General Equilibrium Effects of Cash Transfers: Pre-analysis Plan (PAP) for Kenya General Equilibrium Study (KGES) Endline 3 (EL3) Child Analysis[1]

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Summary: This document outlines outcomes and regression specifications for estimating the effects of unconditional cash transfers on child health and development as part of the Kenya General Equilibrium Study (KGES) in western Kenya. The project is a two-level randomized controlled trial of the NGO GiveDirectly's unconditional cash transfer program. Transfers were distributed from 2014-16, with a first set of findings described in Egger et al. (2022). As part of a third round of endline surveys, an additional survey with children born shortly before, during, or shortly after the cash transfer window will be conducted throughout the 653 villages within the study area. This document describes the analyses that will be conducted to understand the effects of the program on children's health and development 9 to 11 years after cash transfers were distributed. We specify regression equations and the primary outcomes that we intend to study based on the child survey that will be collected as well as on existing data collected as part of previous rounds. This document is part of a series of pre-analysis plans being filed as part of the broader third endline (EL3) survey data collection activity. We anticipate conducting analyses beyond those pre-specified here, and this document is not meant to preclude additional analyses.

Appendix A: Data management note
Appendix B: Endline 3 Primary Caregiver (PC) Module Survey
Appendix C: Endline 3 Kids Survey

[1] AEA Trial Registry: AEARCTR-0000505, https://www.socialscienceregistry.org/trials/505
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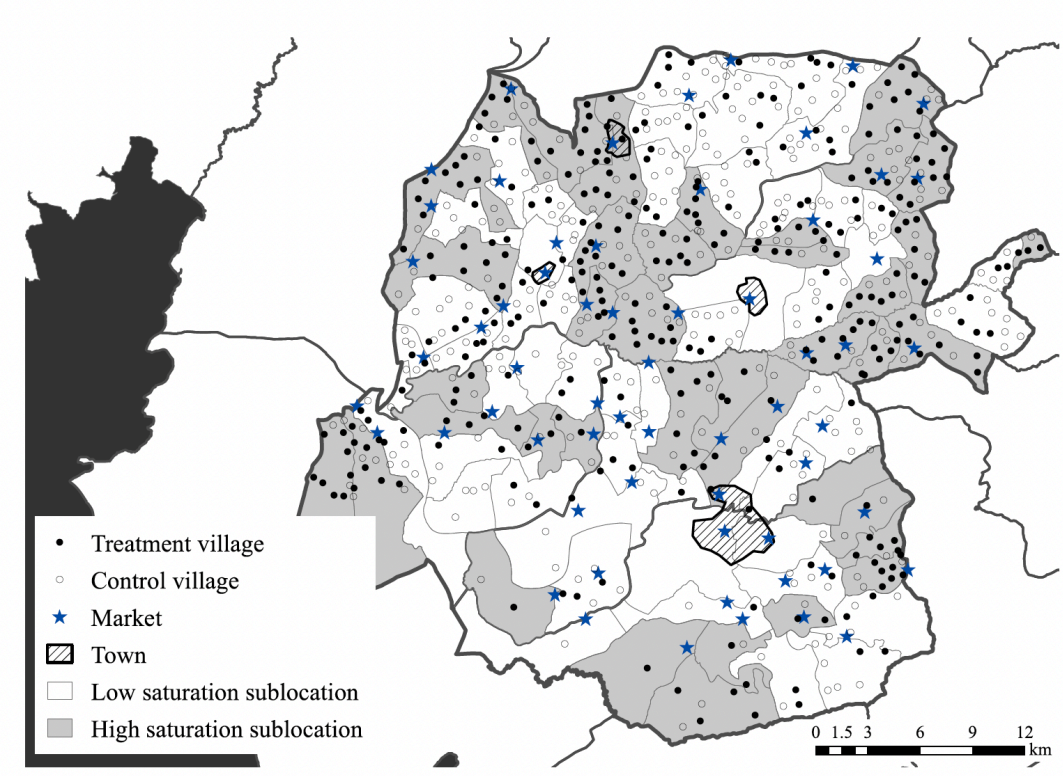
1 Introduction

This document outlines the analysis plan for child health and development data collected between 2014 - 2026 (Baseline, Endline 1, Endline 2, Endline 3), as part of the Kenya General Equilibrium Study (KGES) , a randomized controlled trial (RCT) of an unconditional cash transfer program, where the cash transfers were distributed by the NGO GiveDirectly (GD). In villages selected for treatment, GD transferred around USD 1,000 (nominal) to all eligible households in the village, about 75% of annual expenditure for recipient households. The transfers constituted a shock of about 15% of local GDP at the time that they were distributed. Only households with grass-thatched roofs were eligible to receive transfers, a basic means-test for poverty, and the data indicate that roughly a third of households were eligible in the study area. The intervention involved over USD 10 million in transfers across 653 villages in Siaya County, Western Kenya. Treatment assignment was randomized at the village level, while within treatment villages all households meeting GD's eligibility criterion received the unconditional cash transfer. A second level of randomization provided variation in treatment intensity: sublocations, an administrative unit directly above the village including about ten villages on average, were randomly assigned to either high saturation or low saturation status. In high saturation sublocations, two-thirds of villages were treated, while in low saturation sublocations, only one-third of villages were treated. Figure 1 gives an overview of the study area and experimental design.

Figure 1: Study area and experimental design (from Egger et al. 2022)



Understanding the long-term effects of cash transfers on children is of interest to both the development economics research community and to public policy debates regarding effective poverty alleviation strategies. Children represent a unique and particularly important population for studying the impacts of anti-poverty interventions for several reasons. Aside from children arguably holding a special *a priori* moral weight, it has been shown that many interventions are particularly impactful at shaping individual lives if received during early childhood, potentially shaping children's lives into adulthood. If this is in fact the case, this would substantially amplify the cost-effectiveness of such programs, including potentially cash transfers. Today's children are the citizens and workforce of tomorrow, so improvements in child health, wellbeing, socio-emotional and cognitive development, if persistent, would have meaningful impacts on the process of economic development for many decades.

Despite growing evidence on the short-term effects of cash transfers on child outcomes — including improvements in food security, health care utilization, school attendance, and even survival (Baird et al., 2013; Haushofer and Shapiro, 2016; Egger et al., 2022; Walker et al., 2025) — there is surprisingly limited experimental evidence on whether these gains persist over the medium to long run. The most informative long-run evidence comes from conditional cash transfer (CCT) programs in Latin America: Parker and Vogl (2023) find that childhood exposure to Mexico's Progresa led to higher educational attainment, labor force participation, and living standards for women roughly 15 years later; Barham, Macours, and Maluccio (2024) document sustained schooling, learning, and earnings gains for men a decade after a CCT in Nicaragua; and Araujo and Macours (2021) report persistent benefits in a 20-year follow-up of Progresa's earliest beneficiaries. In sub-Saharan Africa, Baird, McIntosh, and Özler (2019) find sustained educational gains for some subgroups of adolescent girls two to four years after a CCT/UCT experiment in Malawi, though without detectable labor market effects. Yet for unconditional cash transfers (UCT) — the dominant and fastest-growing modality of social protection across much of sub-Saharan Africa — long-run experimental evidence on child outcomes remains notably scarce (Molina-Millán et al., 2019). Most existing UCT evaluations follow children for at most two to three years post-intervention, a timeframe too short to assess whether early improvements translate into durable human capital gains.

This study aims to help fill this gap by examining child outcomes 9 to 11 years after large unconditional cash transfers were distributed to households in rural Kenya. The children in our sample were born between 2014 and 2017 and were therefore at various stages of early development — from in utero through early childhood — when transfers were made, placing them squarely within the critical period during which investments are most likely to generate lasting developmental effects. At the time of measurement, these children are approximately 8 to 12 years old, an age at which meaningful differences in educational progress, cognitive development, nutritional status, health, and socio-emotional wellbeing can be reliably assessed. This study thus provides some of the first long-run experimental evidence on whether the

short-term child benefits of unconditional cash transfers persist nearly a decade later, and does so in a general equilibrium setting in which both direct recipients and their neighbors were potentially affected (Egger et al., 2022; Walker et al., 2025).

This analysis examines child outcomes using data collected at KGES Endline 3, approximately 9 to 11 years after the cash transfers were distributed, complemented by earlier rounds of data, where appropriate. As such, this document draws heavily on previously filed pre-analysis plans and existing working papers, updating earlier regression specifications and outcomes to be appropriate for the proposed analysis, and also incorporating innovations in applied econometric and statistical methods. (These earlier pre-analysis plans are described in Section 1.1 below.)

Broadly, there are four components to this analysis:

1. **Estimating long-term effects of cash transfer receipt on the human capital and development of recipient households' children.** We examine effects on children born between 2014 and 2017 in study area households, a cohort that was at various stages of early development (in utero through early childhood) when the cash transfers were distributed. The primary instruments for this analysis are the EL3 Kids Survey and Primary Caregiver (PC) Survey.

    1.1. The Kids Survey directly assesses children's cognitive abilities (including literacy, numeracy, vocabulary, and executive function), non-cognitive skills (including socio-emotional wellbeing, resilience, locus of control, aspirations, and gender attitudes), food security and diet quality, economic preferences (time, risk, pro-sociality, and ambiguity aversion), and anthropometric and biomarker measures (height, weight, blood pressure, and hemoglobin). Many of these measures draw on or parallel instruments that have been validated and deployed among children of similar ages in the Kenyan context, including through the Kenya Life Panel Survey (Duhon et al., 2024; Walker et al., 2023).

    1.2. The PC Survey provides detailed measures of child health, development, education, home environment, and caregiver-child relationships as reported by the primary caregiver approximately 9 to 11 years post-intervention (cash transfer receipt).

    Together, the Kids Survey and PC Survey provide complementary directly-assessed and caregiver-reported measures of child welfare.

2. **General equilibrium and spillover effects on both recipient and non-recipient children.** We leverage the two-level experimental design to identify spillover effects on children in both recipient households in non-recipient households (namely, both eligible households in control villages and ineligible households in treatment villages). These spillovers may operate through local economic multipliers, changes in local prices and

wages, peer effects, and/or shifts in local service provision, some of which we may be able to explore with the data.

3. **Heterogeneous effects by developmental stage and timing of cash transfer exposure.** We will examine whether treatment effects differ based on children's age and developmental stage at the time of transfers (i.e., *in utero*, infancy, and early childhood), the intensity and duration of exposure during critical developmental windows, and cumulative exposure effects across children's life courses, including variation driven by local cash transfer spillovers. The randomized timing of the roll-out of cash transfers across villages (discussed in Egger et al 2022) generates exogenous variation in child age at the time of cash transfer receipt for children in the 2014–2017 birth cohorts studied here, and similarly for the timing of transfers received in nearby villages (which could generate spillover effects).

4. **Heterogeneous effects by household and child characteristics.** We examine heterogeneity by child gender and household-level characteristics including household income, parental education and occupation, and number of siblings. We note that cash was *not* randomly distributed to female versus male household members (see Walker et al, 2025), so we cannot examine heterogeneity by gender of the cash recipient.

5. **Mechanisms and pathways.** We also explore the channels through which cash transfers might affect child welfare, including through changes in household expenditures on education and health, parental time allocation, access to services, household composition dynamics, and general equilibrium effects operating through the local economy.

The primary data for this analysis come from the EL3 Kids Survey and Primary Caregiver (PC) Survey, administered to children born 2014-2017 who were identified through a birth census of women residing in study area households during the 2023 EL3 household census (see more details in sections 2.3 and 2.3.1). This pre-analysis plan focuses on child welfare outcomes and complements earlier pre-analysis plans filed as part of EL3 data collection activities, including plans regarding the estimation of impacts on child mortality (Egger et al. 2023) and household and local economy effects (Egger et al. 2025). We may file additional pre-analysis plans for analysis using the EL3 data in the future. There may also be additional analyses based on these data in the future that go beyond what is laid out in the various PAPs.

Data collection for both the EL3 Kids Survey and PC Survey began on November 24, 2025, and is ongoing, with fieldwork expected to conclude in fall 2026. We are filing this PAP in April 2026, with child survey data collection ongoing. **To date, no member of the research team has linked the child welfare data to treatment indicators nor estimated any treatment effects on the outcomes specified in this plan.** Related to this, please see the attestations along these lines included as an appendix to this PAP. After filing this plan, we will begin estimating pre-registered treatment effects for the child welfare outcomes.

1.1 Relation to previous work

This pre-analysis plan builds on a series of earlier pre-analysis plans filed for the KGES project as part of data collection in previous rounds (see the "Analysis Plan" section of the AEA Trial Registry for a full list). Moreover, it builds on analyses published in Egger et al. (2022), as well as ongoing analyses of Endline 2 data, which suggests there is some persistence in economic gains for household consumption and assets, among other effects, and Haushofer et al. (2025), which investigates potential tradeoffs between targeting transfers to individuals based on expected deprivation versus expected impact. This PAP also directly builds on the analysis of child survival presented in Walker et al. (2025), which documents large reductions in under-5 mortality associated with the cash transfer intervention. In this PAP, we err on the side of brevity to avoid repetition, as much of the detail and thought development can be found in these earlier documents.

2 Research Design

2.1 Sampling and treatment assignment

The KGES project takes place in Siaya County, Kenya, a rural region in western Kenya near Lake Victoria. Siaya County is predominantly composed of ethnic Luos, the second largest ethnic group in Kenya. GD selected the study region based on its high poverty levels, and identified specific target subregions for expansion; in practice, sample villages were most villages within the region that a) were not located in peri-urban areas and b) were not part of a previous GD project. This gives a final sample of 653 villages, spread across 84 administrative sublocations (the unit above a village), and 3 constituencies within the County.

The project uses a two-level randomization design to generate variation that can be utilized to identify spillover effects. We randomly assigned sublocations (or in some cases, groups of sublocations) to high or low saturation status. Then, within high saturation groups, we assigned 2/3 of villages to treatment status, while within low saturation groups, we assigned 1/3 of villages to treatment status. As noted above, within treatment villages, all eligible households received a cash transfer. This randomization was shared with GD, which implemented the assigned treatment with a degree of fidelity to the design (see Egger et al 2022 for more details).

At baseline in 2014-2015, KGES censused approximately 65,000 households in the study region. A random sample of households were then drawn for detailed household surveys at baseline; these households were followed up at both Endline 1 and Endline 2. Additionally, at Endline 2, we added a random sample of new households to the sampling frame in order to maintain representativeness in the study region. A similar approach was taken for Endline 3 household census data collection (in 2023) and for household surveys (in 2024-2025). The current data collection (launched in 2025 and continuing into 2026) focusing on child and parent/caregiver surveys builds on these earlier data collection activities during EL3.

2.2 Intervention

GD provided unconditional cash transfers to poor households in rural Kenya, targeting (for villages in the current study) households living in homes with thatched roofs, a basic means-test for poverty. In treatment villages, GD enrolled all households in treatment villages meeting its thatched-roof eligibility criteria ("eligible" households); approximately one-third of all households were deemed eligible at baseline. No households in control villages received transfers. Eligible households enrolled in GD's program receive a series of 3 transfers totaling about USD 1,000 via the mobile money system M-Pesa.[2] This was a one-time program and no

[2] The total transfer amount was 87,000 Kenyan Shillings (KES). The average exchange rate at baseline from 9/1/2014 to 4/30/2016 was 97 KES/USD.

additional financial assistance were provided to these households after their final large transfer; households were informed of this and GD has in fact not gone back to this region with additional cash transfers. For further details on the intervention, see Egger el al. (2022) and Haushofer et al. (2017).

2.3 Data

The analyses outlined in this document will be primarily based on a new round of data collected in 2025-2026 as part of Endline 3, roughly 10–11 years after the GD cash transfers went out, as highlighted in the approximate timeline below:

- 2014–2015: Baseline (pre-intervention)
- 2014–2016: Intervention
- 2014–2017: Midline
- 2016–2017: Endline 1
- 2019–2021: Endline 2
- 2023–2025: Endline 3, Census plus Household and Enterprise surveys
- **2025-2026: Endline 3, Child and Parent/Caregiver (PC) surveys**

Earlier and completed activities for Endline 3 (at the time of writing) include a household census, enterprise census, household surveys, and enterprise surveys. The focus of this pre-analysis plan is new to this round, namely, two dedicated child-focused instruments: the Primary Caregiver (PC) Survey and the Kids Survey. For this PAP, we primarily focus on the PC and Kids Surveys, which target children identified through a birth census conducted during the 2023 EL3 household census (April–September 2023). During the EL3 census, enumerators recorded the birth histories of all women residing in study area households (including those who had been living in the study area at baseline but no longer reside locally), and from these records we identified **all children born between January 1, 2014 and December 31, 2017, namely, those born in the period just before, during and just after the GD cash transfers were distributed in the study region.** (Note that this birth census is the main new data source for the Walker et al. (2025) paper on infant and child mortality.) The surviving children born in this window are the key analysis sample for the proposed analysis here. Unlike the household surveys, which draw from a representative sample of study area households using inverse probability weights, the PC Survey and Kids Survey were administered to this birth census sample—a substantially larger and more complete enumeration of the target birth cohort than would be available from the representative household survey sample alone (see Section 2.3.1 for details).

This analysis complements the child mortality analysis pre-specified in Egger et al. (2023) and analyzed in Walker et al (2025), which focuses specifically on under-1 and under-5 mortality and causes of death using verbal autopsy data collected in both the EL3 household census and later

household surveys. While the mortality analysis examines survival outcomes for all births since 2011 to women who have lived in study area households, the child welfare analysis laid out here focuses on broader measures of child wellbeing—including cognitive and socio-emotional development, home environment investments, caregiver-child relationships, educational outcomes, and anthropometric and biomarker measures—for all children whether they are currently residing in the study area or if their household has moved elsewhere in Kenya.

We next describe the construction of the child sample for the PC Survey and Kids Survey (Section 2.3.1), followed by a brief description of the household survey child outcomes used as a secondary data source (Section 2.3.2).

2.3.1 Child Sample from the PC Survey and Kids Survey

As noted above, as part of KGES Endline 3 the team is administering two dedicated child-focused instruments: the Primary Caregiver (PC) Survey and the Kids Survey. The PC Survey collects detailed information on child health, development, education, home environment, and caregiver-child relationships as reported by the primary caregiver. The Kids Survey directly assesses children's cognitive skills, non-cognitive skills, food security and diet quality, economic preferences, and anthropometrics and other biomarkers. Both instruments are new to KGES at Endline 3 and were not administered in earlier survey rounds; they are drawn from similar instruments that have been collected in the Kenya Life Panel Survey (KLPS) in recent years (see Fernald et al., 2019 and Baird et al., 2025 pre-analysis plans and the Duhon et al., 2024 paper). This section describes the procedure by which children were identified and sampled for these instruments.

Sampling from the birth census. Critically, the child sample for the Kids Survey and PC Survey was constructed using a birth census approach rather than being drawn from the representative household survey sample, allowing for a larger sample size. During the 2023 EL3 household census, enumerators recorded the birth histories of women residing in study area households at any point since 2011, including the dates of birth and survival status of all children. From these birth histories, we identified all children born between January 1, 2014 and December 31, 2017—a cohort that would be approximately 9 - 12 years of age at the time of the Endline 3 PC Survey and Kids Survey (collected from late 2025 through 2026, projected). This birth census approach was adopted because relying solely on the representative household survey sample would not have yielded a sufficient number of children in the target age range to ensure adequate statistical power for detecting moderate treatment effects on child outcomes. (Note that we also carried out surveys and birth census data collection among a representative subset of households that had moved out of the study area by 2023, as part of the EL3 Household Survey and the resulting children identified in this activity are included in the collection of Kids and PC Surveys discussed here. They can be weighted up in the analysis to maintain representativeness with the baseline sample of households residing in the study area. In all, there are approximately

200 households who moved out of the study area who had children in the relevant birth cohort window.) The birth census captures a substantially larger and more complete enumeration of the target birth cohort across the study area, providing the sample size necessary for well-powered analysis of child welfare outcomes.

These birth years were chosen to capture children who were at various stages of early development — namely, in utero through early childhood — when the GD cash transfers were distributed between 2014 and 2016, and who would be roughly of primary school age at the time of the EL3 survey. While it would be interesting both from a scholarly and policy perspective to examine an even wider range of child ages (i.e., those who were older when the cash transfers went out or those born several years after the transfers) the project chose to focus on this age range given the concentrated timing of cash transfers on infant mortality (in Walker et al 2025), the fact that many interventions have been shown to be particularly effective when received in utero or in the first two years of a child's life, and also due to the project budget.

In the EL3 Kids and PC surveys, enumerators confirm the identity of eligible children using pre-filled birth information from the census, verifying whether children with births recorded in the eligible years were currently living in the household (PC Section 1, Q4a–4e). We still follow and survey children even in cases where households move out of the study area (as noted above) or split off from the original household. For each confirmed child currently residing in such a household, the survey identified a primary caregiver available to respond to the PC Survey (PC Section 1, Q5). The primary caregiver then completed the full PC Survey interview, which covers child health and development (Section 3), sleep patterns (Section 4), home environment (Section 5A), educational investments and reading (Section 5B), educational expectations (Section 5C), the Strengths and Difficulties Questionnaire (Section 6), the caregiver-child relationship scale (Section 7), and the sleep home environment (Section 8).

The Kids Survey was administered directly to the same children, covering cognition (Kids Section 1: animal naming, PPVT, Uwezo literacy and numeracy assessments, making change, digit span, and Raven's test), non-cognitive skills (Kids Section 2: CES-D, sleep, physical activity, resilience, locus of control, aspirations, gender attitudes, support system, voice, identity, political knowledge, academic self-concept, reading motivation, and reading practices), food security and diet quality (Kids Section 3), economic preferences (Kids Section 4: time, pro-sociality, risk, and ambiguity preferences), and anthropometrics (Kids Section 5: height, weight, blood pressure, and hemoglobin).

In cases where there were multiple children in the same household who were born in the specified birth cohort window, we attempted to survey all of them.

Implications for analysis. Because the child sample is drawn from the birth census rather than the representative household survey sample (although movers are drawn from the household survey sample and can then be reweighted to maintain representativeness), the PC Survey and

Kids Survey analyses use the universe of children born 2014–2017 identified in the census (conditional on being located and assessed at survey time), rather than solely on a probability-weighted subsample. We note that this sampling approach means the child-level analysis sample is distinct from—and substantially larger than—the subset of children who happen to reside in households drawn into the representative household survey sample (although as noted above, this latter sample is critical for us in identifying relevant children in households that have moved out of the study area).

2.3.2 Household Survey Child Outcomes

We also draw on a relatively small number of child-related outcomes from the EL3 Household Survey. These outcomes—including school enrollment, attendance, education expenditure, child health ratings, and child food security—are collected at the household level as part of the representative household survey, and were only collected in that survey and not in the Kids Survey or PC Survey. Unlike the PC Survey and Kids Survey, the household survey has been administered across multiple rounds (Baseline, Endline 1, Endline 2, and Endline 3), and equivalent child-related measures were collected in earlier rounds. The household survey sample is constructed using a representative sampling approach with inverse probability weights, as described in detail in Egger et al. (2024) and the EL3 household and local economy effects PAP (Egger et al. 2025). We refer readers to those documents for full details on household survey sampling, household categories, and weight construction. The specific household survey child outcomes we analyze are described in Section 4.11. Some of these child outcomes were specified in earlier KGES PAPs.

3 Empirical Strategy

3.1. Overview and Samples

The econometric analysis follows the KGES project's core empirical strategy used in prior rounds, updated to incorporate Endline 3 (EL3) Kid Survey and PC Survey data. We first estimate impacts on children born in recipient (eligible) households in treatment villages, then estimate impacts on children born in eligible households in control villages, which capture across-village spillover and general equilibrium effects. We also report pooled specifications combining treatment and control village eligible households as a complementary summary of program impacts at the local-area level.

We typically plan to follow an empirical strategy similar to that documented in Egger et al. (2021a) and Egger et al. (2021b). In this section, we outline areas where we have refined our methodology and explain the reasons for these updates and the revised approach in detail, especially in the context of the new Kids Survey and PC Survey instruments.

3.2. Effects on recipient households (reduced form)

Recipient households experience both direct effects of cash as well as potential within and across-village spillovers. A relatively crude way of capturing these spillovers, but one we consider a useful benchmark is the following specification which we run for children born in eligible households present in the study area at the time of transfers:

$$y_{civs} = \alpha_1 Treat_v + \alpha_2 HighSat_s + \delta_1 y_{ivs,t=0} + \delta_2 M_{ivs} + AGExGENDER_c + \varepsilon_{civsw} \quad (1)$$

where y_{civs} is an outcome for child c in household/individual *i* in village *v* and sublocation *s* (at Baseline), $Treat_v$ is an indicator for village *v* being treated, and *HighSat* is an indicator for sublocation *s* being allocated *high* saturation status (i.e. ⅔ of villages being treated in *s*, as opposed to ⅓ in low-saturation sublocations). We include the baseline value of the outcome variable ($y_{ivs,t=0}$), when available, to improve statistical precision, set to the mean if missing and an indicator for missingness (M_{ivs}); that said, given that the Kids Survey and PC Survey are new instruments in EL3, we typically will not have such baseline values. $AGExGENDER_c$ is a vector of fixed effects for the child's age and gender at the time of the assessment (with age measured in semesters since birth); we include these because the 2014-2017 birth cohort spans a range of ages at assessment and because developmental outcomes differ often systematically by gender

and age and these fixed effects may improve precision.[3] For outcomes drawn from the earlier EL3 household survey (and/or earlier rounds), we weight observations by inverse sampling probabilities to be representative of the population of eligible households. We do not generally weight outcomes for the child census sample, other than for the households that have moved out of the study area (since these are based on the representative household survey sample rather than the census).

The primary parameter of interest is the high-saturation effect $\alpha_1 + \alpha_2$ which captures the direct effect of treatment on recipients, any potential spillovers on treated households within treatment villages, and across-village spillovers *within* sublocations. Following Walker et al. (2025), we focus on the combined effect of $\alpha_1 + \alpha_2$ because of evidence that across-village spillovers are important to child survival. We cluster standard errors at the sublocation level given the level of randomization. We note that α_1 provides a valid estimator for the reduced-form effect of cash receipt (plus within village spillovers). In the event that across-village spillovers are not important, we may therefore focus on α_1 alone and cluster standard errors at the village rather than sublocation level. Since administrative sublocation boundaries in the study context are relatively unimportant for economic activity, with substantial interactions across borders, and no meaningful social or ethnic divides, we believe that α_2 is unlikely to capture the full range of spillovers. Therefore, the main spillover measure will be captured in equation (2) in the next subsection 3.3.

3.3 Spatial spillovers and total effects (amounts-based IV)

To better capture the full spatial dimension of spillovers, we estimate the following specification for eligible households present in the study area at Baseline:

$$y_{civ} = \alpha + \beta Amt_v + \sum_{r=2}^{\bar{R}} \beta_r Amt_{v,r}^{\neg v} + \delta_1 y_{iv,t=0} + \delta_2 M_{iv} + AGExGENDER_c + \varepsilon_{civ} \quad (2)$$

where Amt_v is the total per-capita amount transferred to village *v,* $Amt_{v,r}^{\neg v}$ is the total per-capita amount transferred to households in a buffer of r-2 to r km around the village centroid of village *v*, and all other variables are defined as above.

The Amt variables depend on both the random assignment of villages to treatment and on the endogenous share of households in those villages eligible for transfers. To overcome this endogeneity, we use an "interacted" instrument set that fully leverages knowledge of the experimental design.

[3] As noted below, there may be endogenous fertility responses to the cash transfer treatment for certain age groups, in which case inclusion of detailed age covariates could be considered a case of "bad control". If the fertility and selection patterns laid out below indicate that this is a concern, we will also re-run the analysis without the child age fixed effects and may instead analyze treatment effects by age subgroup and then reweight the collection of estimates accordingly to generate an average treatment effect.

Let s_v^e denote the share of household eligible in village v and $s_{\neg v,r}^e$ the share of eligible households in an r kilometer radius excluding v. Under homogeneous treatment effects, the efficient vector of instruments is obtained by controlling for s_v^e and $s_{\neg v,r}^e$ in equation 2, then instrumenting for the *Amt* variables using $Treat_v$, $s_{\neg v,r}^{e,t}$, $Treat_v \cdot s_v^e$ and $s_{\neg v,r}^{e,t} \cdot s_v^e$. Intuitively, a treated village with almost no eligible households received much less cash than a treated village where many households were eligible. The interacted terms in the instrument vector capture this heterogeneity, and the inclusion of each of the share of eligible households variables as controls purges the endogeneity of the eligibility share. This instrument set has better efficiency properties than the instrument set used in Egger et al. (2022) under homogeneous treatment effects with respect to the share of eligible households in an area, and was used in the analysis of infant mortality in Walker et al. (2025).

To account for spatial correlation, we report spatial HAC standard errors using the positive definite kernel

$$K_{ij} = 1(d_{ij} \leq 10) \cdot \left(1 - \frac{d_{ij}}{10}\right)^2 \quad (3)$$

where 1(.) is the indicator function and d_{ij} is the distance in kilometers between observations *i* and *j*. This kernel improves on the uniform kernel used in earlier work (Egger et al. 2022), which is not positive definite and can produce complex standard errors in the presence of negative spatial autocorrelation — a problem we encountered for a non-trivial share of outcomes in the Endline 2 data. The positive definite kernel also allows us to use spatial wild bootstrapped standard errors (Conley et al. 2023) when needed.

We select the maximum radii band included in the main specification ($\bar{R}$) as in Egger et al. (2022), by first estimating a series of nested models with the outer limit *R* varying from 2 to 20 km, and then selecting the model which minimized the Schwarz Bayesian Information Criterion (BIC). In addition to the maximum radius selected by this procedure, we will also analyse effects using $\bar{R_{SR}}$, where $\bar{R_{SR}}$is the 'optimal' radius selected in the short run in existing work, for most outcomes at 2 km with a few exceptions at 4 km (Egger et al. 2022). If effects remain strongly localized as in Egger et al. (2022), we may additionally explore the spatial structure of spillovers, by defining smaller increments between radii bands.

The main parameter of interest is the average "total effect" in high saturation sublocations (including direct, within-village and across-village spillovers) experienced by recipient households, as in Walker et al. (2025). We calculate these by multiplying the estimated coefficients of Equation (2) by the average values of the regressors, i.e.

$$\hat{\beta} \cdot (Amt_v | i \text{ is an eligible high sat recipient}) + \sum_{r=2}^{\bar{R}} \cdot (Amt_{v,r}^{\neg v} | i \text{ is an eligible high sat recipient})$$

3.4. Effects on non-recipient households

Non-recipients are only composed of eligible households in control villages, as we do not collect Kids Survey or PC Survey data on ineligible households. These households experience indirect effects of cash transfers through across-village spillovers. We concentrate here on Baseline eligible households, as we do throughout the above analysis of Eligible households' children. (Note that new households' decision to move into the study area may be impacted by cash transfers as well, as another local area spillover effect, but given the possibility of non-random selection including children from these later mover households in the analysis could introduce bias. We consider these effects part of the impacts of cash on the local area and economy in other pre-analysis plans as outlined in Section 1 above.) Here, the aim is to compare the effects on recipients to non-recipients living in the study area at Baseline, and we estimate:

$$y_{civ} = \alpha + \sum_{r=2}^{\bar{R}} \beta_r Amt_{v,r} + y'_{iv,t=0} \cdot \delta + AGExGENDER_c + \varepsilon_{civ} \quad (4)$$

where $Amt_{v,r}$ is the per-capita amount of cash transferred into the *r-2* to *r* km buffer around the centroid of village *v*, $Elig_{iv}$ is an indicator for household *i* being eligible at baseline, and $y'_{iv,t=0}$ is a vector of the baseline value of y_{iv} (set to the mean if missing) and an indicator for missingness.

We instrument for $Amt_{v,r}$ using the share of eligibles within buffer *r* around village *v* allocated to treatment ($s^{e,t}_{v,r}$) and the interacted instruments ($s^{e,t}_{v,r}$ and $s^{e,t}_{v,r} \cdot s^{e}_{v,r}$, controlling for $s^{e}_{v,r}$ in (4)). We plan to focus on estimates using Conley (2016) standard errors with the positive definite kernel defined in (3). The procedure for determining $\bar{R}$ will be the same as noted above for Equation (2).

The main parameter of interest here regarding spillovers is the 'total effect' on non-recipient households, which is the average effects experienced by eligible households in control villages. This is calculated as:

$$\sum_{r=2}^{\bar{R}} \hat{\beta}_r^1 \cdot (\bar{Amt}_{v,r} | i \text{ is an eligible non-recipient})$$

The main specifications (1), (2) and (4) do not include any covariate adjustments, since Egger et al. (2022) found these to leave main results largely unchanged (as expected, perhaps, given the randomized experimental design). We may consider additional specifications with covariate adjustments as described in Haushofer et al. (2017) if this meaningfully increases the precision of the estimates.

3.5 Bounding for Differential Child Survival and Fertility

A distinctive feature of this analysis is that the cash transfer intervention itself may have affected the composition of the child population observed at Endline 3 through at least two distinct channels. First, Walker et al. (2025) show that unconditional cash transfers led to approximately 48 percent fewer infant deaths before age one and 45 percent fewer child deaths before age five in treated areas. In levels, this translates to roughly 20–25 additional surviving children per 1,000 births in treated areas, corresponding to approximately 2 to 2.5 percent of the child population born during the study period, a non-trivial share. Crucially, Walker et al (2025) show that these mortality reductions were concentrated among the poorest households—those with below-median assets and predicted consumption, using the measures in Haushofer et al. (2025)—and among births occurring close in time to receipt of the transfer, indicating that the marginal survivors are disproportionately drawn from the lower tail of the socioeconomic distribution. The survival channel thus likely introduces *negative selection* into the treatment group: the inclusion of disadvantaged "marginal" survivors should attenuate any estimated positive treatment effects on child outcomes.

Second, Walker et al. (2025) document a transient increase in fertility of approximately 10 percent in treated areas over the 2015-2017 birth window – the period during which transfer receipt could plausibly have affected conception decisions. Because the 2014 birth cohort in our analysis predates any possible transfer-induced effect on fertility, the net fertility differential for the full 2014-2017 window relevant to this study (targeted for the Kids Survey and PC Survey for this PAP) is expected to be somewhat smaller. Unlike the survival channel, the direction of selection introduced by differential fertility is ambiguous ex ante. For instance, if households with greater post-transfer resources were more likely to have additional children, and if these households also provide better child-rearing environments, the additional births could be positively selected in terms of child outcomes, biasing estimated treatment effects upward. Conversely, if the fertility response was concentrated among poorer households, it could reinforce the negative selection already noted from the survival channel. It is also possible that the fertility response is largely unrelated to the determinants of child outcomes, in which case the additional births would increase sample size without introducing systematic selection bias. We therefore face a setting in which two selection processes operate simultaneously: the survival channel creates an unambiguous (we believe) downward bias, while the fertility channel may create upward bias, downward bias, or no bias at all depending on "who" the marginal births are.

Importantly, while these effects are substantively meaningful, both are moderate in magnitude—the survival differential is approximately 2 percent and the fertility differential somewhat below the 10 percent Walker et al. (2025) document for the 2015-2017 window (as noted above). The total excess of children in the treatment group relative to control reflects the net of these two forces. Because the differentials are not enormous, the nonparametric bounds we construct may be reasonably informative, particularly if treatment effects on child outcomes are

small or close to zero. It is also worth noting that finding in Walker et al (2025) that there is no differential fertility for those born or conceived of before cash transfers were received, which may help in allowing us to bound effects, since for these children only the first selection effect (downward) should apply.

We address the resulting sample selection concerns through several complementary strategies. The primary approach applies the trimming bounds of Lee (2009), which provide sharp nonparametric bounds under random assignment and a monotonicity assumption (Section 3.5.2). We tighten these bounds by conditioning on pre-treatment covariates that predict heterogeneous survival effects (Section 3.5.3), and consider the generalized Lee bounds of Semenova (2025), which use machine learning to incorporate a richer set of covariates (Section 3.5.4). To further disentangle the survival and fertility channels, we exploit variation in children's birth timing relative to the transfer, partitioning the sample into subgroups that face different combinations of selection pressures (Section 3.5.5), i.e., since some forms of selection bias are not relevant for certain subgroups, such as those born or in utero before cash transfer receipt (as noted above). We then discuss the challenge of separating selection effects from heterogeneous treatment effects by exposure timing (Section 3.5.6). Finally, if the Lee bounds prove uninformative, we will consider structural approaches to selection that impose additional assumptions on the selection process. These structural methods are inherently more speculative and assumption-dependent, and we do not pre-specify them in detail; their form will depend on the patterns of selection observed in the data, as well as any innovations in applied econometric methods that emerge in the coming years.

3.5.1 Identification Challenge

The identification challenge can be formalized as follows. Let $S(z) \in \{0,1\}$ denote whether a child is observed in the EL3 analysis sample as a function of treatment assignment $z \in \{0,1\}$, where $S = 1$ indicates that the child survives to the time of EL3 and is present in the sample for analysis. Let $Y(z)$ denote a child outcome of interest. We observe Y only when $S = 1$. The estimand of interest is the average treatment effect among "always-observed" children—those who would appear in the sample regardless of treatment assignment: $E[Y(1) - Y(0) \mid S(0) = 1, S(1) = 1]$. (As an aside, it's interesting to note that the unconditional treatment effect disregarding selection may also be important for policy, i.e., even if the treatment benefited those who are "always observed", if it greatly increases the number of "marginal" surviving kids, the average ability of children in the study area could fall, and this could be relevant for education policymakers, for instance. In some ways this parallels distinctions between the treatment effects among baseline sample households versus local economy treatment effects, allowing for in and out movers, that we noted in earlier pre-analysis plans, e.g., Egger et al. 2021b. (A further issue that we do not focus on here would be a potential SUTVA violation due to negative congestion effects in local classrooms from higher rates of child survival, increased fertility, and/or higher

rates of school attendance/enrollment. Our prior is that this is unlikely given the size of the effects but is something that we can examine in exploratory analysis.)

This parameter is not directly identified because the treatment group in this study contains excess children who would not have appeared in the sample absent the intervention. These excess children enter through two main channels. The survival channel adds marginal survivors—children with $S(0) = 0$ and $S(1) = 1$—who would have died without the transfer, as documented in Walker et al (2025). The fertility channel (also documented in the same paper) adds children who would not have been conceived absent the transfer. In both cases, the counterfactual outcomes of these "excess" children under the control condition are unobserved, making it impossible to cleanly separate the "always-observed" children from the "excess children" in the treatment group.

The standard monotonicity assumption—that treatment weakly increases the probability of being observed for all children—seems plausible in this setting. For the survival channel, monotonicity seems highly plausible: cash transfers do not cause any child to die who would otherwise have survived. The relevant mechanisms documented in Walker et al (2025) —increased hospital deliveries, improved maternal nutrition, and reduced labor supply around childbirth—all operate in the direction of weakly improving survival for every child. For the fertility channel, monotonicity requires that the transfer does not prevent (or delay, to outside the birth cohort window for inclusion) the conception of any child who would otherwise have been born in the relevant years. This also seems plausible to us in our setting, where unconditional cash transfers relax household budget constraints without creating obvious incentives to forgo childbearing, although it appears more debatable than the assumption regarding survival. The net positive fertility effect documented in Walker et al. (2025) – approximately 10 percent for the 2015-2017 births, and is somewhat smaller over our 2014-2017 window (see section 3.5) – is consistent with this: cash enables some additional conceptions while plausibly not preventing any that would have occurred in the absence of the transfer. We note, however, that this is a substantive assumption—if, for example, cash transfers enabled adolescent or young adult girls to remain in school and delay fertility, some conceptions that would have occurred under the control condition might not occur under treatment. Similarly, if the cash transfer provides a temporary opportunity to start a new small business, a young woman may delay childbearing for a couple of years while it gets off the ground. We view this as unlikely to be quantitatively important in our setting (given the modest overall fertility effects documented in the Walker et al 2025 paper), but we cannot rule it out entirely.

Under monotonicity, the control group contains only always-observed children, so the observed control mean $E[Y \mid S = 1, z = 0]$ identifies $E[Y(0) \mid S(0) = 1]$ without bias. The identification problem is therefore confined to the treatment group, where the observed mean reflects a mixture of always-observed children and excess children whose composition and outcome distribution are unknown. While this may not be entirely uncontroversial, as noted above, we believe this is a plausible starting assumption and proceed accordingly in what follows.

3.5.2 Lee (2009) Bounds

The primary approach follows Lee (2009), who develops sharp nonparametric bounds on the average treatment effect under random assignment and monotonicity of the selection response. The procedure trims the treatment group's outcome distribution to equalize the expected number of observed children per baseline-eligible household between treatment and control. Let p_0 and p_1 denote the average number of observed children per baseline-eligible household in control and treatment villages, respectively – i.e. children born between 2014-2017 to baseline-eligible households who are alive at EL3 and successfully observed in the analysis sample, divided by the number of baseline-eligible households. Under the monotonicity assumption established above, $p_1 \geq p_0$; in our setting, we expect $p_1 > p_0$ because both survival gains and the net fertility increase contribute to a larger observed child population in treatment areas. The proportion of excess children in the treatment group is $q = 1 - p_0/p_1$. The upper bound on the treatment effect trims the bottom q-fraction of the treatment outcome distribution (removing the worst-performing children, yielding the most favorable estimate of the treatment effect), while the lower bound trims the top q-fraction (removing the best-performing children, yielding the least favorable estimate).

The trimming proportion is determined by the overall difference in observed child populations between treatment and control, which captures the combined net effect of both channels. The standard Lee bounds are agnostic about the composition of the excess children: they bound the treatment effect under the best-case and worst-case assumptions about where in the outcome distribution these children fall. For the survival channel alone, we have strong priors supported by evidence that the marginal survivors are negatively selected: mortality reductions were concentrated among the poorest households, suggesting the upper bound is the more policy-relevant quantity when survival selection is the dominant force. However, the fertility channel introduces additional excess children whose position in the outcome distribution is unknown ex ante—they could be drawn from the upper tail, the lower tail, or the middle of the distribution, depending on the characteristics of households that responded to the transfer with increased fertility.

As detailed below, evidence from Walker et al. (2025) allows us to credibly isolate subgroups affected by the survival channel alone, the fertility channel alone, or both mechanisms based on birth timing relative to the experimental start date. We therefore plan to apply the appropriate bounds within each subgroup, then aggregate these partially identified sets to obtain an overall estimate so long as differential survey responses do not create the need to estimate two-sided bounds in additional cases. Details are provided below.

3.5.3 Tightening Bounds with Covariates

While the standard Lee bounds provide a transparent baseline, they may be wider than necessary because they impose worst-case assumptions uniformly across the entire outcome distribution.

Lee (2009) shows that bounds can be sharpened by conditioning on pre-treatment covariates. The intuition is that one first partitions the sample into cells defined by baseline characteristics, then computes cell-specific trimming proportions based on the within-cell difference in survival rates between treatment and control. Cells where treatment had a large effect on survival require more trimming, while cells where survival was largely unaffected require little or no trimming and effectively contribute point-identified treatment effects. The cell-specific bounds are aggregated using density weights, and the resulting conditional bounds are weakly tighter than the unconditional bounds.

We plan to exploit the rich heterogeneity in mortality treatment effects documented in Walker et al. (2025) to tighten our bounds. The paper establishes that survival gains were concentrated among children in poorer households (below-median assets and predicted consumption) and among births occurring close in time to the transfer. This heterogeneity provides direct guidance for the bounding exercise: cells with larger survival differentials require more trimming, while cells with negligible differentials contribute nearly point-identified treatment effects.

We propose a two-step procedure that leverages both the household survey and the census-based child sample. In the first step, using the household survey sample (which contains detailed asset and consumption data), we estimate heterogeneous treatment effects on child survival across cells defined by observable characteristics—including maternal age, maternal education, household size, and baseline asset ownership. We construct cells by interacting binary (above/below median) indicators for these characteristics, yielding a partition of approximately 8–16 cells. In the second step, we carry forward the estimated cell-specific survival differentials to the larger census-based child sample used in the PC Survey and Kids Survey analyses. Because the census sample contains a subset of these covariates through the PC Survey, we can match children in the census sample to the heterogeneity cells and apply cell-specific trimming proportions.

The evidence on selection into differential fertility provides additional context for interpreting the bounds. While Walker et al. (2025) document strong observable predictors of differential child survival—mortality reductions concentrated among the poorest households—the analysis of fertility effects does not reveal similarly clear patterns of selection on observables. That is, we cannot reject that the households experiencing differential fertility in treated areas are broadly similar along observable characteristics to those that do not. This asymmetry is informative: it suggests that while survival selection is strongly directional and predictable based on household socioeconomic status, fertility selection may be less systematic in its relationship to observable determinants of child outcomes. This does not formally tighten the Lee bounds, which are nonparametric and do not rely on assumptions about observable selection patterns. However, it provides a piece of suggestive evidence that the net selection induced by the fertility channel may be modest, reinforcing the expectation that the two-sided bounds may remain informative.

3.5.4 Generalized Lee Bounds

As a further refinement, we will consider implementing the generalized Lee bounds proposed by Semenova (2025), which extend the classical bounding framework in two important ways. First, the approach relaxes unconditional monotonicity to conditional monotonicity, allowing the sign of the treatment effect on survival to vary with pre-treatment covariates. While we believe unconditional monotonicity is likely to hold in our setting (given the discussion above), conditional monotonicity provides additional flexibility given the heterogeneity in survival effects across household types. Second, the method employs machine learning (specifically, post-LASSO regularization and cross-fitting) to incorporate a large number of potentially continuous covariates into the bounding exercise, overcoming the small-cell-size limitations of the classical covariate-tightened approach. Semenova (2025) shows that the resulting estimator is root-N consistent and asymptotically normal even with data-driven covariate selection, making inference straightforward.

The applicability of this approach depends on having sufficient sample sizes for the machine learning step to perform well. We will assess feasibility once preliminary data are in hand and implement the generalized bounds if the sample supports it.

3.5.5 Subgroup-Specific Bounding Strategy by Birth Timing and Aggregation

A key feature of this setting is that the survival and fertility channels can be partially separated by exploiting variation in children's birth timing relative to the transfer. The survival channel operates on children who were alive (either born or in utero) during the period when the transfer could affect household resources available for child health. The fertility channel, by contrast, operates only on children whose conception was influenced by the transfer. Because conception and survival are temporally sequenced events, partitioning the sample by birth timing relative to the transfer date allows us to isolate subgroups in which only one channel (or neither) is active.

Three subgroups with distinct selection profiles. Children in the sample fall into three groups based on their timing relative to the transfer, each facing a different combination of selection pressures. The subgroup shares below are computed from the EL3 Census — which provides the complete roster of children born 2014–2017 in baseline-eligible stayer households, with birth month — supplemented by the EL3 Household Survey tracking module, which provides the corresponding roster for baseline-eligible mover households. Each child's birth month is then compared to their village's cash transfer receipt date to assign the child to one of the three subgroups: already born at transfer receipt, in utero at transfer receipt, or conceived after transfer receipt.

(i) Children already born at the time of transfer (approximately 20 percent of the sample). For these children, neither survival selection nor fertility selection is operative: they were already alive and already conceived before the intervention began. Recall from the Walker et al (2025)

analysis that nearly all effects on infant and child survival are concentrated among those who were either under 3 months of age, in utero, or not yet born at the time of cash transfer receipt. This subgroup provides arguably the cleanest test of long-run treatment effects on child development, free of compositional concerns. The trade-off is one of exposure timing: because the transfer arrived after birth, these children experienced only postnatal exposure to improved household resources. If the developmental benefits of cash transfers operate partly through prenatal channels—improved maternal nutrition, reduced physiological stress, or better prenatal healthcare—then treatment effects may be attenuated for this subgroup relative to children exposed in utero. This reflects a genuine difference in causal pathways, and is related closely to the discussion of heterogeneous treatment effects, rather than being a threat to internal validity. We will present results separately for this subgroup as a key robustness check immune to both forms of sample selection, while recognizing that these estimates capture postnatal-only effects, and will be less statistically powered given the smaller sample size of children.

(ii) Children in utero at the time of transfer. For this subgroup, survival selection is present but fertility selection is absent. These children were already conceived before the cash arrived, so differential fertility plays no role; however, Walker et al. (2025) document the largest mortality reductions among children whose birth month coincided with transfer receipt, indicating substantial survival selection in this group. The selection problem is one-directional: marginal survivors appear to be negatively selected on outcomes (since they tend to come from the poorest households), likely creating unambiguous downward bias. For this subgroup, the upper Lee bound—which trims the bottom of the treatment outcome distribution—is the more policy-relevant quantity. If we observe positive treatment effects here despite the downward bias from negative selection, this would constitute particularly compelling evidence of genuine child developmental benefits of in utero exposure to household cash transfers.

(iii) Children conceived after the transfer. This subgroup faces both survival selection and fertility selection simultaneously. The survival channel creates excess children who are negatively selected (and Walker et al 2025 do show that there are survival gains for this group of children), while the fertility channel creates additional children whose selection properties are ambiguous—they may be positively selected, negatively selected, or unrelated to child outcomes, as noted above. Note that Walker et al. (2025) aggregate fertility increase (approximately 10 percent for 2015-2017 births, and somewhat smaller over our 2014-2017 window) is averaged across all children, the fertility differential for this subgroup specifically may be substantially larger, since the fertility channel is operative only for post-conception children. Because the two forces may operate in the same or opposite directions, we cannot determine the sign of the net selection bias ex ante, and we will report the full two-sided Lee bounds.

Power considerations. A practical limitation of the subgroup analysis is that the birth-timing partition reduces sample sizes within each group, potentially limiting statistical power. The already-born subgroup comprises approximately 23 percent of the total child sample, and the in-utero subgroup is similarly small (at approximately 21 percent of the total child sample) given

the narrower window of eligibility. While these subgroups have attractive identification properties, the resulting estimates may be relatively imprecise, particularly for outcomes with high residual variance. We will report these subgroup results as informative but potentially underpowered, and will interpret patterns across subgroups—including the direction and relative magnitude of point estimates—as suggestive evidence about the structure of selection, even where individual subgroup estimates are not statistically significant. That said, as noted above the differences across these various "selection groups" may also be confounded with heterogeneous treatment effects, further complicating interpretation.

Bounding strategy by subgroup. For the overall sample, which combines all three subgroups, we will report full two-sided Lee bounds for all primary outcomes, since we cannot rule out either direction of net selection bias. For the subgroup analyses: children already born at the time of transfer require no bounding adjustment and point estimates are directly interpretable; children in utero are subject to one-directional survival selection, and we will emphasize the upper Lee bound as the more informative quantity; children conceived after the transfer face both forces and require full two-sided bounds. The trimming proportion for the overall sample will be determined by the observed difference in child populations between treatment and control at EL3. For subgroup-specific bounds, we will compute trimming proportions within each subgroup. The covariate-tightened and generalized bounds described in Sections 3.5.3 and 3.5.4 will be applied within each subgroup where sample sizes permit.

Aggregation and Overall Bounding. We plan to construct bounds on the overall treatment effect by aggregating the three subgroup specific bounds described above. This is likely to yield tighter identified sets by leveraging the fact that selection is likely to be one-sided within certain subgroups. This strategy assumes that differential survey attrition by treatment status is not observed. If we do observe differential attrition, we may instead report standard two-sided Lee bounds for robustness.

3.5.6 Disentangling Selection from Heterogeneous Treatment Effects

An important limitation of the birth-timing subgroup analysis is that differences in estimated treatment effects across subgroups do not solely reflect differences in selection. Birth timing relative to the transfer simultaneously determines three things: the selection channels to which a child is exposed, the nature and timing of the child's exposure to improved household resources (i.e., in utero versus not), and the child's age at EL3 assessment. Children already born at the time of transfer were exposed only postnatally and are generally older at follow-up; children in utero received exposure during a critical prenatal developmental window; and children conceived after the transfer may have benefited from improved household resources from conception onward. Observed differences in treatment effects across these groups therefore reflect a combination of differential selection, heterogeneous effects by timing of exposure, and potential age-at-assessment effects.

The staggered rollout of transfers across villages provides some within-subgroup variation in the timing of treatment, which may help partially disentangle these dimensions. For instance, for children born in 2015 in eligible households in treatment villages, some will be found in each of the three "selection groups" above, i.e., some will have already been born by the time cash transfers were received (if their village received cash later than many others), some will be in utero, and others could benefit from the household receiving cash before conception (if their village was among the earlier ones phased into treatment). This could allow us to include child age controls in the regression specification. However, the rollout-induced variation is relatively limited, and the three confounding factors—selection, exposure timing, and age—are inherently correlated in our setting. We will interpret cross-subgroup comparisons as suggestive rather than definitive evidence about the structure of selection, and we will be explicit about which patterns are consistent with selection effects versus heterogeneous treatment effects by exposure timing. Where possible given variation in the dataset, we will use the staggered rollout to assess the sensitivity of subgroup differences to the timing of treatment within each birth-timing group.

As noted above, we will carry out exploratory analysis of heterogeneous treatment effects along at least two dimensions, child gender and age at exposure to the cash transfer. In general, treatment effects by gender and exposure timing are of interest but there are concerns about the ability of this research design to detect them given statistical power limitations; we will view these analyses as exploratory. Other dimensions of heterogeneity that we will explore are household consumption and wealth, as captured by the measures in Haushofer et al (2025), as well as parental education and occupation, and number of siblings. We will focus on estimating heterogeneous treatment effects in the reduced-form specification (equation 1) by including interaction terms with the covariates of interest. We may further carry out additional exploratory heterogeneity analyses using generalized random forest methods (GRF) to examine other child and household characteristics.

4 Outcomes and Hypotheses

In this section we outline the primary and secondary outcomes of interest for which we will explore the impacts of cash transfers. Outcomes will be collected via two instruments: (1) the KGES EL3 Kids Survey, a set of child assessments and surveys administered directly to children, and (2) the KGES EL3 Primary Caregiver Survey (PC Survey), which is administered to an adult identified as a primary caregiver of the child (see Fernald et al., 2019, and Baird et al., 2025).[4]

Table 1 summarizes the primary outcomes of interest, Table 2 describes in detail the construction of the primary outcomes of interest, and Table 3 describes additional outcomes of interest. We refer to specific test items or survey questions by the name of the survey and the section and question number. For instance "PC 3.6" refers to the KGES EL3 Primary Caregiver Survey, Section 3, question 6, and "Kids 1.1" refers to the KGES EL3 Kids Survey, Section 1, question 1.

The primary 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) Language and Cognitive Abilities (drawing on Language, Math & Spatial Abilities, Executive Function, and Fluid Intelligence Sub-Indices), (2) Behavior & Socio-Emotional Development (drawing on Strengths and Difficulties, Center for Epidemiological Studies Depression Scale for Children (CES-DC), and Resilience Indices), (3) Subjective Health, and (4) Anthropometrics and Biomarkers. Included in Child Investment Outcomes are four families of outcomes: (5) Home Environment Investments, (6) Schooling Enrollment and Educational Investments, (7) Food Security and Diet Quality, and (8) Caregiver-Child Relationship.

Each family of outcomes is constructed from items at different levels of aggregation, ranging from individual component measures to sub-indices. While theoretically interesting, due to the novelty of some of these measures, especially with respect to the rural Kenyan context, some of these groupings may prove speculative. As such, we also plan to investigate measures of index quality and coherence by examining the correlation patterns of components within each index. We may also do further exploratory research based on the eventual correlation structure of index components, for example, by adjusting the sub-indices or indices as deemed necessary and/or presenting results with alternative groupings of component measures (for example, if distinct groups of variables appear highly collinear). To make it easier to understand what the indices represent, we will present the results for all component measures individually (unless specified otherwise and most likely in an appendix) in addition to the results for each final constructed index.

[4] During the PC Survey administration, the primary caregiver is identified as someone who knows the child very well and spends a substantial amount of time with the child each week. In practice, in the majority of cases a biological parent is administered the PC Survey.

We additionally note that for the random subset of children residing in households drawn into the representative household survey sample, child-related outcomes from the EL3 Household Survey—including education enrollment, attendance, expenditure, and child health measures—are also available. Because these household survey measures were collected at Endline 1, Endline 2, and Endline 3, they permit estimation of dynamic treatment effects over time (see Section 3.5). We describe these panel outcomes briefly in Section 4.11 and refer readers to the earlier PAPs for detailed outcome definitions.

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 primary outcomes in Tables 1 and 2. Finally, we present additional outcomes in Table 3 that will be analyzed either in the main paper text or in an appendix.

4.1 Construction of Indices and Multiple Testing Adjustment

When an index consists of only indicator variables, the index will be based on the sum of the indicators, which are then normalized to be mean zero with standard deviation one in the control group, as is standard in development economics. When indices contain at least one continuous variable or a count variable taking more than two values, we will use the mean effects approach: normalizing each component variable to be mean zero with unit variance within the control group, thereafter constructing the index by summing each component variable. Where appropriate (for example, for the cognitive outcomes derived from assessments), we will normalize within gender and age bands, as described below. For indices that are constructed by combining several sub-indices, we follow a similar approach: normalizing each sub-index to be mean zero with unit variance within the control group, then summing across the normalized component sub-indices to create the index. Where appropriate, index components will be re-signed so that all the directions of negative and positive outcomes are consistent across all components.

We also seek to follow best practices with respect to outcomes that have little variation as well as measures with high levels of missingness. We will exclude any variables that turn out to have very limited variance (for instance, an indicator variable where fewer than 1% of the sample has a value of one), as these will not contribute any meaningful information. Furthermore, if a pre-specified variable is missing for a large share of observations – for instance, more than 30% of possible observations – among those with a completed PC Survey or Kids Survey, we will drop it from inclusion in the index. We will also report all component measures used to create indices either in the paper or in the appendix.

For the main coefficient estimates of interest, we will present two sets of statistical significance levels. We will first present the standard “per-comparison” p-values, which provide the unconditional probabilities of a false positive. Since we test multiple hypotheses, 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, following the approach adopted in Casey et al. (2012). We will compute three sets of FDR adjusted q-values, at different levels of aggregation. First, we will compute FDR q-values for all component measures *within* a family of outcomes that make up a sub-index (or in cases where there is no relevant sub-index, that make up a broad index); we will do this for the component measures contained in Table 1 (Primary Outcomes) and Table 3 (Additional Outcomes). Second, we will compute FDR-adjusted q-values for all sub-indices *within* a broad index; we will do this for the sub-indices contained in Table 1. Third, we will report FDR q-values *across* the set of all primary outcome broad indices contained in Table 1.

4.2 Language and Cognitive Abilities

In Table 1 we specify the composition of the four sub-indices that comprise two broad indices of cognitive abilities: the Academic Cognitive Index and the Cognitive Abilities Index. The four sub-indices are (1) a Language Sub-Index, (2) a Math & Spatial Abilities Sub-Index, (3) an Executive Function Sub-Index, and (4) a Fluid Intelligence Sub-Index. The Academic Cognitive Index aims to measure language and cognitive abilities more closely related to the academic performance of the child (i.e., the skills and concepts children would be learning in school) and only includes sub-indices (1) and (2). The Cognitive Abilities Index includes all four sub-indices.

Both broad indices will be constructed by normalizing and summing across the component sub-indices as described in section 4.1, and then renormalizing the index so that it has a mean of zero and unit variance. The component measures are tests that have been designed specifically for assessing young children and have been locally adapted to the Kenyan context after extensive piloting – see the KLPS pre-analysis plans Fernald et al. (2019) and Baird et al. (2025), which discuss the measures in more detail. The sub-indices present theoretically motivated groupings of the tests, while the broad index is a more speculative measure of overall cognitive abilities. The sub-indices are of standalone interest and will be reported independently and in addition to the broad index (although, as we note above, we may find that the sub-indices should be combined in different ways). For the broad index, we will report the correlation structure of the individual tests as a measure of index quality and coherence.

The Language sub-index includes the PPVT, Animal Naming, Uwezo Swahili, and Uwezo English assessments. The Math and Spatial Abilities sub-index includes the Making Change and Uwezo Math assessments. The Executive Function sub-index includes the Digit Span and PLUS-EF assessments. The Fluid Intelligence Index includes the Raven's Assessment. We provide more detail on each of these tests in what follows.

For all tests we will create Z-scores by subtracting the mean and dividing by the standard deviation within the control group sample using age-gender groups (using 6-month age bands).[5] For the Z-scores, we will exclude any practice items and only consider test items. We also plan to report raw scores for each assessment, most likely in an appendix.

For the cognitive tests, we will code non-responses from children as incorrect responses, though the raw data indicates whether such responses were actually incorrect responses or simply non-responses. All assessments are administered to children in the 2014–2017 birth cohorts (aged between 8–12 years at the time of assessment). Below we provide a description of each individual assessment along with details for how each will be scored.

1. **Animal Naming.** The Animal Naming test is a measure of verbal fluency. The child is asked to say the names of as many animals as they can think of in 60 seconds. The score is calculated as the total number of animals that are recalled, excluding repetitions and incorrect animals (e.g., fictional characters). The outcomes are Z-scores created within gender and age bands. We will also report raw scores, most likely in an appendix. (Kids 1.1)

2. **The Peabody Picture Vocabulary Test (PPVT; Dunn and Dunn, 2007).** PPVT measures receptive vocabulary. Children are presented with four images and asked to point to the image that corresponds to the word the enumerator says. We only administer sections 7-10 of the standard test. The outcome is the Z-score of the sum of correct items (not including practice items), created within gender and age bands. We will also report raw scores, most likely in an appendix. (Kids 1.2)

3. **Uwezo Assessment Swahili (Uwezo East Africa, 2021).** Uwezo Swahili is a standardized literacy assessment developed and conducted by Twaweza East Africa to measure children's Kiswahili proficiency in Kenya and Tanzania. The test, designed at the Standard 2 level, aligns with national curricula and evaluates whether children have acquired fundamental reading and comprehension skills after two years of schooling. The assessment consists of multiple components, including tasks that require children to identify letters, read words, construct sentences, and understand short texts. As a primary outcome, we will use a continuous score following Table 4. Briefly, the standard categorical scoring method classifies children into mutually-exclusive levels based on the highest competency demonstrated; the continuous score preserves the principle of scoring performance based on the child's highest competency, but consolidates levels into a single continuous score, and incorporates how well children perform at their highest competency. As a secondary outcome, we will present the scores as a categorical score as defined in the original Uwezo guidelines. All scores will be standardized as Z-scores

[5] We plan to use 6-month age bands but will consider using alternative age groups (i.e., quarters or years) throughout depending on sample sizes per bin. We plan to align the age bands used here for normalization with the age bands used for Child x Gender fixed effects in the estimation.

within gender and age bands to allow for their inclusion in the main cognitive index. (Kids 1.3.1)

4. **Uwezo Assessment English (Uwezo East Africa, 2021).** Uwezo English is a standardized assessment developed and implemented by Twaweza East Africa to measure children's English literacy proficiency in Kenya. The test is designed at the Standard 2 level, aligning with each country's curriculum, and assesses whether children have acquired foundational literacy skills after two years of schooling. The assessment consists of multiple sections, evaluating children's ability to recognize letters, read words, comprehend passages, and demonstrate basic literacy competencies. As a primary outcome, we will use a continuous score following Table 4. As a secondary outcome, we will present the categorical score as defined in the original Uwezo guidelines. All scores will be standardized as Z-scores within gender and age bands to allow for their inclusion in the main cognitive index. (Kids 1.3.2)

5. **Uwezo Math Assessment (Uwezo East Africa, 2021).** Uwezo Math is a standardized numeracy assessment developed and implemented by Twaweza East Africa to evaluate children's mathematical competencies in Kenya. The test is based on the Standard 2 level curriculum and assesses whether children have acquired foundational numeracy skills after two years of schooling. The assessment includes tasks such as number recognition, basic arithmetic operations, and problem-solving exercises. As a primary outcome, we will use a continuous score following Table 4. As secondary outcomes, we will present a categorical score as defined in the original Uwezo guidelines. All scores will be standardized as Z-scores within gender and age bands to allow for their inclusion in the main cognitive index. (Kids 1.3.3)

6. **Forward and Backward Digit Span (MELQO DA subtask, UNESCO et al 2017, LASI-DAD study).** The forward and backward digit span assessments are tests of working memory. Children are asked to listen to and verbally repeat back a series of numbers in sequence. The score is correct if they repeat all numbers in the same order. Both assessments consist of two practice and two test items. The outcome is the Z-score of the sum of correct items created within gender and age bands (not including practice items). We will also report raw scores, most likely in an appendix. (Kids 1.4)

7. **4. Promoting Learning, Understanding, Self-Regulation (PLUS-EF; Obradović et al. 2018).** PLUS-EF is an assessment of executive function. The PLUS-EF was developed to measure various aspects of executive function, including the capacities to attend to relevant stimuli, inhibit previously learned responses when task rules change, and demonstrate cognitive flexibility such as learning and applying new rules. The assessment is administered on tablets. Enumerators read instructions and advance each section, but children select responses on the tablet themselves. Children are challenged to respond accurately under non-negligible time pressure.

We administer one PLUS EF task: Hearts & Flowers. The task includes a series of consecutive trials across up to three categories (in "blocks" of trials): congruent, incongruent, and mixed. Performance will be calculated separately for each of these three categories, combining a measure of performance (accuracy) on blocks of trials within each category from across the three tasks. Accuracy scores for each task are calculated as the proportion of correct responses (correct responses divided by the sum of correct and incorrect responses) conditional on a sufficient level of non-missing responses[6]. The outcomes are Z-scores of accuracy scores created within gender and age bands for each of the three categories (not including practice items). We will also report raw scores, most likely in an appendix.

8. **Raven's Standard Progressive Matrices (Raven et al. 1998).** The Raven's Test measures fluid intelligence and abstract reasoning. We administer Test A (7 items) and Test B (8 items), for a total of 15 items. The score is the sum of all correct answers. The outcomes are Z-scores created within gender and age bands. We will also report raw scores, most likely in an appendix. (Kids 1.5)

9. **Making Change.** The making change task provides a real-world measure of children's division abilities. It gives the child a scenario where they must make change for a 1000 Ksh note with 200 Ksh notes. They are scored based on whether they provide the correct answer (indicator variable). (Kids 1.7)

4.3 Behavior and Socio-Emotional Development

In Table 1 we specify the components of three indices measuring Behavior and Socio-Emotional Development. The three indices are (1) Strengths and Difficulties Index, (2) CES-DC Index, and (3) Resilience Index. The component measures are tests that have been designed for assessing young children and have been locally adapted to the Kenyan context after extensive piloting. The Strengths and Difficulties Index is composed of two sub-indices that are of standalone interest and will be reported independently and in addition to the broad index: the Total Difficulties Score and the Prosocial Scale.

For all tests we will create Z-scores by subtracting the mean and dividing by the standard deviation within the control group sample using age-gender groups (using 6-month age bands). We also plan to report raw scores for each assessment, most likely in an appendix.

Below we provide a description of each individual assessment along with details for how each will be scored. We note that in some cases the assessments have been modified from their original format to fit the Kenyan context.

[6] To assess whether an evaluation contains a sufficient level of non-missing data for calculating an accuracy score, we will follow the standardized guidelines established in Duhon et al. (2024).

1. **Strengths and Difficulties Questionnaires (SDQ).** We administer the age-specific SDQ to the primary caregiver of each child to assess children's socio-emotional development (PC 6.1-6.25; SDQ; Goodman, 1997). Standard outcomes constructed from the SDQ include the Emotional Symptoms, Conduct Problems, Hyperactive, Peer Problems, and Prosocial Scales, as well as the Total Difficulties Score. Each of these scales and their components are described in more detail in Table 2. Note that for each of these measures (aside from the Prosocial Scale), lower values indicate positive outcomes and greater values indicate negative outcomes in keeping with the literature. Depending on the paper, presentation, or audience, we may occasionally choose to reverse the measures so that lower values indicate negative outcomes while greater values indicate positive outcomes for ease of interpretation. Since this would represent a departure from the typical presentation of these measures in the literature, we will clearly specify and indicate when we choose to present these measures in this way.

   In addition to studying the standard outcomes constructed from the SDQ, we also construct the Strengths and Difficulties Index by normalizing and summing the component sub-indices within gender-age bands and relative to the control group using the procedure described in section 4.1. The Strengths and Difficulties Index is a more speculative measure of child behavior, which includes all components of the Total Difficulties Score (reverse-signed so that lower values indicate negative outcomes and greater values indicate positive outcomes) and also the Prosocial Scale. For the broad index we will report the correlation structure of the components as a measure of index quality. For this family of outcomes, we plan to report each of the sub-indices and the broad index, but will not report outcomes for each of the individual 25 component questions.

2. **Center for Epidemiological Studies Depression Scale for Children (CES-DC, Barkmann et al 2008).** We construct the CES-DC Index by administering the CES-DC, a 20-item instrument measuring self-reported depressive symptoms in children and adolescents (Kids 2.2). Panel A of Table 2 shows the 20 items of the Scale. The index is made by summing the items on a scale ranging from 0 (rarely or none of the time) to 3 (all of the time). Items 4, 8, 12, and 16 score in the opposite order. Note that for the final index, lower values indicate positive outcomes and greater values indicate negative outcomes in keeping with the literature. Depending on the paper, presentation, or audience, we may choose to reverse the index so that lower values indicate negative outcomes while greater values indicate positive outcomes for ease of interpretation. Since this would represent a departure from the typical presentation of this measure in the literature, we will clearly specify and indicate when we choose to present the index in this way. We will also report an indicator for exhibiting symptoms consistent with depression, using a cutoff score of 16 (on a scale from 0 to 60). While we plan to report the final index, we will not report effects for each of the individual components.

3. **Child and Youth Resilience Measure (CYRM, Resilience Research Centre 2022).** We construct the Resilience Index by administering an adapted version of the CYRM. The CYRM is an instrument that measures self-reported social-ecological resilience in children and adolescents (Kids 2.6). Panel A of Table 2 shows the 11 items we administered. The index is made by summing the items on a scale ranging from 1 (not at all) to 5 (a lot). Note that for the final index, lower values indicate negative outcomes and greater values indicate positive outcomes. While we plan to report the final index, we will not report effects for each of the individual components.

4.4 Subjective Health

We will present four individual subjective health measures (as reported by the primary caregiver) and one broad index. We describe each measure below:

1. **No sickness in the past seven days.** Indicator equals one if the caregiver indicates that the child has not experienced fever, malaria, vomiting, cough, diarrhea, or any other infection in the past seven days (PC 3.6).
2. **Overall child health.** Five point scale that asks caregiver to rate child health on a scale from 1-5 where a higher score indicates better health (PC 3.7).
3. **No serious health problems since birth.** Indicator (PC 3.8).
4. **No disability.** The no disability indicator is based on the 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 the child has no difficulties, then the indicator takes the value of one. While we plan to report the final index, we will not report effects for each of the individual components.
    a. Child had serious delays in learning to walk compared to other children[7] (PC 3.9, PC 3.9a)
    b. Child has difficulty seeing (PC 3.10)
    c. Child has difficulty hearing (PC 3.11)
    d. Child does not understand the caregiver (PC 3.12)
    e. Child has difficulty moving or weakness or stiffness in arms and legs (PC 3.13)
    f. Child has seizures (PC 3.14)
    g. Child has lower learning ability than other children (PC 3.15)
    h. Child cannot speak or communicate (PC 3.16)
    i. Child has speech impediments (PC 3.17)
    j. Child appears cognitively delayed, or delayed in language[8] (PC 3.18)

[7] For clarification, we separately ask parents whether the child was able to walk by age 2.
[8] If uncertain, parents are asked whether the child could speak by age 2.

5. **Subjective Health Index.** The Subjective Health Index will be created from outcomes described in 1-4, by normalizing and summing the four components (three indicators and one index). For this outcome we will report the correlation structure of the components as a measure of index quality.

4.5 Anthropometrics and Biomarkers

Stunting. We will define stunting prevalence using the height measure collected at the conclusion of the Kids Survey (Kids 5.1). We will define the prevalence of stunting as an indicator measuring if the child's Height for Age z-score (HAZ) is below -2 standard deviations according to the WHO growth standards (WHO 2006). (As a secondary outcome, we will also examine the HAZ score as a continuous measure.)

Anemia. We plan to measure anemia prevalence using the haemoglobin (Hb) measure collected at the conclusion of the Kids Survey (Kids 5.4). Here we will focus on an indicator for at least mild anemia, using the cutoffs defined in WHO (2024). (As a secondary outcome, we will also examine the child's Hb as a continuous measure.)

4.6 Home Environment Investments

To measure home environment investments, we will present six individual measures and one broad index, a modified version of the Family Care Indicators (FCI) (Hamadani et al. 2010). These measures (and associated scoring) were adapted from Kariger et al. (2012), Hamadani et al. (2010), Ozler et al. (2018), Bradley et al. (2001), Prado et al. (2016) and UNICEF (2015). If we find low rates of participation in some activities (perhaps due to certain items being less age-appropriate for younger or older children in the sample), we may drop these from the indices. We describe each measure below:

1. **Household Books.** Reported number of books of all types (PC 5A.1c). To limit the influence of outliers, we will winsorize this and all other book count measures used in this section (items 3d, 3e, and 3f below) at the top 1% of their respective distributions before using them in any analysis, including the modified FCI index below.

2. **Magazines and Newspapers.** Sum of indicators over the following items:
    a. Newspapers, magazines, pamphlets, or brochures at home (PC 5A.1h)
    b. Pictures, posters, calendars, or other type of artwork on the walls at home (PC 5A.1i)

3. **Varieties of Play Materials Index.** Sum of indicators over the following items:
    a. Music player or radio at home (PC 5A.1a)
    b. Musical instruments at home (PC 5A.1b)
    c. Paper and pen or art supplies at home (PC 5A.1j)
    d. Number of storybooks or picture books at home (PC 5A.1d)

e. Number of e-books (including textbooks, children's books, storybooks or picture books) (PC 5A.1e)
f. Number of children's textbooks (PC 5A.1g)
g. Plays games of strategy (ludo, checkers, chess, video/phone games) (PC 5A.1l)
h. Child makes toys (PC 5A.1k)

4. **Play Activities.** Sum of indicators over the following items (which will be reported in an appendix). For all items, "caregiver" refers to either the caregiver him/herself or another household member above the age of 15:
   a. Caregiver reads books to or looks at books with child (PC 5A.13a)
   b. Caregiver tells stories to child (PC 5A.13b)
   c. Caregiver sings songs or plays instruments with child (PC 5A.13c)
   d. Caregiver plays with child (PC 5A.13d)
   e. Caregiver constructs objects or art with child (PC 5A.13e)
   f. Caregiver names, counts, or draws things with child (PC 5A.13f)
   g. Caregiver helps child with homework (PC 5A.13g)
   h. Caregiver talks with child about what he/she is learning in school (PC 5A.13h)
   i. Caregiver teaches child vocabulary words in English or Swahili (PC 5A.13i)
   j. Caregiver teaches child vocabulary words in local language (PC 5A.13j)
   k. Caregiver plays sports or other physical activity with child (PC 5A.13k)
   l. Caregiver takes child on a fun outing (PC 5A.13l)

5. **Modified Family Care Indicators (FCI) Index.** The Modified Family Care Indicators Index will be created by taking the sum of the winsorized number of books at home (from index 1) and the sum of indices 2 to 4. The index will then be re-normalized to be mean zero and unit variation in the control group, as for all of the indices. For this outcome we will report the correlation structure of the components as a measure of index quality.

4.7 School Enrollment and Educational Investments

1. **School Enrollment and Educational Investments Index.** We plan to present an index constructed as the sum of normalized averages over the following outcomes related to age-appropriate schooling enrollment, attendance, and other educational investment outcomes.
   a. Indicator for child currently enrolled in school, including primary school or other school (PC 5B.1)
   b. Indicator for child attended school last week (PC 5B.1f)
   c. Number of days child attended school last week, conditional on attendance (PC 5B.1g)
   d. Cost of schooling last month, actual paid by household (PC 5B.1i)
   e. Cost of educational expenses (fees, uniforms, school supplies, transportation, or other), actual paid by household (PC 5B.1j)

f. Indicator for child private school enrollment (PC 5B.1b)
g. Hours spent in class time (PC 5A.4)
h. Hours spent reading, doing homework, or studying (PC 5A.6g)

We note that rates of child enrollment and attendance are likely to be quite high for Kenyan children born during 2014 to 2017 who will be of primary school age at the time of survey. If we find that over 95% of any of these indicator variables are equal to one, we may exclude these from the index due to the lack of variation.

4.8 Food Security and Diet Quality

1. **Food Security Index.** We plan to present an index constructed as the sum of the following indicators measuring food security for the child reported both by the PC or the kid.
   a. Indicator for whether the child had at least three meals the day before (PC 3.19)
   b. Indicator for whether the child had at least one meal that included meat or fish the day before (PC 3.20)
   c. Indicator for whether the child went to sleep hungry at least one day in the last week (PC 3.21)
   d. Indicator for whether the child was worried they would run out of food during the past month (Kids 3.1a)
   e. Indicator for whether the child skipped a meal during the past month (Kids 3.1b)
   f. Indicator for whether the child went without eating a whole day during the past month (Kids 3.1c)

2. **Modified GDQS.** We present a modified version of the Global Diet Quality Score (Bromage et al. 2021). In the Kids Survey, we gathered information on the number of days over the previous week that the child consumed different food groups. Table 5 shows the different food groups for which we gathered the information. This list was adapted from the original GDQS list to be suitable for the Kenyan context after extensive piloting. Of the total 21 food groups, 15 are healthy food groups, 5 are unhealthy food groups, and 1 is unhealthy when consumed in excessive amounts. We will construct the modified GDQS by assigning points according to the frequency of consumption. For healthy food groups, the point values are as follows: 0 days (0 points), 1 day (1 point), 2-4 days (2 points), and 5-7 days (3 points). For unhealthy food groups, the scoring will be reversed. Specifically for red meat (unhealthy when consumed in excessive amounts), the scoring will be: 0 days (0 points), 1 day (1 point), 2-4 days (2 points), and 5-7 days (0 points).

4.9 Caregiver-Child Relationship

1. **Caregiver-Child Relationship Index (CPRS-SF, Driscoll and Pianta 2011).** We construct the Caregiver-Child Relationship Index by administering the short version of the CPRS. The CPRS is an instrument where PCs self-report their perceptions of their relationships with their children (PC 7). Panel B of Table 2 shows the 15 items we administered. Out of the 15 items, 8 measure conflict levels, while the remaining 7 measure closeness levels. A Conflict and a Closeness scale can be created summing the items on a scale ranging from 1 (definitely does not apply) to 5 (definitely applies). We construct a unique index by summing the 15 items, switching the direction of the Conflict items so that a higher Scale indicates a better relationship between the PC and the child. While we plan to report the final index, we may not report effects for each of the individual components.

4.10 Additional Secondary Outcomes

Table 3 summarizes additional outcomes that may be included in a paper with the main analyses above, or may go into separate papers. These sets of outcomes can be viewed as additional families. Additional outcomes include the following:

1. **Early Life Health Investments.** We will present two individual measures and one broad index related to early life health investments. We describe each measure below:
    a. **Vaccination Index.** Sum of indicators over the following items. While we plan to report the final index, we will not report effects for each of the individual vaccination components.
        i. Indicator for having received BCG vaccination (PC 3.3a)
        ii. Indicator for having received polio vaccination (PC 3.3b)
        iii. Indicator for having received DPT vaccination (PC 3.3c)
        iv. Indicator for having received measles vaccination (PC 3.3d)
        v. Indicator for having received yellow fever vaccination (PC 3.3e)
        vi. Indicator for having received a second dose of measles vaccination (PC 3.3f)
        vii. Indicator for having received HPV vaccination (PC 3.3g)
        viii. Indicator for having received COVID-19 vaccination (PC 3.3h)
    b. **Parasitic Prevention Index.** Sum of indicators over the following items (which will be reported in an appendix):
        i. Indicator for child slept under a bed net last night (PC 3.4)
        ii. Indicator for child dewormed in past 12 months (PC 3.5)
    c. **Early Life Health Investments Index.** The Early Life Health Investments Index will be created from outcomes a and b (both sub-indices), by normalizing and

summing the two component sub-indices following the procedure described in section 4.1. For this outcome we will report the correlation structure of the components as a measure of index quality.

2. **Any Vaccination.** Related to parental investments in child, we will also present:
   a. An indicator for any vaccination (maximum of indicators, PC 3.3a-3.3h). We expect little variation in this measure, with nearly all children reported to receive at least one vaccination.
   b. An indicator for received any other vaccination (PC 3.3i).

3. **Child Discipline Strategies.** We will present two individual measures and one broad index related to parent- or caregiver-reported child discipline strategies used with the child. These outcomes were drawn from Sadowski et al. (2004), UNICEF (2010), and UNICEF (2015). Table 3 shows the composition of each measure, which we describe below:
   a. **Positive Discipline Techniques Index.** Sum of indicators with higher values indicating higher reported use of positive discipline techniques.
   b. **Negative Discipline Techniques Index**. Sum of indicators with higher values indicating higher reported use of negative discipline techniques.
   c. **Child Discipline Strategies Index.** Index based on measures a and b, constructed by normalizing and summing across component outcomes. Note that the Negative Discipline Techniques sub-index will be re-signed in construction of the overall Child Discipline Strategies Index so that positive indicates “no adults have used the particular negative discipline technique”. For this outcome we will report the correlation structure of the components as a measure of index quality.

4. **Economic Preferences.** We will present four individual measures related to child economic preferences, adapted from List et al. (2021) and other relevant literature. These experiments were extensively tested and adapted, using cups of different colors and pencils as aids to facilitate understanding and engagement. School supplies served as the rewards, ensuring cultural relevance. Following List et al. (2021), Brocas and Carrillo (2021), and Chowdhury et al. (2022), incentives were designed around the concept of duka (local shop) exchanges to align with children’s real-world experiences.
   a. **Time Preferences (Kids 4.1).** Adapted from Chowdhury et al. (2022), this experiment measures children’s willingness to delay gratification. Due to concerns about credibility in delayed reward distribution, this experiment was conducted in a non-incentivized manner.
   b. **Social Preferences (Kids 4.2).** Adapted from Chowdhury et al. (2022) and the dictator game, this experiment measures children’s generosity and fairness in resource allocation.

c. **Risk Preferences (Kids 4.3).** Adapted from Andreoni et al. (2020), this experiment assesses children's willingness to take risks.

d. **Ambiguity Preferences (Kids 4.4).** This experiment captures children's tolerance for uncertainty in decision-making.

For each of these measures, we construct z-scores to standardize the outcomes and facilitate comparison across different economic preference domains.

5. **Gender Attitudes.** We construct the Gender Attitudes Index from five questions measuring levels of agreement of the children with five statements related to gender (Kids 2.11). Table 3 shows the 5 questions we administered. The index is made by summing the items on a scale ranging from 1 (strongly disagree) to 5 (strongly agree). Note that for the final index, higher values indicate more egalitarian gender views.

6. **Caregiver Mental Health Index.** We administer the Center for Epidemiologic Studies Depression Scale-Short Form (CESD-10; Andersen et al 1994) to construct the Caregiver Mental Health Index (PC 2.2.1-2.2.10). The index is made by summing the following items reported on a scale ranging from 1 (rarely or none of the time) to 4 (all of the time). Where necessary, responses will be recoded so that positive responses are scored (1) and negative responses are scored (4). Note that for the final index, lower values indicate positive outcomes and greater values indicate negative outcomes in keeping with the literature. We will also report an indicator for exhibiting symptoms consistent with depression, using a cutoff score of 20 (on a scale from 10 to 40).
   a. In the past week, caregiver was bothered by things that usually do not bother him/her (PC 2.2.1)
   b. In the past week, caregiver had a problem concentrating on what he/she was doing (PC 2.2.2)
   c. In the past week, caregiver felt depressed or troubled in his/her mind (PC 2.2.3)
   d. In the past week, caregiver felt that everything he/she did took up all his/her energy (PC 2.2.4)
   e. In the past week, caregiver felt hopeful about the future (PC 2.2.5)
   f. In the past week, caregiver felt afraid (PC 2.2.6)
   g. In the past week, caregiver had difficulty sleeping peacefully (PC 2.2.7)
   h. In the past week, caregiver was happy (PC 2.2.8)
   i. In the past week, caregiver felt lonely (PC 2.2.9)
   j. In the past week, caregiver lacked the motivation to do anything (PC 2.2.10)

7. **Time Use.** Estimates of child time use are calculated in one-hour increments for common activities. We plan to sum time spent on various activities across the following broad categories (and report individual items in an appendix):
   a. Unstructured leisure time
      i. Hours spent informally playing with friends (PC 5A.6d)

ii. Hours spent watching TV, playing video games, etc. (PC 5A.6h)

b. Productive activities and/or chores
   i. Hours spent doing chores (PC 5A.6e)
   ii. Hours spent on family business (PC 5A.6f)

c. Educational activities
   i. Hours spent in class time (PC 5A.4)
   ii. Hours spent reading, doing homework, or studying (PC 5A.6g)

d. Other time use
   i. Minutes going to and from school (PC 5A.5)
   ii. Hours spent doing a structured non-sports activity (PC 5A.6a)
   iii. Hours spent on religious activities (PC 5A.6b)
   iv. Hours spent on formal sports (PC 5A.6c)
   v. Hours spent on other non-sleep activities (PC 5A.6i)

8. **Aspirations.** We plan to look at kids' educational aspirations: the academic degree the child would ultimately like to achieve (Kids 2.8). We will create an index with 5 possible values: 1 (primary school), 2 (some secondary school), 3 (completed secondary school), 4 (some tertiary education), 5 (completed tertiary education). We asked two specific questions on aspirations in Kids Survey:

   a. Imagine you had no constraints and could study for as long as you liked. What academic degree would you ultimately like to achieve? [*Use G6 codes*]
   b. What do you want to be doing when you are an adult? For instance, working in a job, caring for your own family, or running a business? [*Use G9 codes*]

9. **Competition.** We plan to look at caregiver and child beliefs about the importance of competing and how competitive caregivers view themselves and their children. We plan to examine the following:
   a. Caregiver beliefs about the importance of being competitive for success in life, in general (PC 5C.4) and for their child specifically (PC 5C.6), each on a scale from 1 (not important at all) to 10 (very important).
   b. Caregiver beliefs about how competitive they consider themselves to be (PC 5C.5) and how competitive they consider their child to be (PC 5C.7), each on a scale from 1 (not competitive at all) to 10 (very competitive).
   c. Child beliefs about the importance of being competitive (on a scale from 1 to 10) (Kids 4.8) and how competitive they consider themselves to be (on a scale from 1 to 10) (Kids 4.9).

10. **Parental beliefs.** We plan to look at parental beliefs related to child academic performance relative to other children of the same age at present, and in the future. We plan to examine the following:

a. Indicators for whether parents report believing their child is an average, better than average, or below average student (PC 5B.7).
b. Relative ranking (1 to 10) compared to other children of the same age on the assessments in math, Swahili, English, and overall (PC 5B.8a-d).
c. Indicators for whether parents report believing their child scored above average, average, or below average on the KPSEA/KCPE, if already taken (PC 5B.13).
d. Anticipated KPSEA score (PC 5B.14), and indicators for whether parents report believing their child will score above average, average, or below average on the KPSEA/KCPE, if not already taken (PC 5B.15).
e. Indicators for whether parents report strongly agreeing that they understand their child's ability; receive information about their child's performance; believe their own choices, actions, and effort will determine how well the child will do in school and in life; believe their child's ability and effort will determine how well the child will do; believe external factors will determine how well the child will do (PC 5B.16a-e).

11. **Child academic self-concept and beliefs about performance.** We plan to look at child academic self-concept (general, and within subject areas) and beliefs about performance. We plan to examine the following:
    a. Measures of general academic self-concept (Kids 2.18.4), and academic self-concept in mathematics, English, and Swahili (Kids 2.18.1-3) (Marsh, 1990), including both indicators for reporting that statements about being good at math, English, Swahili, or all school subjects are "very true," and constructing a mean effects index across subjects.
    b. As our primary analysis, indicators for believing above average, average, or below average compared to other children of the same age (Kids 2.18.6). In a secondary analysis, the same indicators compared to other female/male children of the same age (Kids 2.18.7 and Kids 2.18.8).

12. **Anthropometrics and Biomarkers.** We plan to look at several other measures:
    a. Height for Age (HAZ) continuous z-score (Kids 5.1).
    b. Weight for Age (WAZ) continuous z-score (Kids 5.2).
    c. BMI percentile: We will construct the BMI percentile outcome by using the height and weight measures collected at the conclusion of the Kids Survey. We will construct the BMI percentile by age and gender using the CDC guidelines, growth charts, and programs (CDC 2024).
    d. Blood pressure (BP), the outcomes will be an indicator for being at least pre-hypertensive, and an indicator for being in the hypertensive category (Kids 5.3) (National High Blood Pressure Education Program Working Group on High Blood Pressure in Children and Adolescents, 2005).
    e. Haemoglobin (Hb) continuous measure (Kids 5.4).

13. **Child Sleep.** Sleep duration (last night): Computed as wake time (PC 4.2) minus bedtime (PC 4.1), in hours. Usual sleep duration (over the past month): Computed as usual wake time (PC 4.5) minus usual bedtime (PC 4.4), in hours.

14. **Child Labor.** We plan to examine child labor outcomes: Indicator for child does chores or work inside the home (PC 5A.9), and hours in the last week (PC 5A.9a); Indicator for child does chores or work outside the home (PC 5A.10), hours in the last week (PC 5A.10a), and earnings (PC 5A.10b).

5 Exploratory Analysis

1. **Going beyond mean effects.** Estimation of distributions of outcomes are of interest in this type of 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 using kernel estimation techniques and may 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 differential effects across the distribution.

2. **Heterogeneity by developmental stage.** We will explore whether treatment effects differ based on children's age at the time of cash transfers (in utero, infancy, early childhood), exploiting variation in birth year and household cash transfer receipt within the 2014–2017 cohort.

3. **Occupational aspirations.** We plan to explore cash transfer impacts on occupational aspirations among kids (Kids 2.8), and explore variation and correlations with other characteristics.

4. **Health Related Habits.** We plan to construct an index measuring children's habits related to health and analyze its variation across treatment and control. This index will be created using sub-indexes: the modified GDQS diet quality score (discussed above), the Physical Activities Z-Score (Kids 2.4), and the Sleep time Z-Score (Kids 2.3).

5. **Child Outcome Measures in the representative Household Survey.** For the subset of children residing in households drawn into the representative household survey sample, a number of child-related outcomes are also available from the EL3 Household Survey (already collected). These outcomes use the representative household survey sample with inverse probability weights (as described in Section 2.3.2), whereas the PC Survey and Kids Survey analyses primarily use the birth census sample (as described in Section 2.3.1) combined with household survey sample among those who moved out of the study area. Because equivalent measures were collected at earlier survey rounds (Endline 1 and Endline 2), these EL3 household survey outcomes also permit comparison of treatment effects across rounds. These outcomes draw on the analytical frameworks established in earlier pre-analysis plans filed for this study, including the Endline 1 household welfare analysis (Haushofer et al. 2017), the Endline 2 household PAP (Egger et al. 2021a), and the Endline 2 child-related outcomes analysis (Egger et al. 2021b). We refer readers to those earlier PAPs for detailed outcome definitions for both education and health outcomes. The EL2 PAP (Egger et al. 2021a) also specifies a child wellbeing summary index (Section 5.16) constructed as a mean effects index of the education index, child home environment index, child engagement index, child health index, and child food security index. We will be able to follow this approach and adapt it to the EL3 survey instrument where relevant. Note that the Household Survey measures of child outcomes

are far less detailed than the Kids Survey currently being collected. Second, note that we have far fewer children of the relevant birth cohorts (birth years 2015 to 2017) in the representative Household Survey sample, likely leading to less statistically powered analyses. The advantage of the Household Survey sample is that we also have children born in other birth cohorts (outside of the 2015 to 2017 window), potentially permitting some useful comparisons. We plan to examine this data, both for our main birth cohorts and others, and view this as exploratory analysis.

6 Tables

Table 1: Primary Outcomes

Individual Outcomes	Sub-Index	Broad Index
Panel A: Primary Child Outcomes		
Language and Cognitive Abilities		
Peabody Picture Vocabulary Test Z-Score	Language Index†	Academic Cognitive Index† & Cognitive Abilities Index
Animal Naming Z-Score		
Uwezo Swahili Augmented Z-Score		
Uwezo English Augmented Z-Score		
Uwezo Math Augmented Z-Score	Math and Spatial Abilities Index†	
Making Change Indicator	Executive Functioning Index	
Digit Span Z-Score		
PLUS-EF Hearts & Flowers Z-Score: Congruent Task		
PLUS-EF Hearts & Flowers Z-Score: Incongruent Task		
PLUS-EF Hearts & Flowers Z-Score: Mixed Task		
Raven's Test Z-Score	Fluid Intelligence Index	
Behavior and Socio-Emotional Development		
Emotional Symptoms Scale	Total Difficulties Score**	Strengths and Difficulties Index
Conduct Problems Scale		
Hyperactive Scale		
Peer Problems Scale		
Prosocial Scale	Prosocial Scale	
CES-DC Scale	CES-DC Scale	CES-DC Index
Resilience Scale	Resilience Scale	Resilience Index
Subjective Health		
No sickness in past seven days		Subjective Health Index
Overall child health		
No serious health problems since birth		
No disability indicator		
Anthropometrics & Biomarkers		
Stunting	Stunting Prevalence	

Anemia	Anemia Status	
Panel B: Child Investment Outcomes		
Home Environment Investments		
Household books		Modified Family Care Indicators (FCI) Index
Magazines or newspapers		
Varieties of play materials		
Play activities		
Number of picture or storybooks		
Schooling Enrollment and Educational Investments		
School Enrollment and Educational Investments Index		School Enrollment and Educational Investments Index
Food Security & Diet Quality		
Food Security Index	Food Security Index	
Modified GDQS	Modified GDQS score	
Caregiver-Child Relationship		
Caregiver-Child Relationship Index		Caregiver-Child Relationship Index

Notes:

1. Age ranges are reported for assessments that vary by child age. All children in the sample are approximately 7-11 years old at EL3.
2. ** indicates components where the direction will be re-signed for internal consistency (higher values = positive outcomes).
3. † For Language and Cognitive Abilities, we define two broad indices: the Academic Cognitive Index (Language + Math/Spatial) and the Cognitive Abilities Index (all four sub-indices: Language, Match/Spatial, Executive Function, and Fluid Intelligence).

Table 2: Construction of Primary Outcomes

Outcome	Aggregation Method	Question Number	Question Description
Panel A: Primary Child Outcomes			
Behavior and Socio-Emotional Development			
Emotional Symptoms Scale†	Sum		
		PC 6.3	Often complains of headaches, stomach-aches, or sickness
		PC 6.8	Many worries or often seems worried
		PC 6.13	Often unhappy, depressed or tearful
		PC 6.16	Nervous or clingy in new situations, easily loses confidence
		PC 6.24	Many fears, easily scared
Conduct Problems Scale†	Sum		
		PC 6.5	Often loses temper
		PC 6.7	**Generally well behaved, usually does what adults request
		PC 6.12	Often fights with other children or bullies them
		PC 6.18	Often lies or cheats
		PC 6.22	Steals from home, school or elsewhere
Hyperactive Scale†	Sum		
		PC 6.2	Restless, overactive, cannot stay still for long
		PC 6.10	Constantly fidgeting or squirming
		PC 6.15	Easily distracted, concentration wanders
		PC 6.21	**Thinks things out before acting
		PC 6.25	**Good attention span, sees work through to the end
Peer Problems Scale†	Sum		
		PC 6.6	Rather solitary, prefers to play alone
		PC 6.11	**Has at least one good friend
		PC 6.14	**Generally liked by other children
		PC 6.19	Picked on or bullied by other children
		PC 6.23	Gets along better with adults than with other children
Prosocial Scale†	Sum		
		PC 6.1	Considerate of other people's feelings
		PC 6.4	Shares readily with other children
		PC 6.9	Helpful if someone is hurt, upset or feeling ill
		PC 6.17	Kind to younger children
		PC 6.20	Often offers to help others
CES-DC Scale†	Sum		
		Kids 2.2.1	Felt bothered by things
		Kids 2.2.2	Felt like not eating
		Kids 2.2.3	Felt you were not happy
		Kids 2.2.4	**Felt good as other kids
		Kids 2.2.5	Felt that you could not pay attention
		Kids 2.2.6	Felt down and unhappy
		Kids 2.2.7	Felt to be too tired to do things
		Kids 2.2.8	**Felt that something good was going to happen

		Kids 2.2.9	Felt that things did not work out
		Kids 2.2.10	Felt scared
		Kids 2.2.11	Felt your sleep was restless
		Kids 2.2.12	**Felt happy
		Kids 2.2.13	Felt more quiet
		Kids 2.2.14	Felt lonely
		Kids 2.2.15	Felt that other kids were not friendly
		Kids 2.2.16	**Felt you had a good time
		Kids 2.2.17	Felt like crying
		Kids 2.2.18	Felt sad
		Kids 2.2.19	Felt people disliked you
		Kids 2.2.20	Felt hard to get started on things
Resilience Scale†	Sum		
		Kids 2.6.1	I have people I want to be like
		Kids 2.6.2	Getting an education is important to me
		Kids 2.6.3	My parents/caregivers know a lot about me
		Kids 2.6.4	I try to finish activities that I start
		Kids 2.6.5	I can fix things that don't go my way without hurting anyone
		Kids 2.6.6	I know where to go to get help
		Kids 2.6.7	I feel that I belong at my school
		Kids 2.6.8	I think my family cares about me when times are hard
		Kids 2.6.9	I am treated fairly
		Kids 2.6.10	I have chances to learn things that will be useful when I'm older
		Kids 2.6.11	I like the way my community celebrates things
Subjective Health			
No disability Indicator†	Max		
		PC 3.9	Serious delays in learning to walk compared to other children
		PC 3.10	Difficulty seeing
		PC 3.11	Difficulty hearing
		PC 3.13	Difficulty moving. Weakness or stiffness in arms and legs.
		PC 3.14	Has seizures
		PC 3.12	Child does not understand caregiver
		PC 3.15	Child has lower learning ability than other children
		PC 3.16	Child cannot speak or communicate
		PC 3.17	Speech impediments
		PC 3.18	Cognitively delayed, or delayed in language
Panel B: Child Investment Outcomes			
Home Environment Investments			
Household Books	Sum	PC 5A.1c	Total books minus picture/storybooks (5A.1d), e-books (5A.1e), and textbooks (5A.1g).
Magazines and Newspapers	Sum		
		PC 5A.1h	Newspapers, magazines, pamphlets, or brochures at home
		PC 5A.1i	Pictures, posters, etc
Varieties of Play Materials	Sum		

		PC 5A.1a	Music player or radio at home
		PC 5A.1b	Musical instruments at home
		PC 5A.1j	Paper and pen or art supplies at home
		PC 5A.1d	Storybooks or picturebooks
		PC 5A.1e	E-books (including textbooks, children's books, storybooks)
		PC 5A.1g	Number of children's textbooks
		PC 5A.1l	Plays games of strategy (ludo, checkers, chess, video/phone games)
		PC 5A.1k	Child makes toys (balls, dolls, etc)
Play Activities	Sum		
		PC 5A.13a	Caregiver reads books to or looks at books with child
		PC 5A.13b	Caregiver/HH member tells stories to child
		PC 5A.13c	Caregiver/HH member sings songs/plays instruments with child
		PC 5A.13d	Caregiver/HH member plays with child
		PC 5A.13e	Caregiver/HH member constructs objects or art with child
		PC 5A.13f	Caregiver names, counts, or draws things with child
		PC 5A.13g	Caregiver helps child with homework
		PC 5A.13h	Caregiver talks with child about what learning in school
		PC 5A.13i	Caregiver teaches vocabulary words in English or Swahili
		PC 5A.13j	Caregiver teaches vocabulary words in local language
		PC 5A.13k	Caregiver/HH member plays sports or other physical activity
		PC 5A.13l	Caregiver/HH member takes child on a fun outing
Schooling Enrollment and Educational Investments			
School Enrollment Index	Normalized Average		
		PC 5B.1	Child currently enrolled in school
		PC 5B.1f	Child attended school last week
		PC 5B.1g	Number of days child attended last week
		PC 5B.1i	Cost of schooling last month, actual paid by household
		PC 5B.1k	Cost of educational expenses (fees, uniforms, supplies, transportation)
		PC 5B.1b	Private school enrollment
		PC 5A.4	Hours spent in class time
		PC 5A.6g	Hours spent reading, doing homework, or studying
Food Security			
Food Security Index	Sum		
		PC 3.19	**Indicator for child had at least three meals yesterday
		PC 3.20	**Indicator for child had at least one meal with meat or fish
		PC 3.21	Indicator for child went to sleep hungry in last week
		Kids 3.1.1	Child worried about running out of food past month
		Kids 3.1.2	Child skipped a meal past month
		Kids 3.1.3	Child went without eating a whole day past month
Diet Quality			
Modified GDQS	Sum		
		Kids 3.2.1a	Leafy vegetables with 4 petals
		Kids 3.2.1b	Leafy vegetables with vitamin A nutrients
		Kids 3.2.1c	Other dark orange fruits/vegetables rich in vitamin A
		Kids 3.2.1d	Other vegetables
		Kids 3.2.2a	Whole citrus fruits
		Kids 3.2.2b	Other fruits

		Kids 3.2.3a	Poultry
		Kids 3.2.3b	Meat
		Kids 3.2.3c	Fish
		Kids 3.2.3d	**Processed Meat
		Kids 3.2.3e	Eggs
		Kids 3.2.3f	Dairy products
		Kids 3.2.4a	Beans/Peas/Lentils/Cowpeas/Bambara Nuts/Others
		Kids 3.2.4b	Nuts and seeds
		Kids 3.2.5a	**Grains and baked foods
		Kids 3.2.5b	Bread/Millet/Brown rice/Brown ugali
		Kids 3.2.5c	Root crops
		Kids 3.2.6a	Vegetable oils
		Kids 3.2.6b	**Sweet snacks and ice cream
		Kids 3.2.6c	**Fried foods outside the home
		Kids 3.2.6d	**Sugar-sweetened beverages
Caregiver-Child Relationship			
CPRS-SF Index	Sum		
		PC 7.1	PC shares an affectionate, warm relationship with child
		PC 7.2	**Child and PC always seem to be struggling with each other
		PC 7.3	If upset, child will seek comfort from PC
		PC 7.4	**Child is uncomfortable with physical affection or touch from PC
		PC 7.5	Child values his/her relationship with PC
		PC 7.6	When PC praises child, he/she beams with pride
		PC 7.7	Child spontaneously shares information about himself/herself
		PC 7.8	**Child easily becomes angry at PC
		PC 7.9	It is easy for PC to be in tune with what the child is feeling
		PC 7.10	**Child remains angry or is resistant after being disciplined
		PC 7.11	**Dealing with child drains PC's energy
		PC 7.12	**When child is in a bad mood, PC knows they're in for a long and difficult day
		PC 7.13	**Child's feelings toward PC can be unpredictable or change suddenly
		PC 7.14	**Child is sneaky or manipulative with PC
		PC 7.15	Child openly shares his/her feelings and experience with PC

Notes:

1. We will report all questions in an appendix, with both naive p-values and multiple testing corrected FDR q-values.
2. † indicates that individual components will not be reported separately.
3. ** indicates components where the direction will be re-signed for internal consistency.

Table 3: Additional Outcomes

Question Number	Outcome Description	Index
	Language and Cognitive Abilities	
	Uwezo Level Score (categorical)	
	Early Life Health Investments	
PC 3.3	Received any vaccination	
PC 3.3a	Received BCG vaccination	Vaccination Index†
PC 3.3b	Received polio vaccination	
PC 3.3c	Received DPT vaccination	
PC 3.3d	Received measles vaccination - 1st dose	
PC 3.3e	Received yellow fever vaccination	
PC 3.3f	Received measles vaccination - 2nd dose	
PC 3.3g	Received HPV vaccination	
PC 3.3h	Received COVID-19 vaccination	
PC 3.4	Slept under bed net last night	Parasitic Prevention
PC 3.5	Dewormed in past 12 months	Index
	Child Discipline Strategies	
PC 5A.14a	Took away privileges or grounded	Positive discipline
PC 5A.14b	Explained wrong behavior to child	techniques index
PC 5A.14d	Gave misbehaving child alternate activity	
PC 5A.14c	Yelled at child	Negative discipline
PC 5A.14e	Called child names	techniques index
PC 5A.14f	Hit the child	
	Economic Preferences	
Kids 4.1	Time Preferences Z-Score	
Kids 4.2	Pro-Sociality Preferences Z-Score	
Kids 4.3	Risk Preferences Z-Score	
Kids 4.4	Ambiguity Preferences Z-Score	
	Gender Attitudes	
Kids 2.11.1	It is okay for a woman to be a mechanic	Gender Attitudes
Kids 2.11.2	**Important decisions should be made by men	Index
Kids 2.11.3	Husband should help with household chores	
Kids 2.11.4a	Girls and boys have equal opportunities for secondary education	
Kids 2.11.4b	Women and men have equal opportunities to get a job	
	Caregiver Mental Health (CESD-10)	
PC 2.2.1	Bothered by things that usually do not bother him/her	Caregiver Mental
PC 2.2.2	Problem concentrating on what doing	Health Index†
PC 2.2.3	Felt depressed and troubled	
PC 2.2.4	Everything took up all energy	
PC 2.2.5	**Felt hopeful about the future	
PC 2.2.6	Felt afraid	
PC 2.2.7	Difficulty sleeping peacefully	
PC 2.2.8	**Was happy	
PC 2.2.9	Felt lonely	
PC 2.2.10	Lacked motivation to do anything	
	Time Use	
PC 5A.6e	Hours spent informally playing with friends	Unstructured Leisure

PC 5A.6h	Hours spent watching TV, playing video games, etc.	
PC 5A.6e	Hours spent doing chores	Productive Activities/
PC 5A.6f	Hours spent on family business	Chores
PC 5A.4	Hours spent in class time	Educational Activities
PC 5A.6g	Hours spent reading, doing homework, or studying	
PC 5A.5	Hours spent going to and from school	Other
PC 5A.6a	Hours spent on a structured non-sports activity	
PC 5A.6b	Hours spent on religious activities	
PC 5A.6c	Hours spent on formal sports	
PC 5A.6i	Hours spent on other non-sleep activities	
Kids 2.8	Aspirations: Educational aspirations	Educational Aspirations
	Competition	
PC 5C.4	Caregiver beliefs about importance of competing	
PC 5C.5	How competitive caregivers consider themselves	
PC 5C.6	Caregiver beliefs about importance of child competing	
PC 5C.7	How competitive caregivers consider their child	
Kids 4.8	Child beliefs about importance of competing	
Kids 4.9	How competitive children consider themselves	
	Parental Beliefs	
PC 5B.7	Child is average, better, or below average student	Parental beliefs
PC 5B.8a-d	Relative ranking (1-10) in math, Swahili, English, overall	
PC 5B.11	Child scored above/average/below average on KCPE/KPSEA	
PC 5B.12	Anticipated score on KCPE/KPSEA, if not taken	
PC 5B.13	Anticipated above/average/below average on KCPE/KPSEA	
PC 5B.16a-e	Locus of control: understanding ability, effort, external factors	
	Child Academic Self-Concept	
Kids 2.18.4	General academic self-concept	Child academic self-
Kids 2.18.1-3	Academic self-concept in math, English, Swahili	concept and beliefs
Kids 2.18.6	Above/average/below average compared to other children	
Kids 2.18.7-8	Same indicators compared to female/male children	
	Anthropometrics and Biomarkers	
Kids 5.1	Height for Age (HAZ)	
Kids 5.2	Weight for Age (WAZ)	
	BMI Percentile	
Kids 5.3	Blood pressure: pre-hypertensive and hypertensive indicators	
Kids 5.4	Hemoglobin: continuous score	

Notes:

1. We will report all questions in an appendix, with both naive p-values and multiple testing corrected FDR q-values.
2. † indicates individual components will not be reported separately.
3. ** indicates components where direction will be re-signed for internal consistency.

Table 4: Uwezo Scoring

Individual Tests	Performance Measure	Performance Level	Normalized Score	Normalized Score Range
Panel A: Uwezo English and Swahili				
Letters	Number of correct tasks	0-1	0	0-8
		2-3	1	
		4-5	2	
Words	Number of correct tasks	0-1	0	
		2-3	1	
		4-5	2	
Paragraph	Number of mistakes	5+	0	
		3-4	1	
		0-2	2	
Story	Number of mistakes	5+	0	
		3-4	1	
		0-2	2	
Panel B: Uwezo Math				
Count and Match	Number of correct tasks	0-1	0	0-16
		2-3	1	
		4-5	2	
Number Recognition	Number of correct tasks	0-1	0	
		2-3	1	
		4-5	2	
Which is Greater	Number of correct tasks	0-1	0	
		2-3	1	
		4-5	2	
Addition	Number of correct tasks	0	0	
		1	1	
		2-3	2	
Subtraction	Number of correct tasks	0	0	
		1	1	
		2-3	2	
Multiplication	Number of correct tasks	0	0	
		1	1	
		2-3	2	
Division	Number of correct tasks	0	0	
		1	1	
		2-3	2	
Division+	Number of correct tasks	0	0	
		1	1	
		2-3	2	

Notes:

1. A normalized score of 2 indicates the child reached that level in the Uwezo test.
2. In Uwezo English/Swahili, the child starts with the Paragraph task. In Math, the child starts with Subtraction.

Table 5: Modified GDQS Categories

GDQS	Modified GDQS – EL3 Kids Survey
Dark-green leafy vegetables	Leafy vegetables with 4 petals
Deep-orange fruits / Deep-orange vegetables	Leafy vegetables with vitamin A nutrients
Deep-orange tubers	Other dark orange fruits/vegetables rich in vitamin A
White roots and tubers	Root crops
Cruciferous vegetables / Other vegetables	Other vegetables
Citrus fruits	Whole citrus fruits
Other fruits	Other fruits
Fish and shellfish	Fish
Poultry and game meat	Poultry
Red meat	Meat
Processed meat	Processed Meat
Legumes	Beans/Peas/Lentils/Cowpeas/Bambara Nuts/Others
Nuts and seeds	Nuts and seeds
Low-fat dairy / High-fat dairy	Dairy products
Eggs	Eggs
Whole grains	Bread/Millet/Brown rice/Brown ugali
Refined grains and baked goods	Grains and baked foods
Sugar-sweetened beverages / Juice	Sugar-sweetened beverages
Sweets and ice cream	Sweet snacks and ice cream
Purchased deep fried foods	Fried foods outside the home
Liquid oils	Vegetable oils

Notes:
1. Items in green indicate healthy food groups (higher consumption gets more points), items in red indicate unhealthy food groups (lower consumption gets more points), and items in yellow indicate food groups unhealthy when consumed in excessive amounts.

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Appendix A: Data Management Note

KGES EL3 Child Analysis (Kids and PC Survey) Data Management Plan

Date: April 27, 2026

On November 24, 2025, we launched the Kenya General Equilibrium Study (KGES) Endline 3 (EL3) Primary Caregiver (PC) Survey and Kids Survey data collection to survey children born between January 1, 2014 and December 31, 2017—the cohort of children who were *in utero* through early childhood when GiveDirectly's unconditional cash transfers were distributed in the study region (2014–2016). This round of child-focused data collection builds on the broader EL3 data collection activities, which have included a household census, enterprise census, household surveys, and enterprise surveys conducted from 2023 onwards across the 653 villages within the KGES study area in Siaya County, western Kenya. The eligible child sample was identified through a birth census of women residing in study area households conducted as part of the 2023 EL3 household census.

Unlike earlier KGES rounds, the EL3 Child Analysis data collection is being conducted in a single fieldwork wave that began on November 24, 2025 and is expected in fall 2026. As of Sunday April 26, 2026, we have completed 2,371 PC Survey interviews and 2,333 Kids Survey assessments.

We plan to file the pre-analysis plan for the KGES EL3 Child Analysis on the AEA RCT Registry in early May 2026. The pre-analysis plan has been prepared by Dennis Egger, Grady Killeen, Edward Miguel, and Michael Walker, with support from Ei Thandar Myint, and Aditi Poduri, henceforth the "research team," and will be uploaded to the AEA RCT Registry concurrent with this Data Management Plan.

In general, survey data have been compiled, organized, and stored by the field management team based in Busia, Kenya, led by Andrew Wabwire at REMIT Global Research Center, henceforth the "field and data team."

During the data collection of the EL3 Kids Survey and PC Survey to date, the field and data team has shared some data (without treatment status) with selected members of the research team for the following purposes:

1. Identifying and correcting any coding errors in the survey instruments
2. Making improvements to the assessments based on initial results
3. Addressing technical issues with the tablet-based assessment tools
4. Conducting data quality checks to ensure consistency and completeness
5. Refining protocols for the remainder of fieldwork

Throughout the data collection period to date, the field and data team has prepared and provided the research team only with summary statistics on data collection quality, respondent tracking rates, and assessment completion rates. These statistics have been used to maintain high data quality and to reduce attrition. We have been analyzing data on tracking rates across treatment groups to check for balance. No treatment effects on any outcomes of interest have been estimated in advance of filing the pre-analysis plan.

Prior to registration of this pre-analysis plan, no research team member has had access to outcome data merged with treatment assignment. We are registering this Data Management Plan concurrent with the pre-analysis plan to document that all EL3 Kids Survey and PC Survey data analysis carried out to date has focused exclusively on quality checks and cleaning, with no estimation of treatment effects. Treatment status has not yet been linked with the PC or Kids survey data, other than for tracking rates.

Access to the EL3 Kids Survey and PC Survey data merged with treatment status will be granted to research team members only after this Data Management Plan and the accompanying pre-analysis plan have been filed on the AEA RCT Registry.

[Time Sensitive] KGES-EL3 Kids and PC Survey Data Management Plan

9 messages

Ei Thandar Myint <etmyint@berkeley.edu> Mon, Apr 27, 2026 at 10:12 AM
To: Edward Miguel <emiguel@berkeley.edu>, Dennis Egger <dennis.egger@economics.ox.ac.uk>, Michael Walker <mwwalker@berkeley.edu>, Grady Killeen <gkilleen@berkeley.edu>, Nick Shankar <nick.shankar@berkeley.edu>, Rachel Pizatella-Haswell <rachel_pizatella@berkeley.edu>, Andrew Wabwire <wabwireandrew79@gmail.com>, Aditi Poduri <aditipoduri@berkeley.edu>
Cc: Ei Thandar Myint <etmyint@berkeley.edu>

Hi everyone,

We are in the final stages of filling the KGES-EL3 Kids and Primary Caregiver Survey Pre-Analysis Plan. Thank you for the feedback you have provided so far.

Could you please review the attached data management note (confirming data access and that no treatment effects have been estimated to date) and **reply to me with the following attestation, ideally in the next 24 hours?**

"I confirm the information in the KGES-EL3 Kids and Primary Caregiver Survey Data Management Plan (dated April 27, 2026) is correct, and agree to follow the specified plan."

Please reach out if you have any questions.

Best,
Ei

GE_EL3_ChildAnalysis_DataManagementPlan.pdf
83K

Grady Killeen <gkilleen@berkeley.edu> Mon, Apr 27, 2026 at 10:15 AM
To: Ei Thandar Myint <etmyint@berkeley.edu>

I confirm the information in the KGES-EL3 Kids and Primary Caregiver Survey Data Management Plan (dated April 27, 2026) is correct, and agree to follow the specified plan.

On Mon, Apr 27, 2026 at 10:12 AM Ei Thandar Myint <etmyint@berkeley.edu> wrote:

> Hi everyone,
>
> We are in the final stages of filling the KGES-EL3 Kids and Primary Caregiver Survey Pre-Analysis Plan. Thank you for the feedback you have provided so far.
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>
> Please reach out if you have any questions.
>
> Best,
> Ei

Edward Miguel <emiguel@berkeley.edu> Mon, Apr 27, 2026 at 10:38 AM
To: Ei Thandar Myint <etmyint@berkeley.edu>

Dear Ei,
I confirm the information in the KGES-EL3 Kids and Primary Caregiver Survey Data Management Plan (dated April 27, 2026) is correct, and agree to follow the specified plan.
Best,
Ted Miguel

On Mon, Apr 27, 2026 at 10:12 AM Ei Thandar Myint <etmyint@berkeley.edu> wrote:

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>
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>
> Please reach out if you have any questions.
>
> Best,
> Ei

--

Edward Miguel
University of California, Berkeley
http://emiguel.econ.berkeley.edu/

Aditi Poduri <aditipoduri@berkeley.edu> Mon, Apr 27, 2026 at 12:38 PM
To: Ei Thandar Myint <etmyint@berkeley.edu>

Hi Ei,

Here is my attestation:

"I confirm the information in the KGES-EL3 Kids and Primary Caregiver Survey Data Management Plan (dated April 27, 2026) is correct, and agree to follow the specified plan."

Best,
Aditi

On Mon, Apr 27, 2026 at 10:12 AM Ei Thandar Myint <etmyint@berkeley.edu> wrote:

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>
> Please reach out if you have any questions.
>
> Best,
> Ei

Nick Shankar <nick.shankar@berkeley.edu> Mon, Apr 27, 2026 at 2:10 PM
To: Ei Thandar Myint <etmyint@berkeley.edu>

"I confirm the information in the KGES-EL3 Kids and Primary Caregiver Survey Data Management Plan (dated April 27, 2026) is correct, and agree to follow the specified plan."

On Mon, Apr 27, 2026 at 10:12 AM Ei Thandar Myint <etmyint@berkeley.edu> wrote:

> Hi everyone,
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>
> Please reach out if you have any questions.
>
> Best,
> Ei

--
Nick Shankar
Ph.D. Candidate | Economics
University of California, Berkeley

Rachel Pizatella-Haswell <rachel_pizatella@berkeley.edu> Tue, Apr 28, 2026 at 10:28 AM
To: Ei Thandar Myint <etmyint@berkeley.edu>

I confirm the information in the KGES-EL3 Kids and Primary Caregiver Survey Data Management Plan (dated April 27, 2026) is correct, and agree to follow the specified plan.

On Mon, Apr 27, 2026 at 4:31 PM Rachel Pizatella-Haswell <rachel_pizatella@berkeley.edu> wrote:

> Hi Ma Ei, Do you need me to send this declaration? I don't see my name in the document. Let me know!
>
> Best,
> Rachel
>
> On Mon, Apr 27, 2026 at 10:12 AM Ei Thandar Myint <etmyint@berkeley.edu> wrote:
>
> > Hi everyone,
> >
> > We are in the final stages of filling the KGES-EL3 Kids and Primary Caregiver Survey Pre-Analysis Plan. Thank you for the feedback you have provided so far.
> >
> > Could you please review the attached data management note (confirming data access and that no treatment effects have been estimated to date) and **reply to me with the following attestation, ideally in the next 24 hours?**
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> >
> > Please reach out if you have any questions.
> >
> > Best,
> > Ei

--
Rachel M. Pizatella-Haswell
University of California, Berkeley
Mobile: +1 304 657 4382

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Rachel M. Pizatella-Haswell
University of California, Berkeley
Mobile: +1 304 657 4382

Michael Walker <mwwalker@berkeley.edu> Tue, Apr 28, 2026 at 10:38 AM
To: Ei Thandar Myint <etmyint@berkeley.edu>

Hi Ei,

I confirm the information in the KGES-EL3 Kids and Primary Caregiver Survey Data Management Plan (dated April 27, 2026) is correct, and agree to follow the specified plan.

Best,
Michael

On Mon, Apr 27, 2026 at 10:12 AM Ei Thandar Myint <etmyint@berkeley.edu> wrote:

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>
> Please reach out if you have any questions.
>
> Best,
> Ei

--
Michael Walker
mwwalker@berkeley.edu

Dennis Egger <dennis.egger@economics.ox.ac.uk> Tue, Apr 28, 2026 at 11:34 AM
To: Ei Thandar Myint <etmyint@berkeley.edu>, Edward Miguel <emiguel@berkeley.edu>, Michael Walker <mwwalker@berkeley.edu>, Grady Killeen <gkilleen@berkeley.edu>, Nick Shankar <nick.shankar@berkeley.edu>, Rachel Pizatella-Haswell <rachel_pizatella@berkeley.edu>, Andrew Wabwire <wabwireandrew79@gmail.com>, Aditi Poduri <aditipoduri@berkeley.edu>

"I confirm the information in the KGES-EL3 Kids and Primary Caregiver Survey Data Management Plan (dated April 27, 2026) is correct, and agree to follow the specified plan."

Best wishes,
Dennis

From: Ei Thandar Myint <etmyint@berkeley.edu>
Sent: Monday, April 27, 2026 6:12 PM
To: Edward Miguel <emiguel@berkeley.edu>; Dennis Egger <dennis.egger@economics.ox.ac.uk>; Michael Walker <mwwalker@berkeley.edu>; Grady Killeen <gkilleen@berkeley.edu>; Nick Shankar <nick.shankar@berkeley.edu>; Rachel Pizatella-Haswell <rachel_pizatella@berkeley.edu>; Andrew Wabwire <wabwireandrew79@gmail.com>; Aditi Poduri <aditipoduri@berkeley.edu>
Cc: Ei Thandar Myint <etmyint@berkeley.edu>
Subject: [Time Sensitive] KGES-EL3 Kids and PC Survey Data Management Plan

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Please reach out if you have any questions.

Best,
Ei

Andrew Wabwire <wabwireandrew79@gmail.com> Tue, Apr 28, 2026 at 12:05 PM
To: Dennis Egger <dennis.egger@economics.ox.ac.uk>
Cc: Ei Thandar Myint <etmyint@berkeley.edu>, Edward Miguel <emiguel@berkeley.edu>, Michael Walker <mwwalker@berkeley.edu>, Grady Killeen <gkilleen@berkeley.edu>, Nick Shankar <nick.shankar@berkeley.edu>, Rachel Pizatella-Haswell <rachel_pizatella@berkeley.edu>, Aditi Poduri <aditipoduri@berkeley.edu>

I confirm the information in the KGES-EL3 Kids and Primary Caregiver Survey Data Management Plan (dated April 27, 2026) is correct, and agree to follow the specified plan.

On Tue, Apr 28, 2026 at 9:34 PM Dennis Egger <dennis.egger@economics.ox.ac.uk> wrote:

> "I confirm the information in the KGES-EL3 Kids and Primary Caregiver Survey Data Management Plan (dated April 27, 2026) is correct, and agree to follow the specified plan."
>
> Best wishes,
> Dennis
>
> ---
>
> **From:** Ei Thandar Myint <etmyint@berkeley.edu>
> **Sent:** Monday, April 27, 2026 6:12 PM
> **To:** Edward Miguel <emiguel@berkeley.edu>; Dennis Egger <dennis.egger@economics.ox.ac.uk>; Michael Walker <mwwalker@berkeley.edu>; Grady Killeen <gkilleen@berkeley.edu>; Nick Shankar <nick.shankar@berkeley.edu>; Rachel Pizatella-Haswell <rachel_pizatella@berkeley.edu>; Andrew Wabwire <wabwireandrew79@gmail.com>; Aditi Poduri <aditipoduri@berkeley.edu>
> **Cc:** Ei Thandar Myint <etmyint@berkeley.edu>
> **Subject:** [Time Sensitive] KGES-EL3 Kids and PC Survey Data Management Plan
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>
> Best,
> Ei

Appendix B: Endline 3 Primary Caregiver (PC) Survey Module

PC

GE Endline 3
PC-MODULE

VERSION: NOVEMBER 2025

SECTION 1: PRE-INTERVIEW INFORMATION AND CONSENT

FO: Greetings! You are about to begin the GE Endline 3 Primary Caregiver Survey. Please fill in the following questions before engaging the respondent.

1. Enumerator details
   a. Name:
   b. REMIT ID: |__|__|__|__|__|

2. Survey details
   a. Today's date: |__|__|/|__|__|/|__|__|__|__| (DD/MM/YYYY)
   b. Time of interview: |__|__|:|__|__|
   c. Where are you conducting this survey?
      i. County:
      ii. Subcounty:
      iii. Location:
      iv. Sublocation:
      v. Village:
   d. Household ID: |__|__|__|__|__|__|__|__|__|__|__|__| - |__|__|__|__|

3. Household identification
   a. This household ID is registered to the household of
      PM name: PF name:
      Confirm you entered the correct ID.

Introduction Part 1:
Hello, I am [name] from REMIT Global Research Center (REMIT), in Busia Town. REMIT is an organization that works on research projects in Kenya. REMIT is collaborating with researchers at the University of California (UC), Berkeley in the USA on a research study.

You are being invited to participate in this study because you previously participated in a survey with us, and because you are the primary caregiver to a child who was born between January 1, 2014 and December 31, 2017. We are interested in understanding the health, education, and cognitive abilities of children in Siaya county, and your household was selected to participate. If you agree to participate, we will conduct an interview with you and do some assessments with your child. We will also measure your child's height, weight, blood pressure, and hemoglobin. The study will last about 2 hours. Are you interested in hearing more about this study? |__| (1=Yes, 2=No)
If yes, continue. If no, end survey here.

4. I would like to confirm I am speaking to the correct household. In a previous survey with your household, we asked about children born to women in this household between 2014 to 2017. We collected the following information. Please confirm if ANY of these children are associated with your household. |__| (1=Yes, 2=No)
   [ALL PREFILL CHILD INFO]

If yes, continue. If no, end survey here.

5. FO: For which child are you filling this form for?
   |__| [PREFILL CHILD 1 INFO]
   |__| [PREFILL CHILD 2 INFO]
   |__| [PREFILL CHILD 3 INFO]
   |__| …

6. Is [child name] currently living in this household? |__| (1=Yes, 2=No)

If yes, skip to question 11. If no, continue.

7. Did [child name] ever live in this household? |__| (1=Yes, 2=No)

If yes, continue. If no, end survey here.

8. Why is [child name] no longer living in this household? |__| (1=Deceased, 2=Moved away)
   If deceased, continue. If moved, skip to question 10.

9.
   a. I am sorry for the loss. I understand this may be painful to talk about, but what was the cause of death?
   b. When did [child name] pass away? |__|__| / |__|__|__|__|

End survey here.

10.
   a. Where did [child name] move away to?
      i. County:
      ii. Subcounty:
      iii. Location:
      iv. Sublocation:
      v. Village:
   b. Can you provide me with a phone number to reach this child at their current residence? |__| (1=Yes, 2=No)

End survey here.

11. Is the primary caregiver of [child name] available to speak to? |__| (1=Yes, 2=No)
    If yes, continue. Otherwise, end survey here.

 FO Comments:

Introduction Part 2:
[READ CONSENT STATEMENT]

12. Do you consent to take part in this research? |__| (1=Yes, 2=No)
If yes, continue. Otherwise, end survey here.

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

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

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

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

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

11e. ***From what source did you record the child's birth date?*** |__| (1=Health Card, 2=Birth certificate, 3=Parent's or caregiver's memory, 4=Tracking sheet, -77=Other(specify))

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, a 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 2.1: CAREGIVER INFORMATION

1. Primary Caregiver's name:

 FO Comments:

READ*:* We want to know the place that you usually sleep, not necessarily your ancestral lands or family home.

2. Is your current place of residence in this village, *[survey village name]*? |__| (1=Yes, 2=No)
   If yes, skip to Q4. If no, continue.

3. Where is your current place of residence?
   a. Country:
   b. County:
   c. Subcounty:
   d. Location:
   e. Sublocation:
   f. Village:

4. Please describe the location of the home. *Provide detailed description to home, including landmarks, distance from roads and any other detailed information where relevant. If there is a primary school nearby, please start your directions from that school. If not, pick a location that is well known in the area to be a starting point for your directions. References to specific businesses or homes ("ask for the home of…") should be included where possible.*

5. Is there a phone number where I can reach you, even if you do not have your own phone? |__| (1=Yes, 2=No)
   If yes, continue. If no, probe the FR for once again. If the FR insists there is no way to reach them by phone (or they do not know any numbers), skip to Q7.

   REPEAT Q5a - Q5d for as many phone numbers as the FR will provide.
   a. Number: |__|__|__|__|__|__|__|__|__|__|
   b. Re-enter number:
   c. Whose phone is this? (relation to FR): |__| *Use G4 codes.*
   d. Name of phone owner:

6. ***Do not ask the following question.*** What is the caregiver's gender? |__| (1=Male, 2=Female)

7. 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.*

8. What is your highest level of education? |__| *Use G6 codes.*

9. What is your current occupation? |__| *Use G9 codes.*

 FO Comments:

10. Are you the biological parent to [child name]? |__| (1=Yes, 2=No)
    If no, continue. Otherwise, skip to question 12.

11. What is your relationship to [child name]? |__| *Use G4 codes.*

12. What is [child name]'s biological mother's highest level of education? |__| *Use G6 codes.*

13. What is [child name]'s biological father's highest level of education? |__| *Use G6 codes.*

14. What is your tribe (or mother tongue)? *Use G10 codes. Females should NOT give the tribe of their husband.*

15. What is your religion / denomination? |__| *Use G11 Codes.*

16. What language do you speak most often with the child? |__| *Use G13 codes.*

17. Are there other languages you speak often with the child? |__| |__| (1=Yes, 2=No)
    If yes, continue. Otherwise, skip to question 19.
    a. Which other languages? |__|__|__| *List up to 3. Use G13 codes.*

FO*:* Do not ask the following question on housing materials. Simply observe and record your observations in the following questions. If you are conducting this interview elsewhere, please ask the respondent the following questions and prompt with the below. Refer to the main house of the household, not simbas.

18. Of what material are the floors made? |__| (1=Cement, 2=Mud, 3=Part mud, part cement, 4=Tiles, -77=Other(specify))

19. Of what material is the roof made? |__| (1=Iron / tin, 2=Grass thatch (no reeds), 3=Grass thatch (with reeds), 4=Mud/branches, 5=Cement/concrete, 6=Palm leaves, 10=Tiles, 11=Unfinished, -77=Other (specify))

20. Of what material are the walls made? |__| (1=Iron, 2=Mud, 3=Cement, 4=Cement/mud mixed, 5=Brick, -77=Other)

21. Apart from [child name], are there other children that live in this household? |__| (1=Yes, 2=No)
    If yes, continue. Otherwise, skip to next section.

22. Tell me how many children, excluding [child name] live in this household that are:
    a. |__| younger than [child name]
    b. |__| same age as [child name]

 FO Comments:

c. |__| older than [child name]

SECTION 2.2: CESD

READ*:* I will read out a list of some of the ways you may feel or behave. Please indicate how often you have felt this way during the past week, using the following scale.
1=Rarely or none of the time
2=Some or a little of the time
3=Occasionally or a moderate amount of time
4=All of the time

Show the respondent scale #1. Demonstrate that they should select their response using the scale. Note: For the rest of the questions in this section, read the questions exactly as written. You may repeat any questions as many times as you'd like, but do not rephrase any question or add additional comments or explanations. If the FR has trouble understanding the statement, please re-read but do not try to explain the questions in a different manner.

1. In the past week, I was bothered by things that usually don't bother me |__|
2. In the past week, I had a problem in concentration on what I was doing |__|
3. In the past week, I felt depressed and troubled in my mind |__|
4. In the past week, I felt that everything that I did took up all my energy |__|
5. In the past week, I felt hopeful about the future |__|
6. In the past week, I felt afraid |__|
7. In the past week, I had difficulty in sleeping peacefully |__|
8. In the past week, I was happy |__|
9. In the past week, I felt lonely |__|
10. In the past week, I lacked the motivation to do anything |__|

SECTION 2.3: CHILD LOCATION HISTORY

1. Was [CHILD NAME] born in this village, [survey village name]? |__| (1=Yes, 2=No)
   If yes, skip to . Otherwise, continue.

2. Where was [CHILD NAME] born?
   a. Country:
   b. County:
   c. Subcounty:

d. Location:
e. Sublocation:
f. Village:

I will now ask where [CHILD NAME] lived each year of his/her life.

REPEAT questions 3 - 6 for each year of [CHILD NAME]'s life:

3. In the [first/second/third/etc.] year of life, was [CHILD NAME]'s primary location of residence the same as [previous year, if first year reference birth location]? |__| (1=Yes, 2=No)
4. In the [first/second/third/etc.] year of life, what was [CHILD NAME]'s primary location of residence?
   a. Country:
   b. County:
   c. Subcounty:
   d. Location:
   e. Sublocation:
   f. Village:
   g. If village not identified: Was [CHILD NAME] living in a village or town/city? |__|
5. For most of [CHILD NAME]'s [first/second/third/etc.] year of life, was [CHILD NAME]'s biological mother the primary caregiver? |__| (1=Yes, 2=No)
6. For most of [CHILD NAME]'s [first/second/third/etc.] year of life, was [CHILD NAME]'s biological father the primary caregiver? |__| (1=Yes, 2=No)

SECTION 3: CHILD HEALTH AND DEVELOPMENT

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

1. ***Is the caregiver being interviewed here the child's biological parent? If you are unsure, you may ask.*** Are you the biological parent of the child?

2. ***If you can see the health card, record the following information without asking. Otherwise, ask:*** What was the weight of **[CHILD NAME]** at birth? (9.9=Weight not measured at birth, 99.0=Weight measured but caregiver doesn't know it, or caregiver doesn't know if weight was taken at birth) |__|.|__| kg

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

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

3. Has **[CHILD NAME]** ever received any vaccinations to prevent him/her from getting diseases?

1=Yes, 2=No, 999 =DK |__|

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

3a. Has **[CHILD NAME]** 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, 999=Don't know whether child has received vaccine

3b. Has **[CHILD NAME]** received a Polio vaccine, that is drops in the mouth?

3c. Has **[CHILD NAME]** received a DPT vaccination, that is an injection in the thigh, sometimes at the same time as the polio drops?

3d. Has **[CHILD NAME]** received the first dose of 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?

3e. Has **[CHILD NAME]** received a yellow fever vaccination, that is an injection in the arm at the age of 9 months or older, to prevent yellow fever?

3f. Has **[CHILD NAME]** received the second dose of a measles (or MMR or MR) vaccination, that is an injection in the arm between the ages of 4 and 6 years, to prevent him/her from getting the measles?

3g. **[Only for girls]** Has **[CHILD NAME]** received the HPV vaccination, which is usually given after age 9, which is given as an injection in the upper arm, to protect against cervical cancer?

3h. Has **[CHILD NAME]** received a vaccination for Covid-19?

3i. Has **[CHILD NAME]** received any other vaccination? 1=Yes (specify), 2=No, 999 =DK |__|

4. Last night, did **[CHILD NAME]** sleep under a bed net? |__| (1=Yes, 2=No) |__|
5. Have any drugs for worm infections or schistosomiasis been given to **[CHILD NAME]** in the last 12 months?
6. During the past seven days, has **[CHILD NAME]** experienced any of the following:
    a. Fever / malaria?
    b. Vomiting?
    c. Cough?
    d. Diarrhea?

 FO Comments:

e. Any other infection? ***If Yes, Specify:_____***

7. Overall, would you say **[CHILD NAME]'s** health is very good, good, fair, poor, or very poor? |__|

5=Very good, 4=good, 3=fair, 2=poor, 1=very poor, 999=DK

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

8. ***If yes:*** Describe. _____

8a. When thinking about **[CHILD NAME]**'s health and development, how would you rank the following items in order of importance?

1=|__| Doing physical exercise

2=|__| Sleeping a good number of hours

3=|__| Getting along well with friends

4=|__| Eating healthy food

5=|__| Drinking water

9. How old (in months) was **[CHILD NAME]** when he/she began walking? |__| months (999=DK, 888=Never walked)

If DK, continue. Else skip to question 10.

9a. Was the child older or younger than 2 years old when he / she began walking?

1=Older, 2=Younger, 999 =DK |__|

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

11. Does **[CHILD NAME]** appear to have difficulty hearing? |__| (1=Yes, 2=No) |__|

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

13. Does **[CHILD NAME]** 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) |__|

14. Does **[CHILD NAME]** sometimes have seizures, become rigid, or lose consciousness?

1=Yes, 2=No, 999 =DK |__|

 FO Comments:

15. Does **[CHILD NAME]** learn to do things like other children his/her age? |__| (1=Yes, 2=No)
16. Does **[CHILD NAME]** speak at all (can he/she make himself/herself understood in words; can he/she say any recognizable words)? |__| (1=Yes, 2=No) |__|
17. Is **[CHILD NAME]**'s speech in any way different from normal? |__| (1=Yes, 2=No)

18. Compared with other children of his/her age, does **[CHILD NAME]** appear in any way cognitively delayed, or delayed in language? |__| (1=Yes, 2=No) |__|

Note: If parents do not understand, probe if child was speaking or saying words by age 2. If not speaking, please select YES.

19. How many meals did [CHILD NAME] eat yesterday? Chai (tea) itself is not to be considered as a meal. [__]

If ZERO, skip to question 21.

20. How many of these meals included meat or fish? Omena (small fish) should be included, but eggs should not. [__]

21. How many days in the last 7 days did **[CHILD NAME]** go to sleep hungry because there was not enough food? (999=DK) [__]

 FO Comments:

SECTION 4: SLEEP PATTERNS - CHILDREN

READ: Now I would like to ask you some questions about [CHILD NAME]'s sleep.

1. What time did [CHILD'S NAME] go to bed last night? [__][__] : [__][__]
2. What time did [CHILD'S NAME] wake up this morning? [__][__] : [__][__]
3. In total, how long did [CHILD'S NAME] nap over the last 24 hours? [__][__] : [__][__]
4. Over the last month what was [CHILD'S NAME]'s usual bedtime? [__][__] : [__][__]
5. Over the last month what was [CHILD'S NAME]'s usual wake up time? [__][__] : [__][__]
6. What time does [CHILD'S NAME] typically finish eating dinner? [__][__] : [__][__]

SECTION 5A: HOME ENVIRONMENT INFORMATION

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

1. Now I'd like to ask about things that are in the home where the child lives.
   a. Is there a music player or radio that **[CHILD NAME]** can listen to at home, or a smartphone or other device which **[CHILD NAME]** uses to listen to music at home? |__| (1=Yes, 2=No)
   b. Is there something **[CHILD NAME]** uses to make music at home such as a drum, horn, kayamba, or guitar? |__| (1=Yes, 2=No)
   c. About how many books are there in **[CHILD NAME]**'s home (including the Bible or other religious book, dictionary, textbooks, children's books and picture books)? |__|
   d. About how many storybooks or picture books are in **[CHILD NAME]**'s home? Please include any storybooks or picture books you received as a gift. Please only include children's storybook and/or picture books. DO NOT include any textbooks or magazines or e-books. |__|
   e. About how many e-books does **[CHILD NAME]** have access to at home including Textbooks, children's books, storybooks or picture books? |__|
   If 1d or 1e > 0, continue. Otherwise, skip to 1g.
   f. What language(s) are these storybooks in? *Select all that apply.* |__| (1=English, 2=Kiswahili, 3=Luo, 4=Luhya, -77=Other)
   g. About how many children's textbooks are in **[CHILD NAME]**'s home? |__|
   Number of children's books and number of textbooks should not exceed total number of books (question 1c).
   h. Is there any other reading material in **[CHILD NAME]**'s home, such as newspapers, magazines, pamphlets, or brochures? |__| (1=Yes, 2=No)

 FO Comments:

i. Are there any pictures, posters, calendars, or other type of art work on the walls at **[CHILD NAME]**'s home? |__| (1=Yes, 2=No)
j. Does **[CHILD NAME]** have paper and pencil, pen or art supplies (such as crayons or paints) to write or draw with at home? |__| (1=Yes, 2=No)
k. Does **[CHILD NAME]** make his/her own toys to play with, such as a football or dolls? |__| (1=Yes, 2=No)
l. Does **[CHILD NAME]** play any games of strategy such as ludo game, draught (checkers), chess, or strategy video/phone games? |__| (1=Yes, 2=No)

2. In the last 12 months, how often has a family member taken **[CHILD NAME]** to travel to another region or city? |__| times. *By another region, we mean a trip of 30km or more. 30km is about the distance from X to Y*

3. How strongly do you agree with the statement, "I know how my child spends their time each day"? |__| (1=Strongly disagree, 2=Disagree, 3=Neither agree nor disagree, 4=Agree, 5=Strongly agree, -99 = DK)

4. How many hours did **[CHILD NAME]** spend in class time during the last day **[CHILD NAME]** attended school? |__| *Round to the nearest hour.*

5. How long does it take **[CHILD NAME]** to get to and from school in minutes? |__| *If child is in boarding school, record 0 minutes.*

6. From 6am yesterday morning to 6am this morning…
   a. How long, in hours and minutes did **[CHILD NAME]** spend doing structured activity outside of class time , for example, a dancing/music/drama club, an environmental club, a scouts club, not including religious activities or sports? Hours: |__| Minutes: |__|
   b. How long, in hours and minutes did **[CHILD NAME]** spend doing prayers, bible study, religious study or other religious activities? Hours: |__| Minutes: |__|
   c. How long, in hours and minutes, did **[CHILD NAME]** spend playing formal sports with a team? Hours: |__| Minutes: |__|
   d. How long, in hours and minutes, did **[CHILD NAME]** spend playing with friends (such as rukaruka, playing football with friends, or other games), not including formal sports? Hours: |__| Minutes: |__|
   e. How long, in hours and minutes, did **[CHILD NAME]** spend doing chores, such as fetching water, washing, cooking, caring for other siblings, etc (not including agricultural

activities or taking care of chicken, livestock or other animals)? Hours: |__| Minutes: |__|

f. How long, in hours and minutes, did **[CHILD NAME]** spend on the family business, family farm, or agricultural activities including taking care of chicken, livestock, or other animals? Hours: |__| Minutes: |__|
g. How long, in hours and minutes, did **[CHILD NAME]** spend reading, doing homework, or studying for school? Hours: |__| Minutes: |__|
h. How long, in hours and minutes, did **[CHILD NAME]** spend watching television, listening to the radio, playing video games, or playing with a phone, tablet, or computer? Hours: |__| Minutes: |__|
i. Is there another activity, beside sleep, that the child did for more than 2 hours? ***If yes***, what is the activity, and how many hours did **[CHILD NAME]** do this activity? |__| (1=Yes, 2=No)
    i. Specify activity:
    ii. Hours: |__| Minutes: |__|

7. Sometimes children take care of siblings or other children from other households while they are doing other things. How many hours in total do you think **[CHILD NAME]** cares for children on a typical week day, even if **[CHILD NAME]** is doing other things at the same time? |__|

8. Does **[CHILD NAME]** receive any pocket money for them to spend as they wish? |__| (1=Yes, 2=No)
   If yes, continue. Otherwise, skip to question 9.
   a. How much pocket money does **[CHILD NAME]** receive each week (in KSH)? |__|

9. Does **[CHILD NAME]** do any chores or work inside the home, for example, collecting water, caring for livestock, or helping with a family business? |__| (1=Yes, 2=No)
   If yes, continue. Otherwise, skip to question 10.
   a. How many hours did [CHILD NAME] do chores or work inside the home in the last week? |__|

10. Does **[CHILD NAME]** do any chores or work outside the home, including for friends or relatives who do not live in the same household? |__| (1=Yes, 2=No)
    If yes, continue. Otherwise, skip to question 11.
    a. How many hours did [CHILD NAME] do chores or work outside the home in the last week?
    b. How much money did **[CHILD NAME]** receive for doing chores or work outside the home in the last week (in KSH)? |__|
       If > 0,continue. Otherwise, skip to question 11.

 FO Comments:

c. Did **[CHILD NAME]** get to keep the money they received for chores or work outside the home in the last week? |__| (1=Yes, 2=No)

11. In the last 7 days, how many days did you or another adult or teenager (age 13 or older) read with **[CHILD NAME]** at home? Here we mean any form of reading, including reading from a storybook, textbook, or magazine, as long as you or another adult or teenager were reading to the child. DO NOT include any reading that occurred at school. |__| days
    If > 0, continue. Otherwise, skip to question 12.
    a. Now think about yesterday. How many minutes did you or another adult or teenager (age 13 or older) read with [CHILD NAME] yesterday? Here we mean any form of reading, including reading from a storybook, textbook, or magazine, as long as you or another adult or teenager were reading to the child. DO NOT include any reading that occurred at school. |__| minutes

12. In the last 7 days, how many days did [CHILD NAME] read by themselves (or with other children) at home? Here we mean any form of reading, including reading from a storybook, textbook, or magazine. DO NOT include any reading that occurred at school. |__| days
    If > 0, continue. Otherwise, skip toq uestion 13.
    a. Now think about yesterday. How many minutes did [CHILD NAME] read by themselves or with other children yesterday? Do not include any time spent reading while in school. |__| minutes

13. In the past 7 days, did you or any other person over the age of 15 in the child's household: If yes, ask relation: (1=mother, 2=father, 3=mother and father, 4=PC module respondent (if not a parent), 5=siblings, 6=other adult relative, 7=other adult non-relative)
    a. Read books to or look at books with [CHILD NAME]? |__| (1=Yes, 2=No) |__|/|__|
    b. Tell stories to [CHILD NAME]? |__| (1=Yes, 2=No) |__|/|__|
    c. Sing songs or play musical instrument with [CHILD NAME]? |__| (1=Yes, 2=No) |__|/|__|
    d. Play with [CHILD NAME]? |__| (1=Yes, 2=No) |__|/|__|
    e. Construct objects or art from paper, wire, mud, sticks, etc with [CHILD NAME]? |__| (1=Yes, 2=No) |__|/|__|
    f. Name, count, or draw things for or with [CHILD NAME] for instance, letters, numbers, shapes, colors, plants, animals, etc? |__| (1=Yes, 2=No) |__|/|__|
    g. Help [CHILD NAME] with homework? |__| (1=Yes, 2=No) |__|/|__|
    h. Talk about what [CHILD NAME] is learning in school? |__| (1=Yes, 2=No) |__|/|__|
    i. Teach vocabulary words in Swahili or English? |__| (1=Yes, 2=No) |__|/|__|

j. Teach vocabulary words in local language? |__| (1=Yes, 2=No) |__|/|__|

k. Play sports or games or other physical activity, such as football, rukaruka, swimming, etc? |__| (1=Yes, 2=No) |__|/|__|

l. Take [CHILD NAME] on a fun outing, such as a football match, other sports event, religious services or event, hotel, restaurant, or to a local event? |__| (1=Yes, 2=No) |__|/|__|

14. 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 NAME]** in the past month.

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

    b. Explained why **[CHILD NAME]**'s behavior was wrong. |__| (1=Yes, 2=No)

    c. Shouted, yelled at or screamed at him/her. |__| (1=Yes, 2=No)

    d. Gave him/her something else to do. |__| (1=Yes, 2=No)

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

    f. Physically punish, for example caning, slapping etc. |__| (1=Yes, 2=No)

SECTION 5B: EDUCATIONAL INVESTMENTS AND READING

1. Is **[CHILD NAME]** currently enrolled in school, including primary school, or another school? |__| (1=Yes, 2=No)
   If yes, continue. Otherwise, skip to question 2.
   a. In which class/grade is [CHILD NAME] currently enrolled? |__|
   b. Is the school that **[CHILD NAME]** is enrolled in public or private? |__| (1=Public, 2=Private)
   c. Is the school that **[CHILD NAME]** is enrolled in a boarding school or day school? |__| (1=Day school, 2=Boarding)
   d. What is the name of the school that **[CHILD NAME]** attends?
   e. What county is this school in? |__| *Use g1 codes.*
   f. Did **[CHILD NAME]** attend school last week? |__| (1=Yes, 2=No) *If it is currently a holiday from school, ask about the last week before the holiday started.*
   g. Of the last five days school was in session, how many days did [CHILD NAME] attend? |__|

h. How much was your household asked to pay for school fees for **[CHILD NAME]** in the last month? |__| KSH *FO NOTE: WE WANT TO CAPTURE THE FEE STRUCTURE AND CALCULATE THE MONTHLY RATE E.G IF FEE IS STRUCTURED PER YEAR DIVIDE THAT BY 12*
i. How much did your household actually pay in school fees for **[CHILD NAME]** in the last month? |__| KSH *If paid on a term or annual basis, calculate monthly amount paid*
j. What was the total amount spent on educational expenses for **[CHILD NAME]** in the last month, including school fees, the cost of uniforms, school supplies, transportation, tutoring, or other related expenses? |__| KSH *If paid on a term or annual basis, calculate monthly amount paid.*
k. Of the total amount spent on educational expenses for **[CHILD NAME]** in the last month, what amount did the household contribute? For example, sometimes relatives, friends, or others will contribute to help pay for educational expenses. We want to know the total amount contributed by your household in the last month. |__| KSH

Skip to question 3.

2. Why is **[CHILD NAME]** not enrolled in any type of schooling program? |__| (1=Child is too young, 2=Child would not do well / is not smart, 3=There is not enough money to pay for it / those programs are too expensive, 4=Distance/too far away, 5=Program is not available, 6=Child refuses/doesn't want to, 7=Child helps with work around the house/ takes care of other children, 8=Dropped out, -77=Other (specify))

3. Does **[CHILD NAME]** ever attend religious services? |__| (1=Yes, 2=No)

4. What is the religion / denomination of this **[CHILD NAME]**? |__| *Use G11 codes*

5. Now we're going to ask you a few more questions about reading with **[CHILD NAME]**. For each statement, we will ask you if you strongly agree, agree, disagree, or strongly disagree. (1=Strongly disagree, 2=Disagree, 3=Agree, 4=Strongly agree, -99=DK, -88=Refuse)
   a. I can choose appropriate storybooks or children's books for my child.
   b. I can provide active involvement for my child with storybook or children's book reading.
   c. I can ask appropriate recall questions after I finish reading a storybook or children's book.
   d. I can encourage my child to talk about a book while reading.
   e. I can help my child answer, "What?", "Why?", and "How" questions about a story when reading.
   f. I can help my child to learn new words through storybook or children's book reading.
   g. I think reading is important for my child's development.

6. Now we are ready to start some questions about your **[CHILD NAME]** reading. You can think about your **[CHILD NAME]**'s reading, or reading by other people (like your parents or teacher), that you just listen to. Listen to each sentence and tell me whether it is a lot like your **[CHILD NAME]**, a little like your **[CHILD NAME]**, or not like your **[CHILD NAME]**. There

are no right or wrong answers. We only want to know how you feel about your **[CHILD NAME]** reading. Again, for each statement, we will ask you whether this sounds a lot like your child, a little like your child, or not like your child.

a. [CHILD NAME] is a good listener when someone else is reading a story.
b. **[CHILD NAME]** has favorite stories from stories or books that he/she likes to read about or listen to.
c. **[CHILD NAME]** likes to tell others about what he/she is reading/ someone has read to him/her.
d. **[CHILD NAME]** likes to tell others about what he/she is learning in school.

READ: Now we're going to ask you a few questions about **[CHILD NAME]'s** schooling**.**

7. ***If child ever been enrolled in school:*** **I**s/was your child an average student, better than average, or below average? |__| (1=Below average, 2=Average, 3=Above average)
   If child has never been in school READ: Is your child average, better than average, or below average in terms of their learning and development? |__| (1=Below average, 2=Average, 3=Above average)

8. As part of this survey, your child has completed or will complete a test covering different subjects, including in mathematics, Swahili, and English. Suppose 10 other typical **[Kenyan/Ugandan]** children of the same age as **[CHILD NAME]** also took the test. They are represented on this ladder in order of the lowest scoring children (bottom step of the ladder) to the highest scoring children (top step of the ladder). Compared to these 10 other typical **[Kenyan/Ugandan]** children of the same age, where do you think **[CHILD NAME]** would be located… ***(Show the primary caregiver the MacArthur ladder scale #3.)***
   a. Overall? |__|
   b. Math? |__|
   c. Swahili? |__|
   d. English? |__|

9. Has **[CHILD NAME]** taken the Kenya Primary School Education Assessment (KPSEA) national exam? |__| (1=Yes, results available, 2=Yes, results not yet available, 3=No, has not done KPSEA)

10. Has **[CHILD NAME]** taken KCPE national exam? |__| (1=Yes, 2=No)

If yes to question 9, continue. Otherwise, skip to question 12.

11. What did **[CHILD NAME]** score on the KPSEA national exam in each subject? (4=Exceeding Expectation, 3=Meeting Expectation, 2=Approaching Expectation, 1=Below Expectation, -88=Not Applicable, -99=DK)
    a. in english language?

 FO Comments:

b. in kiswahili lugha/kenyan sign language?
c. in mathematics?
d. in science and technology?
e. in agriculture?
f. in home science?
g. in physical and health education?
h. in social studies?
i. in art and craft?
j. in music?
k. in religious education?

12. What did **[CHILD NAME]** score on the KCPE national exam? |__|

13. How do you think **[CHILD NAME]'s** score compares to other children of the same age in Kenya? Do you think **[CHILD NAME]'s** score was below average, average, or above average compared to other children of the same age in Kenya? |__| (1=Below average, 2=Average, 3=Above average)

14. When it comes time for your child to take the KPSEA, he/she will receive a total score across all subjects. Please take a moment to think about how your child will perform when he/she takes the exam in the future based on what you know about his/her ability. Out of a minimum of 1 and a maximum of 4, what score do you think **[CHILD NAME]** will most likely earn based on his/her ability? Please make your best guess.

15. How do you think **[CHILD NAME]'s** score will compare to other children of the same age in Kenya? Do you think **[CHILD NAME]'s** score will be below average, average, or above average compared to other children of the same age in Kenya? |__| (1=Below average, 2=Average, 3=Above average)

16. Please indicate your level of agreement with the following: For each statement, we will ask whether you strongly agree, agree, disagree, or strongly disagree.
    a. I feel confident that I understand my child's ability.
    b. I receive information about my child's general abilities or how my child does in school from teachers, school representatives, or other adults in my community.
    c. My choices, actions, and effort as a parent/caregiver will determine how my child will do in school and in life.
    d. My child's ability and effort will determine how well he/she will do in school and in life.
    e. External factors such as the quality of my child's school will determine how well he/she will do in school and in life.

SECTION 5C: EDUCATIONAL EXPECTATIONS

1. Think about how far **[CHILD NAME]** will go in their studies. How confident are you that **[CHILD NAME]** will complete primary school? |__| (1=Very confident, 2=Somewhat confident, 3=Not at all confident, 4=Not applicable (has already completed), -99=DK)

2. How confident are you that **[CHILD NAME]** will complete secondary school? |__| (1=Very confident, 2=Somewhat confident, 3=Not at all confident, 4=Not applicable (has already completed), -99=DK)

3. How confident are you that **[CHILD NAME]** will complete university? |__| (1=Very confident, 2=Somewhat confident, 3=Not at all confident, 4=Not applicable (has already completed), -99=DK)

4. Do you think it is useful to be competitive in life to be successful? Answer on a scale from 1-10, where 1 is “not important at all” and 10 is “very important.” |__| *Use the scale from 1-10 to illustrate the range of answers.*

5. How competitive do you consider yourself to be generally in life? Please choose a number between 1 and 10, where 1 means “not competitive at all” and 10 means “very competitive”. |__|

6. Do you think it is useful for your child [child name] to be competitive in life to be successful? Answer on a scale from 1-10, where 1 is “not important at all” and 10 is “very important.” |__| *Use the scale from 1-10 to illustrate the range of answers.*

7. How competitive do you consider your child **[child name]** to be generally in life? Please choose a number between 1 and 10, where 1 means “not competitive at all” and 10 means “very competitive”. |__|

SECTION 6: STRENGTHS AND DIFFICULTIES QUESTIONNAIRE

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

READ: Now I would like to read some different descriptions of child behavior. Please consider **[CHILD NAME]**'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.
(0=Not true, 1=Somewhat true, 2=Certainly true, -88=Not applicable, -99=DK)

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. ***If child is 10 or younger, READ:*** Rather solitary, prefers to play alone
   If child is 11 or older, READ: Would rather be alone than with other youth
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. ***If child is age 10 or younger, READ:*** Generally liked by other children
    If child is age 11 or older, READ: Generally liked by other youth
15. Easily distracted, concentration wanders
16. ***If child is 10 or younger, READ:*** Nervous or clingy in new situations, easily loses confidence
    If child is 11 or older, READ: Nervous in new situations, easily loses confidence
17. Kind to younger children
18. Often lies or cheats
19. ***If child is age 10 or younger, READ:*** Picked on or bullied by other children
    If child is age 11 or older, READ: Picked on or bullied by other youth
20. Often offers to help others (parents, teachers, other children)
21. Thinks things out before acting
22. Steals from home, school or elsewhere
23. ***If child is age 10 or younger, READ:*** Gets along better with adults than with other children
    If child is age 11 or older, READ: Gets along better with adults than with other youth
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 NAME]**'s behavior? |__|
    (1=Yes, 2=No)
    If yes, continue. Otherwise, skip to end of section.
    a. What are they? _____

SECTION 7: PC - CHILD RELATIONSHIP

Please reflect on the degree to which each of the following statements currently applies to your relationship with [CHILD NAME]. (1=Definitely does not apply, 2=Not really, 3=Neutral, not sure,

4=Applies somewhat, 5=Definitely applies) *Show the respondent scale #4. Demonstrate that they should select their response using the scale.*

1. I share an affectionate, warm relationship with [CHILD NAME]. |__|
2. [CHILD NAME] and I always seem to be struggling with each other. |__|
3. If upset, [CHILD NAME] will seek comfort from me. |__|
4. [CHILD NAME] is uncomfortable with physical affection or touch from me. |__|
5. [CHILD NAME] values his/her relationship with me. |__|
6. When I praise [CHILD NAME], he/she beams with pride. |__|
7. [CHILD NAME] spontaneously shares information about himself/herself. |__|
8. [CHILD NAME] easily becomes angry at me. |__|
9. It is easy to be in tune with what [CHILD NAME] is feeling. |__|
10. [CHILD NAME] remains angry or is resistant after being disciplined. |__|
11. Dealing with [CHILD NAME] drains my energy. |__|
12. When [CHILD NAME] is in a bad mood, I know we're in for a long and difficult day. |__|
13. [CHILD NAME]'s feelings toward me can be unpredictable or can change suddenly. |__|
14. [CHILD NAME] is sneaky or manipulative with me. |__|
15. [CHILD NAME] openly shares his/her feelings and experience with me. |__|

SECTION 8: SLEEP HOME ENVIRONMENT

READ*:* Thank you. Now I'd like to ask you about the routines of you and your child and your home environment.

1. Does [CHILD NAME] share a room for sleeping? |__| (1=Yes, 2=No)
   If yes, continue. Otherwise, skip to question 3.

 FO Comments:

2. How many people in the following age categories does [CHILD NAME] usually share a room with when sleeping?
   |__| Infants (0-1 year)
   |__| Toddler (1-3 years)
   |__| Younger child (4-6 years)
   |__| Older child (7-12 years)
   |__| Teenager (13-17 years)
   |__| Adult (18-64 years)
   |__| Elderly (65+ years)

3. Does [CHILD NAME] sleep in a room where the radio or TV is on when they are sleeping? |__| (1=Yes, 2=No)

4. Are the lights typically on in the room when [CHILD NAME] is starting to sleep? |__| (1=Yes, 2=No)

5. What does [CHILD NAME] typically sleep on? |__| (1=Mattress on a bed, 2=Mattress on the floor, 3=Mat on the floor, 4=Mat on the bed, 5=Couch/Seat, 6=Clothes/Gunia on the bed, 7=Clothes/Gunia on the floor, -77=Other (specify))

6. Does [CHILD NAME] share that [question 5] for sleeping? |__| (1=Yes, 2=No)

7. Does [CHILD NAME] have a pillow that they use when sleeping? |__| (1=Yes, 2=No)

8. Does [CHILD NAME] have a blanket/duvet they use when sleeping? |__| (1=Yes, 2=No)

9. How many hours of sleep do you think sleep doctors/experts recommend for adults?

10. How many hours of night sleep do you think sleep doctors/experts recommend for children the age of [CHILD NAME]?

11. What kind of challenges do you face in having [CHILD NAME] get more sleep? I will now read a variety of challenges that others have faced in getting their child to sleep more. Which of these challenges are most relevant to you?
    |__| 1=Come home late from work / school
    |__| 2=Need to wake up early for work
    |__| 3=Eat dinner late
    |__| 4=Cooking and cleaning
    |__| 5=Too hot
    |__| 6=Too crowded
    |__| 7=Too much light
    |__| 8=Too much noise
    |__| 9 =Difficult to get children to bed
    |__| 10=Mosquitos / bugs
    |__| 11=No challenges / child gets enough sleep
    |__| -77=Other (specify)

 FO Comments:

12. How hard do you think it is to increase the number of hours that [CHILD NAME] sleeps? Would you say it is (Very easy, Easy, Medium, Hard, Very hard)? |__| (1=Very easy, 2=Easy, 3=Medium, 4=Hard, 5=Very hard)

13. Are you aware of any benefits of sleep for children? |__| (1=Yes, 2=No)
    If yes, continue. Otherwise, skip to end of section.

14. What are some of these benefits? ***Do not read possible responses, simply mark all that apply. Write any additional responses in the "other" blank.***

|__| 1=Mental relaxation
|__| 2=Physical relaxation
|__| 3=Physical growth
|__| 4=Increased alertness
|__| 5=Improved behavior
|__| 6=Reduced stress
|__| 7=Improved mood
|__| 8=Improved memory
|__| 9=Improved school performance / test scores
|__| 777=Other (specify) _____
|__| 999=Don't know

SECTION 9: CONCLUSION

READ: These are all of the questions I have for you regarding [CHILD NAME] 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. Otherwise, skip to question 2.
   a. Why did the respondent terminate the survey early?

1=Temporary stop only – Wishes to continue survey at a later time. See "Temporary Stop Instructions" below.
2=Tired
3=Too busy, does not have time
4=Offended at question
5=Suspicious of FO / survey intent / IPA
6=Does not feel like continuing survey
-77=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.

 FO Comments:

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

3. How was the respondent's skill in speaking and understanding Kiswahili?
1=Displayed no problems speaking or understanding Kiswahili
2=Displayed a little difficulty speaking or understanding Kiswahili
3=Displayed moderate difficulty speaking or understanding Kiswahili
4=Displayed serious problems speaking or understanding Kiswahili)

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

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

Use G4 codes, list up to 4. |__||__||__||__| Other:_____

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

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

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

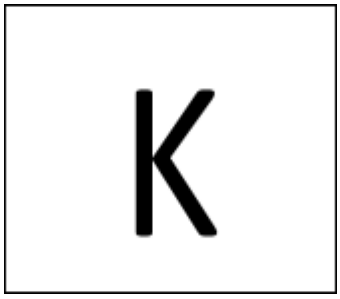
If yes, stop here. Say: Thank you for your time. ***Otherwise, continue.***

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

Answer any questions the caregiver may have about the games. Once the caregiver is comfortable, proceed to child assessments.

 FO Comments:

Appendix C: Endline 3 Kids Assessment



GE Endline 3

Kids Survey

VERSION: OCTOBER 2025

SECTION 1: COGNITION

SECTION 1.1: ANIMAL NAMING

READ: I am going to give you a category, and I want you to name, as fast as you can, all of the things that belong in that category. For example, if I say 'list of foods' you could say kale, meat or mango. Can you please name other foods?

FO INSTRUCTIONS:

- WAIT FOR THE SUBJECT TO GIVE TWO WORDS.
- IF THE SUBJECT SUCCEEDS, INDICATE THAT THE RESPONSES WERE CORRECT AND PROCEED TO THE TEST ITSELF.
- IF THE SUBJECT GIVES AN INAPPROPRIATE WORD OR REPLY, CORRECT THE RESPONSE AND REPEAT THE INSTRUCTIONS.
- IF IT BECOMES CLEAR THAT THE SUBJECT STILL DOES NOT UNDERSTAND THE INSTRUCTION, TERMINATE THIS TASK AND EXPLAIN WHY THIS IS SO.
- AFTER YOU ARE SATISFIED THAT THE SUBJECT UNDERSTANDS THE TASK, AND HAS GIVEN TWO WORDS LIST OF FOODS, PROCEED.

READ: That's fine. I want you to name things that belong to another category, '**animals**'. I want you to think about all the many different kinds of animals you know. Think of any kinds of animals in the air, on land, in the water, in the forest, all the different animals. Now I would like you to tell me the names of as many animals as you can. You will only have one minute to do this. I repeat, you only have one minute to say as many animals as you can. Are you ready? Let's begin.

FO INSTRUCTIONS:

- BEGIN TIMER. ALLOW ONE MINUTE PRECISELY.
- IF THE SUBJECT STOPS BEFORE THE END OF THE TIME, ENCOURAGE THEM TO TRY TO FIND MORE WORDS.
- IF THEY ARE SILENT FOR 15 SECONDS REPEAT THE BASIC INSTRUCTION 'I WANT YOU TO TELL ME ALL THE ANIMALS YOU CAN THINK OF'.
- NO EXTENSION ON THE TIME LIMIT IS MADE IN THE EVENT THAT THE INSTRUCTION HAS TO BE REPEATED.
- ANY MEMBER OF THE ANIMAL KINGDOM, REAL OR MYTHICAL IS SCORED CORRECT, EXCEPT REPETITIONS AND PROPER NOUNS. SPECIFICALLY, EACH OF THE FOLLOWING GETS CREDIT: A SPECIES NAME AND ANY 9 ACCOMPANYING BREEDS WITHIN THE

SPECIES, MALE, FEMALE AND INFANT NAMES WITHIN THE SPECIES. If you are not sure whether something is an animal, count it as correct. PLEASE NOTE THAT BIRDS AND FISH COUNT AS CORRECT.

Do not ask the following questions:

1. ENTER THE NUMBER OF CORRECT ANIMALS NAMED |__|
2. ENTER THE NUMBER OF INCORRECT ANIMALS NAMED |__|
3. ENTER THE NUMBER OF REPETITIONS |__|
4. Was there any animal chart within the survey administration environment and the FR was referring to it during this exercise? |__| (1=Yes, 2=No)
5. Were there animals present/visible during this task? |__| (1=Yes, 2=No)
6. WERE THERE ANY INTERRUPTIONS, DISTURBANCES OR IRREGULARITIES IN THIS ASSESSMENT? |__| (1=Yes, 2=No)

SECTION 1.2: PPVT

FO INSTRUCTIONS:

- Circle the answer the respondent gives (1, 2, 3, 4, or NR). Start with the training set. Give neutral feedback for each response: "OK," "Hmm." Remind the child to use the Pencil to point to the pictures.
- CHILD CAN TAKE 10 SECONDS TO RESPOND. AFTER THAT, ENCOURAGE THE CHILD TO GUESS. SAY, "Try one. Point to the one you think it might be"

TRAINING ITEMS

(Final answer by child) ***Sum the total number of training items PASSED.***

A1	Mtoto	mwana	nyathi	1	2	3	**4**	NR
A2	gari	motoka	gari	1	**2**	3	4	NR
A3	samaki	eng'eni	rech	**1**	2	3	4	NR
A4	peremende	Switi	tamtam	1	2	**3**	**4**	NR
B1	kulia	Khurira	yuak	1	2	**3**	4	NR
B2	kuosha	Khuosia	luoko	**1**	2	3	4	NR
B3	kukaa	Khwikhala	bet	1	**2**	**3**	4	NR
B4	kujificha	Khwekisa	pondo	1	2	3	**4**	NR
Child failed 5 or more training items Skip to the NEXT ASSESSMENT --(NR= No Response)								

SET 7

73	kupiga mbizi	Okhwebaya	nimo	1	2	3	4	NR
74	mbweha	libwe	mbweha	1	2	3	4	NR
75	kisiwa	Esikinga	chula	1	2	3	4	NR
76	kutoboa	Ofudula	tucho	1	2	3	4	NR
77	firimbi	efirimbi	firimbi	1	2	3	4	NR
78	saa	Ebikha	saa	1	2	3	4	NR
79	fundi wa stima	Fundi we sitima	fundi stima	1	2	3	4	NR
80	fremu	Efuremu	frame	1	2	3	4	NR
81	ajali	ajali	ajali	1	2	3	4	NR
82	kulukulu/bata mzinga	ekulukulu	kulukulu	1	2	3	4	NR
83	kuchokoza	ochokosia	kinyo	1	2	3	4	NR
84	parachut	Eparachuti	parachut	1	2	3	4	NR

SET 8

85	kuvuruta	Okhwesa	ywayo	1	2	3	4	NR
86	mizizi	Emisi	tie yien	1	2	3	4	NR
87	kugawana	Okabana	pogruok	1	2	3	4	NR
88	mzinga	Omusinga	od kich	1	2	3	4	NR

89	gita	Egita	gita	1	2	3	4	NR
90	kuogopa	okhutia	luor	1	2	3	4	NR
91	ambulance	ambulance	ambulance	1	2	3	4	NR
92	majimaji	Amachimachi	machalo pipi	1	2	3	4	NR
93	mazoezi	mazoezi	orako	1	2	3	4	NR
94	kobe	Ekhudu	opuk	1	2	3	4	NR
95	huzuni	osinyikha	kuyo	1	2	3	4	NR
96	racket	Eraketi	racket	1	2	3	4	NR

SET 9

97	swara	embongo	mwanda	1	2	3	4	NR
98	kupiga hesabu	ukhube esabu	timo kwano	1	2	3	4	NR
99	jozi	epea	pair	1	2	3	4	NR
100	kushona	Osona	chwecho	1	2	3	4	NR
101	kombora	Ekombora	kombora	1	2	3	4	NR
102	pembe	Ekona	angle	1	2	3	4	NR
103	taya	Olusaya	chock lemb	1	2	3	4	NR
104	cliff	cliff	cliff	1	2	3	4	NR
105	gwaragwara	Esimanya/Esigwara/Esiakalo	gwar gwar	1	2	3	4	NR
106	tundu la pua	Esiolu	ludhum	1	2	3	4	NR
107	ngiri	engiri	njiri	1	2	3	4	NR
108	dira	ekompasi	compass	1	2	3	4	NR

SET 10

109	pedali	Epedoli	pedal	1	2	3	4	NR
110	kupakia	khupakira	pango	1	2	3	4	NR
111	kuwasili	Okhwola	chopo	1	2	3	4	NR
112	piramidi	Epiramidi	piramid	1	2	3	4	NR
113	bonde	mudoma/olukoba	gode ga aore	1	2	3	4	NR
114	signal	signal	signal/ranyisi	1	2	3	4	NR
115	ya uwongo	Eyobubacha	miriambo	1	2	3	4	NR
116	ufuo	Olukuku	dho nam	1	2	3	4	NR
117	isiyo na hewa	Ebweremo emiuya	ofuongre	1	2	3	4	NR
118	kupiga sand paper	Okhuruda	rudho sandpaper	1	2	3	4	NR
119	salamu	Okhesia	mosruok	1	2	3	4	NR
120	furushi la maua	Esifurusi sia maua	chokruok mar maua	1	2	3	4	NR

SECTION 1.3: LITERACY, READING AND COMPREHENSION

Section 1.3.1: Uwezo Swahili

FO INSTRUCTIONS:

- MATERIALS NEEDED: UWEZO SWAHILI BOOKLET.
- SHOW THE CHILD THE PARAGRAPHS ON PAGE 1. LET THE CHILD CHOOSE ANY OF THE 2 PARAGRAPHS AND READ
- Count self-corrections as correct. Stay quiet unless the child hesitates for 3 seconds, in which case, point to the next word and say: “Please go on.”

1. **[DO NOT READ]** WHICH PARAGRAPH DID THE CHILD START READING? |__| (1=1, 2=2)

Paragraph 1: READ: Tafadhali anza kusoma.

Paragraph 1	**1= Correct | 2= Incorrect | 666= No response**
Rehema	
ni	
mtoto	
wake	
Ali.	
Rehema	
anasoma	
darasa	
la	
tatu.	
Anasoma	
katika	
Shule	
ya	
Hekima.	
Walimu	
wake	
wana	
bidii	
sana.	

Paragraph 2: READ: Tafadhali anza kusoma.

Paragraph 2	**1= Correct | 2= Incorrect | 666= No response**
Maweni	

vijana	
husifika	
sana.	
Wao	
hupasua	
mawe	
ya	
ujenzi.	
Wao	
hupata	
pesa	
sana.	
Watu	
tofauti	
huja	
kununua	
mawe.	

(If the child reads the paragraph, take him/her to the STORY if not skip to WORDS)

FO INSTRUCTIONS: SHOW THE CHILD THE STORY ON PAGE 2.
READ: Hapa kuna hadithi fupi. Nataka uisome kwa sauti, haraka lakini kwa makini. Ukimaliza nitakuuliza maswali kuhusu ulichosoma. Je, unaelewa unachopaswa kufanya? Ninaposema “anza,” soma hadithi uwezavyo. nitanyamaza na kukusikiliza. Uko tayari? Anza.

Story 1	**1= Correct | 2= Incorrect | 666= No response**
Mwalimu	
Mulei	
aliingia	
darasani	
akiwa	
na	
furaha.	
Alitusalimia	
nasi	
tukajibu	
kwa	
furaha.	
Baada	

ya	
muda	
mfupi,	
aliniomba	
nifute	
ubao.	
Mwalimu	
alisema	
tutasoma	
faida	
za	
miti.	
Kwanza,	
alituongoza	
nje	
kutazama	
miti.	
Tulirudi	
darasani	
pamoja	
kwa	
mafunzo	
zaidi.	
Mwalimu	
alitueleza	
kuwa	
miti	
husaidia	
mazingira	
yetu.	
Mwalimu	
alituuliza	
faida	
zaidi	
za	
miti.	
Bila	
kusita,	

nilisimama	
na	
kumweleza	
faida	
mbili.	
Kwanza	
miti	
husaidia	
kupatikana	
kwa	
mvua	
na	
maji.	
Pili,	
miti	
hutupa	
chakula.	
Mwalimu	
wetu	
alifurahi	
sana	
na	
kunipongeza.	

1. **READ:** Mwalimu anaitwa nani?

DID THE CHILD ANSWER CORRECTLY? |__| 1 = Correct | 2 = Incorrect | 666 = No response

FO INSTRUCTIONS: REMOVE the passage from in front of the child and ask the first question below. Give the child at most 15 seconds to answer the question, mark the child's response, and move to the next question.

[DO NOT READ]: *CORRECT ANSWER IS MWALIMU MULEI*

2. **READ:** Kwa nini mwalimu alimpongeza mwanafunzi?

[DO NOT READ]: DID THE CHILD ANSWER CORRECTLY? |__|

1= Correct | 2 = Incorrect | 666 = No response

FO INSTRUCTIONS: REMOVE the passage in front of the child and ask the first question below. Give the child at most 15 seconds to answer the question, mark the child's response, and move to the next question.

[DO NOT READ]: CORRECT ANSWER IS *MWALIMU ALIULIZA FAIDA MBILI ZA MITI/ NILISIMAMA NA KUMWELEZA FAIDA MBILI ZA MITI*

(If the child cannot read the paragraph, skip to the MANENO)

FO INSTRUCTIONS: SHOW THE CHILD THE WORDS ON PAGE 3.
READ: Hapa kuna orodha ya maneno. Nataka uchagua maneno matano na uyasoma kwa sauti.
READ: Tafadhali elekeza maneno unapoyasema.
FO INSTRUCTIONS: Stop when the child has attempted five words. Count self-corrections as correct. Stay quiet unless the child hesitates for 3 seconds, in which case, point to the next word and say: “Please go on.”

Maneno	**1= Correct | 2= Incorrect | 666= No response**
goti	
paa	
kinu	
kobe	
rinda	
tai	
teke	
choo	
pato	
kuku	

(If the child cannot read words, skip to the SILABI)

FO INSTRUCTIONS: SHOW THE CHILD THE SYLLABLES ON PAGE 4.
READ: Hapa kuna orodha ya silabi. Ninataka uchague herufi tano na uzisome kwa sauti.
READ: Tafadhali elekeza maneno unapoyasema.
FO INSTRUCTIONS:: Stop when the child has attempted five syllables. Count self-corrections as correct. Stay quiet unless the child hesitates for 3 seconds, in which case, point to the next word and say: “Please go on.”

Silabi	**1= Correct | 2= Incorrect | 666= No response**
po	
ya	
gi	
ku	
da	
vo	
su	
te	

we	
fi	

Section 1.3.2: Uwezo Assessment English

FO INSTRUCTIONS:

- MATERIALS NEEDED: UWEZO ENGLISH BOOKLET.
- SHOW THE CHILD THE PARAGRAPHS ON PAGE 1. LET THE CHILD CHOOSE ANY OF THE 2 PARAGRAPHS AND READ
- Count self-corrections as correct. Stay quiet unless the child hesitates for 3 seconds, in which case, point to the next word and say: “Please go on.”

READ: Here are two paragraphs. I want you to choose one paragraph and read it out loud. Please point to the paragraph you would like to read.

1. **[DO NOT READ]:** WHICH PARAGRAPH DID THE CHILD POINT TO? |__| (1=1, 2=2)
Paragraph 1: READ: Please start reading.

Paragraph 1	**1= Correct | 2= Incorrect | 666= No response**
Our	
school	
has	
many	
trees.	
There	
is	
one	
big	
mango	
tree.	
The	
tree	
is	
behind	
the	
office.	
It	
gives	
us	
many	

fruits.	

Paragraph 2: READ: Please start reading.

Paragraph 2	**1= Correct | 2= Incorrect | 666= No response**
We	
have	
a	
dog	
at	
home.	
She	
has	
a	
puppy.	
She	
gave	
birth	
to	
it	
yesterday.	
I	
named	
the	
puppy.	
Rambo.	

(If the child reads the paragraph, take him/her to the STORY if not skip to WORDS)

FO INSTRUCTIONS: SHOW THE CHILD THE STORY ON PAGE 2.

READ: Here is a short story. I want you to read it aloud, quickly but carefully. When you have finished, I will ask you some questions about what you have read. Do you understand what you are to do? When I say "begin," read the story as best as you can. I will keep quiet & listen to you. Ready? Begin.

Story	**1= Correct | 2= Incorrect | 666= No response**
Long	
ago	
there	

lived	
a	
hyena	
and	
a	
dog.	
They	
lived	
in	
the	
middle	
of	
the	
forest.	
The	
two	
were	
close	
friends.	
The	
dog	
was	
very	
hardworking	
and	
brave.	
He	
planted	
all	
types	
of	
fruits.	
Hyena	
on	
the	
other	
hand	
was	

lazy.	
He	
kept	
stealing	
the	
fruits	
from	
the	
farm.	
The	
dog	
was	
very	
unhappy.	
One	
day	
he	
decided	
to	
lay	
a	
trap.	
He	
wanted	
to	
teach	
the	
thief	
a	
lesson.	
He	
dug	
a	
big	
hole	
in	
his	
farm.	

He	
covered	
the	
hole	
with	
leaves.	
Hyena	
came	
to	
steal	
and	
fell	
in	
the	
hole.	
He	
broke	
two	
of	
his	
legs.	
That	
is	
why	
hyena	
limps	
to	
this	
day.	

FO INSTRUCTIONS: REMOVE the passage from in front of the child and ask the first question below. Give the child at most 15 seconds to answer the question, mark the child's response, and move to the next question.

1. **READ:** Where did the hyena and the dog live?

[DO NOT READ] CORRECT ANSWER IS ***IN THE FOREST***
[DO NOT READ]: DID THE CHILD ANSWER CORRECTLY? |__|
1 = Correct | 2 = Incorrect | 666 = No response

2. Why did the hyena fall into the hole?

[DO NOT READ] CORRECT ANSWER IS ***Because the dog laid a trap. Or because the hole was covered with leaves. Or because the hole was hidden. Or because he could not see the hole.***
[DO NOT READ]: DID THE CHILD ANSWER CORRECTLY? |__|
1 = Correct | 2 = Incorrect | 666 = No response

(If the child cannot read the paragraph, skip to the WORDS)

FO INSTRUCTIONS: SHOW THE CHILD THE WORDS ON PAGE 3.
READ: Here is a list of words. I want you to choose five words and read them out loud. Please point to the words as you say them.
FO INSTRUCTIONS: Stop when the child has attempted five words. Count self-corrections as correct. Stay quiet unless the child hesitates for 3 seconds, in which case, point to the next word and say: "Please go on."

Words	**1= Correct | 2= Incorrect | 666= No response**
boy	
dock	
ship	
legs	
foot	
ball	
rat	
jug	
class	
face	

(If the child cannot read words, skip to the LETTERS)

FO INSTRUCTIONS: SHOW THE CHILD THE LETTERS ON PAGE 4.
READ: Here is a list of letters of the English alphabet. I want you to choose five letters and read them out loud. Please tell me the **NAMES** of the letters. Please point to the letters as you say them.
FO INSTRUCTIONS: Stop when the child has attempted five letters. Count self-corrections as correct. Stay quiet unless the child hesitates for 3 seconds, in which case, point to the next word and say: "Please go on."

Letters	**1= Correct | 2= Incorrect | 666= No response**
i	
d	
p	
c	
f	
k	

m	
z	
a	
r	

Section 1.3.3: Uwezo Assessment Math

MATERIALS NEEDED: UWEZO MATHEMATICS BOOKLET.

1. Subtraction

FO INSTRUCTIONS:

- SHOW THE CHILD THE SUBTRACTION PROBLEMS ON PAGE 1.
- If a child uses an inefficient strategy (e.g., tick marks), ask the child "Do you know another way to solve the problem?" If a child continues to use an inefficient strategy or stops on an item for **5 SECONDS,** prompt pupil to move on.

READ: Here are some subtraction exercises. I want you to choose three of these subtraction exercises and complete them. Please point to each exercise before you solve it. You may use this paper and pencil if you want to. But you do not have to do so.

START HERE	**1= Correct | 2= Incorrect | 666= Did not complete**
89 - 40 = (49)	
63 - 32 = (31)	
55 - 22 = (33)	
90 - 70 = (20)	
59 - 36 = (23)	
68 - 15 = (53)	
47 - 27 = (20)	
76 - 44 = (32)	

[DO NOT READ]: To solve the problems, indicate the method the child used. *Select all that apply.*

|__| Solved the problems in his/her head
|__| Fingers
|__| Counters
|__| Tick marks on paper with a pencil
|__| Other (specify)

If the child does at least TWO subtractions, continue. Otherwise, skip to additions.

2. Multiplication

FO INSTRUCTIONS:

- SHOW THE CHILD THE MULTIPLICATION PROBLEMS ON PAGE 2.
- If a child uses an inefficient strategy (e.g., tick marks), ask the child "Do you know another way to solve the problem?" If a child continues to use an inefficient strategy or stops on an item for **5 SECONDS,** prompt pupil to move on.

READ: Here are some multiplication exercises. I want you to choose three of these multiplication exercises and complete them. Please point to each exercise before you solve it. You may use this paper and pencil if you want to. But you do not have to do so.

START HERE	**1 = Correct | 2 = Incorrect | 666 = Did not complete**
2 x 4 = (8)	
3 x 3 = (9)	
4 x 5 = (20)	
4 x 3 = (12)	
5 x 4 = (20)	
5 x 2 = (10)	
3 x 2 = (6)	
2 x 5 = (10)	

[DO NOT READ]: To solve the problems, indicate the method the child used. *Select all that apply.*

|__| Solved the problems in his/her head
|__| Fingers
|__| Counters
|__| Tick marks on paper with a pencil
|__| Other (specify)

If the child does at least TWO multiplication, continue to divisions.

3. Division

FO INSTRUCTIONS:

- SHOW THE CHILD THE DIVISION PROBLEMS ON PAGE 3.
- If a child uses an inefficient strategy (e.g., tick marks), ask the child "Do you know another way to solve the problem?" If a child continues to use an inefficient strategy or stops on an item for **5 SECONDS,** prompt pupil to move on.

READ: Here are some division exercises. I want you to choose three of these division exercises and complete them. Please point to each exercise before you solve it. You may use this paper and pencil if you want to. But you do not have to do so.

START HERE	**1 = Correct | 2 = Incorrect | 666 = Did not complete**
8 / 2 = (4)	
10 / 5 = (2)	
6 / 3 = (2)	
21 / 3 = (7)	
12 / 4 = (3)	
15 / 5 = (3)	
16 / 4 = (4)	
14 / 2 = (7)	

[DO NOT READ]: To solve the problems, indicate the method the child used. *Select all that apply.*

|__| Solved the problems in his/her head
|__| Fingers
|__| Counters
|__| Tick marks on paper with a pencil
|__| Other (specify)

4. Division+

FO INSTRUCTIONS:

- SHOW THE CHILD THE DIVISION+ PROBLEMS ON PAGE 8.
- If a child uses an inefficient strategy (e.g., tick marks), ask the child “Do you know another way to solve the problem?” If a child continues to use an inefficient strategy or stops on an item for **5 SECONDS,** prompt pupil to move on.

READ: Here are more division exercises. I want you to choose three of these division exercises and complete them. Please point to each exercise before you solve it. You may use this paper and pencil if you want to. But you do not have to do so.

START HERE	**1 = Correct | 2 = Incorrect | 666 = Did not complete**
100 / 20 = (5)	
144 / 12 = (12)	
360 / 6 = (60)	
32 / 8 = (4)	

45 / 3 = (15)	
72 / 8 = (9)	
56 / 7 = (8)	
81 / 9 = (9)	

[DO NOT READ]: To solve the problems, indicate the method the child used. *Select all that apply.*

|__| Solved the problems in his/her head
|__| Fingers
|__| Counters
|__| Tick marks on paper with a pencil
|__| Other (specify)

5. Addition

FO INSTRUCTIONS:

- SHOW THE CHILD THE ADDITION PROBLEMS ON PAGE 4.
- If a child uses an inefficient strategy (e.g., tick marks), ask the child "Do you know another way to solve the problem?" If a child continues to use an inefficient strategy or stops on an item for **5 SECONDS,** prompt pupil to move on.

READ: Here are some additional exercises. I want you to choose three of these additional exercises and complete them. Please point to each exercise before you solve it. You may use this paper and pencil if you want to. But you do not have to do so.

START HERE	**1 = Correct | 2 = Incorrect | 666 = Did not complete**
26 + 13 = (39)	
54 + 30 = (84)	
33 + 44 = (77)	
80 + 10 = (90)	
12 + 55 = (67)	
61 + 27 = (88)	
23 + 14 = (37)	
72 + 25 = (97)	

[DO NOT READ]: To solve the problems, indicate the method the child used. *Select all that apply.*

|__| Solved the problems in his/her head
|__| Fingers

|__| Counters
|__| Tick marks on paper with a pencil
|__| Other (specify)

If the child cannot do at least two additions, continue.

6. Which is Greater

FO INSTRUCTIONS:

- SHOW THE CHILD THE WHICH IS GREATER EXERCISE ON PAGE 5.
- If a child uses an inefficient strategy (e.g., tick marks), ask the child “Do you know another way to solve the problem?” If a child continues to use an inefficient strategy or stops on an item for **5 SECONDS,** prompt pupil to move on.

READ: Here are some "which is greater" exercises. Please look at these pairs of numbers. I want you to choose five pairs of numbers, and for each pair, tell me which number is greater.

START HERE	**1 = Correct | 2 = Incorrect | 666 = Did not complete**
57 and 48 (57)	
92 and 27 (92)	
23 and 19 (23)	
35 and 53 (53)	
80 and 65 (80)	
43 and 76 (76)	
34 and 71 (71)	
82 and 69 (82)	

[DO NOT READ]: To solve the problems, indicate the method the child used. *Select all that apply.*
|__| Solved the problems in his/her head
|__| Fingers
|__| Counters
|__| Tick marks on paper with a pencil
|__| Other (specify)

If the child cannot do at least four “greater than”, continue.

7. Number recognition

FO INSTRUCTIONS:

- SHOW THE CHILD THE NUMBER RECOGNITION EXERCISE ON PAGE 6.

- If a child uses an inefficient strategy (e.g., tick marks), ask the child “Do you know another way to solve the problem?” If a child continues to use an inefficient strategy or stops on an item for **5 SECONDS,** prompt pupil to move on.

READ: Here are some number exercises. I want you to choose five of these numbers and read them out loud. Please point to each number as you say it.

START HERE	**1 = Correct | 2 = Incorrect | 666 = Did not complete**
57	
63	
79	
14	
30	
91	
42	
85	

[DO NOT READ]: To solve the problems, indicate the method the child used. *Select all that apply.*

|__| Solved the problems in his/her head
|__| Fingers
|__| Counters
|__| Tick marks on paper with a pencil
|__| Other (specify)

If the child cannot recognize any of the four numbers, continue.

8. Uwezo Count and Match

FO INSTRUCTIONS:

- SHOW THE CHILD THE COUNT AND MATCH EXERCISE ON PAGE 7.
- If a child uses an inefficient strategy (e.g., tick marks), ask the child “Do you know another way to solve the problem?” If a child continues to use an inefficient strategy or stops on an item for 5 SECONDS, prompt pupil to move on.

READ: Here is another exercise. Please look at these symbols **[POINT TO THE SYMBOLS ON THE LEFT]** and these numbers **[POINT TO THE NUMBERS ON THE LEFT].** I want you to count how many symbols there are, and match with the correct number. Please choose five sets of symbols to match. Please point to each exercise as you complete it.

START HERE	**1 = Correct | 2 = Incorrect | 77 = Did not complete**

3 symbols (3)	
7 symbols (7)	
5 symbols (5)	
1 symbol (1)	
8 symbols (8)	
2 symbols (2)	
6 symbols (6)	
4 symbols (4)	

[DO NOT READ]: To solve the problems, indicate the method the child used. *Select all that apply.*
|__| Solved the problems in his/her head
|__| Fingers
|__| Counters
|__| Tick marks on paper with a pencil
|__| Other (specify)

9. Division+

[DO NOT READ]: SHOW THE CHILD THE DIVISION+ PROBLEMS ON PAGE 8.

[READ]: Here are more division exercises. I want you to choose three of these division exercises and complete them. Please point to each exercise before you solve it. You may use this paper and pencil if you want to. But you do not have to do so.

[READ]: Hapa kuna mazoezi ya kugawanya (division). Nataka uchague mazoezi matatu kati ya haya ya kugawanya (division) na ukamilishe. Tafadhali onyesha kwa kila zoezi kabla ya kulitatua. Unaweza kutumia karatasi hii na penseli ikiwa unataka. Lakini si lazima ufanye hivyo.

[ENUMERATOR NOTE]: (Move on) If a child uses an inefficient strategy (e.g., tick marks), ask the child "Do you know another way to solve the problem?" If a child continues to use an inefficient strategy or stops on an item for **5 SECONDS** prompt pupil to move on.

START HERE	**1 = Correct | 2 = Incorrect | 77 = Did not complete**
100 / 20 = (5)	
144 / 12 = (12)	
360 / 6 = (60)	

32 / 8 = (4)	
45 / 3 = (15)	
72 / 8 = (9)	
56 / 7 = (8)	
81 / 9 = (9)	

[DO NOT READ]: To solve the problems, indicate the method the child used (tick all that apply):

1 = Solved the problems in his/her head

2 = Fingers

3 = Counters

4 = Tick marks on paper with a pencil

5 = Did not attempt

777 = Other (describe) _____

SECTION 1.3.4 : LISTENING COMPREHENSION SWAHILI

[READ]: Sasa, nitakusomea hadithi na nitakuuliza maswali 2 baada ya kumaliza kusikiliza. Tafadhali sikiliza kwa makini. Je, uko tayari?

[STORY 2]: “Hapo zamani, kuku na kanga waliishi msituni.Walifanya kazi kwa ushirikiano. Siku moja kulinyesha mvua kubwa. Nyumba yao ilijaa maji na kuzima moto. Kuku na kanga walitetemeka kutokana na baridi. Walihitaji moto ili kuota na kupika chakula.

Kanga alimwuliza kuku kuenda kuomba moto kwa jirani. Kanga alimwamini rafiki yake kuku. Kuku alifika kwenye nyumba ya jirani. Alikaribishwa, akaota moto na akakataa kurudi kwao. Kuku aliamua kubadilisha makao yake.”

1. Kuku na Kanga waliishi wapi?

[DO NOT READ]: CORRECT ANSWER IS ***Kuku na Kanga waliishi msituni.***

1 = Correct | 2 = Incorrect | 666 = No response

2. Kwa nini kuku aliamua kubadilisha makao yake?

[DO NOT READ]: C ORRECT ANSWER IS ***Kuku aliamua kubadilisha makao yake kwa sababu alifurahia moto wa jirani na akakataa kurudi kwao.***

1 = Correct | 2 = Incorrect | 666 = No response

SECTION 1.3.5: LISTENING COMPREHENSION ENGLISH

[READ]: Now, I will read a story to you and I will ask you 2 questions after you finish listening. Please listen carefully. Are you ready?

[STORY 1]: "My name is Moraa. My mother tells me to work hard. She gave me two hens. One hen has ten chicks. The other hen lays an egg every day. I share eggs with my family for breakfast.

My mother sells some eggs at the market. I keep the money in a tin. When my chicks grow up, I will sell them too. I will get a lot of money. I hope to be rich one day"

1. How many hens did mother give Moraa?

[DO NOT READ]: CORRECT ANSWER IS ***Moraa's mother gave her two hens***

1 = Correct | 2 = Incorrect | 666 = No response

2. Why does Moraa share her eggs with the family?

[DO NOT READ]: CORRECT ANSWER IS ***Moraa shares her eggs with the family for breakfast.***

1 = Correct | 2 = Incorrect | 666 = No response

SECTION 1.3.6: UWEZO MATH WORD QUESTIONS
The child must attempt both Addition and Subtraction questions. If they answer at least one question correctly in either section, proceed to the Multiplication and Division questions. If all Addition and Subtraction answers are incorrect, skip Multiplication and Division and move to the next section

1. **Uwezo: Word Questions on Addition**

[DO NOT READ]: SHOW THE CHILD THE WORD ADDITION PROBLEMS ON PAGE 9.

[READ]: Here are some additional exercises. I want you to choose one of these addition exercises and complete them. Please point to each exercise before you solve it. You may use this paper and pencil if you want to. But you do not have to do so.

[READ]: Hapa kuna mazoezi ya ziada. Ninataka uchague mojawapo ya mazoezi haya ya kuongeza na ukamilishe. Tafadhali elekeza kwa kila zoezi kabla ya kulitatua. Unaweza kutumia karatasi hii na penseli ikiwa unataka. Lakini si lazima ufanye hivyo.

[ENUMERATOR NOTE]: (Move on) If a child uses an inefficient strategy (e.g., tick marks), ask the child "Do you know another way to solve the problem?" If a child continues to use an inefficient strategy or stops on an item for 5 SECONDS prompt pupil to move on.

START HERE	**1 = Correct | 2 = Incorrect | 77 = Did not complete**
1. Abdi harvested 59 oranges and Baraka harvested 38 oranges. How many oranges did they harvest together? (97) 1. Abdi alivuna machungwa 59 na Baraka alivuna machungwa 38. Je, walivuna machungwa mangapi kwa pamoja? (97)	
2. Grade 2 learners planted 25 trees and Grade 3 learners planted 47 trees. How many trees did they plant together? (72) 2. Wanafunzi wa Grade 2 walipanda miti 25 na wanafunzi wa Grade 3 walipanda miti 47. Je, walipanda miti mingapi pamoja? (72)	

[DO NOT READ]: To solve the problems, indicate the method the child used (tick all that apply):

1 = Solved the problems in his/her head

2 = Fingers

3 = Counters

4 = Tick marks on paper with a pencil

5 = Did not attempt

777 = Other (describe) _____

[DO NOT READ]: WERE THERE ANY INTERRUPTIONS, DISTURBANCES OR IRREGULARITIES IN THIS ASSESSMENT?

1 = Yes | 2 = No

[DO NOT READ]: DESCRIBE THE NATURE OF DISTURBANCES OR IRREGULARITIES

[DO NOT READ]: In what language was the word "addition" used in the exercise?

1 = English | 2 = Kiswahili

2. **Uwezo: Word questions on subtraction**

[DO NOT READ]: SHOW THE CHILD THE WORD SUBTRACTION PROBLEMS ON PAGE 10.

[READ]: Here are some subtraction exercises. I want you to choose one of these subtraction exercises and complete them. Please point to each exercise before you solve it. You may use this paper and pencil if you want to. But you do not have to do so.

[READ]: Hapa kuna baadhi ya mazoezi ya kutoa. Ninataka uchague mojawapo ya mazoezi haya ya kutoa na ukamilishe. Tafadhali elekeza kwa kila zoezi kabla ya kulitatua. Unaweza kutumia karatasi hii na penseli ikiwa unataka. Lakini si lazima ufanye hivyo.

[ENUMERATOR NOTE]: (Move on) If a child uses an inefficient strategy (e.g., tick marks), ask the child "Do you know another way to solve the problem?" If a child continues to use an inefficient strategy or stops on an item for 5 SECONDS prompt pupil to move on.

START HERE	**1 = Correct | 2 = Incorrect | 77 = Did not complete**
1. Teacher Onyango bought 95 pencils. He gave 76 pencils to Grade 3 learners. How many pencils did teacher Onyango remain with? (19) 1. Mwalimu Onyango alinunua penseli 95. Alitoa penseli 76 kwa wanafunzi wa darasa la 3. Mwalimu Onyango alibaki na penseli ngapi? (19)	
2. Grace collected 83 eggs. She sold 54 eggs. How many eggs remained? (29) 2. Grace alikusanya mayai 83. Aliuza mayai 54. Ni mayai mangapi yalibaki? (29)	

[DO NOT READ]: To solve the problems, indicate the method the child used (tick all that apply):

1 = Solved the problems in his/her head

2 = Fingers

3 = Counters

4 = Tick marks on paper with a pencil

5 = Did not attempt

777 = Other (describe) _____

[DO NOT READ]: WERE THERE ANY INTERRUPTIONS, DISTURBANCES OR IRREGULARITIES IN THIS ASSESSMENT?

1 = Yes | 2 = No

[DO NOT READ]: DESCRIBE THE NATURE OF DISTURBANCES OR IRREGULARITIES

[DO NOT READ]: In what language was the word "subtraction" used in the exercise?

1 = English | 2 = Kiswahili

If they answer at least one question correctly in either section, proceed to the Multiplication and Division questions. If all Addition and Subtraction answers are incorrect, skip Multiplication and Division and move to the next section

3. **Uwezo: Word questions on multiplication**

[DO NOT READ]: SHOW THE CHILD THE WORD MULTIPLICATION PROBLEMS ON PAGE 11.

[READ]: Here are some multiplication exercises. I want you to choose one of these multiplication exercises and complete them. Please point to each exercise before you solve it. You may use this paper and pencil if you want to. But you do not have to do so.

[READ]: Hapa kuna baadhi ya mazoezi ya kuzidisha. Ninataka uchague mojawapo ya mazoezi haya ya kuzidisha na ukamilishe. Tafadhali elekeza kwa kila zoezi kabla ya kulitatua. Unaweza kutumia karatasi hii na penseli ikiwa unataka. Lakini si lazima ufanye hivyo.

[ENUMERATOR NOTE]: (Move on) If a child uses an inefficient strategy (e.g., tick marks), ask the child “Do you know another way to solve the problem?” If a child continues to use an inefficient strategy or stops on an item for 5 SECONDS prompt pupil to move on.

START HERE	**1 = Correct | 2 = Incorrect | 77 = Did not complete**
1. Kibet planted 6 rows of cabbages. Each row had 8 cabbages. How many cabbages did Kibet plant? (48) 1. Kibet alipanda laini 6 za kabichi. Kila safu ilikuwa na kabichi 8. Je, Kibet alipanda kabichi ngapi? (48)	
2. Wanjiru arranged chalks in 3 rows in a box. Each row had 9 chalks. How many chalks are there in a box? (27) 2. Wanjiru alipanga chaki katika laini 3 kwenye sanduku. Kila laini ilikuwa na chaki 9. Je, kuna chaki ngapi kwenye sanduku? (27)	

[DO NOT READ]: To solve the problems, indicate the method the child used (tick all that apply):

1 = Solved the problems in his/her head

2 = Fingers

3 = Counters

4 = Tick marks on paper with a pencil

5 = Did not attempt

777 = Other (describe) _____

[DO NOT READ]: WERE THERE ANY INTERRUPTIONS, DISTURBANCES OR IRREGULARITIES IN THIS ASSESSMENT?

1 = Yes | 2 = No

[DO NOT READ]: DESCRIBE THE NATURE OF DISTURBANCES OR IRREGULARITIES

[DO NOT READ]: In what language was the word "multiplication" used in the exercise?

1 = English | 2 = Kiswahili

4. **Uwezo: Word questions on division**

[DO NOT READ]: SHOW THE CHILD THE WORD DIVISION PROBLEMS ON PAGE 12.

[READ]: Here are some division exercises. I want you to choose one of these division exercises and complete them. Please point to each exercise before you solve it. You may use this paper and pencil if you want to. But you do not have to do so.

[READ]: Hapa kuna mazoezi ya kugawanya. Ninataka uchague mojawapo ya mazoezi haya ya kugawanya na ukamilishe. Tafadhali elekeza kwa kila zoezi kabla ya kulitatua. Unaweza kutumia karatasi hii na penseli ikiwa unataka. Lakini si lazima ufanye hivyo.

[ENUMERATOR NOTE]: (Move on) If a child uses an inefficient strategy (e.g., tick marks), ask the child “Do you know another way to solve the problem?” If a child continues to use an inefficient strategy or stops on an item for 5 SECONDS prompt pupil to move on.

START HERE	**1 = Correct | 2 = Incorrect | 77 = Did not complete**
1. Hekima primary school received 63 mathematics books. The books were shared equally among 7 classes. How many books did each class get? (9) 1. Shule ya msingi ya Hekima ilipokea vitabu 63 vya hisabati. Vitabu viligawanywa kwa	

usawa kati ya madarasa 7. Kila darasa lilipata vitabu vingapi? (9)	
2. A village received 45 mosquito nets. The nets were shared equally among 9 families. How many nets did each family get? (5) 2. Kijiji kilipokea neti 45. Neti ziligawanywa kwa usawa kati ya familia 9. Je, kila familia ilipata neti ngapi? (5)	

[DO NOT READ]: To solve the problems, indicate the method the child used (tick all that apply):

1 = Solved the problems in his/her head

2 = Fingers

3 = Counters

4 = Tick marks on paper with a pencil

5 = Did not attempt

777 = Other (describe) _____

[DO NOT READ]: WERE THERE ANY INTERRUPTIONS, DISTURBANCES OR IRREGULARITIES IN THIS ASSESSMENT?

1 = Yes | 2 = No

[DO NOT READ]: DESCRIBE THE NATURE OF DISTURBANCES OR IRREGULARITIES

[DO NOT READ]: In what language was the word "division" used in the exercise?

1 = English | 2 = Kiswahili

SECTION 1.7: MAKING CHANGE

READ: I will now ask you a question about making change from a 1,000 Ksh note. How many 200 Ksh notes will be given for one 1,000 Ksh note?

Do not ask the following questions.

1. Did the child answer correctly? |__| (1=Yes, 2=Incorrect)
   Correct answer is 5.
2.

FO INSTRUCTIONS: (Move on) If a child uses an inefficient strategy (e.g., tick marks), ask the child “Do you know another way to solve the problem?” If a child continues to use an inefficient strategy, prompt pupil to move on.

[DO NOT READ]: To solve the problems, indicate the method the child used. *Select all that apply.*
|__| Solved the problems in his/her head
|__| Fingers
|__| Counters
|__| Tick marks on paper with a pencil
|__| Other (specify)

SECTION 1.4: FORWARD AND BACKWARD DIGIT SPAN

FO INSTRUCTIONS:

- IF THE CHILD MAKES AN ERROR, SUPPLY THE CORRECT ANSWER ON THE PRACTICE ITEMS ONLY.
- PAUSE FOR ONE SECOND IN BETWEEN EACH NUMBER IN THE SEQUENCE. FOR EXAMPLE, <<1>> [PAUSE] <<2>>.
- DO NOT REPEAT THE NUMBERS MORE THAN ONCE.
- IF THE CHILD HESITATES FOR MORE THAN 5 SECONDS, MARK AS "NO RESPONSE" AND MOVE ON.

Section 1.4.1: Forward Digit Span

READ: In this game, I am going to say some numbers. I want you to say them after me. Do not start until I have finished saying the numbers.
If I say 7 … 8, You say 7 … 8.

READ: Now you try it. Please listen carefully.
The numbers are 4 ... (PAUSE) ... 2.

1= Correct | 2= Incorrect | 77= No Response
That's right!

That's not right. The numbers are: 4 ... 2.

Let's try another one. 6.. 1..3.

That's right!

That's not right. The numbers are 6…1…3.

Okay, let's do some more. Just listen carefully and do your best.

FO INSTRUCTIONS: FOR EACH ITEM: READ THE NUMBERS, THEN SAY NOTHING. IF THE CHILD PAUSES, WAIT 5 SECONDS, THEN MARK AS NO RESPONSE AND CONTINUE WITH NEXT ITEM. DO NOT READ THE NUMBERS MORE THAN ONCE.

READ: Are you ready? I can only say the numbers one time, so listen carefully.
8 … 3 … 1 … 4 DID THE CHILD ANSWER CORRECTLY? |__|
1 = Correct | 2 = Incorrect | 666 = No Response
2 …. 1 … 8 … 5 … 4 DID THE CHILD ANSWER CORRECTLY? |__|
1 = Correct | 2 = Incorrect | 666 = No Response

Section 1.4.2: Backward Digit Span

Now we are going to play another number game. I'm going to say a list of numbers and you are going to say them backwards. If I say 1 … 2, you say 2 ... 1.

Now you try it. Please listen carefully. The numbers are 1 ... (PAUSE) ... 2.

DID THE CHILD ANSWER CORRECTLY? (2-1)
That's right!

That's not right. The numbers are: 1, 2. When I say them backwards, they are 2, 1.

Let's try another one. 4 … (PAUSE) … 8 … (PAUSE) … 3

DID THE CHILD ANSWER CORRECTLY? (3-8-4)
That's right!

That's not right. The numbers are 4, 8, 3. When I say them backwards, they are 3, 8, 4.

Okay, let's do some more. Just listen carefully and do your best.

FO INSTRUCTIONS: FOR EACH ITEM: READ THE NUMBERS, THEN SAY NOTHING. IF THE CHILD PAUSES, WAIT 5 SECONDS, THEN MARK AS NO RESPONSE AND CONTINUE WITH NEXT ITEM. DO NOT READ THE NUMBERS MORE THAN ONCE.
READ: Are you ready? Whatever I say, you should say it backwards. I can only say the numbers one time, so listen carefully.

READ: Whatever I say, you should say it backwards. 7 … 4 … 2.
[FO NOTE]: Allow for self-correction.
DID THE CHILD ANSWER CORRECTLY? (2, 4, 7) |__|
1 = Correct | 2 = Incorrect | 666 = No Response

READ: Whatever I say, you should say it backwards. 4 … 8 … 2 … 7.
[FO NOTE]: Allow for self-correction.
DID THE CHILD ANSWER CORRECTLY? (7, 2, 8, 4) |__|
1 = Correct | 2 = Incorrect | 666 = No Response

SECTION 1.5: RAVEN'S TEST

FO INSTRUCTIONS:

- ALLOW THE RESPONDENT UP TO 30 SECONDS TO SELECT THE SHAPE THAT COMPLETES THE PATTERN. SAY "THANK YOU, LET'S MOVE ONTO THE NEXT ONE"

READ: And now for this short test I will give you a piece of paper with a pattern with a piece missing. Below are six pieces, choose the one that completes the pattern.

Test A		**Correct?**
1 (ex)	(1) (2) (3) (**4)** (5) to (6)	Don't count
2	(1) (2) (3) (4) (**5)** (6)	
4	(1) (**2)** (3) (4) (5) (6)	
5	(1) (2) (3) (4) (5) (**6)**	
6	(1) (2) (**3)** (4) (5) (6)	
7	(1) (2) (3) (4) (5) (**6)**	
8	(1) (**2)** (3) (4) (5) (6)	
11	(1) (2) (3) (**4)** (5) (6)	
12	(1) (2) (3) (4) (**5)** (6)	
Test B		**Correct?**
1	(1) (**2)** (3) (4) (5) (6)	
2	(1) (2) (3) (4) (5) (**6)**	
3	**(1)** (2) (3) (4) (5) (6)	
4	(1) (**2)** (3) (4) (5) (6)	
5	**(1)** (2) (3) (4) (5) (6)	
6	(1) (2) (**3) (**4) (5) (6)	
8	(1) (2) (3) (4) (5) (**6)**	
10	(1) (2) (**3) (**4) (5) (6)	

SECTION 2: NON COGNITIVE

SECTION 2.2: CES-D

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

Show the respondent scale #1. Demonstrate that they should select their response using the scale. (1=Rarely or none of the time (less than 1 day), 2=Some or a little of the time (1-2 days), 3=Occasionally or a moderate amount of time (3-4 days), 4=All of the time (5-7 days)

1. During the past week, how often did you feel bothered by things. |__|
2. During the past week, how often did you feel like not eating. |__|
3. During the past week, how often did you feel you were not happy. |__|
4. During the past week, how often did you feel good as other kids. |__|
5. During the past week, how often did you feel that you could not pay attention. |__|
6. During the past week, how often did you feel down and unhappy. |__|
7. During the past week, how often did you feel to be too tired to do things. |__|
8. During the past week, how often did you feel that something good was going to happen. |__|
9. During the past week, how often did you feel that things did not work out. |__|
10. During the past week, how often did you feel scared. |__|
11. During the past week, how often did you feel your sleep was restless. |__|
12. During the past week, how often did you feel happy. |__|
13. During the past week, how often did you feel more quiet. |__|
14. During the past week, how often did you feel lonely. |__|
15. During the past week, how often did you feel that other Kids were not friendly. |__|
16. During the past week, how often did you feel you had a good time. |__|
17. During the past week, how often did you feel like crying. |__|
18. During the past week, how often did you feel sad. |__|
19. During the past week, how often did you feel people disliked you. |__|
20. During the past week, how often did you feel hard to get started on things. |__|

SECTION 2.3: SLEEP

READ: Now I would like to ask you some questions about your sleep.

1. At what time did you go to bed last night? |__|__|:|__|__| *Use 24 hour clock.*
2. At what time did you wake up this morning?|__|__|:|__|__| *Use 24 hour clock.*

SECTION 2.4: PHYSICAL ACTIVITIES OF THE CHILD

1. During the past 7 days, for how many days have you been physically active? |__| *Physically active is engaging in any activity that increases your heart rate and makes you get out of breath some of the time such as sports, running, walking, biking, dancing, physical education class, playing with friends, or manual labor.*

2. On those days when you were physically active during the past 7 days, how many minutes were you physically active? |__| (1 = 0 to 15 minutes per day, 2 = 15 to 30 minutes per day, 3 = 30 to 45 minutes per day, 4 = 45 minutes to one hour per day, 5 = One hour to two hours per day, 6 = Two or more hours per day)

3. During the past 7 days, on average per day, how much time did you spend sitting and watching television, playing computer games, talking with friends, using your mobile phone, or doing other sitting activities? |__| (1 = 0 to 15 minutes per day, 2 = 15 to 30 minutes per day, 3 = 30 to 45 minutes per day, 4 = 45 minutes to one hour per day, 5 = One hour to two hours per day, 6 = Two or more hours per day)

4. Now think about doing homework, reading, and studying outside of school. During the past 7 days, on average per day, how much time did you spend doing homework, reading, and studying outside of school? |__| (1 = 0 to 15 minutes per day, 2 = 15 to 30 minutes per day, 3 = 30 to 45 minutes per day, 4 = 45 minutes to one hour per day, 5 = One hour to two hours per day, 6 = Two or more hours per day)

5. In the last week that you attended school, how did you get to school and back? *Select all that apply.*
   |__| Walk
   |__| Ride a bike
   |__| Take a bus (public)
   |__| Take a bus (private)
   |__| Catch a ride with someone
   |__| Take a taxi
   |__| Boda boda (motorbike)
   |__| I do not go to school or work
   |__| Other (specify)

6. Compared to other people of your age, would you say you are physically more active, less active, or about as active? |__| (1=More active, 2=Less active, 3=About as active)

SECTION 2.6: RESILIENCE

READ: Now I will read a list of statements, and I want you to tell me what you think or feel about them, and how they relate to the thoughts and feelings that you have had.
To what extent do the sentences below describe you?

Show the respondent scale #2. Demonstrate that they should select their response using the scale. (1=Not at all, 2=A little, 3=Somewhat, 4=Quite a bit, 5=A lot, -99=DK, -88=Refuse_

FO NOTE: FOR THE REST OF THE QUESTIONS IN THIS SECTION, READ THE QUESTIONS EXACTLY AS WRITTEN. YOU MAY REPEAT ANY QUESTIONS AS MANY TIMES AS YOU'D LIKE, BUT DO NOT REPHRASE ANY QUESTION OR ADD ADDITIONAL COMMENTS OR EXPLANATIONS. IF THE FR HAS TROUBLE UNDERSTANDING THE STATEMENT, PLEASE RE-READ BUT DO NOT TRY TO EXPLAIN THE QUESTION IN A DIFFERENT MANNER.

1. I have people I want to be like. |__|
2. Getting an education is important to me. |__|
3. I feel that my parent(s)/ caregiver(s) know a lot about me (for example, who my friends are, what I like to do). |__|
4. I try to finish activities that I start. |__|
5. When things don't go my way, I can fix it without hurting myself or other people (for example, without hitting others or saying nasty things). |__|
6. I know where to go to get help. |__|
7. I feel that I belong at my school. |__|
8. I think my family cares about me when times are hard (for example, if I am sick or have done something wrong). |__|
9. I am treated fairly. |__|
10. I have chances to learn things that will be useful when I am older (like cooking, working, and helping others). |__|
11. I like the way my community celebrates things (like holidays, festivals). |__|

SECTION 2.7: LOCUS OF CONTROL

READ: Some people feel that they have a great deal of control over their own lives. Others feel that what they do has very little effect on what happens to them. On a scale from 1-10, with 1 being very little and 10 being complete control, how would you classify yourself?

Show respondent picture of ladder (show card #3) and explain lowest rung being very little control, and highest rung being complete control.

SECTION 2.8: ASPIRATIONS

1. Imagine you had no constraints and could study for as long as you liked. What academic degree would you ultimately like to achieve? |__| *Use G6 codes.*

2. What do you want to be doing when you are an adult? For instance, working in a job, caring for your own family, or running a business? |__| *Use G9 codes.*

SECTION 2.11: GENDER ATTITUDES

READ: For the next several questions, you will have the following response options: Strongly agree, Agree, Neither agree or disagree, Disagree, Strongly disagree. Please keep these in mind as we go through the next few questions. I will read a statement, and afterwards you may tell if you agree or disagree.

Show the respondent scale #4. Demonstrate that they should select their response using the scale. (1=Strongly disagree, 2=Disagree, 3=Neither agree or disagree, 4=Agree, 5=Strongly agree, -99=DK, -88=Refuse)

1. It is okay for a woman to be a mechanic. |__|
2. The important decisions in the family should be made by the men of the family. |__|
3. If the wife is working outside the home, then the husband should help her with household chores. |__|

4. For the following two statements, please think of the current situation in the area where you live:
   a. Girls and boys have equal opportunities to get a secondary education. |__|
   b. Women and men have equal opportunities to get a job that pays a wage or salary. |__|

SECTION 2.14: SUPPORT SYSTEM

1. Do you have any friends, who are not members of your household, that you trust, and with whom you can talk about feelings and personal matters, or call on for help? |__| (1=Yes, 2=No)

2. Is there an adult, who is either in your household or not in your household, that you trust, and with whom you can talk about feelings and personal matters, or call on for help? |__| (1=Yes, 2=No)

SECTION 2.15: VOICE

1. Do you feel that you can speak up in class when you have a comment or question? |__| (1=Never, 2=Rarely, 3=Sometimes, 4=Often) *Show the respondent scale #5. Demonstrate that they should select their response using the scale.*

2. Do you feel comfortable expressing an opinion to or disagreeing with people in your age group, such as siblings and friends? |__| (1=Yes, 2=No)

3. Do you feel comfortable expressing an opinion to or disagreeing with people who are much older than you, such as parents and the elderly? |__| (1=Yes, 2=No)

SECTION 2.16: IDENTITY

1. Is your religion somewhat important, very important or not very important to your life? |__| 1=Very important, 2=Somewhat important, 3=Not very important)

2. If you had to say only one, what is more important, your tribe or your nationality (i.e., Kenyan / Ugandan)? |__| 1=Very important, 2=Somewhat important, 3=Not very important)

SECTION 2.17: POLITICAL KNOWLEDGE

1. Who is the current president of Kenya? |__| (1=Correct, 2=Incorrect, -99=DK)

SECTION 2.18: ACADEMIC SELF CONCEPT

READ*:* Now I am going to ask you some questions about how you view yourself as a student. There are no right or wrong answers, so please answer honestly.

I will now read out a set of statements. Please let me know how true you feel each statement is for you. You can choose whether a statement is not at all true, a little bit true, mostly true, or very true.

Show the respondent scale #6. Demonstrate that they should select their response using the scale. (1=Not at all true, 2=A little bit true, 3=Mostly true, 4=Very true, -99=DK)

1. I am good at mathematics |__|
2. I am good at English |__|
3. I am good at Swahili |__|
4. I am good at all school subjects |__|
5. I enjoy reading books |__|

6. Compared to others your age, do you view yourself as an average, above average, or below average student? |__| (1=Below average, 2=Average, 3=Above average, -99=DK)

7. Compared to girls your age, do you view yourself as an average, above average, or below average student? |__| (1=Below average, 2=Average, 3=Above average, -99=DK)

8. Compared to boys your age, do you view yourself as an average, above average, or below average student? |__| (1=Below average, 2=Average, 3=Above average, -99=DK)

SECTION 2.19: READING MOTIVATION QUESTIONS

READ: Now we want to ask you some questions about your reading. You can think about your reading, or reading by other people (like your parents or teacher), that you just listen to. Listen to each sentence and tell me whether it is a lot like you, a little like you, or not like you. There are no right or wrong answers. We only want to know how you feel about reading.

1. You are a good listener when someone else is reading a story. |__| (1= A lot like me, 2=A little like me, 3=Not like me)
2. You have favorite stories from books that you like to read about or listen to. |__| (1= A lot like me, 2=A little like me, 3=Not like me)
3. You like to tell others about what you are reading/ someone has read to you. |__| (1= A lot like me, 2=A little like me, 3=Not like me)

SECTION 2.20: READING PRACTICES QUESTIONS

1. In the last 7 days, how many days did you read at home? |__| *Here we mean any form of reading, including reading from a storybook, textbook, or magazine. DO NOT include any reading that occurred at school.*
   If >=1, continue. Otherwise, skip to next section.

a. Now think about yesterday. Did you read yesterday? |__| (1=Yes, 2=No) *Here we mean any form of reading, including reading from a storybook, textbook, or magazine. DO NOT include any reading that occurred at school.*

SECTION 3: FOOD NUTRITION

Section 3.1: Food security

1. In the past four weeks, was there a time when you were worried you would run out of food? |__| (1=Yes, 2=No)

2. In the past four weeks, was there a time when you skipped a meal? |__| (1=Yes, 2=No)

3. In the past four weeks, was there a time when you went without eating for a whole day? |__| (1=Yes, 2=No)

Section 3.2: Diet quality

READ: In the last seven days, how many days did you consume these foods?

1. Vegetables
   a. Leafy vegetables with 4 petals. E.g., Kale, Cabbage |__|
   b. Leafy vegetables with vitamin A nutrients. E.g., Spinach, Pumpkin leaves, Jute Mallow |__|
   c. Other dark orange fruits/vegetables rich in vitamin A. E.g., Carrots, Pumpkins, Yellow Sweet Potatoes, Mangoes, Papayas. |__|
   d. Other vegetables. E.g., Okra, Tomatoes, Onions, Eggplant |__|
2. Fruits
   a. Whole citrus fruits. E.g., Orange, Lemon, Clementines |__|
   b. Other fruits. E.g., Banana, Avocado, Guava, Jackfruit, Pineapple, Plums, Watermelon |__|
3. Animal source foods
   a. Poultry. E.g., Chicken, Duck, Turkey, Guinea fowl |__|
   b. Meat. E.g., Beef, Pork, Mutton |__|
   c. Fish. E.g., Dagaa, Fish |__|
   d. Processed Meat. E.g., Sausage, Bacon, Hot dog |__|
   e. Eggs. E.g., Boiled egg, Scrambled eggs, Omelette |__|
   f. Dairy products. E.g., Milk, Cheese, Yoghurt, Fermented milk |__|
4. Legumes and Nuts
   a. Food like. E.g., Beans, Peas, Lentils, Cowpeas, Bambara Nuts, Others |__|
   b. Nuts and seeds. E.g., Cashewnut, Groundnuts (Peanuts) |__|
5. Cereals, Grains and Tubers

a. Grains and baked foods. E.g., Rice, Bread, Pancakes, Noodles, Cornmeal foods (ugali) |__|
b. Food like., Brown Bread, Millet, Brown rice, Brown ugali |__|
c. Root crops. E.g., White sweet potatoes, Arrow roots, Cassava |__|

6. Other foods
   a. Vegetable oils. E.g., Palm oil, Soy oil. |__|
   b. Sweet snacks and ice cream. E.g., Cake, Ice cream, Chocolate, Biscuit. |__|
   c. Fried foods outside the home. E.g., Mandazi |__|
   d. Sugar-sweetened beverages. E.g., Soda, Packed juices (Afya, Juice Cola) |__|

SECTION 4: ECONOMIC PREFERENCES

Section 4.1: Time Preferences

FO INSTRUCTIONS:

- For this game, you will need two **white** cups (TODAY cup and TOMORROW cup) and 12 "normal" pencils.
- Place two cups in front of the participant: the TODAY cup and the TOMORROW cup. Place two pencils in the TODAY cup and two in the TOMORROW cup.

READ: We are going to play a game with two cups: the **TODAY** cup *(point to **TODAY** cup)* and the **TOMORROW** cup *(point to **TOMORROW** cup).* We will ask you to decide which cup with pencils you want. For this cup, we will pretend that you can have the pencils **TODAY** *(point at **TODAY** cup)*, but for the other, we will pretend that you can have them **TOMORROW** *(point at **TOMORROW** cup)*. There are no right or wrong answers. We just want you to be honest and tell me what you would actually choose if we could really give you the pencils today or tomorrow.

READ: Ok, now we can decide. Which cup would you want, **THIS** (*point to **TODAY** cup)* cup for today, or **THIS** (***TOMORROW** cup)* cup for tomorrow? Remember, it's all make-believe!.

1. **[DO NOT READ]** Which cup did the respondent choose? |__| (1=Today, 2=Tomorrow)
   If today, continue. Otherwise, skip to GENERAL INSTRUCTIONS.

FO INSTRUCTIONS: Add an extra pencil to the **TOMORROW** cup. The **TODAY** cup should have 2 pencils, and the **TOMORROW** cup should have 3.

READ: Now, which cup would you want to choose? Two pencils for **TODAY** *(point to **TODAY** cup)* or **THREE** pencils for **TOMORROW** *(point to **TOMORROW** cup)*? Remember, it's still just pretend.

2. **[DO NOT READ]** Which cup did the respondent choose? |__| (1=Today, 2=Tomorrow)
   If today, continue. Otherwise, skip to GENERAL INSTRUCTIONS.

FO INSTRUCTIONS: Add an extra pencil to the **TOMORROW** cup. The **TODAY** cup should have 2 pencils, and the **TOMORROW** cup should have 4.

READ: Now, which cup would you want to choose? Two pencils for **TODAY** *(point to **TODAY** cup)* or **NNE** pencils for **TOMORROW** *(point to **TOMORROW** cup)*? Remember, it's all make-believe!

3. **[DO NOT READ]** Which cup did the respondent choose? |__| (1=Today, 2=Tomorrow)
   If today, continue. Otherwise, skip to GENERAL INSTRUCTIONS.

FO INSTRUCTIONS: Add an extra pencil to the **TOMORROW** cup. The **TODAY** cup should have 2 pencils, and the **TOMORROW** cup should have 5.

READ: Now, which cup would you want to choose? Two pencils for **TODAY** *(point to **TODAY** cup)* or **FIVE** pencils for **TOMORROW** *(point to **TOMORROW** cup)*? Remember, it's still just pretend.

4. **[DO NOT READ]** Which cup did the respondent choose? |__| (1=Today, 2=Tomorrow)
   If today, continue. Otherwise, skip to GENERAL INSTRUCTIONS.

FO INSTRUCTIONS: Add an extra pencil to the **TOMORROW** cup. The **TODAY** cup should have 2 pencils, and the **TOMORROW** cup should have 6.

READ: Now, which cup would you want to choose? Two pencils for **TODAY** *(point to **TODAY** cup)* or **SIX** pencils for **TOMORROW** *(point to **TOMORROW** cup)*? Remember, it's all make-believe!

5. **[DO NOT READ]** Which cup did the respondent choose? |__| (1=Today, 2=Tomorrow)
   If today, continue. Otherwise, skip to GENERAL INSTRUCTIONS.

FO INSTRUCTIONS: Add an extra pencil to the **TOMORROW** cup. The **TODAY** cup should have 2 pencils, and the **TOMORROW** cup should have 7.

READ: Now, which cup would you want to choose? Two pencils for **TODAY** *(point to **TODAY** cup)* or **SEVEN** pencils for **TOMORROW** *(point to **TOMORROW** cup)*? Remember, it's still just pretend.

6. **[DO NOT READ]** Which cup did the respondent choose? |__| (1=Today, 2=Tomorrow)
   If today, continue. Otherwise, skip to GENERAL INSTRUCTIONS.

FO INSTRUCTIONS: Add an extra pencil to the **TOMORROW** cup. The **TODAY** cup should have 2 pencils, and the **TOMORROW** cup should have 8.

READ: Now, which cup would you want to choose? Two pencils for **TODAY** *(point to **TODAY** cup)* or **EIGHT** pencils for **TOMORROW** *(point to **TOMORROW** cup)*? Remember, it's all make-believe!

7. **[DO NOT READ]** Which cup did the respondent choose? |__| (1=Today, 2=Tomorrow)
   If today, continue. Otherwise, skip to GENERAL INSTRUCTIONS.

FO INSTRUCTIONS: Add an extra pencil to the **TOMORROW** cup. The **TODAY** cup should have 2 pencils, and the **TOMORROW** cup should have 9.

READ: Now, which cup would you want to choose? Two pencils for **TODAY** *(point to **TODAY** cup)* or **NINE** pencils for **TOMORROW** *(point to **TOMORROW** cup)*? Remember, it's still just pretend.

8. **[DO NOT READ]** Which cup did the respondent choose? |__| (1=Today, 2=Tomorrow)
   If today, continue. Otherwise, skip to GENERAL INSTRUCTIONS.

FO INSTRUCTIONS: Add an extra pencil to the **TOMORROW** cup. The **TODAY** cup should have 2 pencils, and the **TOMORROW** cup should have 10.

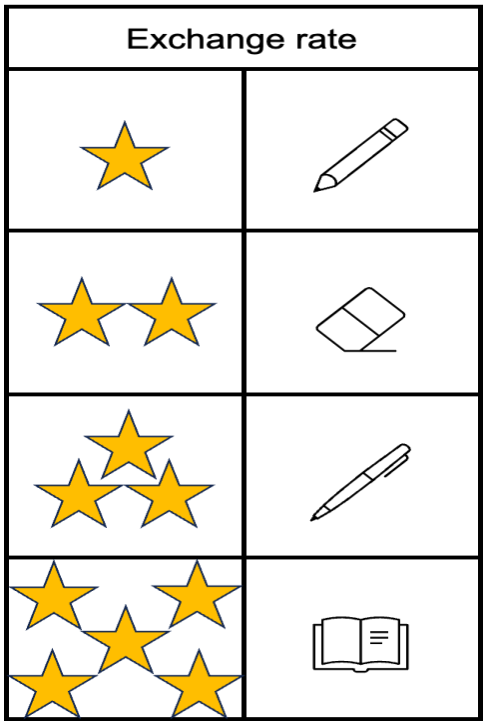
READ: Now, which cup would you want to choose? Two pencils for **TODAY** *(point to **TODAY** cup)* or **TEN** pencils for **TOMORROW** *(point to **TOMORROW** cup)*? Remember, it's all make-believe!

9. **[DO NOT READ]** Which cup did the respondent choose? |__| (1=Today, 2=Tomorrow)
   If today, continue. Otherwise, skip to GENERAL INSTRUCTIONS.

READ: Ok, great job. Now we're going to put those pencils and cups away, and we will play another game.

General Instructions

**The order of the games will be randomized for each participant.*
READ: We will play three games *(**show 3 with your fingers**),* and you can win stars like this one *(show stars).* You can exchange these stars for different prizes in our store:



Before we start, I will explain the rules of each of our games. How many stars you will win depends mainly on your choices. There are no right or wrong answers. We just want you to be honest.
In the end, you will receive a prize for only **ONE** *(show finger)* of the games. But you will not know which one until the very end of the survey. So, play each of the games carefully.

1. Do you get to keep all the stars or can you exchange them for prizes in our store? |__|
   [1 = Correct, | 2 = Incorrect | 97 = Can't be assessed]

[DO NOT READ] Correct answer is "exchange them for prizes in our store".

2. Will you receive a prize for all the games you play or for only one? |__|
   [1 = Correct, | 2 = Incorrect | 97 = Can't be assessed]

[DO NOT READ] Correct answer is "for only one"

Section 4.2: Pro-Sociality Preferences

FO INSTRUCTIONS:

- For this game, you will need two **black** cups, one **ME** cup and one **OTHER KID** cup, and ten "normal" pencils.
- Place the ME cup and the **OTHER CHILD** cup in front of the respondent.

READ: In this game, each pencil is equal to one star. Here, you have to decide how to divide pencils between yourself and another child similar to you but from a different village. You will never know who exactly the other child is, and the other child will not get to know you.

However, I will ensure that the other child does indeed receive the prize that corresponds to the pencils that you will give to him/her if this is the game that shall count.

You will need to decide how to divide these 10 pencils *(show and count the pencils in front of the participant. Ensure that all the pencil and the tips should be of the same colours)* between yourself *(point to **ME** cup)* and another child similar to you *(point to the **OTHER CHILD** cup)*. You can divide them however you want. You can keep all the pencils for yourself, give all the pencils to the other kid, or anything in between. There is no right or wrong answer in this game, we just want you to be honest and tell us what you would actually choose.

We will walk through a few examples to demonstrate how to play this game.

Here is the first example.

FO INSTRUCTIONS: Place two pencils in the ***OTHER CHILD*** cup and 8 in the ***ME*** cup.
READ: If you want, you can give 2 pencils to the other child. Then you'll have 8 pencils for yourself.

Here is another example.

FO INSTRUCTIONS: Place 5 pencils in the **OTHER CHILD** cup and 5 in the ME cup.
READ: If you want, you can give 5 pencils to the other child. Then you'll have 5 pencils for yourself.

Here is the last example.

FO INSTRUCTIONS: Place 0 pencils in the **OTHER CHILD** cup and 10 in the ME cup.
READ: If you want, you can give no pencils to the other child. Then you'll have 10 pencils for yourself.

Remember, you can divide the pencils however you want. There is no right or wrong answer in this game.

Now, please place the number of pencils that you want for yourself in the **ME** cup and the number of pencils that you want to give the other child in the **OTHER CHILD** cup.

1. **[DO NOT READ]** How many pencils did the participant allocate to themselves? |__|
2. **[DO NOT READ]** How many pencils did the participant give the other child?|__|

READ: Ok, great job. Now we're going to put those pencils away, and at the end of the survey, I will see which game will be the one that counts.

Section 4.3: Risk Preferences

FO INSTRUCTIONS:

- For this game, you will need the **blue** cup, 9 "normal' pencils, and one pencil with a **red** mark.

READ: This game will use ten pencils and a cup. *(Show the participant the pencils and count them before them).* Of all the pencils, one pencil has a **red** mark on the bottom *(show pencil to participant)*. You can't see the **red** mark on the pencil until you take it out of the cup.
You will decide how many pencils to take from the cup. You will win stars for **ALL** the pencils you take IF there is no **red** mark on those pencils, where one pencil will be equivalent to one star. But if there is a **red** mark on **ANY** pencil you take, you must return all the pencils. I need you to grab all the pencils you want to take at once.

1. How many pencils in this cup have a red mark on it? |__| (1=Correct, 2=Incorrect, -97=Cannot assess)

[DO NOT READ] *Correct answer is one. If the participant made a mistake, say: "No, one pencil has a red mark, and the others do not have a red mark."*

2. If any pencil you take has a red mark on it, do you give all the pencils back to me or do you keep them? |__| (1=Correct, 2=Incorrect, -97=Cannot assess)

[DO NOT READ] *Correct answer is "Give all the pencils back." If the participant made a mistake, say: "No, you give me back ALL the pencils you took."*

3. If none of the pencils you take has a red mark on it, do you give the pencils back to me, or do you win the pencils? (1=Correct, 2=Incorrect, -97=Cannot assess)

[DO NOT READ] *Correct answer is "Win the pencils." If the participant made a mistake, say: "No, you win all the pencils you took."*

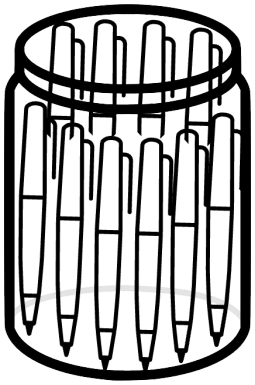
READ: Now, you can take as many pencils as you want from the cup.

FO INSTRUCTIONS: Do not let the participant take the pencils one at a time. They need to grab them all at the same time.

4. **[DO NOT READ]** How many pencils did the participant take? |__|

5. **[DO NOT READ]** 5. How many pencils did the participant win? |__|

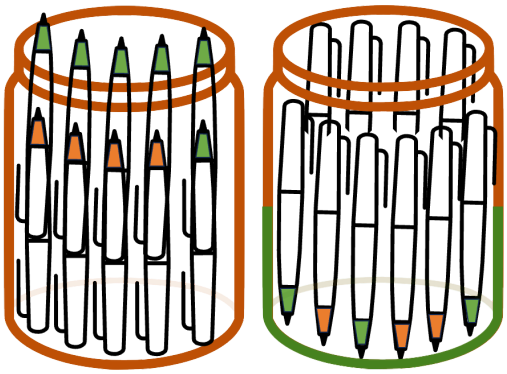
READ: Ok, great job. Now we're going to put those pencils away, and at the end of the survey, we will see which game will be the one that counts.



Section 4.4: Ambiguity Preferences

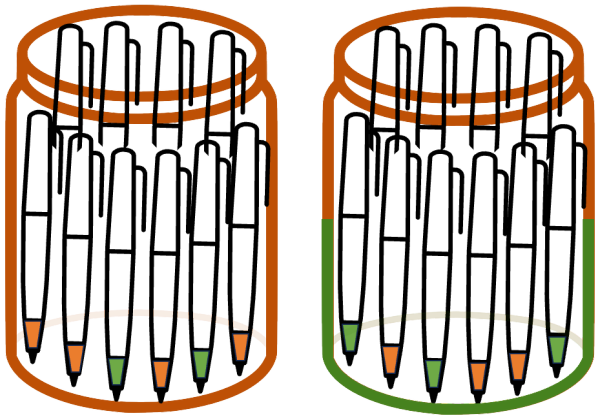
FO INSTRUCTIONS:

- Place in front of the respondent an **orange** cup and an **orange+green** cup.
- In the **orange** cup, place 10 pencils with their points facing upward: 4 of them need to have an **orange** mark and 6 of them to have a **green** mark.
- In the **orange+green** cup, place 10 pencils with their points facing downward. The number of pencils with an **orange** mark in the **orange+green** cup needs to vary from survey to survey, but they always need to add up to 10.
- DO NOT SHOW THE RESPONDENT HOW MANY PENCILS WITH A **GREEN** MARK ARE IN THE **ORANGE+GREEN** CUP.



READ: Now, let's play another game. We are going to play a game where you draw a pencil out of a cup without looking. We have two cups, with 10 pencils each. *(Count the number of pencils in each cup WITHOUT taking them out of the cups).*
In the **orange** cup, out of 10 pencils, there are 4 with an **orange** mark and 6 with a **green** mark.
In the **orange+green** cup, there are also 10 pencils, but the number of pencils with **green** or **orange** marks is unknown.

FO INSTRUCTIONS: Now, place the pencils in the **orange** cup with their points facing downward.



READ:
You can choose the cup from which you want to draw ONE pencil *(show one finger)*.

- If you choose the **orange** cup, to win 3 stars you need to draw a pencil with an **orange** mark.
- If you choose the **orange+green** cup, to win 3 stars, you need to decide on a color and draw a pencil with a mark of that color.

  Remember, there are no right or wrong answers in this game.

1. If you choose to pick a pencil from the orange cup, which color pencil do you need to pick to win? |__| (1=Correct, 2=Incorrect, -97=Cannot assess)

[DO NOT READ] *Correct answer is ORANGE. If the participant made a mistake, say: "No, if you choose the orange cup, you need to pick an orange pencil to win."*

2. If you choose to pick a pencil from the orange+green cup, which color pencil do you need to pick to win? |__| (1=Correct, 2=Incorrect, -97=Cannot assess)

[DO NOT READ] *Correct answer is DEPENDS ON WHAT I DECIDE. If the participant made a mistake, say: "No, it depends on what you decide. If you decide that you want to pick an orange pencil, you win by picking an orange pencil. If you decide that you want to pick a green pencil, you win by picking a green pencil."*

3. How many stars can you win in this game? |__| (1=Correct, 2=Incorrect, -97=Cannot assess)

[DO NOT READ] *Correct answer is 3 stars. If the participant made a mistake, say: "No, you can win 3 stars."*

4. Which cup would you like to choose from? |__|
   [1 = **Orange** cup | 2 = **Orange+Green** cup | 97 = Can't be assessed]

5. **[IF Q4==2]** Which color pencil would you like to pick? |__|
   [1 = **Green** pencil | 2 = **Orange** pencil | 97 = Can't be assessed]

READ: Now, you can pick ONE pencil from the [cup they selected] cup.

6. **[IF Q5==1] [DO NOT READ]** Did the participant pick an orange pencil? |__|
   [1 = Yes, the participant won | 2 = No, the participant lost | 97 = Can't be assessed]

7. **[IF Q5==2] [DO NOT READ]** Did the participant pick a green pencil? |__|
   [1 = Yes, the participant won | 2 = No, the participant lost | 97 = Can't be assessed]

READ: Ok, great job. Now we're going to put those pencils away, and at the end of the survey, I will see which game will be the one that counts.

SECTION 5: ANTHROPOMETRICS

Section 5.1: Height

READ TO PC: Now, with your permission, I would like to measure your child's height and weight. First, I would like to measure **[child name]'s** height. To complete this measurement, I will be asking **[child name]** to take off shoes and stand up against a wall, feet together, knees straight, look straight ahead, chin tucked to chest slightly, and do not look up.

1. **Do not ask the following question. Simply record your impressions.** Does the PC agree to allow the child's height to be taken? |__| (1=Yes, 2=No)
   If yes, continue. If no, skip to next section.

FO INSTRUCTIONS: Ask the PC to remove the child's shoes and have the child stand (***against a flat surface such as a wall***). Try to find a location where the ground is as even as possible. Have the child keep his/her feet flat on the floor and stand straight with their back flat against the wall, keeping their chin parallel to the floor. Place a flat straight object on the head and mark the wall. Measure the distance from the floor to the spot on the wall using the HARD tape measure. Write down the child's height in cm below and record the identification number of the tape measure.

DO NOT tell the PC the child's height unless they ask you for it. If the PC asks for the child's height, write it down on a blank piece of paper. Inform the PC that the measurements will be shared with them at the end of the survey.

2. HEIGHT MEASUREMENT: |__|cm

Do not ask the following questions:

3. Did the child take his/her shoes off before taking the measurement? |__| (1=Yes, 2=No)
4. Did the PC ask for the child's height measurement? |__| (1=Yes, 2=No)

Section 5.2: Weight

READ TO PC: Now I would like to measure **[child name]'s** weight. To complete this measurement, Please have **[child name]** remove bulky clothing, remove any heavy objects from your pockets, and take off your shoes during weight measurements. Stand up and look straight ahead, like this.

1. ***Do not ask the following question. Simply record your impressions.*** Does the PC agree to allow the child's weight to be taken? |__| (1=Yes, 2=No)
   If yes, continue. If no, skip to next section.

FO INSTRUCTIONS: Ask the PC to remove any bulky clothing or heavy objects from the child's pockets. Have the child, with shoes still removed, to stand on the scale. Measure the child's WEIGHT in kg and record it below, along with the identification number of the scale.

DO NOT tell the PC the child's weight unless they ask you for it. If the PC asks for the child's weight, write it down on a blank piece of paper. Inform the PC that the measurements will be shared with them at the end of the survey.

2. WEIGHT MEASUREMENT: |__|kg

Do not ask the following questions:

3. Did the child take his/her shoes off before taking the measurement? |__| (1=Yes, 2=No)
4. Did the child have any bulky clothing or have any heavy objects in his/her pockets during the measurement? |__| (1=Yes, 2=No)
5. Did the FR ask for his/her weight measurement? |__| (1=Yes, 2=No)

Section 5.3: Blood Pressure

READ TO PC: Next, we would like to take a few more physical tests. **[Child name]** may now put their shoes back on. Let's start by measuring **[child name]'s** blood pressure and pulse. I would like to take two blood pressure measures. I will ask **[child name]** to relax and remain seated and quiet, with legs uncrossed and feet flat on the floor, during the measurements. First, I will place the cuff on **[child name]'s** left arm. Once the cuff is placed appropriately on **[child name]'s** arm and we are ready to begin, I will ask **[child name]** to lay their arm on a flat surface, palm facing up, so that the center of **[child name]'s** upper arm is at the same height as your heart. I will then press the start button. The cuff will inflate and deflate automatically. It will squeeze **[child name]'s** arm a bit but won't hurt.

1. ***Do not ask the following question. Simply record your impressions.*** Does the PC agree to allow the child's blood pressure to be taken? |__| (1=Yes, 2=No)
   If yes, continue. If no, skip to next section.

Before we begin, I would like to ask you a few questions.

2. Did **[child name]** bathe, drink caffeine (eg: tea/chai), exercise or eat anything in the last 30 minutes? |__| (1=Yes, 2=No)
3. By default, we would like to measure **[child name]'s** blood pressure using his/her left arm. Does **[child name]** have a rash, a cast, edema or swelling in the LEFT arm, or open sores, wounds or a significant bruise where the blood pressure cuff will be in contact? |__| (1=Yes, 2=No)
   If yes, continue. If no, skip to question 5.
4. Does **[child name]** have a rash, a cast, edema or swelling in the RIGHT arm, or open sores, wounds, or a significant bruise where the blood pressure cuff will be in contact? |__| (1=Yes, 2=No)
   If yes, skip to next section. If not, continue.
5. ***Do not ask the following question.*** Please confirm that the blood pressure measurement will be taken using the [**LEFT/RIGHT**] arm. |__| (1=Yes, 2=No)

FO INSTRUCTIONS:

- Make sure to use the appropriate size cuff. In most cases, it will be the kid's cuff. In cases where the kid's cuff is too small, there's the option to use the adult's cuff.
- Make sure **[child name]** is sitting, ideally for 5 minutes prior. His/her legs should be uncrossed, and the feet flat on the floor.
- Wrap the blood pressure cuff around the child's [LEFT/RIGHT] arm (bare) above the elbow. Make sure the tube is facing on the same side as the child's palm. Make sure the child's arm is on a flat surface, palm facing up, so that the center of his/her upper arm is at the same height as his/her heart.
- Record the systolic and diastolic pressure and the pulse.
- Repeat a second measurement on the same arm of the child.
- Record the identification number of the blood pressure instrument.

DO NOT tell the PC the child's blood pressure measurements unless they ask you for it. IF the PC asks for the child's measurements, write them down on the blank piece of paper. Inform the PC the measurements will be shared with them at the end of the survey.

6. SYS MEASUREMENT #1: |_____| mmHg
7. DIA MEASUREMENT #1: |_____| mmHg
8. PULSE #1: |__| / min

9. SYS MEASUREMENT #2: |__| mmHg
10. DIA MEASUREMENT #2: |_____| mmHg
11. PULSE #2: |__| / min

12. ***Do not ask the following question:*** Which cuff size did you use? |__| (1=Kid's cuff, 2=Adult's cuff)
13. ***Do not ask the following question:*** Did the PC ask for the child's blood pressure and/or pulse measurements? |__| (1=Yes, 2=No)
14. ***Do not ask the following question:*** Did the FR ask for an interpretation of the child's blood pressure and/or pulse measurements? |__| (1=Yes, 2=No)

Section 5.4: Hemoglobin

READ: Now I would like to measure your child's hemoglobin level. To complete this measurement, I will be asking **[child name]** to take a seat and his/her hand in a stable position, with the palm facing down. I will use this machine to take a non-invasive measure of **[child name]'s** hemoglobin level. I will set the machine up and then connect the cable to his/her pinky finger. There's no pain or significant risk of injuries associated with this test. I will keep the cable connected to his/her finger for 1 minute, and then record the hemoglobin level from the machine.

1. **Do not ask the following question. Simply record your impressions.** Does the PC agree to allow the child's hemoglobin level to be taken? |__| (1=Yes, 2=No)
   If yes, continue. Otherwise, skip to next section.

2. Does **[child name]** have a rash, a cast, edema or swelling in both of his/her pinky fingers, or open sores, wounds or a significant bruise? |__| (1=Yes, 2=No)
   If yes, skip to next section. Othewise, continue.

FO INSTRUCTIONS: Charge the Hb machine's battery fully before using.

- Measure **[child name]'s** hemoglobin level using their non-dominant hand. If, for any reason, the measurement cannot be taken on the non-dominant hand, you may use the dominant hand instead.
- Connect the cable to the machine.
- Insert ***[child]'s survey ID*** as label and Gender.
- Press Start to begin the spot-check session.
- Make sure ***[child name]*** is sitting, and his/her hand is in a stable position with the palm facing down.
- Place the sensor on ***[child name]'s*** pinky finger. Once a pulse is detected, the machine beeps and the spot-check begins. Immediately after the beep, start the timer and select ***Measure SpHb*** to include the Hemoglobin measure on the check.
- When the time reaches 1 minute, record the SpHb measure in SurveyCTO.

DO NOT tell the PC the child's hemoglobin level unless they ask you for it. If the PC asks for the child's hemoglobin level, write it down on a blank piece of paper. Inform the PC that the measurements will be shared with them at the end of the survey.

3. Hb Level (e.g., 13.7 SpHb g/dl): |_____| . |___| SpHb g/dL

4. **DO NOT READ:** Which finger did you use for HB measurement? (1=Thumb, 2=Index finger, 3=Middle finger, 4=Ring finger, 5=Pinky finger)

5. **DO NOT READ:** Did the PC ask for additional clarification or interpretation of their measurements? |__| (1=Yes, 2=No)

End of General Instructions

READ: As I mentioned when we were playing the games, we will now see which game counts so that you can retrieve your prize.

READ: Congratulations! You won [___] stars from the [**first/second/third**] game. Also, a kid from another village decided to share with you [_____] pencils, so you have [_____] additional stars. So, in total, you won [____] stars. Now you can exchange your stars for prizes in our store.

DO NOT READ: The tablet will show the game that counts. The kid will receive the stars corresponding to the games he/she played and the stars corresponding to whatever other kid decided to share.

READ: Thank you for your time. Offer the child a juice as a token of appreciation for their time.
BEFORE LEAVING, ENSURE YOU HAVE PACKED ALL THE KIDS TEST ITEMS IN YOU BAG.