Pre-analysis Plan for

"Estimating Causal Impacts of Parent Interventions

on Child Outcomes in Kenya" *

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Summary: This document outlines the plan for analyzing a dataset consisting of information on the children of individuals who had previously benefited from a randomized health, vocational education, and/or cash grant intervention. The aim of the project is to estimate intergenerational returns to parent investments. This document includes regression specifications and outcome variable definitions. We note that we anticipate potentially carrying out additional analyses beyond those included in this document; hence, this document is not intended to be comprehensive or to preclude additional analysis.

Appendix: Kenya Life Panel Survey-Kids (KLPS-Kids) survey instruments and materials.

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1 Introduction

1.1 Summary

This project aims to provide experimental evidence on the intergenerational returns to health, training, and cash grant interventions. The persistence of poor health and poverty in low income countries is a major public policy issue. If particular interventions not only directly improved the outcomes of program recipients but also benefited their children, this would have major implications for the cost-effectiveness of these programs and for the appropriate design of public policies to reduce persistent social inequalities.

We combine a series of randomized interventions (childhood deworming, vocational training for adolescents and young adults, and cash grants for young adults) and an existing longitudinal dataset containing information on program participants (the "parents") with a new dataset containing information on the children of participants. In a longitudinal effort known as the Kenya Life Panel Survey (KLPS), information has been collected on the impacts of a primary school deworming intervention on program participants in multiple follow-up rounds between 1998 and 2014, and for a subset who also took part in a vocational training and cash grant intervention between 2009 and 2014. Results indicate that the primary school deworming program led to some health, schooling, and labor market gains in young adulthood, 10 years after the launch of the program (Baird *et al.*, 2015). Although initial research does not find much evidence of substantial labor market gains due to vocational training (Hicks *et al.*, 2015c), preliminary evidence suggests substantial self-employment profit gains due to unconditional cash grants (Hicks *et al.,* 2015b). These sizeable impacts on parents appear to be a necessary pre-condition for the intergenerational impacts on their children that we will study in the current project, although it is possible that gains for parents in unmeasured dimensions might also influence child outcomes.

This project will create a new dataset of the children of the health, training, and grant program participants, called the KLPS-Kids dataset, which can be linked with the KLPS longitudinal dataset. Using new survey instruments and locally adapted cognitive and non-cognitive development assessments designed for children aged 3–5, we are currently collecting data on health and developmental outcomes for children as well as educational, home environment, and health investments made by their parents.

Despite the intellectual and policy importance of intergenerational returns to human capital and financial interventions, few studies have been able to rigorously examine this issue, especially in low income countries. In particular, the literature on links between the health, nutrition and education of adults and their children is sparse, due to the paucity of longitudinal datasets that track both adults and their children in these areas. Furthermore, few studies can exploit experimental variation in health status to overcome well-known methodological concerns regarding omitted variable bias or confounding.[1]

1.2   Experimental design

The randomized interventions we study took place in rural western Kenya between 1998 and 2014. The deworming intervention took place between 1998 and 2003, and the vocational training and cash grants interventions took place between 2008 and 2014.

In the Primary School Deworming Program (PSDP), each of 75 schools located in Busia, an agrarian district of western Kenya, was assigned to one of three groups, and 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, substantially reducing take-up, and in 2002–2003, free deworming was provided to all schools.[2] In the present analysis, early program beneficiaries (Group 1 and Group 2 parents) will constitute the deworming treatment group, while Group 3 will constitute the control group. This follows the approach in Baird *et al.* (2015). Note that individuals in Group 1 and 2 schools were assigned 2.41 more years of deworming on average than Group 3 individuals. We will consider children of these individuals as being "treated" if at least one parent

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[1] One study that combines an experimental design with long-run panel data measuring child health and nutrition and intergenerational outcomes is the famous Institute for Nutrition in Central America and Panama (INCAP) project in Guatemala (Martorell et al., 1995). In randomly selected treatment villages, children (and expectant mothers) received a high energy, high protein drink, while children in the control villages received a low energy, no protein drink. In follow-up studies conducted decades after the end of the intervention, researchers found evidence of improved health, education and labor market outcomes among the direct beneficiaries and improved nutrition for their children (Behrman et al., 2009). The INCAP study is based on a sample size of four villages (Haas et al., 1995), and the follow-up surveys experienced significant sample attrition (Donegan et al., 2010).

[2] See Miguel and Kremer (2004) and Miguel et al. (2014) for a more detailed description of the PSDP.

was attending a Group 1 or Group 2 school at the time of the program launch in early 1998 – thus this is an intention to treat (ITT) approach.

In the vocational training and cash grant program we study, 2,163 youths ranging in age from roughly 17 to 28 years old applied for vocational education tuition vouchers. Roughly 70% of these individuals were participants of the previously described deworming program, and the others were from a separate education evaluation going on in a nearby area. In the present study, we focus on a representative half of the deworming participants who applied to the voucher program. A randomly selected half of all training/grant program applicants were awarded a vocational training voucher. The vouchers were 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 between 2009 and 2010. In 2014 and 2015, a random half of voucher winners and of voucher non-winners were given a 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.[3]

1.3   Data

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 is comprised of individuals who participated in one of two previous randomized NGO programs: one which provided merit scholarships to upper primary school girls in 2001 and 2002 (Kremer, Miguel, and Thornton, 2009) and one which provided deworming medication to primary school students during 1998–2003 (Miguel and Kremer, 2004). An approximately 20% subset of these individuals also participated in the vocational training and cash grants program during 2008-2014.

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[3] For more details on the vocational training voucher program, see Hicks *et al.* (2015c); 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.

The KLPS-Kids sample that we seek to analyze here consists of children aged 3–5 of a representative subset of 3,743 KLPS adults who took part in the primary school deworming program.[4] 825 of these individuals also took part in the vocational training and cash grants intervention. Data collection is currently ongoing, and children are considered eligible to participate in KLPS-Kids data collection if they are 33–71 months old as of June 1, 2015, which means they were born between July 1, 2009 and September 1, 2012.

During data collection, KLPS adults are contacted and eligible children identified. Up to two eligible children are interviewed per adult. In cases where the adult has more than two children aged 3–5, children to be interviewed are randomly chosen using a die roll by the survey enumerator. At the time of registering this plan, data has been collected for approximately 1,100 children, and we hope to boost this number slightly prior to ceasing data collection. We note that we plan on using a two-stage tracking methodology to increase our effective tracking rate.[5]

The KLPS-Kids dataset will ultimately be merged with data from the KLPS, creating a new dataset containing detailed information on both parents and children. This dataset will be used for the primary analyses described in this pre-analysis plan.

1.4   Analysis and data examined to date

At the time of registering this pre-analysis plan, we have collected information on nearly 1,100 children. This data has been collected on paper-based survey instruments and at the time of registering this document, only a small number of surveys have been digitized. We have not examined the data nor performed any data analysis before registering this plan. The KLPS data on deworming program participants (the parents of children involved in our current data collection) have previously been analyzed in several papers; see, for instance, Baird *et al.* (2015). The KLPS

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[4] KLPS data collection rounds are randomly divided into two waves—Wave 1 and Wave 2—such that the composition of each wave is representative of the whole. The KLPS-Kids data collection we study in the current project seeks to collect data on children of KLPS Wave 1 PSDP adults, for a total sample of 3,743 adults.

[5] For more information on the two-stage tracking procedure we employ in the main KLPS study, see Baird, Hamory, and Miguel (2008). 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).

data on vocational training and cash grants participants is currently being analyzed (Hicks *et al.,* 2015b, Hicks *et al.,* 2015c).

1.5   Roadmap

The remainder of this document lays out our main regression specifications and causal interpretation of impacts at the population level; planned methods of multiple hypothesis correction when interpreting individual outcome and sub-index measures; heterogeneity analysis; exploratory analysis into the channels through which the health, training and cash grants interventions may operate; the outcomes and hypotheses we intend to test regarding child outcomes and early life investments in children; and the conceptual basis upon which we create mean effects indices.

We discuss regression specifications and the interpretation of estimated coefficients as causal at the population level. If deworming, training and cash grants affect fertility, this differential fertility somewhat changes the interpretation of the results compared to a standard analysis with a pre-defined analysis population. In particular, we will focus on estimates of average differences among the next generation of children born to our program beneficiaries, which we consider the relevant effect for understanding intergenerational impacts at the population level.

In the final section, we group main outcomes in two broad categories: Primary Child Outcomes and Child Investment Outcomes. Primary Child Outcomes include (1) Cognitive/Language Abilities, (2) Behavior & Socio-Emotional Development, (3) Subjective Health, and (4) Anthropometry. Child Investment Outcomes include (5) Prenatal and Early Life Health Investments, (6) Home Environments, and (7) Child Discipline Strategies. We also include a description of additional outcomes which will be included in the resulting study, or its appendix.

This document captures our current thinking about analysis with this data, but we anticipate carrying out some additional analyses beyond those included in this plan. As such, this plan is not meant to be an exhaustive set of all analyses we plan on carrying out, but rather a core set of initial estimates that will hopefully inspire further analyses.

2   Analysis

2.1   Differential Attrition at the Parent Level

The interpretation of differences between the treatment and control groups as causal effects is jeopardized if there is differential attrition across these groups. Though it is impossible (by the very nature of attrition) to fully determine if attrition behavior is correlated with outcomes of interest, the existence of balanced characteristics along a large number of observable dimensions would provide some suggestive evidence that the propensity to attrit is not strongly related to outcomes of interest.

We will estimate average baseline differences in terms of baseline parent covariates using standard two-sample t-tests between those found and not found during the KLPS-Kids tracking activity. These covariates include:

- Parent assignment to deworming treatment (groups 1 and 2) and control (group 3), directly and interacted with parent gender
- Parent assignment to vocational training voucher treatment and control, directly and interacted with parent gender
- Parent assignment to cash grant receipt and control, directly and interacted with parent gender
- Parent gender
- Age of parent in June 2015
- Parent's 1996 PSDP school's average test score
- Indicator for whether parent's 1998 primary school is located in Budalangi division
- Population of parent's 1998 primary school
- Total number of treatment participants who studied at primary schools within 6 km of parent's 1998 primary school
- Total primary school students within 6 km of parent's 1998 primary school

- Parent 1998 test scores[6]

If we observe differential rates of attrition across the treatment and control groups, we will also report the Lee bounds on the main results. Lee bounds trim the sample such that the share of observed individuals is equal for both groups, with all trimming of the sample being done either from above (the right tail of the outcome distribution) or from below (the left tail), to generate upper and lower bounds. See Lee (2009) for a further explanation.

2.2 Differential Fertility

Deworming, vocational training, and cash grants may affect the fertility of KLPS study participants and thus censor outcomes of some children (i.e., those who are never born, or not yet born during our study period, due to intervention treatment status). Differential fertility is related to but distinct from differential attrition. Differential attrition is the result of a missing data problem that changes the analysis population across treatment arms and should be minimized whenever possible. Differential fertility may also affect average differences across treatment and control groups by changing the analysis population, but in this case there is no missing data problem: the population of the next generation of children may simply differ in size and composition across treatment groups. Since we are interested in the average characteristics of these resulting populations, it is appropriate to focus on average differences between the children of treatment versus control group parents. That is, it may be impossible to "hold fertility constant" if fertility is a channel through which outcomes are being influenced.

We intend to investigate differential fertility directly. In particular, we will investigate whether there are differences in the propensity to have a child, the total number of children, and the number of KLPS-Kids sample eligible children (based on their age) across treatment groups for the three interventions.

We note that we did not detect a statistically significant relationship between fertility and deworming treatment in analysis of the KLPS Round 2 data. However, the deworming treatment

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[6] This test score was collected in 1998 and was part of the first-year follow-up of the deworming program. No impacts of deworming were detected. This data exists for only a (non-random) subset of parents. For more information on this test score, see Miguel and Kremer (2004).

sample did have a statistically significant effect on miscarriages (as noted in Baird *et al.*, 2015), and thus differential fertility is a legitimate issue to consider. Preliminary analysis does not indicate any differential fertility patterns due to the vocational training voucher intervention. We have not yet systematically explored differential fertility patterns across treatment groups for the cash grants intervention.

2.3 Population Causal Impacts and Interpretation of Results

In a standard randomized controlled trial, the average treatment effect refers to the mean difference in the outcomes in the treatment and control groups, which is interpreted as the average difference between the treatment and control potential outcomes in a fixed population defined at baseline. In this study, we also focus on population average treatment effects, but we are unable to interpret the mean difference as the average counterfactual (i.e., treatment versus control potential outcomes) among a predetermined group of children. Due to the possibility of differential fertility, the distribution of potential outcomes in the treatment arms may differ. The average difference between the children of treatment and control group parents is still a well-defined statistical quantity and is meaningful given our interest in understanding average outcomes for the offspring of the original program beneficiaries. This is what we term "treatment effects" below.

Of course, to the extent that there are only minor differences in observed fertility patterns (e.g., numbers of children, timing, characteristics of parents versus non-parents, etc.) across treatment groups, there is less reason to believe that the average difference across treatment and control children captures something that is meaningfully different from the standard interpretation in terms of potential outcomes.

2.4 Main Regression

We will focus on intention-to-treat (ITT) estimates, for at least two reasons. First, in the three interventions we study, compliance rates are quite high, leading ITT and treatment effect on the treated (TOT) estimates to be similar. Second, with regard to the deworming intervention in particular, previous research has shown that untreated individuals within treatment communities

experienced gains, complicating estimation of treatment effects on the treated within schools in any case (Miguel and Kremer, 2004).

The main regression specification is:

$$Y_{ik} = \alpha + \lambda_1 T_{1ik} + \lambda_2 T_{2ik} + \lambda_3 T_{3ik} + L_{ik}'\vartheta + \varepsilon_{ik} \tag{1}$$

where T_{1ik} takes a value of 1 if child i has a parent who attended school k in PSDP group 1 or 2 in 1998, T_{2ik} takes a value of 1 if child i has a parent who received a vocational training voucher in 2009, and T_{3ik} takes a value of 1 if child i has a parent who received a cash grant in 2013. The dependent variable Y_{ik} is an outcome, such as the mean child score on a cognitive abilities test; outcomes are discussed at length below. The main coefficients of interest are λ_1, λ_2, and λ_3, which capture differences for children of parents who attended deworming treatment schools relative to control schools, received vocational training vouchers versus control, or received unconditional cash grants, respectively. (We note that we have not yet determined whether we will seek to publish all three results in a single paper, or in separate papers. This will depend on discussions within our research team in the coming months.)

The vector of included interview controls L_{ik} is intended to increase precision of estimated effects, and also includes variables that were used to stratify either the original PSDP randomization, or in the sampling for the KLPS sample (Bruhn and Mckenzie 2009). This includes 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; an indicator for parent gender; indicator for parent grade in 1998; indicators 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.[7] We will also report treatment effect estimates from specification without additional covariates as a robustness check.

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[7] The vocational training intervention also included a randomly assigned information intervention, and we will include an indicator for the treatment group of this intervention as well (see Hicks *et al.*, 2015c for more information). There were no meaningful impacts of this information intervention on vocational education attainment patterns so we do not expect it to have substantial impacts in this analysis.

For the full sample, all estimates will be weighted to make the results representative of the full PSDP sample, taking into account both the sampling for the KLPS and the two-stage tracking strategy of KLPS-Kids data collection.[8]

We will report robust standard errors clustered at the 1998 school level.

2.5   Heterogeneity

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

- Gender of parent
- Gender of child
- Age of parent
- Age of child
- Parent's 1996 PSDP school's average test score
- Assignment to multiple treatment groups (a set of double interactions and one triple interaction)

We emphasize that we do not expect our study design to have sufficient statistical power to generate precise estimates for many of these interaction terms (particularly for the smaller samples involved in the vocational training and cash grants program interactions), and hence such analyses should be considered suggestive rather than definitive. The patterns that emerge will also likely stimulate further exploratory analysis using the dataset.

2.6   Externalities

Although externalities are not the primary focus of the estimation, we will present additional specifications that explore potential externalities (spillovers) for the deworming parents. Exposure

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[8] For any analyses focusing on just the vocational education and small grant subsample (namely, a subset of analyses in which we include only those who applied to the vocational training program), the observations will not be weighted according to the two-stage tracking strategy since we do not construct tracking weights to be representative for this subgroup (rather the weights were constructed for the overall KLPS sample).

to spillovers is captured by the treatment saturation proportion within 6 kilometers. Estimates that do not account for treatment spillovers, such as those presented in eqn. 1, will be lower bounds on true overall deworming impacts (Miguel and Kremer, 2004).

One issue with employing local deworming treatment rates as an explanatory variable is that they are a function of the local treatment decisions of households in the relevant local area, leading to possible endogeneity concerns if, for instance, take-up is higher in areas where people have unobservably better labor market prospects. To address these concerns we construct the local saturation measure P_k as a function of the local coverage rate R_k of treatment school pupils within 6 km of school j, which is exogenously determined by the experimental design, times the average take-up rate of deworming drugs when treatment was free in the entire sample, Q, i.e., $P_k = R_k Q$. This implies that variation in the local saturation variable is driven entirely by the experimental design, with the average take-up rate serving as a useful "rescaling" to allow for a more meaningful interpretation of the magnitude of the estimated effects. Including this term in the specification results in the following regression:

$$Y_{ik} = \alpha + \lambda_1 T_{1ik} + \lambda_2 T_{2ik} + \lambda_3 T_{3ik} + \gamma P_k + L_{ik}'\vartheta + \varepsilon_{ik} \tag{2}$$

The remaining terms in this equation are defined as above.

2.7   Non-parametric estimates to go beyond mean effects

Non-parametric estimates are of interest in this type of a study as an additional piece of exploratory data analysis. We will non-parametrically estimate the distributions of outcomes separately for the treatment and control groups, for each of the three interventions, using kernel estimation techniques and will present these results for the main outcome indices. If we find suggestive graphical evidence of differences in the distributions, we will also report quantile regression results to better characterize the magnitude and statistical significance of these effects.

2.8   Mechanisms

We will explore channels and mechanisms that might explain the estimated average treatment effects for the three interventions. For instance, gains in parent income might help explain increased investments in child health or learning resources at home. Given the large range of possible estimated effects that might be observed across the three interventions, it is difficult to

fully characterize the appropriate subsequent tests to establish mechanisms, and we do not attempt to fully describe these in this document. Thus by its very nature, the results on mechanisms and channels will be more exploratory and tentative than the main program effect estimates that we have pre-specified in this document.

Among other possibilities, our exploration may consist of mediation analysis or Oaxaca-Blinder decompositions. We may use a counterfactual approach to mediation analyses (*paramed* command in Stata) (Emsley and Liu, 2013). In these models, which are widely used in psychology, nutrition, and public health (although less so in economics, see Angrist and Pischke, 2008), the independent variable would be randomized assignment, the dependent variable would be a child development outcome, and the mediators would be family-level or household-level variables that could bear on the causal pathway between deworming (or training or cash grants) of parents and future improved outcomes in children.

3   Outcomes and Hypotheses

Table 1 summarizes the outcomes for which we will explore intergenerational impacts of the parent interventions. Note that throughout we refer to specific tests or question numbers by the name of the survey and the section/question number. For instance "PC 5.8" refers to Primary Caregiver Module, Section 5, question 8.

Table 2 summarizes how these outcomes are constructed, for cases where the outcome is a scale or index. The outcomes are nested within two broad categories of outcomes; Primary Child Outcomes, and Child Investment Outcomes. Included in Primary Child Outcomes are four families of outcomes (1) Cognitive/Language Abilities, (2) Behavior & Socio-Emotional Development, (3) Subjective Health, and (4) Anthropometry. Included in Child Investment Outcomes are three families of outcomes; (5) Prenatal and Early Life Health Investments, (6) Home Environments, and (7) Child Discipline Strategies. Within each family of outcomes there are outcomes at different levels of aggregation, ranging from individual outcomes to indices. Due to the novelty of some of these measures, especially with respect to the rural Kenyan context, some of the groupings are speculative. As such, we will also report measures of index quality and coherence in the appendix by examining the correlation patterns of measures within each index. We also note that we may

do further exploratory research based on this correlation structure, i.e., including possibly presenting results with alternative groupings of outcomes. Furthermore, to make it easier to understand what the indices represent, we will present the results for all outcomes individually (most likely in the appendix of the resulting study, for reasons of space) in addition to the results for each cumulative index.

The remainder of this section is structured as follows. We first explain how indices will be constructed and how we will carry out multiple testing adjustments. Second, we provide details on each of the outcomes in Table 1. Finally, we present additional outcomes that will be analyzed (either in the main paper text or in the appendix).

3.1   Construction of Indices and Multiple Testing Adjustment

When an index consists of only indicator variables, the score of the index will be the sum of the indicators. When indices contain at least one continuous variable or a count variable taking more than two values, we will normalize each variable to be mean zero and unit variance, thereafter constructing the index by summing each component variable (the mean effects approach). We also note that we will exclude any variables with zero variance as these do not contribute any information. Furthermore, if a pre-specified variable is missing more than 30% of its possible observations (among those with completed PC or K surveys), we will drop it from inclusion in the index. We cannot anticipate why a particular variable will be omitted so frequently, but in such events where it warrants exclusion, we shall explore these reasons in the analysis. Finally, we will report all outcomes used to create indices either in the paper or in the appendix.

For the main coefficient estimates of interest (for instance, λ_1 in equation 1 above), we will present two sets of p-values. We will first present the standard "per-comparison" p-values, which are the unconditional probabilities of a false positive. These are appropriate for a researcher with an *a priori* interest in a specific outcome. For instance, researchers interested in the effect of parent deworming on children's height should focus directly on this p-value. Since we test multiple hypotheses (for instance, for the related but distinct outcomes listed under the first hypothesis regarding cognitive abilities), it is appropriate to control for the possibility that some true null hypotheses will be falsely rejected. Therefore, we plan to compute the False Discovery Rate (FDR)

adjusted q-values that limit the expected proportion of rejections within a set of hypotheses that are Type I errors.[9] Thus, while a p-value is the unconditional probability of a type I error, the analogous FDR q-value is the minimum proportion of false rejections within a family that one would need to tolerate in order to reject the null hypothesis.[10] Specifically, we will follow the approach to FDR analysis adopted in Casey *et al.* (2012) and the references cited therein. For individual outcomes, we will compute FDR q-values for dependent variables within a family of outcomes. For sub-indices and broad indices, we will report FDR q-values across families of outcomes at the respective aggregation tier.[11]

3.2   Cognitive Abilities

In Table 1 we specify six individual outcomes, two sub-indices and one broad index as measures of cognitive abilities. The individual outcomes are tests which have been designed specifically for assessing young children and have been locally adapted to the Kenyan context. The sub-indices present theoretically motivated groupings of the tests, while the broad index is a more speculative measure of overall cognitive abilities. For the broad index we will report the correlation structure of the individual tests as a measure of index quality and coherence.

For all tests we will create Z-scores by subtracting the mean and dividing by the standard deviation, within our own sample using age-gender groups (most likely using 6-month age bands).

For the cognitive tests, we will code non-responses from children as incorrect responses. Due to misunderstandings in the instructions, different stopping rules were applied during the first several weeks of data collection. We will deal with different stopping rules in two ways. First, we will present results using the entire sample, imputing scores for observations where different stopping rules were applied. Imputation will be done by using the mean score of children who are

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[9] When applicable, we will report several FDR q-values, if an outcome or index is included in different groupings or families.

[10] In this sense, false positives are driven not only by sampling variation (the traditional interpretation of a p-value) but also by having multiple outcomes to test.

[11] For the Behavior family of outcomes, the nests of sub-indices do not encompass all measures, and we include the Prosocial Scale for the purpose of constructing the distribution of p-values at the sub-indices tier. In the presentation we will focus on the FDR q-value from the adjustment made at the level of each individual outcome measure.

within the same gender and age band and would have stopped at the same item (or set for the Peabody Picture Vocabulary Test) had the alternative stopping rule been enforced. If no such observations are available, we will use children who stopped on either of the two neighboring items to create the imputed score. If still no observations are available, the relevant observations will be dropped.[12] Second, as a robustness check we will present results without observations for which different stopping rules were enforced on the relevant test.

In what follows we provide a description for each individual test, and details for how each will be scored. We note that in some cases the tests have been slightly modified from their original format to fit the Kenyan context.

1. The Kaufman Face Recognition task measures short-term visual memory and processing, and will be administered to all children. This is a subtest of the Kaufman Assessment Battery for Children (K-ABC; Kaufman and Kaufman, 2004). The outcome of interest is the Z-score of the sum of correct items (including teaching items), created within gender and age bands as described above.

2. The Kaufman Triangle Task measures visual-construction ability and understanding of spatial relationships, and will only be administered to children who are 60 months or older. This is a subtest of the K-ABC (Kaufman and Kaufman, 2004). The outcome of interest is the Z-score of the sum of correct items (including teaching items), created within gender and age bands.

3. The Peabody Picture Vocabulary Test (PPVT) measures receptive vocabulary and will be administered to all children (PPVT; Dunn and Dunn, 2007). The outcome is the Z-score of the sum of correct items (not including teaching items), created within gender and age bands.

4. The Leiter-R Attention Sustained Task measures executive function abilities (attention, inhibition, working memory; Roid and Miller, 1997). Children from 36-47 months of age were given a different test than older children. The outcome is the Z-score of the sum of

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[12] We note that for children who were allowed to continue longer than they should because the wrong stopping rules was used, we can enforce the correct stopping rule when cleaning the data.

correct items minus errors (not including teaching items), created within gender and age bands.

5. Malawi Development Assessment Tool (MDAT) Fine Motor Skills (MDAT; Gladstone *et al.*, 2010). The MDAT Fine Motor Skills measures fines motor skills, such as being able to stack blocks and control a pen or pencil. Children aged 36-59 months were asked additional items which were not asked to older children, because at least 85% of children older than 59 months scored correctly on these questions during piloting sessions. In creating the final score, children older than 59 months will be given full score on these items. Items 23 and 39, the only items not scored as pass or failed, will be scored as follows: Item 23 is scored as 3 correct items if maximum number of standing blocks is 6, 2 correct items if maximum number of blocks is 4 and 1 correct item if maximum number of blocks is 2; Item 39 is scored as 3 correct items if 4 correct letters, 2 correct items if 2 correct letters and 1 correct item if one correct letter. The outcome is the Z-score of the sum of correct items created within gender and age bands.

6. MDAT Language and Hearing (Gladstone et al., 2010). The MDAT Language and Hearing measures general verbal abilities, including receptive and expressive vocabulary, understanding analogies and being able to answer questions. The test will be administered to all children. The outcome is the Z-score of the sum of correct items created within gender and age bands.

The Language Index, Attention-Memory, Fine Motor, and Perception Index, and Cognitive Abilities Index are constructed according to the mean effects approach as explained in section 3.1.

3.3 Behavior

To assess children's socio-emotional development we administer the Strengths and Difficulties Questionnaire (SDQ) to the primary caregiver of each child (SDQ; Goodman, 2006). In addition to studying the standard outcomes constructed from the SDQ (Emotional Symptoms Scale, Conduct Problems Scale, Hyperactive Scale, Peer Problems Scale, Prosocial Scale and Total Difficulties Score) we also construct the Strengths and Difficulties Index. The Strengths and Difficulties Index is a more speculative measure of child behavior, which includes all components of the Total

Difficulties Score and also the Prosocial Scale. For the broad index we will report the correlation structure of the components as a measure of index quality.

3.4   Subjective Health

We will present four individual subjective health measures and one broad index. We describe each measure below:

1. No sickness in the past seven days. Indicator based on PC 3.11. Indicator equals one if caregiver indicates that child has <u>not</u> experienced fever, malaria, vomiting, cough or diarrhea in past seven days.

2. Overall child health. Five point scale based on PC 3.12 which asks caregiver to rate child health on scale very good, good, fair, poor and very poor. Higher score indicates better health

3. No serious health problems since birth. Indicator based on caregiver's reply to PC 3.13.

4. No disability. The no disability indicator is based on caregiver's answer to the following 10 difficulties questions, used by the World Health Organization (WHO) as a severe disability screener (Durkin et al., 1995). If answers to all 10 questions indicate that child has no difficulties, then the indicator takes value of one. Effects for all 10 individual questions will be reported in an appendix.

   a. Serious delays in learning to sit, stand, or walk compared to other children (PC 3.14)

   b. Difficulty seeing (PC 3.15)

   c. Difficulty hearing (PC 3.16)

   d. Child does not understand caregiver (PC 3.17).

   e. Difficulty moving. Weakness or stiffness in arms and legs (PC 3.18).

   f. Has seizures (PC 3.19).

   g. Child has lower learning ability than other children (PC 3.20).

   h. Child cannot speak or communicate (PC 3.21).

   i. Speech impediments (PC 3.22).

   j. Mentally backward, dull, or slow (PC 3.23).

   We note that in cases of severe difficulties, we instructed the interviewer not test the child.
   In particular, for children with severe difficulties seeing, hearing, communicating, or

understanding their caregiver, we will not analyze the cognitive development data. However, will still assess whether there are differences in the disability index between the treatment and control groups for the full sample of students surveyed, including those later excluded due to disability.

5. The Subjective Health Index is created from outcomes described in 1-4. For this outcome we will we will report the correlation structure of the components as a measure of index quality.

3.5   Anthropometry

For anthropometry we measure only height. We will construct the height outcome by taking the mean of three height measures and constructing z-scores using WHO child growth standards (K 3.3, 3.4 and 3.5; de Onis *et al.*, 2004).

3.6   Prenatal and Early Life Health Investments

We will present four individual measures and one broad index related to prenatal and early life health investments. We describe each measure below:

1. Breastfeeding Index. Made from the following items (which will be reported in an appendix):
   a. Ever breastfed (PC 3.5).
   b. Exclusively breastfed for 6 months. Indicator constructed from PC 3.5a, taking one if child has been breastfed exclusively for 6 months or more.
   c. Breastfed for at least 2 years. Indicator constructed from PC 3.5b, taking one if child has been breastfed for 2 years or more.
2. Vaccination Index. Made from the following items (which will be reported in an appendix, either):
   a. Indicator for having received BCG vaccination (PC 3.8a).
   b. Indicator for having received polio vaccination (PC 3.8b).
   c. Indicator for having received DPT vaccination (PC 3.8c).
   d. Indicator for having received measles vaccination (PC 3.8d).
   e. Indicator for having received yellow fever vaccination (PC 3.8e).

3. Parasitic Prevention Index. Made from the following items (which will be reported in an appendix):

   a. Indicator for child slept under a bed net last night (PC 3.9).

   b. Indicator for child dewormed in past 12 months (PC 3.10).

4. Medical care up to birth. Made from the following items (which will be reported in an appendix):

   a. Indicator for receiving antenatal care during pregnancy (PC 3.2).

   b. Indicator for receiving postnatal care at hospital or clinic (constructed from PC 3.4 and PC 3.4a).

5. Prenatal and Early Life Health Investments Index. Index based on outcomes 1-4. For this outcome we will we will report the correlation structure of the components as a measure of index quality.

3.7   Home environment investments

We will present five individual measures and one broad index related to home environment investments. These measures were adapted from Kariger *et al.* (2012), Hamadani *et al.* (2010), and UNICEF (2015). We describe each measure below:

1. Music at home Index. Made from the following items (which will be reported in an appendix):

   a. Music player or radio at home (PC 4.1a).

   b. Musical instruments at home (PC 4.1.b).

2. Reading materials at home Index. Made from the following items (which will be reported in an appendix):

   a. Number of books at home (PC 4.1c).

   b. Number of children's' books at home (PC 4.1e).

   c. Newspapers, magazines, pamphlets, or brochures at home (PC 4.1f).

   d. Art or picture decorations at home (PC 4.1g).

3. Creative outlets at home Index. Made from the following items (which will be reported in an appendix):

   a. Paper and pen or art supplies at home (PC 4.1g).

b. Child makes toys (PC 4.1h).

4. Toys Index. Made from the following items (which will be reported in an appendix):

   a. Plays checkers (PC 4.1i).

   b. Plays with homemade toys (PC 4.2a).

   c. Plays with purchased toys (PC 4.2b).

   d. Plays with household objects or objects found outside (PC 4.2c).

5. Engagement in activities to support development Index. Made from the following items (which will be reported in an appendix):

   a. Child travels (PC 4.1j).

   b. Caregiver reads with child (PC 4.3a).

   c. Caregiver tells stories to child (PC 4.3b).

   d. Caregiver sings to child (PC 4.3c).

   e. In past 7 days, an adult has taken the child out of the home (PC 4.3d).

   f. In past 7 days, an adult has played with the child (PC 4.3e).

6. Home Environment Investment Index. Index based on outcomes 1-5 here above. For this outcome we will we will report the correlation structure of the components as a measure of index quality.

3.8 Child Discipline strategies

We will present two individual measures and one broad index related to child discipline strategies. These outcomes were drawn from Sadowski *et al.* (2004), United Nations Children's Fund (2010), and UNICEF (2015). We describe each measure below:

1. Positive Discipline Techniques Index. Made from the following items (which will be reported in an appendix):

   a. In past month, an adult took away privileges or grounded child (PC 4.4a).

   b. In past month, an adult explained wrong behavior to child in past month (PC 4.4b).

   c. In past month, an adult gave misbehaving child alternate activity (PC 4.4d).

2. Avoiding Negative Discipline Techniques Index. Made from the following items (which will be reported in an appendix):

   a. In past month, no adults have yelled at child (PC 4.3c).

b. In past month, no adults have called the child names (PC 4.3e).

c. In past month, no adults have hit the child (PC 4.3f).

3. Child Discipline Strategies Index. Index based on outcomes 1-2. For this outcome we will we will report the correlation structure of the components as a measure of index quality.

3.9   Additional Outcomes

Table 3 summarizes additional outcomes that will either be presented in an appendix or in the final paper. Additional outcomes include the following:

1. Birthweight (PC 3.7). While this an important measure of intergenerational returns to deworming, vocational training, and cash grants, we choose to label it an additional outcome because we expect a large share of missing data.

2. Related to parental investments in child, we present "Number of months of exclusive breastfeeding" (PC 3.5a) and "Number of months before breastfeeding was stopped entirely" (PC 3.5b) as additional outcomes. These outcomes are used to construct "Exclusively breastfed for 6 months" and "Breastfed for at least 2 years", respectively, which will be used to construct the Breastfeeding Index. The indicator outcomes are based on recommendations from WHO for breastfeeding. As additional outcomes we also present these two continuous outcomes. We will also present an indicator for any vaccination, although we expect little variation in this measure, with nearly all children reported to receive at least one vaccination.

6. Child Behavior During Test Index. Made from the following items (which will be reported in an appendix):

a. Child laughed (K 4.3a).

b. Child engaged in tasks, paid attention (K 4.3b).

c. Child showed enthusiasm and excitement (K 4.3d).

d. Child completed all tests (K 2.4).

e. How involved and engaged was the child during this test? (K 2.7).

f. Child showed engagement in tasks (K 4.3c).

g. Child not easily distracted (K 4.3d).

h. Child did not have difficulty transitioning from one item or test to the next one (K 4.3e).

i. Child was quick to start working on a new item or task (K 4.3f).

j. Child did not fidget or squirm, and stayed focused on the tasks (K 4.3g).

k. Child was not shy (K 4.3h).

l. Child was not withdrawn (K 4.3i).

m. Child was not moving around a lot and disrupting tasks (K 4.3j).

n. Child did not say they could not perform a task or activity requested (K 4.3k).

o. Child maintained focus and attention during tasks (K 4.3l).

p. Child did not become anxious or uncomfortable when presented with items that were very difficult (K 4.3m).

q. Child never refused to complete a task or test (K 4.3n).

7. Caregiver Mental Health. We administer the Patient Health Questionnaire 9 (PHQ-9) to construct the Caregiver Mental Health Index (Kroenke *et al.*, 2001). The index is made from the following items (which will be reported in an appendix, either in paper or online):

a. In past two weeks, caregiver has little pleasure or interest in doing things (PC 6.1).

b. In past two weeks, caregiver felt down, depressed, or hopeless (PC 6.2).

c. In past two weeks, caregiver has had trouble sleeping or slept too much (PC 6.3).

d. In past two weeks, caregiver has felt tired and had little energy (PC 6.4).

e. In past two weeks, caregiver has had poor appetite or has overeaten (PC 6.5).

f. In past two weeks, caregiver has felt bad about themselves or felt that they have let their family down (PC 6.6).

g. In past two weeks, caregiver has had trouble paying attention to reading or watching TV (PC 6.7).

h. In past two weeks, caregiver has moved or spoken slowly so other people noticed or has been fidgety (PC 6.8).

i. In past two weeks, caregiver has had thoughts of self-harm (PC 6.19).

j. How difficult have caregiver problems made doing work? (PC 6.10).

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Table 1: Primary Outcomes

Individual Outcomes	Sub-Index	Broad Index
Panel A: Primary Child Outcomes		
Cognitive abilities		
Peabody Picture Vocabulary Test Z-Score	Language Index	Cognitive Abilities Index
MDAT Language and Hearing Z-Score	Language Index	
Kaufman Triangle Task Z-Score	Attention/Memory Fine Motor and Perception Index	
Leiter-R Attention Sustained Task Z-Score		
Kaufman Face Recognition Task Z-Score		
MDAT Fine Motor Skills Z-Score		
Behavior		
Emotional Symptoms Scale*	Total Difficulties Score*	Strengths and Difficulties Index
Conduct Problems Scale*		
Hyperactive Scale*		
Peer Problems Scale*		
Prosocial Scale	Prosocial Scale	
Subjective Health		
No sickness in past seven days	Subjective Health Index	
Overall child health		
No serious health problems since birth		
No disability indicator		
Anthropometry		
Height		Height
Panel B: Child Investment Outcomes		
Prenatal and Early Life Health Investments		
Breastfeeding Index	Prenatal and Early Life Health Investments Index	
Vaccination Index		
Parasitic Prevention Index		
Medical care up to birth		
Home Environment Investments		
Music at home Index	Home Environment Investments Index	
Reading materials at home Index		
Creative outlets at home Index		
Toys Index		
Engagement in activities to support development Index		
Child Discipline Strategies		
Positive Discipline Techniques Index	Child Discipline Strategies Index	
Avoiding Negative Discipline Techniques Index		

Notes: We will present all "individual outcomes" listed in this table. When these outcomes are themselves constructed from composite questions, we shall report those questions in an appendix table. For all outcomes constructed of indices, we will present representative questions. We shall construct the broad indices from the individual outcomes, rather than directly from the source questions, in order to weight each individual outcome (rather than each source question) equally in the broad index. *Indicates that the outcome will be signed opposite to how it is usually presented in the literature to preserve positive meaning "better."

Table 2: Construction of Primary Outcomes

Outcome	Aggregation Method	Question Number	Question Description
Panel A: Primary Child Outcomes			
Behavior			
Emotional Symptoms Scale	Sum	PC 5.8	Many worries or often seems worried
		PC 5.13	Often unhappy, depressed or tearful
		PC 5.16	Nervous or clingy in new situations, easily loses confidence
		PC 5.24	Many fears, easily scared
Conduct Problems Scale	Sum	PC 5.5	Often loses temper
		PC 5.7	Not generally well behaved, and does not usually do what adults request
		PC 5.12	Often fights with other children or bullies them
		PC 5.18	Age 3: Often argumentative with adults, Age 4 and 5: Often lies or cheats
		PC 5.22	Age 3: Can be spiteful to others, Age 4 and 5: Steals from home, school or elsewhere
Hyperactive Scale	Sum	PC 5.2	Restless, overactive, cannot stay still for long
		PC 5.10	Constantly fidgeting or squirming
		PC 5.15	Easily distracted, concentration wanders
		PC 5.21	Acts out without thinking
		PC 5.25	Poor attention span
Peer Problems Scale	Sum	PC 5.6	Rather solitary, prefers to play alone
		PC 5.11	Does not have at least one good friend
		PC 5.14	Generally disliked by other children
		PC 5.19	Picked on or bullied by other children
		PC 5.23	Gets along better with adults than with other children
Prosocial Scale	Sum	PC 5.1	Considerate of other people's feelings
		PC 5.4	Shares readily with other children, for example toys, treats, pencils
		PC 5.9	Helpful if someone is hurt, upset or feeling ill
		PC 5.17	Kind to younger children
		PC 5.20	Often offers to help others (parents, teachers, other children)
Subjective Health			
No disability Indicator	Max	PC 3.14	Serious delays in learning to sit, stand, or walk compared to other children
		PC 3.15	Difficulty seeing
		PC 3.16	Difficulty hearing
		PC 3.18	Difficulty moving. Weakness or stiffness in arms and legs.
		PC 3.19	Has seizures
		PC 3.17	Child does not understand caregiver
		PC 3.20	Child has lower learning ability than other children
		PC 3.21	Child cannot speak or communicate
		PC 3.22	Speech impediments
		PC 3.23	Mentally backward, dull, or slow

Panel B: Child Investment Outcomes

Health Investments

Breastfeeding Index	Sum	PC 3.5	Ever breastfed
		PC 3.5a	Exclusively breastfed for 6 months
		PC 3.5b	Breastfed for at least 2 years
Vaccination Index	Sum	PC 3.8a	Received BCG vaccination
		PC 3.8c	Received polio vaccination
		PC 3.8d	Received DPT vaccination
		PC 3.8e	Received measles vaccination
		PC 3.8f	Received yellow fever vaccination
Parasitic Prevention Index	Sum	PC 3.9	Uses bed net
		PC 3.10	Dewormed in past 12 months
Investments at Birth Index	Sum	PC 3.2	Antenatal care during pregnancy
		PC 3.4, PC 3.4a	Received postnatal care at hospital or clinic

Home Environment Investments

Music at Home Index	Sum	PC 4.1a	Music player or radio at home
		PC 4.1b	Musical instruments at home
Reading Materials at Home Index	Normalized Average	PC 4.1c	Number of books at home
		PC 4.1d	Number of childrens' books at home
		PC 4.1e	Newspapers, magazines, pamphlets, or brochures at home
		PC 4.1f	Art or picture decorations at home
Creative Outlets at Home Index	Sum	PC 4.1g	Paper and pen or art supplies at home
		PC 4.1h	Child makes toys
Toys Index	Sum	PC 4.1i	Plays checkers
		PC 4.2a	Plays with homemade toys
		PC 4.2b	Plays with purchased toys
		PC 4.2c	Plays with household objects or objects found outside
Engagement in Activities to Support Development Index	Sum	PC 4.1j	Child travels
		PC 4.3a	Caregiver reads with child
		PC 4.3b	Caregiver tells stories to child
		PC 4.3c	Caregiver sings to child
		PC 4.3d	In past 7 days, an adult has taken the child out of the home
		PC 4.3e	In past 7 days, an adult has played with the child

Child discipline strategies

Positive Disciplines Technique Index	Sum	PC 4.4a	In past month, an adult took away privileges or grounded
		PC 4.4b	In past month, an adult explained wrong behavior to child in past month
		PC 4.4d	In past month, an adult gave misbehaving child alternate activity
Avoiding Negative Discipline Techniques Index	Sum	PC 4.4c	In past month, no adults have yelled at child
		PC 4.4e	In past month, no adults have called the child names
		PC 4.4f	In past month, no adults have hit the child

Note: We will report all questions in an appendix, with both naïve p-values and multiple testing corrected FDR q-values.

Table 3: Additional Outcomes

Quest Number	Outcome Description	Index
Anthropometry		
PC 3.7	Birth Weight	
Parental investments		
PC 3.5a	Number of months of exclusive breastfeeding	
PC 3.5b	Number of months before breastfeeding was stopped entirely	
PC 3.8	Received any vaccination	
Child Behavior During Test		
K 4.3a	Child laughed	
K 4.3b	Child engaged in tasks, paid attention	
K 4.3d	Child showed enthusiasm and excitement	
K 2.4	Child completed all tests	
K 2.7	How involved and engaged was the child during this test?	
K 4.3c	Child showed engagement in tasks	
K 4.3e	Child not easily distracted	
K 4.3f	Child did not have difficulty transitioning from one item or test to the next one	
K 4.3f	Child was quick to start working on a new item or task	Child Behavior During Test Index
K 4.3g	Child did not fidget or squirmed, and stayed focused on the tasks	
K 4.3h	Child was not shy	
K 4.3i	Child was not withdrawn	
K 4.3j	Child was not moving around a lot and disrupting tasks	
K 4.3k	Child did not say they could not perform a task or activity requested	
K 4.3l	Child maintained focus and attention during tasks	
K 4.3m	Child did not become anxious or uncomfortable when presented with items that were very difficult	
K 4.3n	Child never refused to complete a task or test	
Caregiver Mental Health		
PC 6.1	In past two weeks, caregiver has little pleasure or interest in doing things	
PC 6.2	In past two weeks, caregiver felt down, depressed, or hopeless	
PC 6.3	In past two weeks, caregiver has had trouble sleeping or slept too much	
PC 6.4	In past two weeks, caregiver has felt tired and had little energy	
PC 6.5	In past two weeks, caregiver has had poor appetite or has overeaten	
PC 6.6	In past two weeks, caregiver has felt bad about themselves or felt that they have let their family down	Caregiver Mental Health Index
PC 6.7	In past two weeks, caregiver has had trouble paying attention to reading or watching TV	
PC 6.8	In past two weeks, caregiver has moved or spoken slowly so other people noticed or has been fidgety	
PC 6.9	In past two weeks, caregiver has had thoughts of self-harm	
PC 6.10	How difficult have caregiver problems made doing work?	

Log Number: |____|____|____|____|____|

PC
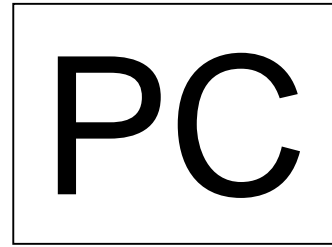
KLPS-KIDS
PC-MODULE

VERSION: JULY 13, 2015 — ENGLISH

BUSIA ONLY

CASH GIFT

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 strictly confidential. 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: _____ / _____

---

9. Date of interview: (DD/MM/YYYY) |____|____| / |____|____| / |____|____|____|____|

10. Time start interview: (24 hr clock) |____|____| : |____|____|

11a. Interviewer ID: |____|____|____|____|

11b. Interviewer name: (first) _____ / (surname) _____

11c. *Do you have access to the child's health card or birth certificate?* (1=Yes, 2=No) |____|

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

(DD/MM/YYYY) |____|____| / |____|____| / |____|____|____|____|

If parent and S-module disagree, probe to get most accurate birthdate.

11e. *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 11g.
11f. 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)) |____|
_____

11g. *From what source did you record the child's birth date?* (1=Health Card, 2= Birth certificate, 3=Caregiver's memory, 4=S-module information 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?

(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 Section 3.

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

(1=Yes, 2=No) |____|

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

Read: 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 are between the ages of 3 years and 5 years, 11 months. 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 of 300 shillings following the interview.

Skip to question 16.

CONSENT

Read: 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 the ICS deworming project that went on in primary schools in Busia County beginning in 1998. We are contacting many individuals who were enrolled in classes 2 through 7 in participating schools in 1998. We hope to better understand the long-term effects of ICS's work on deworming and health, and in particular, we are interested in how these effects may impact the biological children of individuals who attended those schools. For the present study, we are interested in children who are between the ages of 3 years and 5 years, 11 months.

We are speaking with you because you are the guardian or caregiver a child of one of the individuals who was enrolled in a school that participated in the deworming program. That parent, **[name of KLPS parent],** has told us that you are the primary caregiver for one or more of their own children who is between the ages of 3 years and 5 years, 11 months, **[name(s) of child(ren) to be assessed today]**. 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) household, 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). To thank you for your participation, we will offer you a small gift of 300 shillings following the interview.

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 parent'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.

We do not anticipate any risks associated with participating in this interview. 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 forseeable 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.

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 can put you in touch with Edward Miguel at the University of California, who is in charge of the research project. If you have any questions or concerns about your rights and treatment as a research subject, you may contact the office of the Maseno University Ethical Review Committee in Kisumu at 57 351 622 ext. 3050, as well as UC Berkeley's Committee for the Protection of Human Subjects, at +1 510 642 7461 or subjects@berkeley.edu.

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 of 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")*
6 = Unable to survey – in prison
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.***
7 = Unable to survey – mental illness / disability
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.***
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.

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
2 = Caregiver has caregiving duties
3 = Caregiver has to work
4 = Caregiver does not want to disclose personal information
5 = Caregiver is suspicious of IPA

6 = Caregiver hasn't received assistance from IPA
7 = Caregiver just doesn't want to / no reason given
10 = Other (specify)

|____|/|____|/|____| Other: _____
Skip to "Closing Interview Statement".

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?

_____
Skip to "Closing Interview Statement".

15c. ***Record your impressions of why we are unable to survey the caregiver during this round.*** _____
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. 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.***

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.

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

If this interview is with the KLPS adult respondent listed on the tracking sheet, <u>SKIP TO QUESTION 6</u>. Otherwise, continue.

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 at your home?

                                                        Use G13 codes. |____| _____

FO Comments:

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.* (1=Yes, 2=No) |____|
   If YES, continue. If NO, skip to question 4.

2. *If female respondent:* Did you seek antenatal care while pregnant with **[child]**?
   If male respondent: Did the mother of the baby seek antenatal care while pregnant with **[child]**? (1=Yes, 2=No, 99=DK) |____|
   If YES, continue. OTHERWISE, skip to question 4.

3. Where was antenatal care sought? (1=Govt hospital / health center / dispensary, 2=Mission hospital / health center / dispensary, 3=Private hospital / clinic, 4=Traditional birth attendant, 5=Other (specify), 99=DK) *If care sought at multiple locations, list the most frequent location.* |____| _____

4. Where was **[child]** born? Meaning, was **[child]** born in a hospital or clinic, or at home?
   (1=Hospital/clinic, 2=At home, 3=Other (specify), 99=DK) |____| _____
   4a. *If NOT "1":* Was the child taken to a hospital or clinic shortly after birth?

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

5. Has **[child]** ever been breastfed? (1=Yes, 2=No, 99=DK) |____|
   If YES, continue. Otherwise, skip to question 7.
   5a. At what age (in months) was exclusive breastfeeding stopped? By this I mean breastfeeding only, and no other food offered. (88=still ongoing; 99=DK) |____| mths

   5b. At what age (in months) was breastfeeding stopped entirely? (88=still ongoing; 99=DK)
   |____| mths

7. *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

   7a. *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 8-8f using the health card. If no health card is available or if a vaccine is not indicated, ask the respondent.

8. 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 9.

   8a. 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) |____|

   8b. 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) |____|

   8c. 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)) |____|

8d. 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) |____|

8e. 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) |____|

8f. Has **[child]** received any other vaccination?
(1= Yes (specify), 2= No, 99=DK) |____| _____

9. Last night, did **[child]** sleep under a bed net? (1= Yes, 2= No, 99=DK) |____|

10. Have any drugs for worm infections or schistosomiasis been given to **[child]** in the last 12 months? (1= Yes, 2= No, 99=DK) |____|

11. 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? /____/

12. 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) |____|

13. Has **[child]** experienced any major health problems since 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) |____|

13a. ***If yes:*** Describe. _____

14. Long ago, when your child was a baby, did **[child]** have any serious delay in learning to sit, stand, or walk, compared with other children? (1=Yes, 2=No, 99=DK) |____|

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

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

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

18. 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) |____|

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

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

21. 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) |____|

22. Is **[child]**'s speech in anyway different from normal? (1=Yes, 2=No, 99=DK) |____|

23. Compared with other children of his/her age, does **[child]** appear in any way mentally backward, dull, or slow? (1=Yes, 2=No, 99=DK) |____|

FO Comments:

SECTION 4. 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]** can use to make music at home? This could be a musical instrument like a drum or horn, or anything else like pot lids or something that can be used as drum sticks. (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)? (0=0; 1=1; 2=2-5; 3=6-10; 4=11-30; 5=more than 30; 99=DK) |____|

    1d. About how many children's books or picture books are in **[child]**'s home? (0=0; 1=1; 2=2-5; 3=6-10; 4=11-30; 5=more than 30; 99=DK) |____|
    Number of children's books 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 with any games of strategy such as draught (checkers)?
    (1=Yes, 2=No, 99=DK) |____|

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

    2c. Household objects (such as bowls or pots) or objects found outside (such as sticks, rocks, animal shells or leaves)? (1=Yes, 2=No, 99=DK) |____|

3. 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=other)

    3a. Read books to or look at books with **[child]**? |____| **relation:** |___|/|___|/|_____|

    3b. Tell stories to **[child]**? |____| **relation:** |___|/|___|/|_____|

    3c. Sing songs with **[child]**? |____| **relation:** |___|/|___|/|_____|

    3d. Take **[child]** outside the home, compound, yard or enclosure?
    |____| **relation:** |___|/|___|/|_____|

    3e. Play with **[child]**? |____| **relation:** |___|/|___|/|_____|

FO Comments:

3f. Name, count, or draw things for or with **[child]**? |____| **relation:** |___|/|___|/|_____|

4. ***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.

   4a. Took away privileges, forbade something **[child]** liked or did not allow him/her to leave the house/compound. (1=Yes, 2=No, 99=DK) |____|

   4b. Explained why **[child]**'s behavior was wrong. (1=Yes, 2=No, 99=DK) |____|

   4c. Shouted, yelled at or screamed at him/her. (1=Yes, 2=No, 99=DK) |____|

   4d. Gave him/her something else to do. (1=Yes, 2=No, 99=DK) |____|

   4e. Called him/her dumb, lazy, or another name like that. (1=Yes, 2=No, 99=DK) |____|

   4f. Physically punish, for example kicking, slapping, beating, and shaking him/her.
   (1=Yes, 2=No, 99=DK) |____|

5. Does **[child]** attend any organized learning or early childhood education program, such as a private or government facility, including kindergarten or community child care?
   (1=Yes, 2=No, 99=DK) |____|

If YES, continue. Otherwise, skip to question 5b.

   5a. What program does **[child]** attend? _____

   _____

   Skip to Section 5.

   5b. Why is **[child]** not yet in any type of ECD or schooling program?
1=Child is too young	4=Distance/too far away
2=Child would not do well / is not smart	5=Child refuses/doesn't want to
	6=Other (specify)
3=There is not enough money to pay for it / those programs are too expensive	

   |____| _____

FO Comments:

SECTION 5. 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	**8= Not applicable**
1= Somewhat True	**9= Don't know**
2= Certainly True	

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	|_____|
18.	*If child is age 3, read:* Often argumentative with adults *If child is age 4-5, read:* Often lies or cheats	|_____|
19.	Picked on or bullied by other children	|_____|
20.	Often offers to help others (parents, teachers, other children)	|_____|
21.	*If child is age 3, read:* Can stop and think things out before acting *If child is age 4-5, read:* Thinks things out before acting	|_____|
22.	*If child is age 3, read:* Can be spiteful to others *If child is age 4-5, 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? _____

SECTION 6. Patient Health Questionnaire

0. ***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?
   (1=Yes, 2=No) |____|

If YES, skip to Section 7. Otherwise, continue.

BEFORE BEGINNING THIS SECTION, ENSURE THE PRIVACY OF THE RESPONDENT. ASK ANY INDIVIDUALS OLDER THAN AGE 5 TO STEP AWAY.

Read: Now I would like to talk to you about yourself again. This is the last part of our interview. I would like to ask you some questions about how you have been feeling over the last couple of weeks. If you would prefer, you can read these questions yourself, and mark your own answers. Let me know if you would like to do that as we get started.

Read: Over the last 2 weeks, how often have you been bothered by any of the following problems? Please use the following responses, as listed on the cards I have here. You can point to the response that is most accurate, if you like. ***Lay out PHQ response cards as you read them:***

0=Not at all (0-1 days)
1=Several days (2-6 days)
2=More than half the days (7-11 days)
3=Nearly every day (12-14 days)

1.	Little interest or pleasure in doing things	|____|
2.	Feeling down, depressed, or hopeless	|____|
3.	Trouble falling or staying asleep, or sleeping too much	|____|
4.	Feeling tired or having little energy	|____|
5.	Poor appetite or overeating	|____|
6.	Feeling bad about yourself or that you are a failure or have let yourself or your family down	|____|
7.	Trouble concentrating on things such as reading the newspaper, magazines or books, or watching television	|____|
8.	Moving or speaking so slowly that other people could have noticed? Or the opposite - being so fidgety or restless that you have been moving around a lot more than usual	|____|
9.	Thoughts that you would be better off dead or of hurting yourself in some way	|____|

10. ***If any responses are "1", "2" or "3"***: How difficult have these problems made it for you to do your work, take care of things at home, or get along with other people? Would you say "not difficult at all", "somewhat difficult", "very difficult", or "extremely difficult"?
    (0=Not difficult at all, 1=Somewhat difficult, 2=Very difficult, 3=Extremely difficult) |____|

If the caregiver has expressed excessive difficulties through their responses, say "*I am sorry to hear you have been having such a difficult time lately. You could consider visiting a local clinic to talk to someone."

FO Comments:

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   4 = Offended at question
        continue survey at a later time. See   5 = Suspicious of FO / survey intent /
        "Temporary Stop Instructions" below.   IPA
        2 = Tired   6 = Does not feel like continuing survey
        3 = Too busy, does not have time   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? _____

    _____

If the child assessment(s) are already being conducted by another FO, stop here. Otherwise, continue.

    FO Comments:

Read aloud: 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 K-Module.**

K
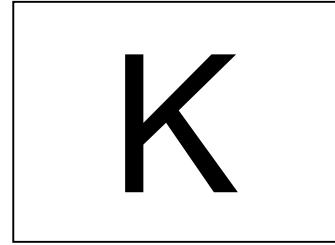
KLPS-KIDS
K-MODULE

VERSION: JULY 13, 2015 — ENGLISH

CHILD ID
|____|____|____|____|____|____|____| -- |____|____|

The tests included in this booklet should be administered to the CHILD identified above.

SECTION 1. Pre-Assessment Information

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: |____|____|____|____|____|____|____| -- |____|____|

Do not ask the following questions aloud. Simply record your responses.

8. Date of assessments: (DD/MM/YYYY) |____|____|/|____|____|/|____|____|____|____|

9. Time start assessments: (24 hr clock) |____|____| : |____|____|

10a. Interviewer ID: |____|____|____|____|

10b. Interviewer name: (first) _____ / (surname) _____

11. Is child able to be tested today? If child is nonresponsive to tests but not otherwise refusing to participate, do not indicate "NO" here. We still want to attempt height measurements.   (1=Yes, 2=No, 3=Able to be measured but disabled) |____|

If YES, skip to question 12. If "3", skip to 11b. Otherwise, continue.

11a. Why is child not able to be tested today? (1=Not present, 2=Temporarily sick, 3=Permanently sick/disabled, 5=Other(specify)) |____| _____

If "1", "2" or "5", consider rescheduling the testing for another day. Indicate this on tracking sheet, and proceed to question 11c. If "3", continue to question 11b.

11b. What is the nature of the child's disability? Please describe. _____

_____

_____

If answered "3" to question 11, skip to question 12.

11c. Will assessments be rescheduled, or will no further information be collected for this child? (1=Will reschedule, 2=No further information will be collected) |____|
End administration of this module.

12. **Calculate the child's exact age in months, using the date of birth provided in the PC module, Section 1, question 11d.**

If you must "borrow" for calculations, consider 1 month equal to 30 days.

	YEAR (YYYY)	MONTH (MM)	DAY (DD)
FILL IN TODAY'S DATE:			
FILL IN CHILD'S BIRTHDATE:			
CALCULATE AGE IN MONTHS:			

12b. *List child's calculated exact age in months here. Do NOT round days up to a month.*

|____|____| months

14. Does this child appear to be the biological child of our KLPS adult? (1=Yes, very confident, 2=Yes, somewhat confident, 3=No, not confident, 4=No way to judge/answer) |____|

   If 2, 3 or 4, continue. Otherwise, skip to Section 2.
   14a. Why are you not very confident? _____

   _____
   If child is definitely not the biological child of our KLPS adult, discontinue interview.

SECTION 2. Child Assessments

If a parent or caregiver is present for the child assessments who has not already been asked not to interfere with testing, read: I am going to start the interview with the child now. 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.***

Turn to child, and try to establish a rapport. Say: "*Hi, I am [name]." **Ask the following questions, and score the responses given:***

1. ***Ask:*** What is your name? (1=Child can tell you his/her name, 0=Cannot, 88=Nonresponsive)
   Confirm a nickname with caregiver, if necessary. |____|

2. ***Ask:*** How old are you? (1=Can tell you how old he/she is; 0=Cannot, 88=Nonresponsive) |____|
   A nonverbal response is acceptable.

3. ***Ask:*** What is the name of the village / estate where you are living now? (1=Can tell you the name of his/her village/estate, 0=Cannot, 88=Nonresponsive) |____|

Once a rapport is established, begin the assessments. The following is a list of the assessments that should be performed, according to age grouping. The ordering of the assessments is a suggestion. Consider an alternate ordering depending on the temperament of the child (for instance, a very shy child might open up more by starting with the PPVT).

REMEMBER: During the assessments, if the parent or caregiver is interfering, it may be necessary to remind them not to react to or comment on the child's performance. For instance, you might say: "As I mentioned before, some of these games may be quite easy for the child, while some might be quite difficult. Please do not tell the child what to do, laugh or comment on the child's behavior during the games. We want to learn how the child can play these games on their own, without any help or comment from you." ***If the parent or caregiver continues to interfere with testing, consider asking them nicely to step away for a few minutes in order to allow you to finish.***

REMEMBER: If child is not responding to a test or becoming disinterested, you will need to re-engage them. To do this, try:
- ***Talking to child about their school and/or friends;***
- ***Jumping up and down with the child;***
- ***Bring in caregiver to help;***
- ***Joke with the child;***
- ***Ask the child about themselves, what games they like to play or what things they like;***
- ***Ask the child if they can pay attention for just a little bit longer, to finish the test;***
- ***Between tests, ask the child if they would like a biscuit.***

COMPLETE TABLE ACROSS EACH ROW BEFORE CONTINUING TO NEXT TEST.

Do not ask the following questions aloud. Simply record your responses:	4. Was test completed? (1=Yes, 2=No-incomplete, 3=No-skipped) *If YES, record order of test (1-6 or 88) then skip to q5.*	4a. Why was the test not completed? (1=Adult refusal; 2=Child verbal refusal; 3=Child shy/non-responsive; 4=Child cannot hold a pencil; 5=Child too tired; 6=Child not in age group for test (Triangles only); 7=Other (specify) -If "3", try to engage the child (see previous page). -Now, skip to next row.*	5. Were there any major distractions for the child during administration of the test? (1=Yes, 2=No) *If NO, skip to question 6.*	5a. What were the distractions? (1=Interruptions of parent/ caregiver; 2=Interruptions of others; 3=Loud noise; 4=Other(specify))	6. What were the languages of administration? *Use G13 codes. Ex:	1	/ |2 |*	7. On a scale from 1 to 4, how involved and engaged was the child during this test? *See below table for explanation of scale levels 1-4 and code 0. After answering, proceed to next test.*
i. Facial Recognition	|____| Order: ___	|____|_____ _____	|____|	|____| _____	|____|/|____| _____	|____|
ii. Leiter-R *(Note: use age-appropriate test)*	|____| Order: ___	|____|_____ _____	|____|	|____| _____	|____|/|____| _____	|____|
iii. Triangles *(Note: aged 60+ months only)*	|____| Order: ___	|____|_____ _____	|____|	|____| _____	|____|/|____| _____	|____|
iv. MDAT Fine Motor *(Note: start at age-appropriate quest.)*	|____| Order: ___	|____|_____ _____	|____|	|____| _____	|____|/|____| _____	|____|
v. MDAT Language	|____| Order: ___	|____|_____ _____	|____|	|____| _____	|____|/|____| _____	|____|
vi. PPVT	|____| Order: ___	|____|_____ _____	|____|	|____| _____	|____|/|____| _____	|____|

Scale for Question #7:
0=Child was too shy/found the test too difficult to try, but otherwise was not disinterested or difficult to engage
1=Child was not interested, extremely fatigued, and/or very difficult to engage
2=Child was engaged ~25% of the time
3=Child was engaged ~50% of the time
4=Child was very actively engaged and alert, responsive to nearly 100% of questions

NOTE: DO NOT PROCEED TO NEXT QUESTIONS UNTIL ABOVE TABLE IS COMPLETE (EVERY TEST ATTEMPTED, OR A REASON GIVEN WHY A TEST COULD NOT BE ATTEMPTED).

8. ***Do not ask the following question aloud:*** Where were the tests administered? (1=Inside a house, 2=Inside a school, 3=Inside the IPA office, 4=Inside another building, 5=Outside, 6=Other(specify)) |____| _____

9. ***Do not ask the following question aloud:*** Was a table and chair/bench used, or were the tests administered on the floor? (1=On a table, 2=On the floor, 3=Other(specify)) |____| _____

10. ***Did the child respond to any of the first three questions on their name, age, and location?*** (1=Yes, 2=No) |____|

If NO, continue. If yes, skip to Section 3.

1.. ***Ask:*** What is your name? (1=Child can tell you his/her name, 0=Cannot, 88=Nonresponsive) |____|
   Confirm a nickname with caregiver, if necessary.

2.. ***Ask:*** How old are you? (1=Can tell you how old he/she is; 0=Cannot, 88=Nonresponsive) |____|

3. ***Ask:*** What is the name of the village / estate where you are living now? (1=Can tell you the name of his/her village/estate, 0=Cannot, 88=Nonresponsive) |____|

FO Comments:

SECTION 3. Height Measurements

Read: Now I would like to take height measurements.
Demonstrate how stadiometer works for child.

Do not ask the following questions aloud. Simply record your responses. Perform 3 measurements.

1. ***DOES CHILD OR ADULT REFUSE TO ALLOW CHILD'S HEIGHT TO BE TAKEN?***

(1=Yes, 2=No) |____|
If YES, skip to Section 4. If NO, continue.

    1a. ***Is child able to stand still for height measurement?***   (1=Yes, 2=No) |____|
    If YES, continue. If NO, try again. If still NO, skip to question 8.

2. Stadiometer ID: |____|____|

3. Measurement #1: |____|____|____| . |____| cm (ie. 100.2 cm; 888.8=Couldn't measure)

4. Measurement #2: |____|____|____| . |____| cm (ie. 100.2 cm; 888.8=Couldn't measure)

5. Measurement #3: |____|____|____| . |____| cm (ie. 100.2 cm; 888.8=Couldn't measure)

6. Is the child's hair fully compressible?   (1=Yes, 2=No) |____|
If YES, skip to question 7. If NO, continue.

    6a. ***If no:*** use the stadiometer to measure the thickness of the hair/braids, and record that
    thickness here. |____|____|____| . |____| cm

7. Indicate who assisted with the height measurement: (1=Another IPA FO (indicate ID number);
    2=Parent or caregiver, 3=Other(specify)) |____| _____

8. Was measurement successfully taken?   (1=Yes, 2=No) |____|
If YES, skip to next section. If no, continue.

    8a. Describe why the child's measurement could not be taken:
    _____

SECTION 4. Conclusion of Module

For the questions in this table, do not ask aloud. Simply record your own observations.

1. Were any/all of the assessments conducted with the parent/caregiver sitting with the child?
(1=Yes, 2=No) |____|

2. Were the assessments conducted with the child alone (excepting IPA staff and the
parent/caregiver)?   (1=Yes, 2=No) |____|

   2a. *If NO:* List any individuals who appear to be over the age of 5, using the G4 relationship
     codes. |____| / |____|/ |____|/ |____|/ |____|/ |____|/ |____|

     Other: _____ / _____ /
                _____ / _____

3. Did child take any tests?   (1=Yes, 2=No) |____|
   If YES, continue. If NO, skip to question 4.

During the test administration, the child:

Use the following response codes:
1=Rarely or never
2=Some of the time
3=Most of the time

   3a. Smiled and/or laughed. |____|

   3b. Was easy to engage in tasks (i.e., paid attention and cooperated with requests and
      instructions). |____|

   3c. Showed little interest in tasks. |____|

   3d. Generally showed enthusiasm, excitement, enjoyed tests. |____|

   3e. Was easily distracted from test activities (by noises, other people, etc.). |____|

   3f. Had difficulty transitioning from one item or test to the next one (i.e., did not want to
      give back materials; his/her attention would wander and you would have to re-engage
      them or request that they pay attention to what you are doing). |____|

   3g. Was slow to start working on a new item or task (i.e., although attentive and
      cooperative, child holds back a little before putting all efforts toward the task at hand).
                                                |____|

   3h. Fidgeted or squirmed, but still focused on the tasks. |____|

   3i. Was shy; rarely spoke, but paid attention and complied with test instructions. |____|

   3j. Was withdrawn; avoided eye contact and was reluctant to perform. |____|

   3k. Was moving around a lot, to the point where it disrupted completing tasks. |____|

FO Comments:

3l. Told you that they could not perform a task or activity requested. |____|

3m. Lost focus or attention during a task (i.e., mind seem to wander). |____|

3n. Became anxious or uncomfortable when presented with items that were very difficult.
|____|

3o. Refused to complete a task or test. |____|

4. Where is this interview being conducted? *Answer should be according to CHILD's residence.* |____|
    1 = In person, at child's current residence
    2 = In person, at the child's school (specify, *use E1 codes*)|_____| Other: _____
    3 = In person, at IPA Busia office
    4 = In person, at IPA Nairobi office
    5 = In person, elsewhere (specify) _____

5. Time end assessments: (24 hr clock) |___|___| : |___|___|

FO Comments: