

Pre-Analysis Plan

“Promoting Child Reading in Kenya: Estimating the Demand for Storybooks”¹

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Summary: This document describes a randomized controlled trial (RCT) for parents and their children in Kenya that promotes child reading by providing free and subsidized storybooks, along with information about the benefits of reading and reminders to read. This RCT was designed to (a) elicit demand for storybooks and (b) estimate the impacts of reading encouragement on reading practices and human capital investment. This document outlines the plan for analyzing the demand for storybooks only, with planned regression specifications and outcome variable definitions and descriptions. We note that we anticipate possibly carrying out further analyses beyond those included in this document; hence, this document is not intended to be comprehensive or to preclude additional or exploratory analysis. We also intend to estimate effects of the intervention on reading practices and human capital investment, and will formally pre-specify the outcome measures and treatment effect analysis related to that study in an additional pre-analysis plan before analyzing follow-up survey data.

Appendix: Intervention Module, including information script read to primary caregivers as part of the intervention; informational poster provided to households as part of the intervention; follow-up SMS message to remind households to read, and KLPS-4 PC Module.

¹As data collection launched prior to the registration of this pre-analysis plan, a Data Management Plan was registered under AEA RCT Registry #1191 (Experimental Evidence on Child Health and Long-run Outcomes in Kenya) on September 19, 2018, describing who would have access to any data collected prior to the registration of this pre-analysis plan.

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1. Introduction

1.1 Summary

Reading with young children is believed to be an especially important investment in human capital, preparing children for literacy and teaching them the importance of learning (Behrman et al. 2014, Curenion and Justice 2008, Gove and Cvelich 2011, Walker, Greenwood, Hart, and Carta 1994, Zhang 2006). However, many households in western Kenya lack reading materials for young children, and may or may not be aware of the benefits of early reading even if they do have age-appropriate books on hand. We seek to improve the early-childhood educational practices of parents in Kenya by encouraging the practice of reading to young children at home. In particular, we conduct a randomized controlled trial that promotes reading by providing free and subsidized storybooks, along with information about the benefits of reading, suggestions on reading practices, and reminders to read. This project seeks to (a) elicit demand for storybooks and (b) estimate effects on reading practices and human capital investment. We also estimate long-term complementarities with human capital interventions previously provided to parents.

This study builds on Knauer et al. (2019), a randomized controlled trial which provided storybooks, both by themselves and in conjunction with reading training sessions that randomly varied in the degree of intensity, from group sessions to home visits. We thank the study authors, along with Dr. Patricia Kariger, for helpful conversations that have informed our intervention materials and design. In particular, Dr. Heather Knauer provided valuable feedback and suggestions on our script about the benefits of information and reading practices.

This pre-analysis plan focuses on the demand elicitation portion of the study, which is conducted prior to providing parents information on the benefits of reading. The follow-up data collection to estimate the effects of the program on reading practices and human capital investment is still being developed, and so we will formally pre-specify those outcome measures and treatment effect analysis in an additional pre-analysis plan at a later date. This follow-up work will be co-authored with Dr. Patricia Kariger and Professor Lia Fernald.

1.2 Sample

The Kenya Life Panel Survey (**KLPS**) is a longitudinal dataset that contains educational, health, nutritional, demographic, labor market, and other information for nearly 10,000 Kenyan adults, spanning from their time in primary school up through early adulthood. The KLPS sample comprises individuals who participated in one of two previous randomized NGO programs: one which provided deworming medication to primary school students during 1998–2003 (known as the Primary School Deworming Program, or **PSDP**; Miguel and Kremer, 2004) and one which provided merit scholarships to upper primary school girls in 2001 and 2002 (known as the Girls' Scholarship Program, or **GSP**; Kremer, Miguel, and Thornton, 2009). An approximately 20% subset of these individuals also participated in the vocational training and cash grants programs during 2009–2014 (Hicks *et al.*, 2015b).

The fourth round of the KLPS data collection effort (**KLPS-4**) focuses on the subsets of the KLPS sample who participated in the PSDP or the vocational training and cash grants interventions. The

KLPS-4 data collection consists of two separate activities, both of which are currently ongoing. The E+ Module survey data collection gathers detailed economic information on KLPS (adult) respondents. This activity includes KLPS adults only, and the analysis of that data has been pre-specified separately (Baird et al., 2017). The second data collection activity includes administration of the I Module, PC Module, and a series of child assessments in order to collect information on a wide variety of outcomes for KLPS (adult) respondents as well as a subset of their children aged 3-9 and the primary caregivers (PCs) of these children. As a result, an unusual feature of the KLPS-4 data collection round is that we will be able to link a rich variety of information collected for KLPS adults across several rounds of the KLPS to cognitive and non-cognitive outcomes of their young children. For both the E+ Module and the I Module/PC Module/child assessment activities, data is collected in two representative waves.³

The sample for the reading promotion intervention is a subset of those participating in the KLPS-Kids modules. The KLPS-Kids modules are designed to capture information on children aged 2.5-8.5 years old as of the date of launch of the survey wave. For example, Wave 1 was launched in September 2018, and children who were 2.5-8.5 years old as of September 2018 are included in the wave 1 eligibility sample. For the purposes of the KLPS-Kids activity, we define two age groups: pre-school aged children (aged 3 years to 5 years 11 months old, or 36-71 months old) and school-aged children (aged 6 years to 8 years 11 months old, or 72-107 months old). Up to one eligible child per age group is selected per KLPS parent for inclusion in the KLPS-Kids sample. Age group distinctions are made in part to align with the transition from pre-school and kindergarten to primary school between ages 5 and 7, and in part to align with the appropriate ages corresponding to our battery of assessments. In cases in which the adult has more than two children within an age group, children to be interviewed are randomly chosen by the survey software (SurveyCTO).

We refer to children who are included in the KLPS-Kids sample based on the above eligibility criteria and sampling methodology as *sampled* children. These sampled children and their primary caregivers are later contacted for participation in the KLPS-Kids data collection activity. This data collection activity consists of (1) administering age-appropriate assessments to each child to measure cognitive and non-cognitive abilities and (2) administering a Primary Caregiver Module (PC Module) to the child's primary caregiver. For more details about the sampling, surveys and assessments, see Fernald et al. (2019).

While we aim to promote child reading among all young children of a KLPS parent, and intervention materials are not child-specific, for the purposes of administering the intervention, tracking and assessment, we designate a specific *storybook child* for eligible KLPS parents. The

³ At the time of registering this pre-analysis plan, data collection for Wave 2 of the E+ Module is ongoing. For the I Module/PC Module/child assessment data collection, Wave 1 launched in September 2018 and is expected to run through late 2019; Wave 2 is expected to launch in 2020 and extend into 2021. The two wave design allows us to make minor changes to the survey instruments and assessments half way through surveying, to improve data quality and explore additional questions. The reading promotion intervention is included as part of Wave 1 of the I Module/PC Module/child assessment data collection; whether it continues in wave 2 remains to be determined. Note that this pre-analysis plan focuses on outcomes collected as part of the reading promotion intervention included as part of the PC Module. A separate pre-analysis plan is currently in progress for the I Module (Baird et al., 2019), and a separate pre-analysis plan has already been written and registered for the analysis using outcomes from the E+ Module (Baird et al., 2017) and the child assessments and part of the PC Module (Fernald et al., 2019).

eligible sample for the reading promotion intervention in Wave 1 of KLPS-4 is the sub-sample of KLPS parents with at least one sampled child between 2.5 years and 6 years of age at time of Wave 1 survey launch (September 2018). In cases where a KLPS parent has more than one sampled child in this age range, we designate the 3-5 year old child as the storybook child. The intervention is administered as part of the PC Module to the Primary Caregiver associated with the storybook child, and is framed around promoting reading for all 3 to 6 year old children.

As previously mentioned, KLPS-4 data collection is currently ongoing. At the time of finalizing and registering this plan, 1,549 children have been sampled, 1,105 PC Modules have been completed, and 1,094 children's assessments have been completed (as of April 29, 2019). We anticipate a full sample of roughly 7,000 children across Waves 1 and 2 of the main KLPS-Kids activity, though the exact number will depend both on our tracking rate and the number of children that fall within the target age range. The reading promotion intervention is included as part of Wave 1 of the KLPS-4 Kids activity. Depending on evolution of interest on research team and study results, we will make a decision on whether to include the reading promotion intervention in Wave 2 in advance of launching Wave 2. We note that we plan on using a two-stage tracking methodology to increase our effective tracking rate.⁴

1.3 Child Reading Promotion Intervention

The child reading promotion intervention entails the following:

- A small cash grant (up to KES 300 (approximately USD 3.00) and an offer to purchase a subsidized storybook at a randomly-selected price OR an offer of a free storybook;
- An informational script on the benefits of reading to small children and strategies for doing so;
- A poster summarizing the informational script;
- An SMS reminder message to encourage reading 2.5-3.5 months after the PC Module.

The storybooks are printed by Oxford University Press – East Africa, and include short stories with animations that are appropriate for young children aged 3 to 6. We offer six different storybooks that were selected based on pilot work and focus groups with enumerators. Two of the books are in English and the remaining four are in Kiswahili. These books can be purchased at textbook stores in larger urban areas or cities, including Busia Town, Kisumu, or Nairobi.

Please see the Appendix for the script, poster, and SMS reminder message. The instructions in the script are specifically tailored to account for the possibility that some parents may not be literate, and focus on the ways that parents can encourage familiarity with and love for books by creating stories based on the pictures, and engaging children with questions about the story. The poster includes drawings of parents reading to their children, and summarizes the key points of the information script. It also serves as a later reminder for parents to continue reading to their children.

1.4 Experimental Design: Child Reading Promotion

⁴ For more information on the two-stage tracking procedure we employ in the main KLPS study, see Baird, Hamory, and Miguel (2008) and Baird et al (2016). Our approach is related to that used in the U.S. Moving to Opportunity evaluation project (Kling, Liebman and Katz, 2007; Orr et al., 2003).

Our experiment consists of three treatment groups and one control group. In Treatment Groups 1 and 2, caregivers are offered a small amount of cash plus the opportunity to purchase a subsidized storybook. In Treatment Group 3, the caregiver is offered a free storybook (full subsidy) instead of the cash plus subsidized book offer. All three treatment groups also receive the informational script and poster, as well as the SMS reminder message described above. The fourth group is the control group, which receives no storybook offer, informational materials, or SMS reminder message.

In Treatment Group 1, caregivers are given KES 150 (approximately USD 1.50) with an offer to purchase up to one storybook at a randomly-selected subsidized price, while in Treatment Group 2, caregivers are given KES 300 (approximately USD 3.00) with an offer to purchase up to two storybooks, each at a subsidized price.⁵ For both Groups 1 and 2, as part of the PC Module, caregivers are informed that they have been randomly selected to receive the monetary gift. The survey enumerator then provides information on the benefits of reading, and presents an opportunity to purchase the storybooks at a randomly-selected subsidized price. The market price of a storybook is KES 195 (approximately USD 1.95). In both Treatment Groups 1 and 2, one of three subsidy levels are randomly offered: Low Subsidy (Subgroup L), Medium Subsidy (Subgroup M), or High Subsidy (Subgroup H). In Subgroup L, the final book price is KES 150, which is about a 25 percent subsidy. In Subgroup M, the final book price is KES 100, about a 50 percent subsidy. In Subgroup H, the final book price is KES 50, about a 75 percent subsidy. These subsidy levels are randomly assigned, and each caregiver has an equal chance of receiving each subsidy level. The caregiver receives any funds not used to purchase the book via M-Pesa within 10 days after the survey.

Both Treatment Group 1 and 2 receive the cash and opportunity to purchase a subsidized storybook in advance of the informational script and poster. Our main measure of demand is thus elicited in advance of the informational intervention. If the respondent changes their mind and decides to purchase or accept a storybook after hearing the information, we allow them to purchase or accept, and record the book title.

In Treatment Group 3, the final book price is KES 0, a 100 percent (full) subsidy. The four groups are summarized in the table below:

Table 1: Child Reading Promotion Intervention Group Assignment

	Treatment Group 1	Treatment Group 2	Treatment Group 3	Control
KES 150 w/ offer to purchase up to one storybook at one of three subsidized prices: KES 150 (L), KES 100 (M), or KES 50 (H)	✓			
KES 300 w/ offer to purchase up to two storybooks at one of three subsidized prices: KES 150 (L), KES 100 (M), or KES 50 (H)		✓		

⁵ We restrict the number of books a caregiver can purchase so that they can fund the entire purchase with the cash we give to them.

Free Storybook			✓	
Informational Script	✓	✓	✓	
Informational Poster	✓	✓	✓	
SMS Reminder Message (2.5-3.5 months later)	✓	✓	✓	

Assignment to treatment groups was done as follows: since children are not identified until the time of the I Module interview (as discussed in Section 1.2 above), the full sample of KLPS Wave 1 adults were assigned to one of the four groups (three treatment groups and one control group). Randomization was stratified by three adult characteristics: PSDP or GSP group,⁶ grade in school at baseline, and gender. Stratification by grade ensures that the age distribution is balanced across treatment groups.

At the time of the I Module survey, enumerators determine whether KLPS respondents have children eligible for the KLPS-Kids activity. For those with eligible children, sampled children are selected and information is collected about their primary caregivers. From this, the storybook child is determined, and the appropriate child reading promotion intervention for the KLPS parent's treatment assignment is implemented as part of the PC Module for the corresponding primary caregiver.

We estimate that we will survey approximately 3,100 KLPS adults for the I Module of KLPS-4 Wave 1, and expect that over half of these adults will have at least one eligible child, bringing our expected eligible sample for the child reading promotion intervention to approximately 1,700 individuals for Wave 1 of the KLPS-4 round.

1.4 Data

1.4.1 Child Reading Promotion Baseline

KLPS-4 serves as a baseline for the child reading promotion intervention. Immediately before the intervention, a detailed Primary Caregiver Module is administered to each primary caregiver. This module asks detailed questions about the KLPS child, primary caregiver, and household environment. Particular sections include: caregiver characteristics, child health and development, child sleep patterns, home environment, and a child strengths and difficulties questionnaire (see the Appendix for the full module)

Below we highlight the baseline data we collect that characterizes the home learning environment, and might be useful for exploratory work examining heterogeneity in demand.

- Reading Materials and Other Stimuli: In Section 5, we collect baseline data on number of books in child's home (Question 1c), number of storybooks or picture books in child's home (Question 1d), number of textbooks in child's home (Question 1dii), and language of books (Question 1diii, Question 1div). We also ask about reading material such as

⁶ There are three PSDP/ GSP groups used for stratification: i) PSDP treatment (Groups 1 and 2), ii) PSDP control (Group 3), iii) GSP sample.

newspapers, magazines, pamphlets, or brochures (Question 1e), and pictures, posters, calendars, or other type of art work on child's walls (Question 1f).

- Time Use: In Section 5, we collect detailed information on child's time use, including time spent at school, preschool, or daycare (Question 3a), time spent in leisure activities (Question 3e, 3f, 3j), time spent on homework, studying, or reading (Question 3i), and time spent on chores and other work (Question 3g, 3h).
- Schooling: In Section 5, we ask whether child is enrolled in school, including ECD, pre-school, primary school, or other school (Question 6) and/or a daycare program (Question 9), child's grade (Question 7a), whether school is public or private (Question 7b) and boarding or day school (Question 7c). We ask if child attended school last week (Question 7d), and if so, how many days (Question 7di). Finally, we ask how much in school fees parents were asked to pay (Question 7ei), and how much they actually paid (Question 7eii). For those children not enrolled in an educational program, we ask why (Question 8).

As part of the reading promotion intervention, we collect data on whether or not the caregiver purchases/accepts a storybook (Question 1a); the number of storybooks purchased (Question 1ai, Treatment Group 2 only); the storybook(s) selected (Intervention Question 1b for Treatment Groups 1 and 2; Question 1a for Treatment Group 3); why the storybook was selected (Question 1c for Treatment Groups 1 and 2; Question 1b for Treatment Group 3) and who else in the household selected or helped to select the storybook (Primary Caregiver, spouse of primary caregiver, KLPS child of primary caregiver, other child in household, other adult in household, other child not in household, and/or other adult not in household) (Question 1d for Treatment Groups 1 and 2; Question 1c for Treatment Group 3). Lastly, if the caregiver chooses *not* to purchase a storybook (Treatment Groups 1 and 2) or *not* to accept the free storybook (Treatment Group 3), we ask why they did not purchase or accept a storybook (Question 2). If the caregiver initially decides not to purchase or accept a storybook, but then later changes their mind after the information is read, we record their selected storybook in Question 3. (All question numbers refer to the Intervention Module.) See the Appendix for more details on the administration of the intervention.

1.5 Analysis and Data Examined to Date

At the time of registering this pre-analysis plan, we have collected information on and administered the intervention to a subset of the Wave 1 sample using a tablet-based survey instrument. The first four rounds of SMS reminder messages were sent in mid-January, mid-February, mid-March, and mid-April 2019. At the start of data collection, we registered a data management memo on the AEA registry to outline who would have access to the KLPS-4 I Module, PC and Kids data collected prior to the registration of this pre-analysis plan. The data management memo specifies that all KLPS-4 I Module, PC and Kids data collected prior to the registration of this plan has been compiled, organized, and stored only by those team members who are not involved in writing of this pre-analysis plan. Research team members who have been involved in writing this pre-analysis plan have only seen summary statistics and tracking rates for the purposes of ensuring data quality. They have not examined the data nor performed any data analysis before registering this plan. No team members have performed any estimates of demand or treatment effects. Access to the KLPS-4 Kids data will be provided to research team members involved in writing the pre-analysis plan only after the pre-analysis plan is filed on the AEA RCT Registry. Since the pre-analysis plan for

the I Module is still in the drafting process at the time of registering this KLPS-Kids pre-analysis plan, we will only access data from the Kids Assessments and PC Module; we will not link data across the Kids Assessments, PC Module, and I Module until the I Module pre-analysis plan is filed on the AEA RCT Registry.

2. Analysis

This pre-analysis plan outlines our planned analysis for estimating the demand for storybooks in our sample. We will focus on Intention-to-Treat (ITT) estimates of treatment group assignment on the take-up of storybooks. In particular, we will compare take-up rates for respondents in treatment groups at each of the subsidy levels, where we consider Treatment Group 3 as a full subsidy group.

As described in Section 1.4 above, each individual in Treatment Group 1 is allowed to purchase up to one book at the given subsidy level, while each individual in Treatment Group 2 is allowed to purchase up to two books at the given subsidy level. Individuals in Treatment Group 3 have the opportunity to accept a fully subsidized storybook. This exercise will allow us to trace out the demand curve for storybooks.

2.1 Demand for Storybooks: Full Sample

The full sample includes children of parents who were in the Primary School Deworming Program (PSDP) sample and/or vocational education and cash grant samples.

First, we look at the binary take-up decision. We will estimate the following regression specification for Treatment Groups 1, 2 and 3:

$$Y_i = \alpha + \beta_1 T_i^H + \beta_2 T_i^M + \beta_3 T_i^L + X_i' \lambda + \varepsilon_i \quad (1)$$

where Y_i is an indicator variable reflecting the take-up decision of household i . The binary variables, T_i^H , T_i^M , and T_i^L indicate whether the KLPS respondent i was randomly assigned into the high, medium, or low subsidy arm, respectively; these binary variables are coded as zeros for those in Treatment Group 3. The coefficients β_1 , β_2 , and β_3 capture the subsidy impacts on take-up relative to take-up of the fully subsidized storybook for Treatment Group 3.

Our main specification will include a vector of control variables X_i' , containing the variables used for stratification during storybook treatment randomization: PSDP or GSP treatment group, gender of KLPS parent, and baseline (1998) grade of KLPS parent. We will also include an indicator for PSDP or GSP program participation, gender of interviewer; months elapsed since the start of the survey wave; and an indicator for inclusion in the vocational education / cash grant sample as well as treatment groups within the intervention.⁷ We will use weights that take into the two-stage tracking strategy of KLPS-Kids data collection.

Here (and throughout), we are interested in the magnitude of coefficients, the slope of the demand

⁷ If we continue the intervention in Wave 2, we will also include an indicator for surveys conducted during wave 2.

curve and the implications for the price elasticity of demand in addition to statistical significance. A first hypothesis test will be an F-test of the joint significance of β_1 , β_2 , and β_3 , which tests the null hypothesis that the effect of the subsidy offer on demand is jointly zero relative to the free storybook offer. We will also conduct two-sided t-tests on the null-hypothesis that $\beta_1=0$, $\beta_2=0$, and $\beta_3=0$, and for differences between coefficients. We expect that take-up of the free storybook will be close to 100 percent, and that demand is downward-sloping ($0 > \beta_1 > \beta_2 > \beta_3$). To examine magnitudes and the slope of the demand curve, we will also visually display demand by plotting the binary take-up decision as a function of storybook price for Treatment Groups 1, 2 and 3.

We will also examine heterogeneity in binary take-up between Treatment Groups 1 and 2.

Second, we look at take-up in terms of the number of storybooks purchased as a function of the subsidy level in Treatment Group 2. We restrict attention to Treatment Group 2 as it is the only group with the opportunity to purchase more than one storybook. We estimate:

$$Y_i = \alpha + \gamma_1 T_i^M + \gamma_2 T_i^L + X_i' \lambda + \varepsilon_i \quad (2)$$

where Y_i is the number of storybooks purchased as part of the intervention, and the other variables are defined in the same manner as for Equation 1. Effects are now estimated relative to those in Treatment Group 2 randomly receiving the high subsidy offer. As above, we are interested in both magnitudes and statistical significance. A first hypothesis test will be an F-test of the joint significance of γ_1 and γ_2 , which tests the null hypothesis that varying the subsidy offer amount has no effect on the number of storybooks purchased. We will also conduct two-sided t-tests on the null hypothesis that $\gamma_1=0$, $\gamma_2=0$, and for differences between coefficients. As in Equation 1, we expect $0 > \gamma_1 > \gamma_2$, as estimates are relative to those receiving the high subsidy. We will also display these estimates graphically as a function of storybook price.

We will test for attrition across treatment arms; if we find meaningful differences in attrition, then we will employ Lee (2009) bounds for both equations.

2.2 Demand for Storybooks: Complementarities with Human Capital Interventions

Next, we explore whether there are complementarities between human capital interventions previously provided to KLPS respondents and the demand they (or the primary caregivers of their children) have for storybooks. Throughout the rest of this section, we use the treatment status of the KLPS respondent in the corresponding intervention, even if the KLPS respondent is not the primary caregiver of the storybook child.

2.2.1 Deworming (PSDP) Sample

The deworming intervention, known as the Primary School Deworming Program (**PSDP**), took place between 1998 and 2003. During this intervention, each of the 75 schools located in Busia, an agrarian district of western Kenya, was assigned to one of three groups. These groups were phased into deworming treatment in different years of the program, providing a cluster-randomized, stepped-wedge research design. Group 1 schools started receiving deworming treatment in 1998,

Group 2 in 1999, and Group 3 in 2001. In 2001, half of the schools in Group 1 and Group 2 required cost-sharing contributions from parents, which substantially reduced take-up, and in 2002-2003, free deworming was provided to all schools. For more details on the PSDP and experimental design, see Miguel and Kremer (2004) and Miguel *et al.* (2014). In the present analysis, early program beneficiaries (Group 1 and Group 2 respondents) will constitute the deworming treatment group, while Group 3 will constitute the control group, following the approach in Baird *et al.* (2016). Note that individuals in Group 1 and 2 schools were assigned 2.41 more years of deworming on average than Group 3 individuals.

Baird *et al.* (2016) finds labor market gains 10 years after the deworming program for KLPS respondents, providing a potential channel for demand effects in this intervention.

For the PSDP sample, we exclude those who were additionally treatment group individuals in the vocational training and cash grants intervention (described in the next section). Our sample thus includes PSDP individuals who were not involved in the training/grant program, as well as PSDP individuals who were part of the training/grant program control group. Because the voucher/grant winners and non-winners were randomly selected, the analysis will adjust the survey weights for individuals in the non-winner comparison group in order to maintain initial (baseline PSDP) population representativeness.

We will estimate the following specification among Treatment Groups 1, 2 and 3:

$$Y_i = \alpha + \beta_1 T_i^{PSDP} + \beta_2 T_i^{PSDP} * T_i^H + \beta_3 T_i^{PSDP} * T_i^M + \beta_4 T_i^{PSDP} * T_i^L + \beta_5 T_i^F + \beta_6 T_i^H + \beta_7 T_i^M + \beta_8 T_i^L + X_i' \theta + \varepsilon_i \quad (3)$$

where Y_i is a variable reflecting the binary take-up decision of individual i . The binary variable T_i^{PSDP} is an indicator for individual i in the PSDP Deworming Groups 1 or 2 (versus 3) in 1998. The binary variables T_i^F , T_i^H , T_i^M , and T_i^L indicate whether individual i was randomly assigned into the full (i.e. free storybook), high, medium, or low storybook subsidy arms, respectively. We will include a vector of control variables X_i , containing the variables used for stratification during storybook treatment randomization: gender of KLPS parent, and baseline grade (1998) of KLPS parent. We will also include a vector of controls used either to stratify the original PSDP sample, or in the sampling of the KLPS sample, as well as other key controls used in Baird *et al.* (2016, 2017). This vector comprises an indicator for gender of interviewer; month of interview fixed effects; the total density of primary school children in a 6 km radius around the parents' PSDP school in 1998; an indicator for inclusion in the vocational education / cash grant sample; indicator for geographic zone of parent's school in 1998; population of parent's school in 1998; indicator for participation in deworming cost-sharing in 2001 (Kremer and Miguel 2007); and average 1996 test score of parent's PSDP school.⁸ We will include survey weights to maintain initial (baseline PSDP) population representativeness. We also take into account both the sampling for the KLPS and the two-stage tracking strategy of KLPS-Kids data collection. We will report robust standard errors clustered at the 1998 school level.

The main coefficients of interest are β_1 , β_2 , β_3 , and β_4 , which capture differential demand by PSDP

⁸ If we continue the intervention in Wave 2, we will also include an indicator for surveys conducted during wave 2.

treatment status and subsidy level. As above, we are interested in both the magnitude, the slope of the demand curve and the implications for the price elasticity of demand, as well as the statistical significance of these coefficients. A first hypothesis test will be an F-test of the joint significance of β_1 , β_2 , β_3 , and β_4 , which tests the null hypothesis that there is no effect of PSDP treatment status on demand for storybooks. We will also conduct two-sided t-tests on the null-hypothesis that $\beta_1=0$, $\beta_2=0$, $\beta_3=0$, and $\beta_4=0$. We will also visually display demand for the PSDP sample by plotting take-up and the number of storybooks purchased as a function of storybook price for Treatment Groups 1, 2 and 3.

As in Section 2.1, we will also look at the number of storybooks purchased by PSDP respondents in Treatment Group 2 by estimating Equation 2, adding in interaction terms between the subsidy levels and PSDP treatment indicators and an indicator for PSDP treatment status. We are interested the magnitudes of the coefficients as well as in an F-test of the joint significance of the interaction terms and PSDP treatment indicator, which tests the null hypothesis that there is no effect of PSDP treatment status on the demand for storybooks.

2.2.2 Vocational Training and Cash Grant Samples

The vocational training and cash grant program we study, which took place during 2009-2014, included 2,163 adolescents and young adults ranging from roughly 17 to 28 years of age who applied for vocational education tuition vouchers. Approximately 70% of these individuals were participants of PSDP, and the others were participants in the Girls' Scholarship Program (*GSP*), a separate randomized education intervention that took place in a neighboring area.⁹ A randomly selected half of all training program applicants were awarded a vocational training voucher worth approximately 35,000 Kenyan shillings (about US \$460), an amount sufficient to fully (or almost fully) cover the tuition costs for most public or private vocational education programs in Kenya. Voucher winners attended courses during 2009-2011. In 2013 and 2014, a random half of voucher winners and voucher non-winners were given an unconditional cash grant worth Ksh 20,000 (about US \$230 at the time). In the present analysis, we consider voucher winners as “treated” with respect to the vocational training program if they were randomly selected to receive a voucher, and the cash grant winners as “treated” with respect to the cash grant program if they were selected to receive a grant.

Ongoing research on these programs find evidence of human capital effects for the vocational training intervention, but limited labor market effects. Those receiving the cash grant had short-run gains that appear to have dissipated over time. Given these, it is unclear what we should expect to see now in terms of demand for storybooks.¹⁰

The vocational training and cash grants sample consists of individuals who previously participated in either the PSDP or the GSP, and applied to participate in the vocational training voucher

⁹ We do not provide more details on this program here, as it is not analyzed separately in the proposed study. For more details on this program, see Kremer, Miguel, and Thornton (2009).

¹⁰ For more details on the vocational training voucher program, see Hicks et al. (2015b); for more details on the cash grant program, see Hicks et al., (2015a). As described in these references, there were two variants of the vocational education voucher, but both are considered treatment here for simplicity.

program which launched in 2009. For this sample, we will estimate a similar regression as to Equation 3 among Treatment Groups 1, 2 and 3:

$$Y_i = \alpha + \beta_1 T_i^{VOCED} + \beta_2 T_i^{VOCED} * T_i^H + \beta_3 T_i^{VOCED} * T_i^M + \beta_4 T_i^{VOCED} * T_i^L + \beta_5 T_i^{SCY} + \beta_6 T_i^{SCY} * T_i^H + \beta_7 T_i^{SCY} * T_i^M + \beta_8 T_i^{SCY} * T_i^L + \beta_9 T_i^F + \beta_{10} T_i^H + \beta_{11} T_i^M + \beta_{12} T_i^L + X_i' \theta + \varepsilon_i \quad (4)$$

where Y_i is a variable reflecting the take-up decision of individual i . The binary variable T_i^{VOCED} indicates whether individual i is in the vocational training treatment group. The binary variable T_i^{SCY} indicates whether individual i is in the cash grant treatment group. Note that some individuals were in only one treatment group (or none), while others were in both voucher and grant treatment groups. As in Equation 3, the binary variables T_i^F , T_i^H , T_i^M , and T_i^L indicate whether individual i was randomly assigned into the full, high, medium, or low subsidy arms, respectively. We will include a vector of control variables X_i' , containing the variables used for stratification during the reading promotion randomization: PSDP/ GSP treatment group, gender of KLPS parent and baseline grade of KLPS parent. We will also include an indicator for PSDP or GSP program participation, gender of interviewer and months elapsed since the start of the survey wave.¹¹

The main coefficients of interest are $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8$, which capture differential demand for storybooks by vocational training treatment status and cash grant treatment status. The main hypothesis tests will be (i) an F-test of the joint significance of $\beta_1, \beta_2, \beta_3$, and β_4 , which tests the null hypothesis that there is no effect of VocEd treatment status on demand for storybooks and (ii) an F-test of the joint significance of $\beta_5, \beta_6, \beta_7$, and β_8 , which tests the null hypothesis that there is no effect of SCY treatment status on demand for storybooks. We will also conduct two-sided t-tests on the null-hypothesis that $\beta_1=0, \beta_2=0, \beta_3=0, \beta_4=0, \beta_5=0, \beta_6=0, \beta_7=0$, and $\beta_8=0$.

As in Section 2.1, we are also interested in effects of vocational training and cash grants on the the number of storybooks purchased for those in Treatment Group 2, and will estimate Equation 2 with added indicators for vocational training treatment, cash grant treatment, and interaction terms between each intervention and the subsidy amount. We are interested in an F-test of the joint significance of the interaction term for vocational training and the vocational training treatment indicator, and in interaction terms for SCY treatment status and the SCY indicator.

We are interested in the magnitude of vocational training and cash grant related coefficients, the slope of the demand curve and the implications for the price elasticity of demand. We will also visually display demand for the vocational training and cash grant sample by plotting take-up and the number of storybooks purchased as a function of storybook price for Treatment Groups 1, 2 and 3.

We may explore interaction effects between the vocational training voucher and cash grant, but anticipate limited statistical power given the smaller sample size for individuals that received both interventions, and thus do not consider this to be primary.

¹¹ If we continue the intervention in Wave 2, we will also include an indicator for surveys conducted during wave 2.

2.4 Heterogeneous Effects

In additional analyses beyond the main regression specification above, we will estimate heterogeneous treatment effects using interaction terms between each treatment indicator and a set of socioeconomic and demographic variables of particular interest:

- KLPS parent education level, split above and below median years of educational attainment (KLPS-4 I Module, Section 13)
- Total income of KLPS household, split above and below median (KLPS-4 E+ Module, Sections 15.1-15.4)
- Urban residence of KLPS respondent, where urban status is defined as those living in Nairobi, Mombasa or Kampala (KLPS-4 I Module, question 3.1). We may also study effects based on the amount of time spent in urban areas, and including those that live in towns as well.
- Gender of storybook child (KLPS-4 I Module child selection)
- Gender of KLPS parent (KLPS-4 I Module, Section 1)
- Total number of children in household (KLPS-4 E+ household roster, Section 4 Question 10)¹²

We note that some of these dimensions may have been affected by human capital treatments for KLPS respondents, which may affect interpretation of our estimates. We may also explore other dimensions of heterogeneity, using KLPS-4 (baseline) data described in Section 1.4.1, in secondary exploratory tests.

To assess statistical significance for heterogeneous effects, we plan to compute the False Discovery Rate (FDR) adjusted q-values across our six dimensions of heterogeneity following Anderson (2008), Casey et al. (2012) and the references cited therein.

3. Demand Outcomes

We will measure demand for storybooks using the following two primary outcomes:

1. Binary decision to purchase/accept a storybook (0 if do not purchase/accept storybook, 1 if purchase/accept storybook) - Intervention Question 1a for Treatment Groups 1, 2 and 3.
2. Number of storybooks purchased, examined for Treatment Group 2. Group 2 can purchase 0, 1, or 2 storybooks - Intervention Question 1ai

We do not conduct multiple testing adjustments for these outcomes as we only have two primary outcomes, and only one outcome that we look at across multiple treatment groups. As noted above, we do include multiple testing adjustments for heterogeneous effects.

¹² We may also look at the number of biological children reported in the KLPS-4 I Module, Section 4, though not all biological children may live in the same household.

As secondary analysis, we study demand for certain types of storybooks. First, we look at demand for the two English storybooks, using an indicator equal to one if the selected storybook (or, in the case of Treatment Group 2, any selected storybook) was in English. Second, we look at the difficulty of the book selected, where we create an indicator equal to one for the three “hardest” books, based on their reading level as classified by the publisher. We may also present both of these secondary analyses separately for Treatment Groups 1 and 3, and Treatment Group 2, in case the option of selecting a second storybook changes the decision-making of caregivers.

We also anticipate conducting several exploratory analyses. We will explore heterogeneity by the age of the storybook child and/or other children in the household. We will also look at how reported fertility intentions influence demand for storybooks. It is difficult to hypothesize the exact manner in which the age composition of household members may influence demand for child reading materials, but having a greater number of young children (or anticipating additional young children) may increase the perceived benefits of acquiring storybooks.

Both of the primary outcomes described above measure demand for storybooks in advance of information about the benefits of reading, as the information script is provided after respondents make their storybook choices. We will also explore to what extent individuals who do not initially take up a storybook request a storybook (unprompted by enumerators) after the information intervention (Question 3). At this point, we do not know how common these unprompted requests are.

We note that we anticipate possibly carrying out further analyses beyond those included in this document; hence, this document is not intended to be comprehensive or to preclude additional or exploratory analysis.

As noted above, we will file an additional pre-analysis plan to pre-specify outcomes measuring the impact of the storybooks intervention.

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Appendix I: Intervention Module

Log Number: | | | | |

PC-Int

KLPS-KIDS WAVE 1 CHILD READING PROMOTION INTERVENTION SCRIPT

VERSION: OCTOBER 24, 2018 — ENGLISH

CHILD ID
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This survey should be administered to the PRIMARY CAREGIVER of the child identified above. This should only be administered to the primary caregiver of the storybook child.

DO NOT READ out loud, but please enter the following pre-assigned information:

A. GROUP NUMBER: (Group 1, Group 2, Group 3, or Group 4)

If Group 1 or 2, please enter the following:

B. SUBSIDY LEVEL (Ksh 150, Ksh 100, Ksh 50)

If Group 1, please proceed to Version 1. If Group 2, proceed to Version 2. If Group 3, proceed to Version 3. If Group 4, go to conclusion of PC Module.

VERSION 1

Say: We are happy to inform you that you have been randomly selected to receive a gift of **Ksh 150**. We will send you this gift through M-Pesa after the survey.

Read: We would now like to tell you about the work we do related to education. As you may know, reading can be very useful for your children's growth and development. It is also a fun activity that you can do with your children. We do not work for a storybook company, but we are trying to make more children's storybooks available to families with young children, by offering storybooks in your area at a discounted price. The market value of each of these storybooks is Ksh 195. However, we would like to offer you the opportunity to buy one today for a reduced price instead – whichever price is randomly selected by this tablet. If you do wish to buy a storybook, you could use the money that you just earned in order to purchase the storybook, and we will send you the remaining balance through M-Pesa.

Read: The tablet will now randomly select your reduced price for the storybook.

Congratulations! You have been offered a reduced storybook price of **[PRE-ASSIGNED SUBSIDY LEVEL]**.

Read: Now I would like to show you our storybook selection for your children. We have four available Kiswahili options and two available English options. You are welcome to take a minute to look through the storybooks and decide whether you want to purchase one, and if so, which one.

Give respondent 5 minutes to look through the storybooks. When they have finished looking (or when the 5 minute time limit is up) please continue to Question 1a.

1a. Would you like to purchase a storybook today for your children? (1=Yes, 2=No)

If YES, continue to 1b. Otherwise skip to Question 2.

1b. Which storybook would you like to purchase?

[1=Nyimbo zetu (Swa), 2=Nikicheka, anacheke (Swa), 3=Sungura Mjanja (Swa), 4= Mwanasayansi (Swa), 5= A New King (Eng), 6=Goat Matata (Eng)]

1c. Why did you choose to purchase this storybook? ***Please do not read the answer options out loud, but select all that apply.***

☐ I like the pictures.

☐ I like the story/ topic.

☐ My children like the story/ topic.

☐ My children can relate to this story/ topic.

☐ I want my children to learn from this storybook.

☐ No reason.

☐ Other (specify) _____

1d. **DO NOT read the following question out loud, but please select all that apply:**

Who selected or helped to select the storybooks?

- ☐ Primary Caregiver (PC)
- ☐ Spouse of PC
- ☐ KLPS child of PC
- ☐ Other children in household
- ☐ Other household member
- ☐ Other adult (non-household member)
- ☐ Other child (non-household member)

Skip to INFORMATION SCRIPT A.

2. Why don't you want to purchase a storybook? ***Please do not read the answer options out loud, but select all that apply.***

- ☐ I need the money for something else.
- ☐ I can get cheaper storybooks elsewhere.
- ☐ My children already have storybooks at home.
- ☐ My children are not interested in reading storybooks.
- ☐ I am not interested in reading storybooks.
- ☐ Storybooks are already provided by schools.
- ☐ I do not know how to read.
- ☐ I don't have time to read to my children.
- ☐ I don't like any of these storybook options.
- ☐ Don't know/ no reason.
- ☐ Other (specify) _____

Skip to INFORMATION SCRIPT B.

INFORMATION SCRIPT A

Please put storybooks away for the Information Script. Keep the respondent engaged during the information script by making eye contact and using a dynamic voice. Read out loud.

Now I would like to give you some information about reading with your children. Research has shown that reading to your young children, especially those who are not yet reading themselves, can help them love books and love learning. It also gives you and your children something special to do together. Try to read with your children every day - even 10 or 15 minutes is good. Pick a time when your children are not tired or hungry, and when you can give them your full attention. When reading together, you can sit side-by-side or with your children on your lap.

When you read the story, point to the words as you read. Stop and talk about the words, and point to where the words are in the picture. Even if you cannot read yourself, you can still use the pictures to create your own story. If some of your children know a word, let them sound it out. Listen to your children and encourage them to talk about the story. Make the experience interactive by asking them questions about the story. For example: "What do you see here in this picture?", "Where have you seen these things before?", "What is this person feeling?", "Why do they feel that way?", "What is this person doing?", "Who is your favorite character?". When your children respond, repeat what your children say and add more details. Connect what is happening in the story to previous experiences for your children.

It is normal for your children to want to read the story over and over again, so be patient. When you have fun, your children will have fun too!

Books are precious, so you should keep this storybook in the house and make sure your children treat it with care. If you like this storybook, you can get more storybooks just like this at your nearest bookstore. If you have a smart phone or tablet you can also download stories for free by visiting the African Storybook website. Here is a poster with a link to the African Storybook website and some information about reading, that you can hang on your wall as a reminder.

Give respondent poster.

To summarize:

- Remember to read with your children every day! Reading will help them to love learning.
- Even 10 to 15 minutes is good.
- Ask your children questions about the story, and point to where the words are in the picture.

Go to end of Information Script B.

INFORMATION SCRIPT B

Please put storybooks away for the Information Script. Keep the respondent engaged during the information script by making eye contact and using a dynamic voice. Read Out Loud.

We would like to give you some information about reading with your children just for your reference. Research has shown that reading to your young children, especially those who are not yet reading themselves, can help them love books and love learning. It also gives you and your children something special to do together. Try to read with your children every day - even 10 or 15 minutes is good. Pick a time when your children are not tired or hungry, and when you can give them your full attention. When reading together, you can sit side-by-side or with your children on your lap.

When you read a storybook, point to the words as you read. Stop and talk about the words, and point to where the words are in the picture. Even if you cannot read yourself, you can still use the pictures to create your own story. If some of your children know a word, let them sound it out. Listen to your children and encourage them to talk about the story. Make the experience interactive by asking them questions about the story. For example: “What do you see here in this picture?”, “Where have you seen these things before?”, “What is this person feeling?”, “Why do they feel that way?”, “What is this person doing?”, “Who is your favorite character?”. When your children respond, repeat what your children say and add more details. Connect what is happening in the story to previous experiences for your children.

It is normal for your children to want to read a story over and over again, so be patient. When you have fun, your children will have fun too!

Books are precious, so you should keep any books in the house and make sure your children treat them with care. If you decide to purchase a storybook later, you can get other storybooks just like these at your nearest bookstore. If you have a smart phone or tablet you can also download stories for free by visiting the African Storybook website. Here is a poster with a link to the African Storybook website and some information about reading, that you can hang on your wall as a reminder.

Give respondent poster.

To summarize:

- Remember to read with your children every day! Reading will help them to love learning.
- Even 10 to 15 minutes is good.
- Ask your children questions about the story, and point to where the words are in the picture.

NOTE: DO NOT ASK the respondent if they want to purchase a storybook after reading the information script. However, if they change their mind and decide to purchase a storybook, please answer **Question 3** below.

3. Which storybook did they decide to purchase *after* the script was read? Remember that the respondent can only purchase **one storybook**.

[1=Nyimbo zetu (Swa), 2=Nikicheka, anacheke (Swa), 3=Sungura Mjanja (Swa), 4= Mwanasayansi (Swa), 5=A New King (Eng), 6=Goat Matata (Eng)]

END INTERVENTION FOR GROUP 1. GO TO PC MODULE CONCLUSION.

VERSION 2

Say: We are happy to inform you that you have been randomly selected to receive a gift of **Ksh 300**. We will send you this gift through M-Pesa after the survey.

Read: We would now like to tell you about the work we do related to education. As you may know, reading can be very useful for your children's growth and development. It is also a fun activity that you can do with your children. We do not work for a storybook company, but we are trying to make more children's storybooks available to families with young children, by offering storybooks in your area at a discounted price. The market value of each of these storybooks is Ksh 195. However, we would like to offer you the opportunity to buy up to two today for a reduced price instead – whichever price is randomly selected by this tablet. If you do wish to buy storybooks, you could use the money that you just earned in order to purchase one or two storybooks, and we will send you the remaining balance through M-Pesa.

Read: The tablet will now randomly select your reduced price for the storybooks.

Congratulations! You have been offered a reduced storybook price of Ksh [**PRE-ASSIGNED SUBSIDY LEVEL**].

Read: Now I would like to show you our storybook selection for your children. We have four available Kiswahili options and two available English options. You are welcome to take a minute to look through the storybooks and decide whether you want to purchase one or two, and if so, which storybooks.

Give respondent 5 minutes to look through storybooks. When they have finished looking (or when the 5 minute time limit is up) please continue to Question 1a.

1a. Would you like to purchase storybooks today for your children? Remember that you can choose up to two at this subsidized price. ☐ (1=Yes, 2=No)

If YES, continue to 1ai. Otherwise skip to Question 2.

1ai. How many storybooks would you like to purchase? ***May choose 1 or 2.*** ☐

1b. Which storybook(s) would you like to purchase? ***Select up to 2.*** ☐

[1=Nyimbo zetu (Swa), 2=Nikicheka, anacheke (Swa), 3=Sungura Mjanja (Swa), 4= Mwanasayansi (Swa), 5= A New King (Eng), 6=Goat Matata (Eng)]

1c. Why did you choose to purchase the storybook(s)? ***Please do not read the answer options out loud, but select all that apply.***

☐ I like the pictures.

☐ I like the story/ topic.

☐ My children like the story/ topic.

☐ My children can relate to this story/ topic.

☐ I want my children to learn from this storybook.

☐ No reason.

☐ Other (specify) _____

1d. ***DO NOT read the following question, but please select all that apply:***

Who selected or helped to select the storybooks?

☐ Primary Caregiver (PC)

☐ Spouse of PC

☐ KLPS child of PC

- ☐ Other children in household
- ☐ Other household member.
- ☐ Other adult (non-household member)
- ☐ Other child (non-household member)

Skip to INFORMATION SCRIPT A.

2. Why don't you want to purchase a storybook? ***Please do not read the answer options out loud, but select all that apply.***

- ☐ I need the money for something else.
- ☐ I can get cheaper storybooks elsewhere.
- ☐ My children already have storybooks at home.
- ☐ My children are not interested in reading storybooks.
- ☐ I am not interested in reading storybooks.
- ☐ Storybooks are already provided by schools.
- ☐ I do not know how to read.
- ☐ I don't have time to read to my children.
- ☐ I don't like any of these storybook options.
- ☐ Don't know/ no reason.
- ☐ Other (specify) _____

Skip to INFORMATION SCRIPT B.

INFORMATION SCRIPT A

Please put storybooks away for the Information Script. Keep the respondent engaged during the information script by making eye contact and using a dynamic voice. Read out loud:

Now I would like to give you some information about reading with your children. Research has shown that reading to your young children, especially those who are not yet reading themselves, can help them love books and love learning. It also gives you and your children something special to do together. Try to read with your children every day - even 10 or 15 minutes is good. Pick a time when your children are not tired or hungry, and when you can give them your full attention. When reading together, you can sit side-by-side or with your children on your lap.

When you read a story, point to the words as you read. Stop and talk about the words, and point to where the words are in the picture. Even if you cannot read yourself, you can still use the pictures to create your own story. If some of your children know a word, let them sound it out. Listen to your children and encourage them to talk about the story. Make the experience interactive by asking them questions about the story. For example: "What do you see here in this picture?", "Where have you seen these things before?", "What is this person feeling?", "Why do they feel that way?", "What is this person doing?", "Who is your favorite character?". When your children respond, repeat what your children say and add more details. Connect what is happening in the story to previous experiences for your children.

It is normal for your children to want to read stories over and over again, so be patient. When you have fun, your children will have fun too!

Books are precious, so you should keep storybooks in the house and make sure your children treat them with care. If you like these storybooks, you can get more storybooks just like this at your nearest bookstore. If you have a smart phone or tablet you can also download stories for free by visiting the African Storybook website. Here is a poster with a link to the African Storybook website and some information about reading, that you can hang on your wall as a reminder.

Give respondent poster.

To summarize:

- Remember to read with your children every day! Reading will help them to love learning.
- Even 10 to 15 minutes is good.
- Ask your children questions about the story, and point to where the words are in the picture.

NOTE: DO NOT ASK the respondent if they want to purchase a storybook after reading the information script. However, if they change their mind and decide to purchase a storybook or purchase an additional storybook, please answer ***Question 3*** below. Remember they can only choose up to two storybooks.

Go to end of Information Script B.

INFORMATION SCRIPT B

Please put storybooks away for the Information Script. Keep the respondent engaged during the information script by making eye contact and using a dynamic voice. Read Out Loud.

We would like to give you some information about reading with your children just for your reference. Research has shown that reading to your young children, especially those who are not yet reading themselves, can help them love books and love learning. It also gives you and your children something special to do together. Try to read with your children every day - even 10 or 15 minutes is good. Pick a time when your children are not tired or hungry, and when you can give them your full attention. When reading together, you can sit side-by-side or with your children on your lap.

When you read a storybook, point to the words as you read. Stop and talk about the words, and point to where the words are in the picture. Even if you cannot read yourself, you can still use the pictures to create your own story. If some of your children know a word, let them sound it out. Listen to your children and encourage them to talk about the story. Make the experience interactive by asking them questions about the story. For example: “What do you see here in this picture?”, “Where have you seen these things before?”, “What is this person feeling?”, “Why do they feel that way?”, “What is this person doing?”, “Who is your favorite character?”. When your children respond, repeat what your children say and add more details. Connect what is happening in the story to previous experiences for your children.

It is normal for your children to want to read a story over and over again, so be patient. When you have fun, your children will have fun too!

Books are precious, so you should keep any storybooks in the house and make sure your children treat them with care. If you decide to purchase a storybook later, you can get other storybooks just like these at your nearest bookstore. If you have a smart phone or tablet you can also download stories for free by visiting the African Storybook website. Here is a poster with a link to the African Storybook website and some information about reading, that you can hang on your wall as a reminder.

Give respondent poster.

To summarize:

- Remember to read with your children every day! Reading will help them to love learning.
- Even 10 to 15 minutes is good.
- Ask your children questions about the story, and point to where the words are in the picture.

NOTE: DO NOT ASK the respondent if they want to purchase a storybook, or an additional storybook after reading the information script. However, if they change their mind and decide to purchase a storybook or purchase an additional storybook, please answer **Question 3** below.

3. Which storybook(s) did they decide to purchase *after* the script was read? Remember that the respondent can only purchase up to **two storybooks**.

[1=Nyimbo zetu (Swa), 2=Nikicheka, anacheke (Swa), 3=Sungura Mjanja (Swa), 4= Mwanasayansi (Swa), 5=A New King (Eng), 6=Goat Matata (Eng)]

END INTERVENTION FOR GROUP 2. GO TO PC MODULE CONCLUSION.

VERSION 3

Say:

We are happy to inform you that you have been randomly selected to receive a gift of a free storybook. We do not work for a storybook company, but we are trying to make more children's storybooks available to families with young children, by offering storybooks to selected participants for free.

We have four available Kiswahili storybooks and two available English storybooks. Please feel free to take a minute to look through the storybooks and decide which one you would like for free.

Give respondent 5 minutes to look through storybooks. When they have finished looking (or when the 5 minute time limit is up) please continue to Question 1a.

1a. Which storybook would you like for free today? ☐

[1=Nyimbo zetu (Swa), 2=Nikicheka, anacheke (Swa), 3=Sungura Mjanja (Swa), 4= Mwanasayansi (Swa), 5=A New King (Eng), 6=Goat Matata (Eng), 8=Refusal to accept storybook]

If refuse to accept storybook, skip to Question 2. Otherwise CONTINUE to Question 1b.

1b. Why did you select this storybook? ***Please do not read the answer options out loud, but select all that apply.***

- ☐ I like the pictures.
- ☐ I like the story/ topic.
- ☐ My children like the story/ topic.
- ☐ My children can relate to this story/ topic.
- ☐ I want my children to learn from this storybook.
- ☐ No reason.
- ☐ Other (specify) _____

1c. ***DO NOT read the following question, but please select all that apply:***

Who selected or helped to select the storybook?

- ☐ Primary Caregiver (PC)
- ☐ Spouse of PC
- ☐ KLPS child of PC
- ☐ Other children in households
- ☐ Other household member
- ☐ Other adult (non-household member)
- ☐ Other child (non-household member)

2. Why don't you want a free storybook? ***Please do not read the answer options out loud, but select all that apply.***

- ☐ My children already have storybooks at home.
- ☐ My children are not interested in reading storybooks.
- ☐ I am not interested in reading storybooks.
- ☐ Storybooks are already provided by schools.
- ☐ I do not know how to read.
- ☐ I don't have time to read to my children.
- ☐ I don't like any of these storybook options.
- ☐ Don't know/ no reason.
- ☐ Other (specify) _____

Skip to INFORMATION SCRIPT B.

INFORMATION SCRIPT A

Please put storybooks away for the Information Script. Keep the respondent engaged during the information script by making eye contact and using a dynamic voice. Read out loud.

Now I would like to give you some information about reading with your children. Research has shown that reading to your young children, especially those who are not yet reading themselves, can help them love books and love learning. It also gives you and your children something special to do together. Try to read with your children every day - even 10 or 15 minutes is good. Pick a time when your children are not tired or hungry, and when you can give them your full attention. When reading together, you can sit side-by-side or with your children on your lap.

When you read the story, point to the words as you read. Stop and talk about the words, and point to where the words are in the picture. Even if you cannot read yourself, you can still use the pictures to create your own story. If some of your children know a word, let them sound it out. Listen to your children and encourage them to talk about the story. Make the experience interactive by asking them questions about the story. For example: “What do you see here in this picture?”, “Where have you seen these things before?”, “What is this person feeling?”, “Why do they feel that way?”, “What is this person doing?”, “Who is your favorite character?”. When your children respond, repeat what your children say and add more details. Connect what is happening in the story to previous experiences for your children.

It is normal for your children to want to read the story over and over again, so be patient. When you have fun, your children will have fun too!

Books are precious, so you should keep this storybook in the house and make sure your children treat it with care. If you like this storybook, you can get more storybooks just like this at your nearest bookstore. If you have a smart phone or tablet you can also download stories for free by visiting the African Storybook website. Here is a poster with a link to the African Storybook website and some information about reading, that you can hang on your wall as a reminder.

Give respondent poster.

To summarize:

- Remember to read with your children every day! Reading will help them to love learning.
- Even 10 to 15 minutes is good.
- Ask your children questions about the story, and point to where the words are in the picture.

INFORMATION SCRIPT B

Please put storybooks away for the Information Script. Keep the respondent engaged during the information script by making eye contact and using a dynamic voice. Read out loud.

We would like to give you some information about reading with your children just for your reference. Research has shown that reading to your young children, especially those who are not yet reading themselves, can help them love books and love learning. It also gives you and your children something special to do together. Try to read with your children every day - even 10 or 15 minutes is good. Pick a time when your children are not tired or hungry, and when you can give them your full attention. When reading together, you can sit side-by-side or with your children on your lap.

When you read a storybook, point to the words as you read. Stop and talk about the words, and point to where the words are in the picture. Even if you cannot read yourself, you can still use the pictures to create your own story. If some of your children know a word, let them sound it out. Listen to your children and encourage them to talk about the story. Make the experience interactive by asking them questions about the story. For example: “What do you see here in this picture?”, “Where have you seen these things before?”, “What is this person feeling?”, “Why do they feel that way?”, “What is this person doing?”, “Who is your favorite character?”. When your children respond, repeat what your children say and add more details. Connect what is happening in the story to previous experiences for your children.

It is normal for your children to want to read a story over and over again, so be patient. When you have fun, your children will have fun too!

Books are precious, so you should keep any storybooks in the house and make sure your children treat them with care. If you decide to purchase a storybook later, you can get other storybooks just like these at your nearest bookstore. If you have a smart phone or tablet you can also download stories for free by visiting the African Storybook website. Here is a poster with a link to the African Storybook website and some information about reading, that you can hang on your wall as a reminder.

Give respondent poster.

To summarize:

- Remember to read with your children every day! Reading will help them to love learning.
- Even 10 to 15 minutes is good.
- Ask your children questions about the story, and point to where the words are in the picture.

NOTE: For those respondents who refused the book, ***DO NOT ASK*** the respondent if they want to purchase a storybook after reading the information script. However, if they change their mind and decide to purchase a storybook, please answer ***Question 3*** below.

3. Which storybook did they choose *after* the script was read? Remember that the respondent can only purchase **one storybook**.

[1=Nyimbo zetu (Swa), 2=Nikicheka, anacheke (Swa), 3=Sungura Mjanja (Swa), 4= Mwanasayansi (Swa), 5=A New King (Eng), 6=Goat Matata (Eng)]

END INTERVENTION FOR GROUP 3. GO TO PC MODULE CONCLUSION.

Appendix II: Poster

English Translation:

“Remember to read with your children today.

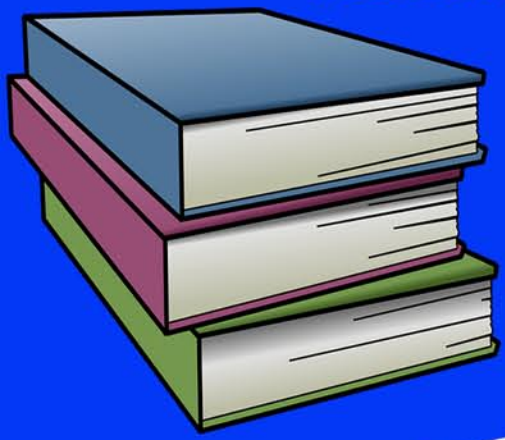
Reading with your children helps them love learning.

Ask your children questions about the story: When? Where? Who? How? What?

Point to where the words are in the picture

Even 10 to 15 minutes is good”

KUMBUKA **KUSOMA** PAMOJA NA **WATOTO** WAKO LEO



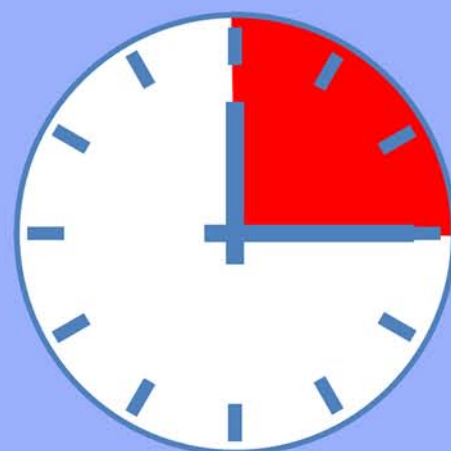
Kusoma pamoja na watoto wako huwasaidia
kupenda masomo



Uliza watoto wako maswali
kuhusu hadithi

Onyesha mahali ambapo maneno yapo
kwenye picha

Hata dakika 10 hadi 15 ni nzuri



Follow the link below on your smartphone or tablet
to download more storybooks for free
<https://www.africanstorybook.org>
Normal internet browsing charges will apply if one visits this site



ipa
INNOVATIONS FOR
POVERTY ACTION

Appendix III: SMS Reminder Text

"Habari! Huu ni ujumbe wa bure kutoka IPA. Tafadhali usijibu. Tungependa kukukumbusha kusoma pamoja na watoto wako leo. Kusoma pamoja na watoto wako huwasaidia kupenda masomo. Hata dakika 10 hadi 15 ni nzuri!"

English Translation: "Hello! This is a free message from IPA. Please do not respond. We would like to remind you to read with your children today. Reading together with your children helps them love learning. Even 10 or 15 minutes is good!"

Appendix IV: KLPS-4 PC Module

Log Number: | | | | |



KLPS-KIDS PC-MODULE

VERSION: OCTOBER 24, 2018 — ENGLISH

CHILD ID									
							--		

This survey should be administered to the PRIMARY CAREGIVER of the child identified above. Note that for a caregiver with multiple children in our sample, a separate PC Module should be filled out for each child.

SECTION 1. Pre-Interview Information and Consent

READ: We would like to consult the child's health card during the interview in order to record information on birthdate, weight, and/or vaccinations. Could you get that card, or the birth certificate, before we begin?

If PC hesitates to produce health card, read: Please be assured that any information you share with me will be held as confidential as possible. You do not have to answer any question or provide me with the health card if you do not want to.

Note: Child can play during PC.

Fill in this information before the interview from IDENTITY SECTION of TRACKING SHEET:

1. KLPS Adult ID:
2. KLPS Adult Family Name:
3. KLPS Adult (a) Name 1 / (b) Name 2: (a) / (b)
4. KLPS Adult Gender: (1=Male, 2=Female)
5. KLPS Adult Baseline School ID / Name: /

Fill in this information before the interview from PARTICIPATING CHILD INFO SHEET:

6. Child First Name:
7. Child ID: --
- 8a. Caregiver Family Name:
- 8b. Caregiver Name1 / Name2: /

- 9a. Date of interview: (DD/MM/YYYY) / /
- 9b. Time start interview: (24 hr clock) :
- 10a. Interviewer ID:
- 10b. Interviewer name: (first) / (surname)
- 11a. **Do you have access to the child's health card or birth certificate?** (1=Yes, 2=No)

11b. **If YES, record birthdate from the health card or birth certificate. If NO, ask FR:** Can you tell me the child's date of birth?

(DD/MM/YYYY) / /

If the birth date given is different than that collected in the I-module and included on the tracking sheet, probe to get the most accurate birthdate.

11c. **Are you confident that the birthdate recorded above is correct?**
(1=Very confident, 2=Somewhat confident, 3=No, not confident)

If 2 or 3, continue. Otherwise, skip to question 11e.

11d. Why are you not very confident? (1=Parent does not seem sure, 2=Parents/caregivers disagree about age, 3=Child looks to be a different age, 4=Other(specify))

11e. **From what source did you record the child's birth date?** (1=Health Card, 2= Birth certificate, 3=Parent's or caregiver's memory, 4=Tracking sheet, 5=Other(specify))

12. **Do not ask the following question. Simply record your response.** Has a separate PC Module already been filled out for this caregiver, with regard to a different child with the same KLPS Parent? (1=Yes, 2=No) ☐

If YES, continue. If NO, skip to question 13.

12a. **List the identification number for that other child's PC Module here. Make sure to record the other child's ID number carefully and correctly.**

--

Skip to Question 6 of Section 2.

13. Is this interview with the KLPS adult respondent specified on the tracking sheet?

(1=Yes, 2=No) ☐

If YES, continue. If NO, skip to CONSENT.

Hello, I am **[name]** from IPA, in **[Busia Town / Nairobi]**. IPA is an organization that was established by the research team who formerly worked with **ICS** on health and education projects in Kenya.

We spoke with you recently to invite you to participate in a new research study. For the present study, we are interested in children who were born between March 1, 2010 and March 1, 2016. If you have multiple children in this age range, then we have randomly selected which children we would like to participate. We would like to speak to you about **[name(s) of child(ren) to be assessed today]** and your interactions with him/her (them).

To participate in this study, we will ask you to do three things. First, we would like to briefly interview you. Second, we will ask this child (these children) to participate in a series of child assessment exercises. Most of these exercises will be described as "games" to the child(ren). To put the children at ease, you and/or another caregiver may sit with them during any of the activities, but you are free to stop the assessments at any time. Finally, we will ask you to be around while we take height measurements of the child (these children). To thank you for your participation, we will offer you a small gift following the interview.

Skip to question 14.

CONSENT

Hello, I am **[name]** from IPA, in **[Busia Town / Nairobi]**. IPA is an organization that was established by the research team who formerly worked with ICS on health and education projects in Kenya. I work with a research team from the University of California, Berkeley, in the United States. We would like to invite you to participate in a new research study.

We are studying the effectiveness of health and training programs administered by ICS and IPA over many years. We are contacting many individuals who were participants in or applicants to these programs. We hope to better understand the long-term effects of these programs on health and employment, and in particular, we are interested in how these effects may impact the biological children of individuals who participated in those programs. For the present study, we are interested in children who were born between March 1, 2010 and March 1, 2016. If you have multiple children in this age range, then we have randomly selected which children we would like to participate.

We are speaking with you because you are the guardian or caregiver a child of one of the individuals who participated in or applied to these ICS and IPA programs. That parent, **[name of KLPS Adult]**, has told us that you are the primary caregiver for one or more of

their own children who was born between March 1, 2010 and March 1, 2016. That parent has already given us permission to perform some assessments on their child(ren). We would also like to speak to you about this child (these children), and your interactions with him/her (them).

To participate in this study, we will ask you to do three things. First, we would like to briefly interview you. We will ask questions about this child (these children) under your care, the child's (children's) home environment, and your personal well-being. Second, we will ask you to be nearby while this child (these children) to participate in a series of child assessment exercises. Most of these exercises will be described as "games" to the child(ren). If you are not present, we may ask another caregiver to be present if it will make the children feel more at ease. Finally, we will ask you to be around while we take height measurements of the child (these children).

The length of the interview will depend on the number of children that participate in these assessments, but in general we expect it to range between one and two and half hours. We may additionally come back some time in the future to ask you more questions about these children or other children of **[KLPS Adult's name]**, but you may choose to discontinue participation at any time.

There is no benefit to you or the child(ren) personally for taking part in this interview. However, your responses will help us to determine the impact of deworming treatment programs on the outcomes of beneficiaries' children, and the cost-effectiveness of such programs. There will be no cost to you for participating in this study, and you will not be paid for taking part in this study.

Some of the research questions may make you uncomfortable or upset. You are free to decline to answer any questions you don't wish to, or to stop the interview at any time. The children may get stressed or tired during the assessments, and some children find the height measurements to be uncomfortable. To put the children at ease, you and/or another caregiver may sit with them during any of the activities, but you are free to stop the assessments at any time.

We will keep your and the children's study data as confidential as possible. If we publish or present results of this study, we will not use individual names or other personally identifiable information. To help protect confidentiality, any information that identifies you will be separated from your other answers. Your identifying information will be replaced with a code, so that only our researchers will be able to track your answers back to you. We plan to keep this identifying information for the foreseeable future, in case we want to conduct future studies, but we will follow the same steps we just described to keep it as confidential as possible.

Participation in research is completely voluntary. You have the right to decline to participate or to withdraw at any point in this study without penalty. To thank you for your participation, we will offer you and the participating children a gift following the interview.

If you have any questions or concerns you may ask me now, or you can contact Esther Isokat at the IPA office in Busia Town at 0707096220 / 0721990839. She is the Project Manager for this study, and can put you in touch with Edward Miguel at the University of California, who is in charge of the research project. I will also give you a business card at the end of this interview with Esther's contact information.

14. Will you participate in the interview? (1=Yes-Caregiver agrees to participate; 2=No- Caregiver refuses to participate; 3=No- Caregiver does not refuse but is unable to participate) ☐

If YES, skip to question 16. If NO, continue.

15. **Describe your impressions of the refusal / inability to participate. Do not ask.** ☐

- 1 = Wants to reschedule (**skip to “Rescheduling instructions” below**) – **Choose this option if the caregiver wants to speak to the child’s parent before proceeding, and you are unable to get that parent on the phone at that time.**
- 2 = Refusal for this round only (**skip to question 15a**)
- 3 = Refusal for this round and any future rounds (**skip to question 15b**)
- 4 = Unable to survey – someone else refuses on caregiver’s behalf (**skip to “Closing Interview Statement A”**)
- 6 = Unable to survey – in prison (**skip to “Closing Interview Statement A”**)
- 7 = Unable to survey – mental illness / disability (**skip to “Closing Interview Statement A”**)
- 10 = Unable to survey – other (**skip to question 15c**)

Rescheduling instructions: Please ask the caregiver when they are next available, and then call your team lead (or other senior team member) to confirm this day and time. If you are unable to confirm this day and time, make a tentative appointment with the caregiver. Then, let the caregiver know that you will contact them to confirm when you will return. Record this information and the current time on the tracking sheet now. End the interview.

☐/☐/☐ Other: _____
Skip to “Closing Interview Statement C”.

15a. **Record your impressions of why the caregiver refuses to participate during this survey round. If you feel comfortable doing so, you may ask them why:** Why don’t you want to participate? **Choose up to 3 reasons.**

- | | |
|--|--|
| 1 = Survey is too long | 6 = Caregiver hasn’t received assistance from IPA |
| 2 = Caregiver has caregiving duties | 7 = Caregiver just doesn’t want to / no reason given |
| 3 = Caregiver has to work | 10 = Other (specify) |
| 4 = Caregiver does not want to disclose personal information | |
| 5 = Caregiver is suspicious of IPA | |

15b. **Record your impressions of why the caregiver refuses to participate during this round and any future rounds. If you feel comfortable doing so, you may ask the caregiver why:** Why don’t you want to participate?

Choose up to 3 reasons.

- | | |
|--|--|
| 1 = Survey is too long | 6 = Caregiver hasn’t received assistance from IPA |
| 2 = Caregiver has caregiving duties | 7 = Caregiver just doesn’t want to / no reason given |
| 3 = Caregiver has to work | 10 = Other (specify) |
| 4 = Caregiver does not want to disclose personal information | |
| 5 = Caregiver is suspicious of IPA | |

Skip to “Closing Interview Statement B.”

15c. **Record your impressions of why we are unable to survey the caregiver during this round.** _____
(skip to "Closing Interview Statement B")

Closing Interview Statement A: Read: Thank you very much for your time. **End interview here.**
Note on the tracking sheet that we should try to find an alternate caregiver to interview, if possible.

Closing Interview Statement B. Read: Thank you very much for your time. If you change your mind and would like to participate in the interview, please contact us at the IPA office. **End interview here. Note on the tracking sheet that we should try to find an alternate caregiver to interview, if possible.**

Closing Interview Statement C: Read: Thank you very much for your time. **End interview here.**

16. **Do not read the following question aloud.** Is there another IPA FO present at this interview, who will be conducting the child assessments? (1=Yes, 2=No) ☐
If YES, continue. If NO, skip to Section 2.

While I continue to talk to you, my colleague **[FO name]** would like to begin interviewing the child. The interview will consist of a series of games for the child. Most children find these games fun to play. Some games will be a bit hard for the child, and some will be easy for the child. If you feel more comfortable, you are welcome to sit here with the child while we play these games. However, we kindly ask that you do not tell the child what to do, laugh or comment on the child's behavior. We want to learn how the child can play these games on their own, without any help or comment from you. Do you understand? **Answer any questions the caregiver may have about the games.**

17. For now we will continue our conversation here while my colleague introduces these games to the child just over there. Is that okay? (1=Yes, 2=No) ☐
If the caregiver allows this, second FO may begin the child assessments with the child nearby. If the caregiver seems reluctant, probe gently to explain that this speeds up the interview process. If they would prefer to be sitting with the child during the assessments, complete the PC Module first, and then move on to the assessments.

SECTION 2. Caregiver Information

Read: Before I collect some information from you about the child(ren), I would like to ask you just a few questions about yourself.

0a. What is your relationship with the child? **Use G4 codes.**

0b. Next I would like to learn whether the child lives in your household. By your household, I mean the place where you usually sleep, not necessarily your ancestral lands or family home. Please consider the child to be part of your household if you “eat from the same pot” as the child and if the child spends 4 nights or more in an average week sleeping in your home.

Does the child “eat from the same pot” and spend 4 nights or more in an average week sleeping in your home?

(1=Yes, 2=No, 99=DK)

If this interview is with the KLPS adult respondent listed on the tracking sheet, OR if the answer to Section 1, Q12 is YES, SKIP TO QUESTION 6. Otherwise, continue.

0c. What is your relationship with the parent of the child, **[name of KLPS Adult]**?

Use G4 codes.

0d. Next I would like to learn whether the parent of the child, **[name of KLPS Adult]** lives in your household. By your household, I mean the place where you usually sleep, not necessarily your ancestral lands or family home. Please consider the parent to be part of your household if you “eat from the same pot” as the parent and if the parent spends 4 nights or more in an average week sleeping in your home.

Does the parent of the child, **[name of KLPS Adult]** “eat from the same pot” and spend 4 nights or more in an average week sleeping in your home?

(1=Yes, 2=No, 99=DK)

1. ***Do not ask the following question.*** What is the caregiver's gender?

(1=Male, 2=Female)

2. What is your current age, in years? ***Probe if the caregiver says they don't know. Try to get them to estimate year of birth, and calculate age from that.*** (99=DK)

3. What is the highest level of education you received? **Use G6 codes.**

4. What is your current occupation? **Use G9 codes.**

5. What is your tribe (or mother tongue)? **Use G10 codes. Females should NOT give the tribe of their husband. If caregiver is LUHYA, press for subtribe.** _____

Answer question 6 even if FR is KLPS FR.

6. What language do you speak most often with the child?

Use G13 codes. _____

6a. Are there other languages you speak often with the child? (1=Yes, 2=No, 99=DK)

If YES, continue. If NO or DK, skip to question 7.

6b. Which other languages? **List up to three. Use G13 codes.**

Other, Specify _____

If this interview is with the KLPS parent respondent listed on the tracking sheet, OR if the answer to Section 1, Q12 is YES, SKIP TO SECTION 3. Otherwise, continue.

7. CESD

Read: I will read out a list of some of the ways you may feel or behave. Please indicate how often you have felt this way during the past week, using the following scale.

- 1= Rarely or none of the time
- 2= Some or a little of the time
- 3= Occasionally or a moderate amount of time
- 4= All of the time

Show the respondent scale D. Demonstrate that they should select their response using the scale. Note: For the rest of the questions in this section, read the questions exactly as written. You may repeat any questions as many times as you'd like, but do not rephrase any question or add additional comments or explanations. If the FR has trouble understanding the statement, please re-read but do not try to explain the questions in a different manner.

- | | |
|---|------|
| 7a. In the past week, I was bothered by things that usually don't bother me | ____ |
| 7b. In the past week, I had a problem in concentration on what I was doing | ____ |
| 7c. In the past week, I felt depressed and troubled in my mind | ____ |
| 7d. In the past week, I felt that everything that I did took up all my energy | ____ |
| 7e. In the past week, I felt hopeful about the future | ____ |
| 7f. In the past week, I felt afraid | ____ |
| 7g. In the past week, I had difficulty in sleeping peacefully | ____ |
| 7h. In the past week, I was happy | ____ |
| 7i. In the past week, I felt lonely | ____ |
| 7j. In the past week, I lacked the motivation to do anything | ____ |

SECTION 3. Child Health and Development

Read: Thank you. Now I would like to ask you some questions about the health of [child]. You may not know the answers to some of these questions, and that is fine. Please try to answer to the best of your knowledge.

1. ***Is the caregiver being interviewed here the child's biological parent? If you are unsure, you may ask.*** Are you the biological parent of the child? (1=Yes, 2=No)
2. ***If you can see the health card, record the following information without asking. Otherwise, ask:*** What was the weight of [child] at birth? (9.9 = Weight not measured at birth, 99.0 = Weight measured but caregiver doesn't know it, or caregiver doesn't know if weight was taken at birth)

. kg

- 2a. ***Was information on birth weight recorded from the health card?*** (1=Yes, 2=No)

Note: *If you can see the health card, record responses to questions 3-3f using the health card. If no health card is available or if a vaccine is not indicated, ask the respondent.*

3. Has [child] ever received any vaccinations to prevent him/her from getting diseases? (1=Yes, 2=No, 99=DK)

If YES, continue. Otherwise, skip to question 4.

- 3a. Has [child] received a BCG vaccination against tuberculosis, that is an injection in the left arm that usually causes a scar? (1=Yes, on health card, 2=No, 3=Don't know what the vaccine is, 4=Yes, not on health card but PC confirms, 99=Don't know whether child has received vaccine)
- 3b. Has [child] received a Polio vaccine, that is drops in the mouth? (1=Yes, on health card, 2=No, 3=Don't know what the vaccine is, 4=Yes, not on health card but PC confirms, 99=Don't know whether child has received vaccine)
- 3c. Has [child] received a DPT vaccination, that is an injection in the thigh, sometimes at the same time as the polio drops? (1=Yes, on health card, 2=No, 3=Don't know what the vaccine is, 4=Yes, not on health card but PC confirms, 99=Don't know whether child has received vaccine)
- 3d. Has [child] received a measles (or MMR or MR) vaccination, that is an injection in the arm at the age of 9 months or older, to prevent him/her from getting the measles? (1=Yes, on health card, 2=No, 3=Don't know what the vaccine is, 4=Yes, not on health card but PC confirms, 99=Don't know whether child has received vaccine)
- 3e. Has [child] received a yellow fever vaccination, that is an injection in the arm at the age of 9 months or older, to prevent yellow fever? (1=Yes, on health card, 2=No, 3=Don't know what the vaccine is, 4=Yes, not on health card but PC confirms, 99=Don't know whether child has received vaccine)
- 3f. Has [child] received any other vaccination?
(1= Yes (specify), 2= No, 99=DK) _____

4. Last night, did [child] sleep under a bed net? (1= Yes, 2= No, 99=DK)
5. Have any drugs for worm infections or schistosomiasis been given to [child] in the last 12 months? (1= Yes, 2= No, 99=DK)

6. During the past seven days, has **[child]** experienced any of the following: (1=Yes, 2=No, 99=DK)
- a. Fever / malaria?
 - b. Vomiting?
 - c. Cough?
 - d. Diarrhea?
 - e. Any other infection? **If Yes, Specify:** _____

7. Overall, would you say **[child]**'s health is very good, good, fair, poor, or very poor?
(5=Very good; 4=good; 3=fair; 2=poor; 1=very poor; 99=DK)

8. Has **[child]** experienced any major health problems since or at birth? By this I mean serious illnesses or injuries, whether they required hospitalization or not, such as cerebral malaria, pneumonia, tuberculosis, asthma, malnutrition, anemia or a broken arm or leg, or any other diagnosis of chronic or acute problems? (1=Yes, 2=No, 99=DK)

8a. **If yes:** Describe.

9. How old (in months) was **[child]** when he/she began walking?
 months (99=DK)

If DK, continue. Else skip to question 10.

- 9a. Was the child older or younger than 2 years old when he / she began walking?
(1=Older, 2=Younger, 99=DK)

10. Compared with other children, does **[child]** have difficulty seeing, either in the daytime or at night? (1=Yes, 2=No, 99=DK)

11. Does **[child]** appear to have difficulty hearing? (1=Yes, 2=No, 99=DK)

12. When you tell **[child]** to do something, does he/she seem to understand what you are saying? (1=Yes, 2=No, 99=DK)

13. Does **[child]** have difficulty in walking or moving his/her arms or does he/she have weakness and/or stiffness in the arms or legs? (1=Yes, 2=No, 99=DK)

14. Does **[child]** sometimes have seizures, become rigid, or lose consciousness? (1=Yes, 2=No, 99=DK)

15. Does **[child]** learn to do things like other children his/her age? (1=Yes, 2=No, 99=DK)

16. Does **[child]** speak at all (can he/she make himself/herself understood in words; can he/she say any recognizable words)? (1=Yes, 2=No, 99=DK)

17. Is **[child]**'s speech in any way different from normal? (1=Yes, 2=No, 99=DK)

18. Compared with other children of his/her age, does **[child]** appear in any way cognitively delayed, or delayed in language? **Note: If parent's do not understand, probe if child was speaking or saying words by age 2. If not speaking, please select YES.**

(1=Yes, 2=No, 99=DK)

SECTION 4. Sleep Patterns: Children

Read: Now I would like to ask you some questions about [child]'s sleep.

1. What time did [CHILD'S NAME] go to bed last night? : (99 = DK)
(hour) (min)

1a. Was that earlier than, later than, or the same as [CHILD'S NAME]'s typical bedtime?
(1=Earlier; 2=Later; 3=Same; 99=DK)

If SAME, skip to question 2. Otherwise continue.

1b. Over the last month what was [CHILD'S NAME]'s usual bedtime?
 : (99=DK)
(hour) (min)

2. How long did it take [CHILD'S NAME] to fall asleep last night? : (99 = DK)
(hour) (min)

3. After falling asleep, how many times did [CHILD'S NAME] wake up during the night, not counting his or her final awakening? (99=DK)

If 1 or more times, continue to 3a. Otherwise, skip to 4.

3a. If [CHILD'S NAME] woke up during the night, how long was he or she awake during the night in total? **Minutes:** (99=DK)

4. What time did [CHILD'S NAME] wake up this morning? : (99 = DK)
(hour) (min)

4a. Was that earlier than, later than, or the same as [CHILD'S NAME]'s typical wake up time? (1=Earlier; 2=Later; 3=Same; 99=DK)

If SAME, skip to question 5. Otherwise continue.

4b. Over the last month what was [CHILD'S NAME]'s usual wake up time?
 : (99=DK)
(hour) (min)

5. How alert or energetic is [CHILD'S NAME] today compared to how they normally are? (1=More Alert; 2 = Same Level of Alertness; 3=Less Alert) (99=DK)

6. Did [CHILD'S NAME] nap yesterday? (1 = Yes; 2 = No; 99 = DK)

If YES, continue to 6a. If NO, skip to 7.

6a. How many daytime naps did [CHILD'S NAME] take yesterday? (99=DK)

6b. In total, how long did [CHILD'S NAME] nap yesterday? : (99=DK)
(hour) (min)

6c. Tell me start-time and end times of any daytime naps you had yesterday

Use 24 hour clock.:

START : END :

START : END :

START : END :

START : END :

Read: Now think about the night before last.

[illegible]

8. What time did [CHILD'S NAME] wake up yesterday morning? : (99 = DK)

SECTION 5. Home Environment Information

Read: Thank you. Now I would like to ask you some questions about the daily life of **[child]**.

1. Now I'd like to ask about things that are in the home where the child lives.

1a. Is there a music player or radio that **[child]** can listen to at home?
(1=Yes, 2=No, 99=DK)

1b. Is there something **[child]** uses to make music at home such as a drum, horn, kayamba, or guitar? (1=Yes, 2=No, 99=DK)

1c. About how many books are there in **[child]**'s home (including the Bible or other religious book, dictionary, textbooks, children's books and picture books)? (99=DK)

1di. About how many storybooks or picture books are in **[child]**'s home? (99=DK)

1diii. What language(s) are these storybooks in? **Please select all that apply** (1=English, 2=Kiswahili, 3=Luo, 4=Luhya, 5=Other (specify), 9=DK)

Specify: _____ -

1dii. About how many children's textbooks are in **[child]**'s home? (99=DK)

1div. What language(s) are these textbooks in? **Please select all that apply** (1=English, 2=Kiswahili, 3=Luo, 4=Luhya, 5=Other (specify), 9=DK)

Specify: _____ -

Number of children's books and number of textbooks should not exceed total number of books (question 1c).

1e. Is there any other reading material in **[child]**'s home, such as newspapers, magazines, pamphlets, or brochures?
(1=Yes, 2=No, 99=DK)

1f. Are there any pictures, posters, calendars, or other type of art work on the walls at **[child]**'s home?
(1=Yes, 2=No, 99=DK)

1g. Does **[child]** have paper and pencil, pen or art supplies (such as crayons or paints) to write or draw with at home?
(1=Yes, 2=No, 99=DK)

1h. Does **[child]** make his/her own toys to play with, such as a football or dolls?
(1=Yes, 2=No, 99=DK)

1i. Does **[child]** play any games of strategy such as ludo game, draught (checkers), chess, or strategy video/phone games?
(1=Yes, 2=No, 99=DK)

1j. In the last year, how often has a family member taken **[child]** to travel to another region or city?

If Busia-based FR Read: By another region, we mean a trip of 30km or more. 30km is about the distance from Busia Town to Sega or Malaba.

If Nairobi-based FR Read: By another region, we mean a trip of 30km or more. 30km is about the distance from Nairobi Town to Kitengela or Ruiru

Enter number of times in the last year.

(99=DK) times

2. I am interested in learning about the things that **[child]** plays with when he/she is at home. Does he/she play with:

- 2a. Homemade toys (such as dolls, cars, or other toys made at home)? (1=Yes, 2=No, 99=DK)
- 2b. Toys from a shop or manufactured toys? (1=Yes, 2=No, 99=DK)

Note: In the following questions, please round to the nearest hour.

3.

- a. How many hours did **[child]** spend at school, pre-school or daycare during the last day **[child]** attended school? (99=DK)
- b. How long does it take **[child]** to get to and from school? (99=DK)

From 6am yesterday morning to 6am this morning...

- c. How many hours did **[child]** spend doing structured activity outside of school or daycare, for example, a dancing/music/drama club, an environmental club, a scouts club, not including religious activities or sports? (99=DK)
- d. How many hours did **[child]** spend doing prayers, bible study, religious study or other religious activities? (99=DK)
- e. How many hours did **[child]** spend playing formal sports with a team? (99=DK)
- f. How many hours did **[child]** spend playing with friends (such as rukaruka, playing football with friends, or other games), not including formal sports? (99=DK)
- g. How many hours did **[child]** spend doing chores, such as fetching water, washing, cooking, caring for other siblings, etc (not including agricultural activities or taking care of chicken, livestock or other animals)? (99=DK)
- h. How many hours did **[child]** spend on the family business, family farm, or agricultural activities including taking care of chicken, livestock, or other animals? (99=DK)
- i. How many hours did **[child]** spend reading, doing homework, or studying for school? (99=DK)
- j. How many hours did **[child]** spend watching television, listening to the radio, playing video games, or playing with a phone, tablet, or computer? (99=DK)
- k. Is there another activity, beside sleep, that the child did for more than 2 hours? **If yes**, what is the activity, and how many hours did **[child]** do this activity?

(99 = Don't know)

Other, specify: _____

4. In the past 7 days, did you or any other person over the age of 15 in the child's household:

(1=Yes, 2=No, 99=DK).

If yes, ask who performed this activity with child. (1=mother; 2=father, 3=mother and father, 4=PC module respondent (if not a parent), 5=siblings, 6=other adult relative, 7=other adult non-relative)

4a. Read books to or look at books with **[child]**? relation: /

4b. Tell stories to **[child]**? relation: /

4c. Sing songs or play musical instrument with **[child]**? ☐ relation: ☐/☐

4d. Play with **[child]**? ☐ relation: ☐/☐

4e. Construct objects or art from paper, wire, mud, sticks, etc with **[child]**?
☐ relation: ☐/☐

4f. Name, count, or draw things for or with **[child]** for instance, letters, numbers, shapes, colors, plants, animals, etc? ☐ relation: ☐/☐

4g. Help **[child]** with homework? (88=Not in school) ☐ relation: ☐/☐

4h. Talk about what **[child]** is learning in school? (88=Not in school)
☐ relation: ☐/☐

4i. Teach vocabulary words in Swahili or English? ☐ relation: ☐/☐

4j. Teach vocabulary words in local language? ☐ relation: ☐/☐

4k. Play sports or games or other physical activity, such as football, rukaruka, swimming, etc?
☐ relation: ☐/☐

4l. Take **[child]** on a fun outing, such as a football match, other sports event, religious services or event, hotel, restaurant, or to a local event? ☐ relation: ☐/☐

5. Read: Adults use certain ways to teach children the right behavior or to address a behavior problem. I will read various methods that are used and I want you to tell me if you or anyone else in the child's household has used this method with **[child]** in the past month.

5a. Took away privileges, forbade something **[child]** liked or did not allow him/her to leave the house/compound. (1=Yes, 2=No, 99=DK) ☐

5b. Explained why **[child]**'s behavior was wrong. (1=Yes, 2=No, 99=DK) ☐

5c. Shouted, yelled at or screamed at him/her. (1=Yes, 2=No, 99=DK) ☐

5d. Gave him/her something else to do. (1=Yes, 2=No, 99=DK) ☐

5e. Called him/her dumb, lazy, or another name like that. (1=Yes, 2=No, 99=DK) ☐

5f. Physically punish, for example caning, slapping etc. (1=Yes, 2=No, 99=DK) ☐
(1=Yes, 2=No, 99=DK) ☐

6. Is **[child]** currently enrolled in school, including ECD, pre-school, primary school, or another school? (1=Yes, 2=No, 99=DK) ☐

If YES, continue to 7a. If NO or DK, skip to question 8.

7a. In which class / grade is **[child]** currently enrolled? (99=DK) ☐

7b. Is the school that **[child]** is enrolled in public or private? (1=Public, 2=Private, 99=DK) ☐

7c. Is the school that **[child]** is enrolled in a boarding school or day school?
(1=Day school, 2=Boarding, 99=DK) ☐

7d. Did [child] attend school last week? *If it is currently a holiday from school, ask about the last week before the holiday started.* (1=Yes, 2=No, 99=DK)

|____|

7di. How many days did [child] attend last week?

(1=Yes, 2=No, 99=DK)

|____|

7ei. How much was your household asked to pay for school fees for [child] in the last month? *If paid on a term or annual basis, calculate monthly amount asked to pay.* (KSH)

|____|

7eii. How much did your household actually pay in school fees for [child] in the last month? (KSH) |____|

Skip to Question 9.

8. Why is [child] not enrolled in any type of ECD or schooling program?

1=Child is too young

2=Child would not do well / is not smart

3=There is not enough money to pay for it / those programs are too expensive

4=Distance/too far away

5=Program is not available

6=Child refuses/doesn't want to

7= Child helps with work around the house/ takes care of other children

8=Dropped out

9=Other (specify)

9. Is [child] currently enrolled in a daycare?

(1=Yes, 2=No, 99=DK)

|____|

If NO, skip to Section 6. If YES, continue.

9a. How much did your household pay for this daycare for [child] in the last month? (KSH)

|____| (99=DK)

SECTION 6. Strengths and Difficulties Questionnaire

0. **Do not ask the following question.** Indicate the age of child in years, from **Section 1**.

| | years

Read: Now I would like to read some different descriptions of child behavior. Please consider [child]'s behavior over the last six months, and let me know whether each description that I read is not true, somewhat true, or certainly true for this child. Please answer as best as you can, even if you are not absolutely certain.

For the following table, use the response codes. If PC says "True", repeat choices 0-2.

0= Not True

1= Somewhat True

2= Certainly True

8= Not applicable

9= Don't know

1. Considerate of other people's feelings		
2. Restless, overactive, cannot stay still for long		
3. Often complains of headaches, stomach-aches or sickness		
4. Shares readily with other children, for example toys, treats, pencils		
5. Often loses temper		
6. Rather solitary, prefers to play alone		
7. Generally well behaved, usually does what adults request		
8. Many worries or often seems worried		
9. Helpful if someone is hurt, upset or feeling ill		
10. Constantly fidgeting or squirming		
11. Has at least one good friend		
12. Often fights with other children or bullies them		
13. Often unhappy, depressed or tearful		
14. Generally liked by other children		
15. Easily distracted, concentration wanders		
16. Nervous or clingy in new situations, easily loses confidence		
17. Kind to younger children		
If child is age 3 or younger, read: Often argumentative with adults		
18. If child is age 4 or older, read: Often lies or cheats		
19. Picked on or bullied by other children		
20. Often offers to help others (parents, teachers, other children)		
If child is age 3 or younger, read: Can stop and think things out before acting		
21. If child is age 4 or older, read: Thinks things out before acting		
If child is age 3 or younger, read: Can be spiteful to others		
22. If child is age 4 or older, read: Steals from home, school or elsewhere		
23. Gets along better with adults than with other children		
24. Many fears, easily scared		
25. Good attention span, sees work through to the end		

26. Do you have any other comments or concerns regarding [child]'s behavior? (1=Yes, 2=No) ☐

26a. **If yes:** What are they? _____

Do not read: Go to the PC Intervention Module for the child reading promotion activity.

SECTION 7. Conclusion of Module

Read: These are all of the questions I have for you regarding [name of child] and yourself.

Do not read the questions in the remainder of this section aloud.

1. Did the caregiver terminate the survey module early? (1=Yes, 2=No) ☐

If YES, continue. If NO, skip to question 2.

1a. Why did the respondent terminate the survey early? ☐ _____

1 = Temporary stop only – Wishes to continue survey at a later time. See “Temporary Stop Instructions” below.

2 = Tired

3 = Too busy, does not have time

4 = Offended at question

5 = Suspicious of FO / survey intent / IPA

6 = Does not feel like continuing survey

7 = Other (specify)

1b. **If “4”:** Can you guess at which question or set of questions offended the caregiver?

Temporary Stop Instructions: You have indicated that the caregiver wishes to continue the survey in the future. Please ask the caregiver when they are next available, and then call your team lead (or other senior team member) to confirm this day and time. If you are unable to confirm this day and time, make a tentative appointment with the caregiver. Then, let the caregiver know that you will contact them to confirm when you will return. Record this information and the current time on the tracking sheet now.

2. Time end survey module: (24 hr clock) : :

3. How was the respondent's skill in speaking and understanding Kiswahili? ☐

(1 = Displayed no problems speaking or understanding Kiswahili

2 = Displayed a little difficulty speaking or understanding Kiswahili

3 = Displayed moderate difficulty speaking or understanding Kiswahili

4 = Displayed serious problems speaking or understanding Kiswahili)

4. Were any people present during all or part of this interview (other than the respondent, IPA staff, and the other children to be assessed)? (1 = Yes, 2 = No) ☐

4a. **If YES:** What is their relationship to the caregiver?

Use G4 codes, list up to 4.

|| || || Other: _____

5. Are you very confident, somewhat confident or not very confident in the overall quality and truthfulness of this respondent's responses? (1=Very confident, 2=Somewhat confident, 3=Not confident)

5a. **If SOMEWHAT or NOT CONFIDENT:** Why? _____

6. Were the child assessments started by another FO while the I-module or this PC module were in progress? (1=Yes, 2=No)

If yes, stop here. Say: Thank you for your time. **Otherwise, continue.**

Read: I would now like to begin interviewing the child. The interview will consist of a series of games for the child. Most children find these games fun to play. Some games will be a bit hard for the child, and some will be easy for the child. If you feel more comfortable, you are welcome to sit here with the child while we play these games. However, we kindly ask that you do not tell the child what to do, laugh or comment on the child's behavior. We want to learn how the child can play these games on their own, without any help or comment from you. Do you understand? **Answer any questions the caregiver may have about the games. Once the caregiver is comfortable, proceed to child assessments.**