	1.130
	(2.007)		
Hours in fishing for the household	0.132	0.339	0.176
	(0.748)		
Hours in household business	-0.733	1.168	1.840
	(-1.763)		
Hours in paid work outside the household	0.143	2.719	2.617
	(0.315)		
Hours in TASAF Public Works Program	0.603**	0.717	0.057
	(3.113)		
N	1,654	991	663

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Regressions include age, sex and district fixed effects. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01.

Table C.17. PSSN impacts on youth participation in household chores, past day (age 14–28 at baseline)

	PSSN Impact	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)
Any chores	0.003	0.650	0.649
	(0.097)		
Collecting water	0.012	0.532	0.523
	(0.405)		
Collecting firewood	0.050	0.400	0.351
	(1.390)		
Collecting nuts	0.011	0.138	0.131
	(0.398)		
Taking care of children, cooking or cleaning	0.001	0.473	0.463
	(0.034)		
Taking care of elderly or sick	0.041	0.237	0.204
	(1.100)		
N	1,654	991	663

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Regressions include age, sex and district fixed effects. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01.

Table C.18. PSSN impacts on hours spent by youth in household chores, past day (age 14–28 at baseline)

	PSSN Impact	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)
Hours in any chores	0.115	3.097	2.949
	(0.545)		
Hours in collecting water	-0.023	0.701	0.747
	(-0.460)		
Hours in collecting firewood	0.098	0.524	0.445
	(1.772)		
Hours in collecting nuts	0.002	0.174	0.169
	(0.044)		
Hours in taking care of children, cooking or cleaning	0.011	1.240	1.152
	(0.122)		
Hours in taking care of elderly or sick	0.027	0.458	0.436
	(0.372)		
N	1,654	991	663

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Regressions include age, sex and district fixed effects. Standard errors were adjusted for clustering at the community level, and corresponding t-statistics are reported in parenthesis. *p<0.05, **p<0.01.

APPENDIX D

Table D.1: PSSN Impacts on Sexual Debut among Youth Cohabitating at Baseline (age 14-28 at baseline)

	PSSN Impact	Baseline Treatment Mean	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)	(4)
Sexual debut	0.089	0.905	0.825	0.759
	(1.141)			
N	418	126	126	83
Females	0.079	0.872	0.851	0.817
	(0.837)			
N	308	94	94	60
Males	0.098	1.000	0.750	0.609
	(0.710)			
N	110	32	32	23
Currently married or with cohabiting partner	0.109	1.000	0.579	0.470
	(0.985)			
N	418	126	126	83
Females	0.178	1.000	0.628	0.450
	(1.846)			
N	308	94	94	60
Males	-0.084	1.000	0.438	0.522
	(-0.430)			
N	110	32	32	23
Currently has dating, marital or cohabiting partner	-0.024	1.000	0.952	0.976
	(-0.962)			
N	418	126	126	83
Females	-0.020	1.000	0.947	0.967
	(-0.612)			
N	308	94	94	60
Males	-0.031	1.000	0.969	1.000
	(-1.018)			
N	110	32	32	23

Notes: Linear probability models were estimated using difference-in-differences and individual-level fixed effects on the panel of individuals interviewed both at baseline and endline. Standard errors were adjusted for clustering at the community-level, and corresponding t-statistics are reported in parenthesis. *p<.05, **p<.01

Table D.2: PSSN Impacts on Sexual Debut among Youth Not Cohabiting at Baseline (age 14-28 at baseline)

	PSSN Impact	Baseline Treatment Mean	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)	(4)
Sexual debut	-0.001	0.487	0.414	0.408
	(-0.026)			
N	1,546	425	425	348
Females	-0.021	0.435	0.466	0.487
	(-0.474)			
N	694	193	193	154
Males	0.011	0.530	0.371	0.345
	(0.155)			
N	852	232	232	194
Currently married or with cohabiting partner	-0.028	0.000	0.072	0.099
	(-1.210)			
N	1,566	431	431	352
Females	-0.045	0.000	0.103	0.148
	(-1.192)			
N	698	194	194	155
Males	-0.015	0.000	0.046	0.061
	(-0.545)			
N	868	237	237	197
Currently has dating, marital or cohabiting partner	-0.038	0.334	0.415	0.415
	(-0.988)			
N	1,566	431	431	352
Females	-0.036	0.325	0.418	0.400
	(-0.683)			
N	698	194	194	155
Males	-0.040	0.342	0.414	0.426
	(-0.775)			
N	868	237	237	197

Notes: Linear probability models were estimated using difference-in-differences and individual-level fixed effects on the panel of individuals interviewed both at baseline and endline. Standard errors were adjusted for clustering at the community-level, and corresponding t-statistics are reported in parenthesis. *p<.05, **p<.01

Table D.3: PSSN Impacts on Sexual Debut among those Never Debuted at Baseline (endline cross section; ages 14-28 at baseline)

	PSSN Impact	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)
Sexual debut	0.008	0.231	0.238
	(0.212)		
N	423	234	189

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Standard errors were adjusted for clustering at the community-level, and corresponding t-statistics are reported in parenthesis. *p<.05, **p<.01

Table D.4: PSSN Impacts on Sexual Debut among those Never Debuted at Baseline (ages 14-28 at baseline; endline cross section, fully adjusted)

	PSSN Impact	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)
Sexual debut	0.008	0.231	0.238
	(0.212)		
N	423	234	189

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Standard errors were adjusted for clustering at the community-level, and corresponding t-statistics are reported in parenthesis. *p<.05, **p<.01

Table D.5: PSSN Impacts on Risky Sexual Behaviour among Youth Cohabiting at Baseline (ages 14-28 at baseline)

	PSSN Impact	Baseline Treatment Mean	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)	(4)
Lifetime number of sexual partners	0.678	2.500	2.129	2.691
	(1.021)			
N	410	124	124	81
Females	0.057	1.915	1.904	2.220
	(0.099)			
N	306	94	94	59
Males	2.182	4.333	2.833	3.955
	(1.310)			
N	104	30	30	22
Number of sexual partners in last 12 months	0.270	1.294	0.905	1.098
	(0.766)			

N	416	126	126	82
Females	0.327	1.160	0.936	1.017
	(0.908)			
N	308	94	94	60
Males	0.080	1.688	0.813	1.318
	(0.118)			
N	108	32	32	22
Concurrent sexual relationships in last 12 months	-0.042	0.143	0.040	0.122
	(-0.709)			
N	416	126	126	82
Females	0.024	0.085	0.043	0.083
	(0.385)			
N	308	94	94	60
Males	-0.236	0.313	0.031	0.227
	(-1.730)			
N	108	32	32	22
Did not use condom at last sex (last 12 months)	-0.047	0.849	0.730	0.687
	(-0.482)			
N	418	126	126	83
Females	0.007	0.840	0.798	0.733
	(0.072)			
N	308	94	94	60
Males	-0.213	0.875	0.531	0.565
	(-1.158)			
N	110	32	32	23
Last sex: partner 5 or more years older/younger	0.049	0.381	0.319	0.278
	(0.569)			
N	370	113	113	72
Females	0.057	0.424	0.388	0.352
	(0.567)			
N	278	85	85	54
Males	0.024	0.250	0.107	0.056
	(0.154)			
N	92	28	28	18
Last sex: partner 10 or more years older/younger	0.086	0.108	0.108	0.086
	(1.748)			
N	362	111	111	70
Females	0.115	0.133	0.133	0.115
	(1.884)			
N	270	83	83	52
Males	0.000	0.036	0.036	0.000
	(0.000)			
N	92	28	28	18

Notes: Linear probability models were estimated using difference-in-differences and individual-level fixed effects on the panel of individuals interviewed both at baseline and endline. Standard errors were adjusted for clustering at the community-level, and corresponding t-statistics are reported in parenthesis. *p<.05, **p<.01

Table D.6: PSSN Impacts on Risky Sexual Behaviour among Youth Not Cohabiting at Baseline (ages 14-28 at baseline)

	PSSN Impact	Baseline Treatment Mean	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)	(4)
Lifetime number of sexual partners	0.082	1.660	1.132	1.206
	(0.215)			
N	1,536	424	424	344
Females	-0.351	1.150	1.041	1.327
	(-1.848)			
N	692	193	193	153
Males	0.414	2.087	1.208	1.110
	(0.646)			
N	844	231	231	191
Number of sexual partners in last 12 months	0.111	0.814	0.579	0.576
	(0.780)			
N	1,548	425	425	349
Females	-0.001	0.725	0.549	0.526
	(-0.008)			
N	694	193	193	154
Males	0.198	0.888	0.603	0.615
	(0.798)			
N	854	232	232	195
Concurrent sexual relationships in last 12 months	0.033	0.094	0.047	0.049
	(1.078)			
N	1,546	425	425	348
Females	0.016	0.057	0.021	0.045
	(0.423)			
N	694	193	193	154
Males	0.047	0.125	0.069	0.052
	(1.047)			
N	852	232	232	194
Did not use condom at last sex (last 12 months)	0.004	0.296	0.263	0.254
	(0.121)			
N	1,560	429	429	351
Females	-0.045	0.275	0.301	0.335
	(-0.930)			
N	696	193	193	155
Males	0.042	0.314	0.233	0.189
	(0.671)			
N	864	236	236	196
Last sex: partner 5 or more years older/younger	0.005	0.058	0.094	0.085
	(0.168)			

N	1,312	363	363	293
Females	-0.021	0.069	0.114	0.148
	(-0.481)			
N	620	175	175	135
Males	0.027	0.048	0.074	0.032
	(0.856)			
N	692	188	188	158
Last sex: partner 10 or more years older/younger	-0.020	0.017	0.014	0.038
	(-1.425)			
N	1,310	363	363	292
Females	-0.049	0.034	0.023	0.075
	(-1.757)			
N	618	175	175	134
Males	0.005	0.000	0.005	0.006
	(0.510)			
N	692	188	188	158

Notes: Linear probability models were estimated using difference-in-differences and individual-level fixed effects on the panel of individuals interviewed both at baseline and endline. Standard errors were adjusted for clustering at the community-level, and corresponding t-statistics are reported in parenthesis. *p<.05, **p<.01

Table D.7: PSSN Impacts on Transactional Sex among Youth Cohabiting at Baseline (age 14-28 at baseline)

	PSSN Impact	Baseline Treatment Mean	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)	(4)
Last 12 months: received food, favours, gifts or money for sex	-0.008	0.127	0.055	0.078
	(-0.117)			
N	374	110	110	77
Females	-0.041	0.153	0.059	0.107
	(-0.512)			
N	282	85	85	56
Males	0.095	0.040	0.040	0.000
	(0.901)			
N	92	25	25	21
Last 12 months: gave food, favours, gifts or money for sex	0.008	0.100	0.018	0.077
	(0.140)			
N	376	110	110	78
Females	-0.047	0.071	0.024	0.070
	(-0.854)			
N	284	85	85	57
Males	0.133	0.200	0.000	0.095
	(1.078)			
N	92	25	25	21

Last 12 months: given or received food, favours, gifts or money for sex	-0.006	0.162	0.054	0.128
	(-0.075)			
N	378	111	111	78
Females	-0.075	0.151	0.058	0.140
	(-0.952)			
N	286	86	86	57
Males	0.173	0.200	0.040	0.095
	(1.309)			
N	92	25	25	21

Notes: Linear probability models were estimated using difference-in-differences and individual-level fixed effects on the panel of individuals interviewed both at baseline and endline. Standard errors were adjusted for clustering at the community-level, and corresponding t-statistics are reported in parenthesis. *p<.05, **p<.01

Table D.8: PSSN Impacts on Transactional Sex among Youth Not Cohabitating at Baseline (age 14-28 at baseline)

	PSSN	Baseline	Endline	Endline
	Impact	Treatment Mean	Treatment Mean	Control Mean
	(1)	(2)	(3)	(4)
Last 12 months: received food, favours, gifts or money for sex	0.017	0.113	0.033	0.027
	(0.557)			
N	1,452	398	398	328
Females	0.005	0.166	0.050	0.050
	(0.082)			
N	644	181	181	141
Males	0.030	0.069	0.018	0.011
	(0.988)			
N	808	217	217	187
Last 12 months: gave food, favours, gifts or money for sex	0.015	0.146	0.015	0.021
	(0.563)			
N	1,450	397	397	328
Females	-0.001	0.044	0.022	0.014
	(-0.029)			
N	640	180	180	140
Males	0.018	0.230	0.009	0.027
	(0.433)			
N	810	217	217	188
Last 12 months: given or received food, favours, gifts or money for sex	0.015	0.211	0.040	0.043
	(0.400)			
N	1,454	398	398	329
Females	0.003	0.166	0.055	0.057
	(0.053)			

N	644	181	181	141
Males	0.018	0.249	0.028	0.032
	(0.391)			
N	810	217	217	188

Notes: Linear probability models were estimated using difference-in-differences and individual-level fixed effects on the panel of individuals interviewed both at baseline and endline. Standard errors were adjusted for clustering at the community-level, and corresponding t-statistics are reported in parenthesis. *p<.05, **p<.01

Table D.9: PSSN Impacts on Transactional Sex (Alternative Measures) among youth Cohabiting at Baseline (age 14-28 at baseline; endline cross section)

	PSSN	Endline	Endline
	Impact	Treatment Mean	Control Mean
	(1)	(2)	(3)
Financial reasons motivate current or start of last relationship	0.024	0.232	0.217
	(0.362)		
N	208	125	83
Females	0.020	0.290	0.283
	(0.251)		
N	153	93	60
Males	0.002	0.063	0.043
	(0.038)		
N	55	32	23
Given money by most recent partner	-0.067	0.304	0.386
	(-0.885)		
N	208	125	83
Females	-0.120	0.394	0.517
	(-1.434)		
N	154	94	60
Males	0.018	0.032	0.043
	(0.272)		
N	54	31	23
Would leave relationship if partner did not financially support	-0.030	0.008	0.037
	(-1.400)		
N	208	126	82
Females	-0.040	0.011	0.051
	(-1.358)		
N	153	94	59
Males	0.000**	0.000	0.000
N	55	32	23

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Standard errors were adjusted for clustering at the community-level, and corresponding t-statistics are reported in parenthesis. *p<.05, **p<.01

Table D.10: PSSN Impacts Transactional Sex (Alternative Measures) among Youth Not Cohabitating at Baseline (ages 14-28 at baseline; endline cross section)

	PSSN Impact	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)
Financial reasons motivate current or start of last relationship	-0.004	0.109	0.117
	(-0.204)		
N	781	430	351
Females	-0.025	0.218	0.239
	(-0.632)		
N	348	193	155
Males	0.004	0.021	0.020
	(0.344)		
N	433	237	196
Given money by most recent partner	0.004	0.152	0.154
	(0.177)		
N	779	429	350
Females	0.000	0.299	0.299
	(0.010)		
N	348	194	154
Males	-0.006	0.030	0.041
	(-0.318)		
N	431	235	196
Would leave relationship if partner did not financially support	0.009	0.037	0.028
	(0.645)		
N	783	431	352
Females	0.014	0.082	0.065
	(0.439)		
N	349	194	155
Males	0.000**	0.000	0.000
N	434	237	197

Notes: Linear probability models were estimated on the panel of individuals interviewed both at baseline and endline. Standard errors were adjusted for clustering at the community-level, and corresponding t-statistics are reported in parenthesis. *p<.05, **p<.01

Table D.11: PSSN Impacts on HIV Testing and Perceptions among Youth Cohabiting at Baseline (age 14-28 at baseline)

	PSSN Impact	Baseline Treatment Mean	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)	(4)
Perceived HIV risk: moderate/high	0.016	0.262	0.204	0.194
	(0.168)			
N	340	103	103	67
Females	-0.026	0.296	0.225	0.200
	(-0.222)			
N	232	71	71	45
Males	0.105	0.188	0.156	0.182
	(0.540)			
N	108	32	32	22
Tested for HIV: Lifetime	0.044	0.808	0.816	0.735
	(0.551)			
N	416	125	125	83
Females	0.088	0.817	0.839	0.783
	(1.171)			
N	306	93	93	60
Males	-0.075	0.781	0.750	0.609
	(-0.507)			
N	110	32	32	23
Tested for HIV: 12 months	-0.024	0.632	0.632	0.578
	(-0.250)			
N	416	125	125	83
Females	0.004	0.613	0.667	0.617
	(0.038)			
N	306	93	93	60
Males	-0.113	0.688	0.531	0.478
	(-0.589)			
N	110	32	32	23

Notes: Linear probability models were estimated using difference-in-differences and individual-level fixed effects on the panel of individuals interviewed both at baseline and endline. Standard errors were adjusted for clustering at the community-level, and corresponding t-statistics are reported in parenthesis. *p<.05, **p<.01

Table D.12: PSSN Impacts on HIV Testing and Perceptions among Youth Not Cohabiting at Baseline (age 14-28 at baseline)

	PSSN Impact	Baseline Treatment Mean	Endline Treatment Mean	Endline Control Mean
	(1)	(2)	(3)	(4)
Perceived HIV risk: moderate/high	0.004	0.179	0.190	0.157
	(0.092)			
N	1,308	368	368	286
Females	0.041	0.184	0.177	0.135
	(0.682)			
N	568	158	158	126
Males	-0.026	0.176	0.200	0.175
	(-0.475)			
N	740	210	210	160
Tested for HIV: Lifetime	0.031	0.309	0.431	0.411
	(0.839)			
N	1,540	427	427	343
Females	0.013	0.342	0.513	0.480
	(0.275)			
N	690	193	193	152
Males	0.045	0.282	0.363	0.356
	(0.787)			
N	850	234	234	191
Tested for HIV: 12 months	0.054	0.218	0.330	0.286
	(1.173)			
N	1,540	427	427	343
Females	0.074	0.249	0.415	0.342
	(1.112)			
N	690	193	193	152
Males	0.037	0.192	0.261	0.241
	(0.622)			
N	850	234	234	191

Notes: Linear probability models were estimated using difference-in-differences and individual-level fixed effects on the panel of individuals interviewed both at baseline and endline. Standard errors were adjusted for clustering at the community-level, and corresponding t-statistics are reported in parenthesis. *p<.05, **p<.01