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Impact Evaluation

Psychosocial Support on Children's Well-being, Literacy, and Math Outcomes in the South Sudan Integrated Essential Emergency Education Services Activity

Final Report

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Acronyms

CRS	Catholic Relief Services
CYRM	Child and Youth Resilience Measures
EGMA	Early Grade Mathematics Assessment
EGRA	Early Grade Reading Assessment
GBV	Gender Based Violence
IEEES	Integrated Essential Emergency Education Services
IU	Indiana University
LASER PULSE	Long Term Assistance and Services for Research, Partners for University-Led Solutions
MoGEI	South Sudan Ministry of General Education and Instruction
OOS	Out of School
POC	Protection of Civilians Site (UN)
PSS	Psychosocial Support
PU	Purdue University
RAN	Resilient Africa Network
RERA	Rapid Education and Risk Analysis
SEL	Social and Emotional Learning
SDQ	Strengths and Difficulties Questionnaire
UND	University of Notre Dame
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WASH	Water Sanitation and Hygiene

Executive Summary

This report documents the findings of an 18-month impact evaluation of the psychosocial support interventions included in the UNICEF Integrated Essential Emergency Education Services (IEEES)

conducted by a team of researchers through the Long-Term Assistance and Services for Research, Partners for University-Led Solutions (LASER PULSE) program.

Purpose of Evaluation

Building on the previous UNICEF-led Emergency Education activity that ended in March 2018, the Integrated Essential Emergency Education Services (IEEES) activity is now in the 2nd year of implementation with new sites being added. At this time of expansion, an evaluation offers an opportunity for universities to (i) partner with stakeholders to conduct research that can inform decision-making about future directions for the activity in South Sudan and (ii) guide development strategy in the broader field of education in emergencies and psychosocial support. Specifically, the purpose of this impact evaluation was to understand the impact of inclusion of psychosocial support (PSS) interventions as part of education programming in a complex environment The key question to be answered by the evaluation was, "What are the impacts of psychosocial support interventions on students' well-being, resilience, and academic performance?"

Sub-questions included:

- "What is the impact of the intervention on psychosocial capabilities for using knowledge (critical thinking, problem-solving), for being decisive and resilient (decision-making, motivation, resilience), and for living together (communication, empathy)?
- Do interventions impact children's psychosocial skills and knowledge (e.g. coping skills, conflict resolution skills)?
- Do interventions impact children's attitudes and dispositions (feelings of belonging, tendency toward violence vs. peaceful resolution)?
- Do interventions impact children's feelings of safety and well-being?

Methods

This evaluation was guided by the theory of change that if children in conflict affected settings are provided with appropriate psychosocial support, they will see improvement in general well-being, resilience, and school performance. The evaluation sought to test this theory through a mixed-methods approach that measured children's well-being and resilience through student and teacher surveys and academic performance through modified Early Grade Reading and Mathematics Assessment tools https://pdf.usaid.gov/pdf_docs/PA00MM2C.pdf. Students from primary grades 3, 5, and 6 were included in the study. Case studies in 5 schools receiving psychosocial support interventions were also included.

Surveys administered to 3000 students covered key demographic factors, attitudes towards learning and classroom climate, and psychosocial well-being and behaviors. The three core domains of wellbeing were confirmed as appropriate during the workshop, and questions were selected and developed for the survey tool. The measures reviewed for tool development were selected from those reviewed and recommended in the CRS MEAL4Kids Guidance of Measuring Child Psychosocial Wellbeing in Emergency Response and Recovery Programming (Bhol, Dzino-silajdzic and Ryan, 2018) which identifies the most commonly defined subcomponents of wellbeing and compares validated tools for measuring these constructs.

For the purposes of this evaluation, emotional wellbeing is defined as an internal state reflecting positive thoughts and emotions such as hopefulness, calm, self-esteem and self-confidence; social wellbeing is derived from interaction with the environment including the sense of belonging, nurturing

relationships, and ability to interact with others; and skills and knowledge, or resilience, is the capacity to learn, use coping skills, and make positive decisions to overcome life's challenges.[1]

Question were drawn primarily from Strengths and Difficulties Questionnaire (SDQ)[2] and the Child and Youth Resilience Measurement (CYRM)[3], and also from the KIDSCREEN Quality of life questionnaires for children and adolescents[4] and others[5] that contained questions that addressed the sub-domains identified in the workshop process. Three questions were created specifically for the context, proposed by South Sudanese research partners. All questions were cross referenced with the UNICEF monitoring and evaluation tool, to ensure accurate targeting of intended outcomes. Questions on emotional wellbeing were included to look at psychosocial status, or negative emotional experiences to understand how these scores might correlate with social or resilience outcomes, as well as learning outcomes, rather than to measure any change in psychosocial status. Scoring high on experiences such as worry and bad dreams, which could be associated with stress or anxiety, could impact classroom skills and behaviors. Additionally, questions were added specific to adolescent-aged students, as South Sudanese team members felt this age group experiences unique and additional pressures related to becoming adults, and to self-confidence. Surveys administered to nearly 600 teachers covered demographic background (including age, gender, education level, and mother tongue), training and implementation of psychosocial support activities, and attitudes towards teaching and classroom management. Additional contextual information was provided through 5 in-depth case studies (one intervention school from each of the 5 participating states) including student focus groups and key informant interviews with head-teachers, School Management Committee members (in schools that have an SMC), county education directors, PSS-Trained teachers, parents/guardians, implementing partners such as War Child Holland, Intersos, CINA (Community in Need Aid), and UNICEF field level child protection and/or education officers.

Our team built on existing survey instruments that assessed well-being and academic performance, modifying them to be appropriate to the South Sudanese context. We used a two-stage sampling approach to identify 3000 student respondents based on sample sizes estimated from an a priori power analysis comparing treatment and control schools. We also accessed historical information from the EGRA/EGMA that was completed jointly by USAID/Montrose in 2015 and 2017, which compared a non-equivalent number of treatment/control schools to estimate impact of the intervention early on in its implementation.

Data Collection Schedule

PHASE 1- April- June, 2019	PHASE II- August- November, 2019

[1] United Nations Children's Fund. Operational guidelines on community based mental health and psychosocial support in humanitarian settings: Three-tiered support for children and families (field test version). New York, UNICEF, 2018.

[2] Goodman R (1997) The Strengths and Difficulties Questionnaire: A Research Note. Journal of Child Psychology and Psychiatry, 38, 581-586.

[3] CYRM: Child and Youth Resilience Measure. Halifax: Resilience Research Centre

[4] The KIDSCREEN Group Europe. (2006). The KIDSCREEN Questionnaires - Quality of life questionnaires for children and adolescents. Handbook. Lengerich: Pabst Science Publishers.

[5] California Department of Education. 2007. California Healthy Kids Survey, (Non-Mandatory Resilience and Youth Development Questions in Module B); New Economics Forum. 2009. A guide to measuring children's wellbeing. London: NEF; New Philanthropy Capital. 2011. Wellbeing measure.

Student Surveys P3, P6 (2982 students, 64 schools)	Student Assessments (629 students, 64 schools)
Teacher Surveys (584 teacher, 64 schools)	Case Studies (5 Treatment Schools in 5 states)
Historical EGRA 2015, 2017 review	

Summary of key results

Overall, we find significant differences between students in treatment and control schools for two of the three PSS factors. We find positive impacts for social well-being, and negative impacts for emotional well-being. We see overall positive significant differences in outcomes of responsibility, care of tasks, and resilience for adolescents, but no significant differences in pressure, positive self-perception, friendship and support, and grit. Among teachers, we see differences in teachers' perception of changes in student/classroom culture. We see overall positive significant differences in outcomes of PSS training application, observed change in students, and observed change in self.

There are significant positive impacts of the intervention on students' social and emotional well-being, including sub-items such as: being responsible, caring for tasks, getting through hard times, friendship, support, and grit. The positive impacts of social well-being are consistent across genders, while the positive impact on emotional well-being is largely driven by differential impacts on boys; there is no significant difference in emotional well-being for girls in treatment vs. control schools. The evaluation highlighted differences in implementation of PSS between sites and states in South Sudan; and documented teacher perceptions about the possible impacts of PSS.

There are no significant differences in resilience/coping between treatment and control school students. Resilience was measured using questions from the CYRM focused on dispute resolution, calming skills, mood understanding, concentration in class, and teacher listening. We discuss the potential explanations for this null difference below (selection bias, direct vs. indirect impact of the treatment) and the likelihood that the positive results we see are even attenuated. There are significant positive impacts of the intervention on students' aggregate reading assessment scores, largely driven by significant positive differences in letter name identification. However, for math scores, we find significant negative impacts on students' aggregate math scores, driven by significant negative differences in scores on word problems, level two subtraction, and level one addition.

We see a somewhat similarly complex pattern when comparing treatment and control schools earlier in the lifetime of the intervention (when there were few treatment schools and many more control schools in the 2015 and 2017 EGRA/EGMA administration). We see, for example, significantly higher math performance for students in treatment schools vs. control schools, but this does not hold true in each of the five states included in the analysis. (In part, this may be because of the different sample sizes by state; the samples were not balanced in each state, and we only detected differences in Jonglei and Unity.) We also find that students had significantly higher reading performance in treatment schools than in control schools. We discuss potential explanations for this, including changes in historical context that differentially affected sites that first received the treatment.

Qualitative data was collected across the five sites in order to provide contextual information to help better understand the quantitative data around the impact of psychosocial support interventions on students' well-being and academic performance. According to the case study data, following PSS; (i) teachers, students, and parents/members of PTA or SMC report observing improvement in student behavior,

academic performance, and attendance, (ii) teachers and students report observing improvement in teacher preparation and classroom efficacy; and teachers, students, and community members report observing improvement in students peacebuilding skills and ability to diffuse conflict. Finally, qualitative data indicate that in order to be most effective, PSS must be integrated with other community resources and programs (requiring donor coordination).

Implications

The findings of this evaluation support the inclusion of PSS interventions within education programming in conflict-affected settings. The study identifies meaningful gains in both student well-being and academic performance suggesting the effectiveness of inclusion of PSS in the IEEES activity. The study identified a number key considerations for future research, discussed in detail in the final section of this report, including the need for clearer distinction between control and treatment schools, variability in the degree of implementation and dosage at different sites, collection of baseline of pre- and post- data for the well-being surveys, the importance of capacity development and training for teachers, and the impact of ongoing conflict, displacement, and seasonal school closures on effective data collection. The study also helps to identify critical areas for further study including examination of the roll out and implementation of the national level teacher training guide in psychosocial support developed by UNICEF and implementation partners (in progress); the relationship between PSS and other donor-supported initiatives (such as provision of food, WASH programs, Peacebuilding, GBV programs); and potential long term academic impact of PSS through pre and post academic assessments.

Section 1: Introduction and Background of UNICEF IEEES

In South Sudan, challenges in accessing quality education for children and youth in South Sudan that existed prior to independence have only been exacerbated by outbreaks of violence in December 2013 and July 2016. The conflict has resulted in displacement, increase in school dropouts, and consistently low enrollment in education services. UNICEF estimates that over 2.2 million South Sudanese children, nearly one-third of the country's primary school-aged population, are out of school, making South Sudan one of the countries with the largest number of out-of-school children (OOSC) in the world. As a result of conflict, many children and youth have suffered the psychological effects of experiencing or witnessing violence, fleeing their homes, or living in difficult conditions in United Nations Protection of Civilian (POC) camps. In addition to addressing the academic needs of children and youth, it is essential to address the social and emotional well-being of affected children and youth in South Sudan.

UNICEF's Integrated Essential Emergency Education Services (IEEES) activity addresses a critical gap in South Sudan between humanitarian and development programming and promotes sustainable learning opportunities for vulnerable children and youth. The goals of the project include supporting formal and non-formal learning options and building resilience and recovery by protecting children and youth from gender-based violence and mitigating the effects of violence in and around school communities. The project also provides for education sector-specific deficiencies in the teaching force, conflict-sensitive teaching and learning materials and stemming the soaring school drop-out rates as a result of flight, displacement and insecurity among resident communities, returnees and Internally Displaced Populations (IDPs). The IEEES activity addresses these challenges by: 1) increasing equitable access by restoring and expanding the availability of safe and appropriate learning opportunities; 2) improving instruction in and increasing application of essential skills (reading, math, life skills and social and emotional competencies); and 3) and improving recovery and resilience through linking education, health, water and livelihoods support and providing psychosocial services to children, youth and their families, including victims of gender-based violence.

This study is not an evaluation of the entire IEEES activity, nor is it meant to serve as a performance evaluation; it focuses solely on the impact of the psychosocial support interventions as one component of the overall project. Previous evaluations have noted that the education sector has not harnessed the strength and reach of psychosocial support and social and emotional learning education programs in conflict settings (Blair, 2002; Diamond & Lee, 2011; Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011; Ursache, Blair, & Raver, 2012). Although some SEL programs have improved academic achievement (e.g., Jones, Brown, & Aber, 2011; Raver et al., 2011), others have shown no impact on children's academic outcomes (Catalano, Berglund, Ryan, Lonczak, & Hawkins, 2002; Greenberg et al., 2003; Spivak & Farran, 2014). As these studies were conducted in different countries and contexts, a better understanding of how these assumptions play out in South Sudan will be explored. Hence, in addition to assessing the impact of psychosocial support on general well-being, a significant amount of effort was spent on isolating the impact this type of additive component has on children's acquisition of academic skills, specifically reading and math.

Section 2: Methodology

2.1 Impact Evaluation and Rationale

The IEEES program was guided by a theory of change, which stated that if children in conflict affected settings are provided with psychosocial support (PSS) through emergency education programs,

they will see improvement in their psychosocial and social-emotional learning (SEL) skills[6], as well as in their academic performance. This impact evaluation sought to test this theory by measuring the impact of the psychosocial support interventions offered by the UNICEF IEEES Activity. A mixed-methods, quasi-experimental design was adopted that compared sites where the PSS interventions were being incorporated more intentionally during the school day or as part of the curriculum (i.e., 'Intervention' or 'Treatment' schools) to those where this was not being done (i.e., 'Control' schools). In some cases control schools may have included some PSS activities because teachers had previously been trained or through different programs (not part of IEEES.)

2.2 Desk Review

A preliminary study of existing was conducted to offer the research team background context for the evaluation. The desk review analyzed existing activity data such as: policies, school curricula, teacher training curricula, school inspections reports, recent examination reports and other Ministry of General Instruction and Education (MoGEI) documents that were developed in support of psychosocial and SEL-skills education. Contextual data on sites was provided through the Rapid Education and Risk Analysis (RERA) https://www.eccnetwork.net/sites/default/files/media/file/RERA_South_Sudan.pdf report conducted by USAID. The desk review also included previous EGRA and EGMA data (2015 and 2017) from PSS intervention and non-intervention schools, in order to draw conclusions about the possible impact of PSS on academic performance. Analysis of the previous EGRA and EGMA data result in a separate report which is included as Appendix 9.

2.3 Study Sites

Based on input from UNICEF and USAID on the implementation of the IEEES activities, five states (Upper Nile, Jonglei, Unity, Central Equatoria and Western Equatoria) were selected for the evaluation. Study sites followed the path of implementation, which was focused on providing PSS to the most conflict affected states and counties first. Sixty-four 'intervention' and 'control' schools across the 5 states were selected to participate in the quantitative arm of the study. Implementation varied by state so representation of schools was not equal among the 5 states. Included in this arm were: (i) Two types of surveys on PSS outcomes administered among students and teachers and (ii) a modified EGRA/EGMA academic assessment administered among primary 5 students. Primary 5 was selected after conducting a pilot with P3 students where reading levels were too low to successfully conduct the assessment. In addition to the quantitative arm of the study, 5 'intervention' schools (one in each of the 5 states) were further purposefully selected from the 64 based on criteria such as implementation of PSS, accessibility, and school type, as case study sites to provide more insight into the context and implementation of PSS activities and their impact. The study team collaboratively sought input and feedback from the USAID South Sudan Mission, UNICEF and its Implementing Partners on the selection of intervention and control schools in each of the states. The key factor considered in schools selection was recommendation by UNICEF as a study site due to implementation. Additional factors such as accessibility and safety/security were also considered as clusters of schools were identified in key areas. A larger number of schools than those ultimately needed were listed in case there were any difficulties in accessing some of the schools. (See Appendix 1 for the list of Schools)

2.4 Sample Selection

Student and Teacher Survey

This study is a quasi-experimental design rather than a randomized control trial (RCT) because schools were selected by the program agency/implementing partners and not randomly assigned to

[6] Psychosocial support, or "PSS", refers to the "processes and actions that promote the holistic wellbeing of people in their social world. It includes support provided by family and friends" (INEE, 2010a, p. 121), while Social and emotional learning, or "SEL", has been defined as the process of acquiring core competencies to recognize and manage emotions, set and achieve goals, appreciate the perspectives of others, establish and maintain positive relationships, make responsible decisions, and handle interpersonal situations constructively" (Elias, Zins, Weissberg et al., 1997).

treatment status. This selection was done to prioritize the highest needs areas first, including the highest conflict areas. We selected treatment and control schools to the best of our team's ability to identify schools that were comparable in terms of physical and human resources, experiences with conflict, and other relevant factors. We gathered student background as well as extensive background information from teachers at the school in order to control for and potentially explain systematic differences in outcomes we observe.

Student surveys were conducted among primary 3 and primary 6 students in all of the 64 schools. These grades were selected in order to gauge the impact of PSS interventions on well-being across older and younger students. While piloting the assessment, it was determined that many students below P3 would not be able to read and comprehend the assessment, and that many schools across the country could not offer a sufficient number of students in grades higher than P6. In each school 15 students were randomly selected from P3 and 35 from P6. Surveys were administered by an enumerator and a research associate for each of the classes. A total of 2,982 student surveys were completed, as some schools did not have enough students for the full sample. Teacher surveys were administered to approximately 10 randomly selected teachers at each school sampled across the 64 total schools. A total of 584 teachers/facilitators were surveyed as not every school had 10 teachers available.

Academic Assessment

A total of 10 primary 5 students (mixed 5 boys and 5 girls) were randomly selected from the class attendance list in each of the (64) schools. A total of 629 students were given the assessment, as not all schools were large enough to provide a sample of 10. A complete EGRA/EGMA-based academic assessment tool, which consisted of both a literacy and numeracy component was administered to each of the selected students by a pair of enumerators or an enumerator and a research associate. While the initial plan was to match the assessment sample to the grade level sample for the surveys (P3 and P6), it became apparent in pilot testing with students in P3, P4, P5 and P6 that P3 students lacked the basic literacy skills to allow for any effective measurement at the intervention level given that the evaluation was measuring just the PSS component of the larger Activity. Using a slightly higher grade-level helped account for the high variability between schools based on location, while balancing the risk of students over-performing by targeting P6 students. As a result, and in consultation with UNICEF and USAID, it was decided that the academic assessment should focus on P5 students, which allowed the team to apply a validated tool adapted to the unique characteristics of a humanitarian context like South Sudan, while still being able to detect minute, intervention-level changes.

Case Study

In order to provide supporting information in greater depth, we have also selected 5 case study sites (one school receiving PSS from each of the 5 participating states) where we have gathered qualitative information through focus groups and key information interviews. Focus groups included School Management Committees or Parent Teacher Associations (where applicable), Teachers, and Students (youth ages 11-17). Key informant interviews sought information from head teachers, county education directors, implementing partners, and UNICEF field level child protection and/or education officers. The purpose of the case studies is to develop a deeper understanding of the implementation of PSS in schools, including the perspectives of a variety of stakeholders. Key Informants for the case study sites including country education officers or implementing partners and UNICEF staff were identified by MoGEI or UNICEF respectively. Adult participants (teachers, SMC or PTA members) in the case study were selected by school leaders based on familiarity with or participation in the PSS activities as the goal of the case study was to understand implementation of PSS in treatment schools. Students participating in FGD's were selected randomly from a class list provided by the head teacher.

2.5 Quantitative Data Collection

Quantitative data was collected in two rounds, from April to June 2019 and from August to November 2019. During the first round of data collection, quantitative data was collected to assess the impact of PSS activities on psychosocial well-being through surveys sampled among students and teachers

in treatment and control schools. The second round of quantitative data collection focused primarily on assessing the impact of PSS on academic performance through a literacy and numeracy assessment.

Student Surveys

In order to support ease of data collection in the field, paper copies of the survey questionnaires were printed for administration. The surveys were administered by research associates with support provided by enumerators who were native speakers of the local language in the regions. The research associates and enumerators collected the demographic data and the PSS instrument information. Both traveled to peri-urban and rural areas to survey treatment schools and corresponding control schools. The support, translation, and supervision provided by the enumerators and research associates was very effective, ultimately achieving a high response rate of 99.16%. All data collected from the field were scanned and saved in a secure repository. Scanned files were then entered into Qualtrics (an online survey tool) for analysis by the multi-national team and reviewed by an assigned data custodian.

The first-round student survey (Appendix 4) captured three main PSS domains through 36 questions, namely: Emotional/Personal Well-being, Social Well-being and Ability to Cope (Resilience). More specifically, the survey included questions on key demographic factors, attitudes towards learning and classroom climate, and psychosocial attitudes and behaviors, drawing largely from the Strengths and Difficulties Questionnaire (SDQ) and the Child and Youth Resilience Measure (CYRM[MOU3]). These questions were chosen or developed in order to capture basic emotional states that relate to child wellbeing, and behaviors that are observable and relevant to children in South Sudan. Measures of psychosocial problems such as depression or PTSD were not included, as the IEEES intervention does not target these problems. The questions included in the survey were selected during a consultative workshop held in Uganda with the local (South Sudanese), the LASER PULSE research team, and stakeholder representatives from the South Sudan USAID mission and UNICEF South Sudan and were refined through a series of follow-up discussions to ensure cultural and contextual appropriateness. These questions were also aligned with monitoring and evaluation tools that are included in the UNICEF PSS Teacher Manual, to ensure the evaluation would not look for changes that are outside the objectives of the activities. Additionally, while the PSS activities address a broad range of aspects, the domains selected in the consultative process can be mapped onto core SEL competencies (see Appendix 11: Domains of Wellbeing, see Appendix 4 for the student survey). The final survey was validated in a pilot among 210 P3 and P8 students across three schools in Juba. Once the research team expanded into schools beyond Juba, they were unable to find large enough numbers of students enrolled at the P8 level and changed the plan to conduct the survey with P6 students instead. The student surveys were administered by two people (one enumerator and one research associate) for each of the classes in all the schools. Survey time varied by school but took approximately one hour. The survey questions and response options were read out loud and translated into the local languages for the students. Surveys translations were read aloud in the local language and students responded in written form. Surveys were then collected (with deidentified locator numbers) and entered into an online system upon return to Juba for analysis and creation of a comprehensive report. Original copies of the surveys are securely stored in a locked cabinet at the local office in Juba.

Teacher Surveys

Surveys (Appendix 5) were also completed by the corresponding teachers of the classes where students were surveyed in each of the 64 schools. Approximately 10 teachers were surveyed per school, though some smaller schools with fewer teachers had less than 10. A total of 584 teachers were surveyed. The teacher surveys included demographic background questions (age, gender, level of education, teaching experience, mother tongue, language of instruction) as well as questions on what PSS training they had received (if any), who conducted training, their experiences with implementation of PSS activities, and general attitudes towards teaching and classroom management.

Literacy and Numeracy Assessment

A literacy and numeracy assessment adapted from the EGRA and EGMA tests previously used in South Sudan was administered among primary 5 students from the same intervention and control schools

included during the first phase of data collection. Academic outcomes were measured via the adapted versions of the Early Grade Reading Assessment (EGRA) and Early Grade Math Assessment (EGMA) tools (Appendix 10). Within each of these two constructs, there were a number of sub-domains. The math assessment had subdomains of number identification, quantity discrimination, missing numbers, addition levels one and two, subtraction levels one and two, and word problems. The reading assessment had subdomains of letter name identification, familiar word identification, oral reading fluency, reading comprehension, listening comprehension, and vocabulary. The original assessment was initially piloted in a school in Juba among P3, P4, P5 and P6 students. Feedback from the pilot was used to inform revisions to the assessment tools, including ways to shorten the length of time spent on the assessment. A decision to conduct the survey among primary 5 students instead of primary 3 students was made following the feedback from the pilot and further consultations with the research team in order to ensure that the assessment could detect the impact of PSS actions on the educational outcomes at the intervention level, particularly given the wide range of competencies of students across urban/rural and state-level divides. Assessments took place one-on-one with students, during the school day, and took approximately one hour each. The literacy component of the assessment including instructions was administered in English, which South Sudan has established as the medium of instruction and permitted consistency among the literacy assessment.. That said, the instructions for the numeracy component was directly translated into one of the main local languages (Arabic, Zande, Dinka, Nuer, or Shilluk) by local enumerators as required by the student being assessed, since the quality of English instruction varied greatly between states, and in order to secure a clearer read on math skills.

2.6 Qualitative Data Collection

Key Informant Interviews (Appendix 6) were conducted in 5 case study sites (one in each state) to provide supporting information on the context and implementation of PSS activities. Key informant interviews were conducted with the following:

- An implementing partner in each of the case study sites identified by UNICEF (such as War Child Holland, CINA, INTERSOS)
- The County Education Director in each case study site
- The Head Teacher/School Management Committee members of a selected 'intervention' school in each case study site
- UNICEF field level child protection and/or education officers
- PSS-trained teacher in each of the case study sites selected by school leadership
- Guardians/parents or members of SMC/PTA when available in each of the case study sites selected by school leadership

Subjects were asked about their knowledge of the PSS interventions and perceptions of the impact the interventions had on students. Two Focus Group Discussions (FGDs) were conducted in each of the 5 case study sites and consisted of 5 boys and 5 girls randomly selected from among primary 6 pupils. The FGDs were conducted with groups separated by gender. FGD questions focused included the following (with further clarifying probes):

1) Besides academic learning like reading and math, tell me about activities that you are engaged in while at school (or child-friendly spaces) (Give specific examples such as games, arts, dance, discussions, roles plays, etc.)
2) Have you felt any difference/change in yourself, how you relate to others since you have been having these activities?
3) When you were at the school/CFS, how do you feel? (How does the school/CFS make you feel?)

4) Is there anything else you would like to say or ask about the things we have talked about?

The FGD protocol was reviewed by a child protection specialist in order to avoid unintended harm.

2.7 Ethical Considerations

Consent to conduct the evaluation across the 5 states was sought from the local government through the MOGEI and Bureau of Statistics in South Sudan, as well as from the USAID South Sudan Mission and UNICEF South Sudan. A local research team of 5 Research Associates and 8-10 enumerators were on-boarded for the evaluation and trained in conduct of research ethically prior to each round of data collection.

2.8 Data Analysis

The quantitative survey for students was scored based on the responses given, where responders graded their level of agreement to the survey statements along a five-point Likert scale. The final survey items were categorized into three sections. Section one (10 items) collected demographic information as well as proxy socio-economic indicator variables such as frequency of meals. Section two (20 items) was a general well-being section that was intended for all student respondents, and Section three was a 6-item section with additional questions specifically included for adolescents. In total, 26 items specific to the measurement of well-being were adapted from validated instruments in the literature, from UNICEF's monitoring and evaluation tool, or from concepts identified by the South Sudanese researchers as relevant to the context for example:

10h). In the last two weeks, have you been able to concentrate or pay attention in the classroom?

1. Never
2. Sometimes
3. Most of the time
4. All the time

(see Appendix 3 for full list). Section one was worded and scored on a 5-point scale while all 26 items in sections 2 and 3 were worded and scored on a 4-point agreement Likert scale (1 = strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree). No neutral response or reverse response items were provided in the questionnaires.

Details on Sampling and Statistical Power Analysis

We employed a two-stage sampling strategy in this study. First, 64 schools were purposely sampled from 5 states (Central Equatoria, Western Equatoria, Upper Nile, Unity, Jonglei) within South Sudan that had the potential of offering both treatment and control schools. The final school selection comprised 36 treatment schools who had, at the time of the study, received the PSS intervention (targeted teacher training by UNICEF and implementing partners) and 28 control schools that had not but were located in relatively close proximity to the treatment schools or might have otherwise shared a similar profile to them. Most of the schools (even the control schools) contained teachers who had previously been trained in PSS. What differentiated the treatment schools from the control schools was the inclusion of a class or sessions during the school day where children would have received more dedicated and purposeful PSS. Otherwise, teachers in control schools were meant to integrate their PSS training throughout other class periods or during other routine interaction with students.

There have been seven hundred sixty-one (761) schools and temporary learning spaces (TLS) that have now been supported through the IEEES program, but in order to efficiently use resources for this project, we relied on an a priori power analysis to determine a reasonable number of schools to sample. We utilized a two-stage sampling approach. After selecting the five states that would be included in this analysis to provide a broad geographic picture of the intervention, we first identified a list of treatment and control schools. Upon visiting the schools, enumerators would then sample students from P3 and P6 via a mix of

random and convenience sampling, limited to students present on the day of the site visit. Originally, we targeted P8, but because an insufficient number of students were studying at the P8 level in some schools, this was amended.

There are few resources that can provide recommendations on the requisite parameters for a power analysis, so we describe our approach in detail here for transparency and also to provide a baseline for future work that builds on ours. We looked to reports of PSS interventions in other humanitarian or development contexts in Sub-Saharan Africa, including (Kelcey et al., 2016; Handa et al., 2018) (cite). A reasonable range for potential effect sizes for PSS outcomes was $\delta = 0.18\text{-}0.22$. Given that the treatment we study is at the group (school) level, it was all the more important for us to take into account intra-class correlation (ICC). Again, given (limited) related literature in the region, we incorporated into our power analysis estimates of either $\rho = 0.01\text{-}0.05$. Finally, we planned to gather student background data and teacher background data, so we would be able to include variance explained by level-2 covariates, which we estimated as ranging from 0.1-0.3. This gave us a conservative set of bounds of a necessary number of schools between 52-78. We achieved a total number of schools of 64, well within this range (Appendix 2 includes figure showing power analyses).

Section 3: Evaluation Findings

3.1 Quantitative Findings

Psychosocial Support and Student Well-Being

Question 1: What is the impact of the intervention on psychosocial capabilities for using knowledge (critical thinking, problem-solving), for being decisive and resilient (decision-making, motivation, resilience), and for living together (communication, empathy)?

- Do interventions impact children's psychosocial skills and knowledge (e.g. coping skills, conflict resolution skills)?
- Do interventions impact children's attitudes and dispositions (feelings of belonging, tendency toward violence vs. peaceful resolution)?
- Do interventions impact children's feelings of safety and well-being?

Analytic Approach

For each of the two research aims (PSS and academic outcomes), we first provide information on the descriptive statistics of interest, including a description of the student population that completed the surveys and descriptive statistics of the outcome of interest. We describe the factor loadings and subdomains for the outcomes we ultimately use. Then, we describe the results of inferential tests of differences between treatment and control school students. Finally, to begin to hypothesize about potential systematic differences, we disaggregate by other factors of interest.

Three PSS constructs (and subdomains/questions)

Our combined South Sudanese and international team identified three PSS constructs that were most relevant to measure for South Sudanese students' well-being: emotional well-being, social well-being, and resilience/coping. We conducted confirmatory factor analysis to determine whether the factor structure that has been validated elsewhere is also present for respondents in South Sudan. After finding that the question loading did not meet acceptable thresholds, we conducted exploratory factor analysis to identify a more fitting structure. Subsets of questions were loaded onto different constructs, but overall, we still found the three factors of emotional well-being, social well-being, and resilience/coping were valid. We use the revised question weighting in our outcomes in this report. This process is described in extensive detail in one of the journal articles resulting from this project, which is as of yet unpublished and under review at the Journal of Education in Emergencies.[7]

3.1.1 Psychosocial Support Outcomes

The PSS instrument was administered to 64 schools across 5 states, ultimately gathering data from 2982 students in grades P3 and P6. The majority of students responding were male (61%), and the majority were in P3 (67%). There were more treatment schools in the PSS sample than control schools (56%). Table 1 provides more detail on the absolute numbers and percentages for PSS schools and student respondents.

Table 1. Descriptive statistics of students

[7] Olayemi, M., Tucker, M., Choul, M., Purekal, T., Benitez, A., Wheaton, W., & DeBoer, J. (under review). Developing A Tool to Measure Children's Well-being Outcomes and Evaluate a PSS Intervention in South Sudan. Journal on Education in Emergencies- Special Issue on Education on PSS and SEL

Category	Groups	Frequency	Percentage (%)
Students (n = 2982)			
Intervention Status	Control	1200	40
	Treatment	1782	60
Sex	Male	1814	61
	Female	1160	39
Class	P3	991	67
	P6	1987	33
State	Unity	1042	35
	Jonglei	780	26
	Upper Nile	251	8.5
	Western Equatoria	420	14
	Central Equatoria	489	16.5
Schools (n = 64)			
Intervention Status	Control	28	44
	Treatment	36	56

Overall Differences in PSS Outcomes

We use a quasi-experimental research design and also gather information on important control variables to attempt to recover causal estimates of the impact of the intervention on psychosocial (PSS) or well-being outcomes and academic outcomes. We conduct two-sample comparison tests of aggregate scores, but we also present scores disaggregated by subdomain, gender, POC status, urbanicity, school type, class, and state in order to better understand systematic differences and comparability between the treatment/control groups.

Overall, we find significant differences between students in treatment and control schools for two of the three PSS factors. We find positive impacts for social well-being and emotional well-being, and no evidence of differences for resilience/coping skills. Note: Mean PSS score is the average of the questions described above, which are all on a Likert scale of 1 – 4. These score students' frequency of behaviors (1 = Never, 2 = Sometimes, 3 = Most of the Time, 4 = Always), and they are coded so that higher is the "positive" interpretation of the question. We conduct 1-tailed t-tests, since we are interested in testing the alternative hypothesis that treatment school students performed better on PSS outcomes, and this essentially sets a higher bar to draw conclusions about significant positive results.

Table 2. Inferential statistics results of students' overall well-being outcomes

Construct	Treatment *(n=1782)*	Control *(n=1200)*	Effect size of difference (Cohen)	P-value
Social Well Being Equal variances assumed (Student)	3.182	3.006	0.31	<0.001
Emotional Well-being Equal variances not assumed (Welch)	3.190	3.128	0.15	<0.001
Resilience/Coping Equal variances assumed (Student)	2.845	2.821	NA	0.171

The disaggregation of the results by gender, class, urbanicity, school type, and location (POC status and States) is provided in Appendix 8

Differences in Well-being Outcomes for Adolescents

The questionnaire included additional questions appropriate only for the adolescent age group. We see overall positive significant differences in outcomes of responsibility, care of tasks, and resilience for adolescents, but no significant differences in pressure, positive self-perception, friendship and support, and grit.

Table 3. Inferential statistics results of adolescent students' well-being outcomes

Construct	Treatment *(n=1232)*	Control *(n=755)*	Effect size of difference (Cohen)	p-value
Responsibility Equal variances assumed (Student)	3.191	2.993	0.19	<0.001
Pressure (reverse-coded) Equal variances not assumed (Welch)	2.902	2.860	NA	0.174
Care of tasks Equal variances assumed (Student)	3.378	3.217	0.17	<0.001
Confidence to get through Hard Times Equal variances assumed (Student)	3.106	2.823	0.27	<0.001
Positive Self Perception Equal variances assumed (Student)	3.112	3.156	NA	0.865
Friendship and Support Equal variances assumed (Student)	3.261	3.197	NA	0.052
Grit Equal variances assumed (Student)	3.281	3.291	NA	0.635

Question 2: What evidence (if any) of changes do teachers perceive in classroom culture/ behavior as a result of interventions?

To answer this question, we turn to the school data provided through the teacher surveys

Table 4. Teachers' descriptive statistics

Category	Groups	Percentage (%)		
		Treatment (n=267)	Control (n=317)	Overall (n=584)
Sex	Male	87	82	84
	Female	13	18	16
Location	Unity	41	32	36
	Jonglei	46	12	28
	Upper Nile	5	12	9
	Western Equatoria	8	10	9
	Central Equatoria	0	34	18
School Type	Government	92.5	61	75
	Community	7.5	39	25
Trained in PSS	No	41	68	56
	Yes	59	32	44
Urbanicity	Urban	79	83	81
	Rural	21	17	19

Note: The descriptive statistics above shows how many teachers are in designated treatment schools and designated control schools. However, the inferential statistical differences presented below are representative of the teachers trained in PSS either implementing activities (treatment) or not implementing activities in their schools (control).

Differences in Teachers' perception of changes in student/classroom culture

We see overall positive significant differences in outcomes of PSS training application, observed change in students, and observed change in self.

Table 5. Inferential statistics PSS results from teacher surveys

Construct	Treatment *(n=158)*	Control *(n=101)*	Effect size of difference (Cohen)	p-value
PSS Training Relevance Equal variances not assumed (Welch)	3.979	3.990	NA	0.464
PSS Training Application Equal variances assumed (Student)	3.304	3.050	0.28	0.013
Observed Change in Students Equal variances not assumed (Welch)	3.304	3.093	0.26	0.027
Observed Change in Self Equal variances not assumed (Welch)	3.443	3.211	0.27	0.021
Change in Students' School Attendance Equal variances not assumed (Welch)	3.310	3.144	NA	0.133

3.1.2 Academic Findings

Question 3: What is the impact of psychosocial support intervention on the EGMA and EGRA assessments scores?

3.1.3 Recent Assessment of Academic Outcomes (2019)

We modified the existing EGRA/EGMA assessments in order to better target the students in the PSS intervention pool. This meant simplifying the literacy assessment to focus less on sounds and more on recall and comprehension and reducing the overall number of questions in order to fit within one hour. The assessments were then piloted to determine what age would provide the best discrimination (ability to distinguish between high performers). We looked for an appropriate age that would cover the content of the assessment but would have both low- and high-scoring students. Ultimately, we only sampled from P5.

Table 6 provides information on the background of the students who took the academic assessments. Again, there were more male students (60%), and the majority of respondents were in treatment schools (57%). These numbers varied slightly for respondents to the EGMA as opposed to the EGRA.

Table 6. Descriptive statistics of students (Modified 2019 EGRA/EGMA)

Category	Groups	Percentage (%)
Students (n = 629)		
Intervention Status	Control	43

	Treatment	57
Sex	Male	60
	Female	40
Class	P5	100
POC	POC	
	Non-POC	
State	Unity	31.5
	Jonglei	27
	Upper Nile	8
	Western Equatoria	17.5
	Central Equatoria	16
Schools (n = 63)		
Intervention Status	Control	44
	Treatment	56

We do not provide statistically significant difference results of the academic outcomes disaggregated by state because of the limitation in sample size. With the exception of Unity and Jonglei, which together comprised about 60% of the overall sample size, the other states faced logistical challenges. Two of the 5 states (Central Equatoria, Western Equatoria) had control student sample sizes of 50 or fewer. In Upper Nile, only 30 students were sampled in the treatment schools, and 20 students in the control schools. Using recommendations provided in the literature, we decided that these sample sizes were insufficient to report meaningful statistically significant differences between the treatment and control groups in these states. Note, we focus on sub-task comparisons and inferential statistics tests for each of the chosen 6 EGRA sub-tasks and 8 EGMA sub-tasks. As per established EGRA/EGMA assessment interpretation guidance, we do not report aggregated scores here. However, we did make modifications to the assessment administration process, so we do not have the same level of validity evidence as established protocols for the 2019 data we focus on for this study.

Current (2019) Modified EGRA and EGMA Results

We find significant positive differences for students at treatment schools in the sub-task of letter name identification outcomes (Table 7.) This is, however, a small effect size (0.16).

Table 7. Inferential statistics results of Modified EGRA (2019)

Construct	Treatment *(n=361)*	Control *(n=268)*	Effect size of difference (Cohen)	p-value
Letter Name Identification Equal variances assumed (Student)	79.275	75.498	0.16	0.023
Familiar Word Identification Equal variances assumed (Student)	36.472	34.294	NA	0.065
Oral Reading Fluency Equal variances assumed (Student)	39.331	36.866	NA	0.087
Reading Comprehension Equal variances assumed (Student)	5.800	6.100	NA	0.373
Listening Comprehension Equal variances not assumed (Welch)	1.765	2.024	NA	0.058
English Vocabulary Equal variances assumed (Student)	7.894	7.981	NA	0.372

However, we see significant negative numeracy outcomes for several tasks for treatment schools compared to controls. This is consistent across a number of subdomains: level 1 addition, level 2 subtraction, and word problems (Table 8).

Table 8. Inferential statistics results of modified EGMA (2019)

Construct	Treatment *(n=361)*	Control *(n=268)*	Effect size of difference (Cohen)	p-value
Number Identification Equal variances not assumed (Welch)	19.030	19.101	NA	0.346
Quantity Discrimination Equal variances not assumed (Welch)	9.573	9.481	NA	0.175
Missing Numbers Equal variances not assumed (Welch)	6.515	6.291	NA	0.139
Addition Level One Equal variances not assumed (Welch)	15.288	16.093	-0.17	0.017
Addition Level Two Equal variances assumed (Student)	4.252	4.250	NA	0.491

Subtraction Level One Equal variances assumed (Student)	12.355	12.978	NA	0.163
Subtraction Level Two Equal variances assumed (Student)	3.570	3.808	-0.20	0.006
Word Problems Equal variances not assumed (Welch)	4.778	4.992	-0.21	0.020

Further disaggregation of the results by gender, urbanicity, and school type is provided in Appendix 8.

3.1.4 Past Assessment of Academic Outcomes (2015 and 2017)

We report differences for the 2015 baseline and 2017 endline results conducted with grade P3, and we also look to growth from baseline to endline to make sense of changes observed for treatment vs. control schools.We look at the P3 scores in 2015 and 2017, as the EGRA/EGMA during those years was designed for and conducted with P3 students. We provide these comparisons of treatment/control schools as historical context when the IEEES program was first being rolled out. We are not trying to draw a comparison to the impact evaluation effects we estimate in this study; the research design is distinct, and we collected P5 data based on our current design and the pilot testing we completed (see section 4.1).

Differences in 2015 EGRA Outcomes

We find significant positive differences for students at treatment schools for multiple subscales on the EGRA (Table 10). We observe medium-size positive differences in letter name identification, familiar word identification, and oral reading passage, and small positive effects for reading comprehension.

Table 10. Inferential statistics results of historical EGRA (2015)

Construct	Treatment *(n=892)*	Control *(n=203)*	Effect size of difference (Cohen)	p-value
Letter Name Identification Equal variances assumed (Student)	53.552	44.300	0.39	<0.001
Familiar Word Identification Equal variances assumed (Welch)	16.502	10.869	0.37	<0.001
Oral Reading Passage Equal variances assumed (Welch)	19.000	12.491	0.37	<0.001
Reading Comprehension Equal variances assumed (Student)	0.823	0.622	0.17	0.014
Listening Comprehension Equal variances not assumed (Student)	1.995	2.075	NA	0.603

English Vocabulary Equal variances assumed (Student)	9.039	8.752	NA	0.173

Differences in 2015 EGMA Outcomes

We also see significant positive differences in a small number of numeracy outcomes for P3 students at treatment schools compared to control schools (Table 11). We estimated significant positive performances in number identification (medium effect size) and addition level one (small effect size).

Table 11. Inferential statistics results of historical EGMA (2015)

Construct	Treatment *(n=893)*	Control *(n=202)*	Effect size of difference (Cohen)	p-value
Number Identification Equal variances not assumed (Welch)	17.946	16.572	0.38	<0.001
Quantity Discrimination Equal variances not assumed (Welch)	8.525	8.325	NA	0.094
Missing Numbers Equal variances not assumed (Student)	4.342	4.295	NA	0.394
Addition Level One Equal variances not assumed (Student)	12.693	11.786	0.19	0.008
Addition Level Two Equal variances assumed (Student)	2.891	2.924	NA	0.407
Subtraction Level One Equal variances assumed (Student)	9.450	8.962	NA	0.120
Subtraction Level Two Equal variances assumed (Student)	2.356	2.263	NA	0.254
Word Problems Equal variances not assumed (Student)	4.020	3.859	NA	0.106

Differences in 2017 EGRA Outcomes

We find significant positive differences for students at treatment schools for letter name identification, familiar word identification, oral reading passage, and reading comprehension (Table 12) There are no significant differences between the two groups in listening comprehension performance, and our 2017 data did not include the English vocabulary subdomain.

Table 12. Inferential statistics results of past EGRA (2017)

Construct	Treatment *(n=251)*	Control *(n=1064)*	Effect size of difference (Cohen)	p-value
Letter Name Identification Equal variances assumed (Welch)	18.438	8.568	0.37	<0.001
Familiar Word Identification Equal variances assumed (Welch)	8.621	3.368	0.38	<0.001
Oral Reading Passage Equal variances assumed (Welch)	7.410	3.196	0.33	<0.001
Reading Comprehension Equal variances assumed (Welch)	0.717	0.239	0.38	<0.001
Listening Comprehension Equal variances not assumed (Student)	3.677	3.607	NA	0.296
English Vocabulary Equal variances assumed (---)	NA	NA	NA	NA

Differences in 2017 EGMA Outcomes

We see significant positive differences in multiple subscales for 2017 EGMA for students in treatment schools compared to control. This is consistent across a number of subdomains: number identification, missing numbers, addition level 1, and subtraction level 1 (Table 14).

Table 14. Inferential statistics results of past EGMA (2017)

Construct	Treatment *(n=277)*	Control *(n=1088)*	Effect size of difference (Cohen)	p-value
Number Identification Equal variances not assumed (Welch)	18.116	17.040	0.34	<0.001
Quantity Discrimination Equal variances not assumed (Student)	8.614	8.692	NA	0.275
Missing Numbers Equal variances not assumed (Student)	5.458	5.093	0.16	0.010
Addition Level One Equal variances not assumed (Welch)	13.632	12.665	0.20	0.001
Addition Level Two	3.260	3.314	NA	0.316

Equal variances assumed (Student)				
Subtraction Level One Equal variances assumed (Welch)	11.245	9.939	0.27	<0.001
Subtraction Level Two Equal variances assumed (Welch)	2.899	2.733	NA	0.071
Word Problems Equal variances not assumed (Student)	4.437	4.376	NA	0.283

3.2 Qualitative Findings

In this section we present preliminary themes that have emerged from qualitative data collected across the five sites to further understand the impacts of psychosocial support interventions on students' well-being and academic performance. The themes that have been identified largely support or expand upon those that emerged from the quantitative data and in some cases offer evidence of changes that were not captured by the quantitative data. Given the small sample for this part of the study, our intent for this section is to offer a deeper view of the data already identified within the quantitative study. This section presents our findings related to student level impact followed by other contributing factors for these outcomes. Coding was done with NVivo qualitative analysis software, starting with some preliminary codes and a combination of inductive and deductive coding. These codes were then analyzed for thematic analysis. This iterative process also used mapping technique to map out relationships observed in the data as it related to the different constructs. Key themes identified were reported across all of the five case studies. Quotes provided elaborate on themes that were identified across the case studies but reflect only the viewpoint of individual respondents. While this preliminary data supports the findings of the quantitative study with additional insight, at this stage it is not meant to be considered generalizable.

3.2.1 Student Outcomes

The qualitative data collected from students, teachers, and other stakeholders offered initial evidence that beneficiaries believed PSS at the five sites has had a positive impact on student outcomes as related to their academic motivations, behavior, and peacebuilding skills. The analysis draws from responses to the following interview or FGD questions:

<u>FGD Students</u>

Have you felt any difference/change in yourself, how you relate to others since you have been having these activities?

Probe: How do you feel going to school now? – about your teachers, about homework, about the lessons?

Probe: How do you feel in relation to your friends and classmates?

Probe: Have you gotten help from friends, teachers, parents when needed and how?

Probe: How do you feel in relation to your parents and how things are at home?

When you were at the school/CFS, how do you feel? (How does the school/CFS make you feel?)

Probe: What makes you happy about being at school, and why?

Probe: What makes you unhappy; and why?

<u>Teachers/Head Teachers/SMC</u>

What changes, if any, have you noticed among your students since you started implementing PSS activities in:
a. Students' behavior since they started participating in these PSS activities?
b. Students' emotions/mood since they started participating in these PSS activities?
c. Students' academic performance since they started participating in these PSS activities?

Parent/Guardian/PTA

What changes, if any, have you noticed in:
a. Your child's behavior since they started participating in these PSS activities?
b. Your child's emotions/mood since they started participating in these PSS activities?
c. Your child's academic performance since they started participating in these PSS activities?
d. Your child's interest in school/ school-work?
e. Your child's interest in playing and interacting with other children?
f. Your child's willingness to share their worries and challenges with you?

County Education Director

What do you think of the benefits of this PSS program for the children?

These themes identified from responses to those questions are further explained below:

3.2.2 Perceived Changes in Student Behaviors, Motivations, and Skills

Some of the perceptions of changes in student behavior seen in our data were related to personal awareness of their emotions and behavior, listening, patience and avoiding conflict. The data from the focus groups with the students indicated that they seemed more aware of their emotions (when they feel angry, jealous, sad) and behaviors as students shared different personal examples of their own changes in behavior. The data from the interviews with teachers and headmasters also implied that children's behaviors related to fighting, shouting and arguing with other children seem to have improved. Our data also indicated that students were listening and reporting conflicts to their teachers, were more patient and would change their behavior to diffuse conflict.

Other significant themes that emerged from the fgds were increase in student motivation towards attending school and towards academic learning. The focus groups with the male and female students at the five sites all indicated an increased sense of accomplishment when they (students) achieved academic success. Some parents also noticed the impact of good scores on their children, with one sharing: *"they do feel happy when they get good scores and pass in their examination when they get first, second or third in their examination, it brings changes to them, they like it."*

Some students, teachers, and parents reported a perception of improved academic skills among students receiving PSS. The school staff perceived that writing skills had improved. One teacher shared,*," there is a change even also they love to learn to have progress in learning ... also they have progress in learning, reading books and also... there is improvement in performance academically"*. Some parents noticed that children were becoming more attentive to their homework,*" yes there is a change in behavior, the traditional way of going to dancing places is no longer there, they became more attentive to school and their homework"*. One student shared how her ability to speak and debate in English has improved, *"I feel happy because that time when I was in P3 I don't know how to speak English because I don't know how to speak in front of people yah and I feel shy but now I don't fear and I don't feel shy I talk I am free I don't*

fear anyone that is why I like debate" One teacher shared his observation about how children are learning skills to self-regulate their emotions, *"I see some changes like now when one child feel angry with other and the other don't want to fight and that student who don't want to fight come to teacher and report that case saying to teacher that this boy wanted to fight with me what can I do and the teacher go to that child and tell him not to fight and convince that child in many ways so that they live in the school environment."*

3.2.3 Peacebuilding Skills

Peacebuilding is a key theme that emerged from the data and it overlaps with the student outcomes discussed above related to motivations and skills. Students seemed to recognize conflict in their own environments, at school or even while playing sports, and shared stories about how they diffused those situations. Students also realized that schools provide them space to practice peace building, as they get to interact with others from different groups/clans and learn to treat each other respectfully.

"Here in Akobo, people know each other you may be taught by a teacher from a particular clan and that clan may have a problem with your clan but because we are in the school you should not hold any grudges against him because of the problem your clan have with their clan no you should treat him as a relative like your brother even with other students you should interact and treat each other as sisters so school changed us, as well as the church, these two institutions are institutions that strengthen relationships."

Students in the FGDs recognized their impact as children, and that they can foster peace and become examples for the elders in their communities. *"The games are really good so peace in community is brought about by such children because if children move together and play together even if elders do not understand themselves, children togetherness can bridge their differences"*

3.2.4 School Attendance

Key informant interviews with school staff and parents seemed to indicate that they believed enrollment in schools is higher and attendance in schools has increased for both girls and boys and associate that outcome with the provision of PSS. One of the county education directors shared that, "*previously the children were not sent to school but now they are sent to school the parents allow them to come to school even the children are in need of education so much than the previous time so the parents now they allow the children to go to school"*. Parents also seemed to encourage girls to attend schools as depicted in this extract, *"I told you about earlier at the beginning before NGOs joined in we the parents who started encouraging our girls to go to school by then UN used to distribute food to schools and the little food they get we encouraged schools' administration to give little food to girls to take home this encouraged a lot of girls to go to school even though UN distribute food no more, the schools continued to attract a lot of girls"*. Increased attendance seemed to influence better academic performance as indicated by one headmaster at one of the five case study schools, *"Yes, the change it comes when the child come to school always and those who absent sometimes really the level is going to be worse, that why we talk in the (student) parade please don't be absent, you come because we are to understand your lesson and then when the exam come, he will pass. That is why we talk with those learners and those learners who are always come to school, they are going well."*

3.2.5 Contributing Factors

Our qualitative findings showed that there were several factors that impacted student outcomes as part of the PSS program. The role of teacher training and development was an integral factor for student outcomes. Also, the relationships with friends and family also emerged as a strengthening factor for student's social and mental well-being. Lastly, sports and other physical activities seemed to be a critical outlet for students to develop friendships, but also feel "free" as a child. These themes are further elaborated below.

3.2.6 PSS Trained Teacher Intervention

Teachers reported feeling better prepared as a result of PSS training they received in the following areas:

- observe signs of stress, trauma, and/or fatigue among students
- able to avoid corporal punishment
- calm students down
- intervene in student conflicts
- use variety of different methods to teach subjects

FGD responses indicated that students in PSS intervention schools respected their teachers and seemed to be able to approach them for academic issues. Boys seem to have higher trust in teachers than the girls. Girls seem to have less confidence while approaching the teachers for non-academic issues.

3.2.7 Family Ties

Our data showed that relationships students have with their family members seem to impact their social well-being. Family ties seem to bring a sense of security as children view their parents to support them with food and other essential resources. They also feel encouraged when their parents support them to attend school and do homework. In the focus groups, several students shared that they "felt happy" when they spent time with family members like grandparents and siblings. They also discussed their trusting relationships with their siblings when they needed help.

In the following excerpt a student shared how he felt supported by his father *"I trust my parent, the stage I have reached was because of them. If I don't have shoes or anything if I tell my father he will always provide. I trust my father. I always discuss things with him like I once suggested to him that I would like to go and study in one of the East African countries (Uganda or Kenya). What he told me was that my son I am willing to help you in your study but because of war I have no reliable source of income. If I send you there you will suffer and I was really convinced because no one who can support me there".*

3.2.8 Physical Activities (Sports and Games)

Student responses indicated that physical activities offered at CFS like football, volleyball and jump rope seemed to not only influence the students' moods and emotions, but also their attentiveness, their friendships, their ability to practice peace building and their attitude towards hope and freedom. Playing sports made them forget about the conflict and their worries. Multiple students across the five sites noted sports and games in their comments: "*If you were having some worries, if you play you forget about all the worries and this is what is good about the games and also you feel active while playing. Even if you were not feeling well before the game when you play you feel well". "I like rope skipping a lot because I play it in school as well as at home because if I feel lazy at any time I will play it and then I will regain my strength if I go back to class I normally feel active and attentive not like before the game*". "*Yeah, I feel free when I am playing with my friends*."

Section 4: Challenges, Limitations, Implications, and Recommendations

Overall, the research team was successful in achieving its goals in developing and conducting a large and rigorous study despite significant challenges and limitations including an incredibly ambitious timeline, a complex and fluid environment, and a large and complex team of stakeholders. Throughout the process, we have noted lessons learned that might assist our team or other researchers in designing and implementing effective research on this topic in the future. These are noted below.

4.1 Conducting research in a complex environment

First and foremost, it is essential to understand that the ability to carry out an evaluation of this size and rigor is constrained by the challenges of operating in a conflict affected environment. The safety and security of researchers and subjects was always of utmost priority which may have had some impact on the selection of sites. Local researchers were assigned to collect data in areas that would be safest for them based on identification with ethnic/linguistic groups. Additionally, the aggressive timeline for data collection and analysis for a project of this scale (12 months from the first phase of data collection to the presentation of results) required adherence to a strict schedule which was challenging to manage in a complex and fluid environment. At times, changes had to be made to the data collection schedule due to disruptions related to conflict or when travel in a certain area was deemed insecure or based on other factors related to operating in a complex environment like South Sudan. The collection of data also took place during the rainy season when flooded areas, rough roads and other related challenges hampered movement. Setting appointments with government officials and other stakeholders was a challenge in some areas (i.e. Malakal). Lack of internal regular flights to certain geographies made travel logistics quite complicated. For example, a change in flight schedules meant that researchers arrived in Akobo East though they were scheduled to collect data in Akobo West schools. Given that travel to Akobo West may have been a security concern as well as the difficulty of impassable roads during the rainy season, the selection of schools was adjusted in order to collect data from Akobo East. The schedule required further alteration as schools in Akobo East were only operating for three hours a day. In an environment such as South Sudan, a critical lesson learned was the necessity of flexibility and adaptability. Additionally it was essential that we had close communication with UNICEF partners in determining study location sites and the ability to make last minute substitutions.

4.2 A strong local research team is a key to success

Early in the process of developing the program design and assigning roles and responsibilities within the research team, the importance of having a strong team of South Sudanese researchers was recognized. Through local connections from past projects, IU was able to quickly mobilize a team of researchers and include their input in the design process at the first workshop in Uganda. This team was led by Dr. Mamour Chuol, a South Sudanese scholar with previous experience in conducting research in South Sudan and 4 additional research associates who had been students in IU's master's in education programs. Their leadership was critical to the success of the program. The integration of the local research team was vital from identifying/refining the research questions and instrument development to interpretation of results as they were able to provide context and assist with interpretation based on local knowledge. As the local research team had worked with members of our team previously, we were able to have a rapid start up. However, with additional time, they could have benefitted from additional training and capacity development, particularly related to data analysis in areas with low resources (without data analysis

software, for example.) Individuals involved in future research should be trained on every aspect of data collection, inclusive of how to conduct interviews and transcribing. In addition to the research associates, local enumerators were hired at each site to assist with data collection and translation to local languages.

While training was offered for the enumerators, the ability of enumerators to adhere to a rigorous data collection environment and carry out surveys or interviews varied. For future research, a more in-depth selection process and additional training for enumerators would strengthen data collection procedures. Additionally, it should be noted that significant challenges existed in communication between the local team and the U.S. and Uganda based team, particularly when the South Sudan team was in the field collecting data. With unreliable internet service, we were not always able to communicate quickly by email or share documents (downloads were particularly difficult.) Much of the communication was conducted using WhatsApp or through biweekly Zoom calls, when the internet was available.

4.3 Working with multiple institutions and stakeholders

The relationship and communication among stakeholders provided another critical piece of the overall evaluation process. A strength of the evaluation was the inclusion of stakeholders from UNICEF and USAID from the initial design process of the evaluation. However, this was a complex design that included multiple partners/stakeholders both within the evaluation team and on the program implementation side and at times there were significant challenges in effective communication and coordination between the groups. Efforts were made to immediately address any concerns that arose regarding communication or coordination and all stakeholders had a good working relationship. That said, a recommendation for future evaluations with complex organizations and multiple stakeholders would be to establish clear guidance and written protocols for communication early in the process and ensure that all parties are meeting expectations.

The UNICEF model for the IEEES activity relies on a variety of implementing partners such as Intersos, War Child Holland, CINA in the various states and counties, each of which might have a slightly different approach to carrying out the program along with different materials, resources, and curricula. This model can be very effective in that it allows for adaptability and localization; however it poses a challenge to conducting quasi-experimental research in that it introduces variables. In order to capture the breadth of the program, this study was designed to include a large number of schools spread over five states. While we were able to see some distinct trends, the number of variables mean that additional more targeted research would be necessary in order to draw conclusions about attribution. One area where the impact of the program design on the evaluation is most notable is in seeking clear definitions of control and treatment sites and how schools were selected for treatment. The intent of PSS is to assist first those who are most severely affected by violence so the path of implementation follows the conflict. Since certain schools or areas receiving treatment might have experienced greater conflict and schools in the "control" group might not have received PSS yet because they did not experience the same degree of conflict, the results of the surveys and assessments may be influenced. Given what we understand about the effects we do observe, we think that this selection bias likely attenuated the positive effects we did see and may have masked other effects. In other words, the impact of the intervention would likely be even higher with a "true" treatment/ control comparison.

4.4 Discussion and Recommendations for Further Study

The study identifies meaningful gains in both student well-being and academic performance that suggest the effectiveness of inclusion of PSS in the IEEES activity. As such, the findings of this evaluation support the inclusion of psychosocial support interventions within education programming in

conflict-affected settings. As a result of the implementation of the study, several challenges were identified that if addressed could further develop the understanding of PSS interventions such as: the need for clearer distinctions between control and treatment schools; the variability in the degree of implementation at different sites due to differences among implementing partners; and the importance of capacity development and training for teachers. At the time of the data collection, there was great variability among sites, but UNICEF was just introducing a more unified guide for facilitators and conducting a training of trainers https://www.unicef.org/southsudan/media/2271/file (discussed below) which will significantly address these issues and offer opportunity for a more reliable basis for comparison. Additional critical areas for future research that could assist in further understanding of these questions have been identified, for example:

Further study on the link between peacebuilding skills and a sense of well being

Future studies might offer further exploration of how changes in attitudes toward peace also contribute the improved wellbeing, emotionally and socially. As this was a salient theme which was not fully explored within the limited qualitative study, it seems worth further exploration in a setting that continues to experience conflict. Do skills for peace building, some of which are built into SEL, also promote a greater sense of safety, support and self-efficacy for children, and hope for the future, while in the classroom?

Coordinated teacher training/curriculum

At the time of designing the current study, UNICEF and implementing partners were in the process of rolling out a new national level coordinated facilitator training guide (noted above) in psychosocial support. This process included the publication of the guide as well as the development of a training of trainers (TOT) model. This presents a unique opportunity to follow trainers and teachers during implementation of the same curriculum, which would reduce the number of variables introduced in the current study (due to the different approaches and curricula used by multiple implementing partners.)

Understanding the impact of parent/community involvement in schools with PSS

Some children in the current study pointed to their trusting relationships with their parents, or how parents were more willing to send girls to school. Parent involvement reinforces the changes at home and contributes to the supportive environment. As this was not the main focus of the study and captured as part of focus group discussions with students, further research with a larger sample would be required in order to draw significant conclusions. This could be an interesting area to look at differences between schools where parents are more involved, or, if the parents feel supported by the new efforts teachers are making to involve parents. For example, in section 5.2 above, if family ties play a role for children, then might we want to know more about that, and how that influences child improvements.

Donor coordination may better support meaningful PSS integration and amplify its effects

Future studies might explore the relationships between other donor-supported initiatives (such as provision of food, WASH programs, GBV programs) in conjunction with psychosocial support. In the qualitative study, numerous informants identified the interplay between a variety of supports in creating a secure and stable environment for children. It would be difficult to attribute the gains that students have made to the inclusion of PSS without considering other inputs.

Long term academic impact of psychosocial support

The aggressive timeline of the current study limited our ability to capture growth over time. As such, the current academic assessments present a snapshot of students' academic achievement as measured by the modified EGRA/EGMA assessments. Through those modified assessments and past scores for the standard assessment for similar schools, we were able to observe broad trends. However, a study more

strictly focused on assessing academic impact using the same measurement could be designed to measure growth over a period of time while psychosocial support is being offered through the use of pre and post academic assessments, school examinations, and other measures. This would also be true of designing a study to capture change over time using well-being or psychosocial outcomes by including pre and post surveys in future research or using this study as baseline information.

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Appendices

Appendix 1: List of Study Sites

Name of School	State	Site	# of P3 Students surveyed	# of P6 Students surveyed	# of teachers surveyed	Treatment or Control
Kapuri Basic primary school	Central Equatoria	Luri	15	36	9	Control
St Paul Nursery and primary school	Central Equatoria	Luri	15	35	11	Control
Venus Star Academy	Central Equatoria	Luri	15	36	10	Control
DMI Holy Cross primary school	Central Equatoria	Luri	16	12	8	Control
DMI primary school	Central Equatoria	Rajaf	15	35	10	Treatment
Hope primary school	Central Equatoria	Rajaf	15	36	10	Treatment
Mal primary school	Central Equatoria	Rajaf	15	35	10	Treatment
Future Generation primary school	Central Equatoria	Rajaf	16	34	10	Treatment
Unity primary school	Central Equatoria	Rajaf	0	36	11	Treatment
United primary school	Central Equatoria	Rajaf	15	0	6	Treatment
Hosanna Nursery and primary school	Central Equatoria	Rajaf	15	42	11	Treatment
Langbaar primary school	Jonglei	Bor	15	28	11	Control
Bor Public primary school	Jonglei	Bor	15	24	7	Control
Bor A Mixed primary school	Jonglei	Bor	15	34	10	Control

Bor B Complex primary school	Jonglei	Bor	20	56	10	Control
Alternative Education System (AES) Primary School	Jonglei	Akobo East	20	18	5	Control
Rhine Primary School	Jonglei	Akobo East	19	7	10	Control
Chuei-Keer primary school	Jonglei	Bor	15	34	10	Treatment
Bor Bright Star primary school	Jonglei	Bor	15	38	10	Treatment
Jonglei International primary school	Jonglei	Bor	20	35	10	Treatment
Gakyuom A primary school	Jonglei	Bor	20	11	8	Treatment
Bor POC primary school	Jonglei	Bor	20	35	10	Treatment
Anyidi primary school	Jonglei	Bor	15	35	10	Treatment
Nuktah Primary School	Jonglei	Akobo East	15	10	10	Treatment
Dilule Primary School	Jonglei	Akobo East	11	12	10	Treatment
Akobo Boys Primary School	Jonglei	Akobo East	15	67	10	Treatment
Akobo Girls Primary School	Jonglei	Akobo East	15	43	10	Treatment
Akobo Mission Primary School	Jonglei	Akobo East	15	13	10	Treatment
Bentiu B primary school	Unity	Bentiu	15	32	10	Control
Nyuel Juol Primary school	Unity	Rubkona	15	18	9	Control
Dawa primary school	Unity	Bentiu	15	19	10	Control
Bir primary school	Unity	Bentiu	16	21	10	Control

Machakos primary school	Unity	Bentiu	16	4	11	Control
Salamaliza primary school	Unity	Rubkona	15	10	11	Control
Naam Adult Education	Unity	Rubkona	15	38	11	Control
Maal Lake NO Adult Education	Unity	Rubkona	15	26	9	Control
BNFA primary school	Unity	Rubkona	21	66	11	Control
Ding Ding primary school	Unity	Rubkona	11	0	8	Control
Liech primary school	Unity	Bentiu	15	30	10	Treatment
Bentiu A primary school	Unity	Bentiu	16	15	9	Treatment
Rubkona primary school	Unity	Rubkona	18	10	11	Treatment
Unity primary school	Unity	Rubkona	15	33	11	Treatment
Mal primary school	Unity	Rubkona	16	66	11	Treatment
Eden primary school	Unity	Rubkona	15	21	11	Treatment
Naath primary school	Unity	Rubkona	15	64	11	Treatment
Liberty primary school	Unity	Rubkona	16	58	11	Treatment
Upper Nile primary school	Unity	Rubkona	20	83	11	Treatment
Liech primary school (POC)	Unity	Rubkona	21	107	24	Treatment
Good Shepherd primary school	Upper Nile	Malakal	15	32	11	Control
Dr John Garang primary school	Upper Nile	Malakal	15	25	10	Control
St. Lwanga primary school	Upper Nile	Malakal	15	47	11	Control
Sector 2 West primary school	Upper Nile	Malakal	15	37	10	Treatment
Sector 2 East primary school	Upper Nile	Malakal	15	35	11	Treatment

Naduru primary school	Western Equatoria	Yambio	16	35	5	Control
Nayure primary school	Western Equatoria	Yambio	20	0	6	Control
Masiya primary school	Western Equatoria	Yambio	21	35	7	Control
Seventh Day Adventist primary school	Western Equatoria	Yambio	0	30	0	Control
Bright Star Nursery and primary school	Western Equatoria	Yambio	20	36	0	Control
Nabagu primary school	Western Equatoria	Yambio	15	0	5	Treatment
Bakiwiri primary school	Western Equatoria	Yambio	16	35	3	Treatment
Manguli primary school (Bureamburu)	Western Equatoria	Nzara	30	26	6	Treatment
Ikpiro primary school	Western Equatoria	Yambio	20	0	6	Treatment
Maingbangaru primary school	Western Equatoria	Yambio	0	30	2	Treatment
St. Timothy Nursery and primary school	Western Equatoria	Nzara	0	35	0	Treatment
Totals			**986**	**1,996**	**580**	

Appendix 2: Power Analysis

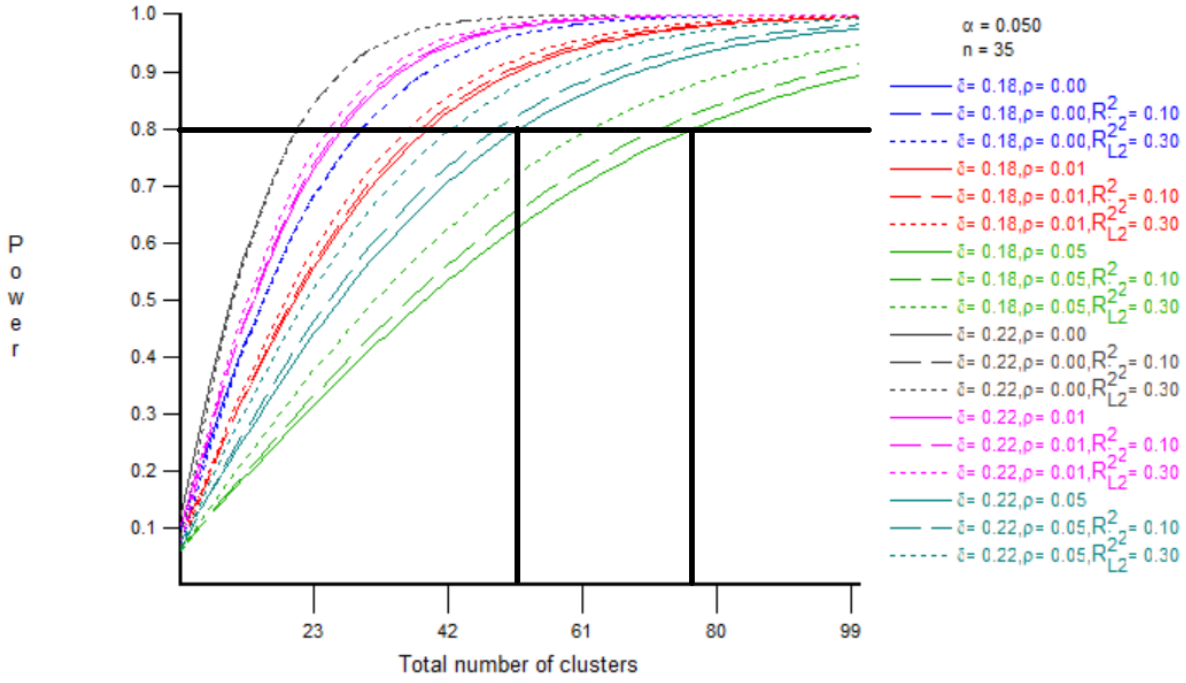


Figure 1. Power Analysis

Appendix 3: Factor Loading and Factor Analysis of Survey Items

Social Well Being included questions about students' self-reported frequency of being in a good mood, engaging in free time activities, having time with friends, having someone to trust, suggesting games, having their parents listen to them, helping others, understanding others, and engaging in their school environment (Figure 3).

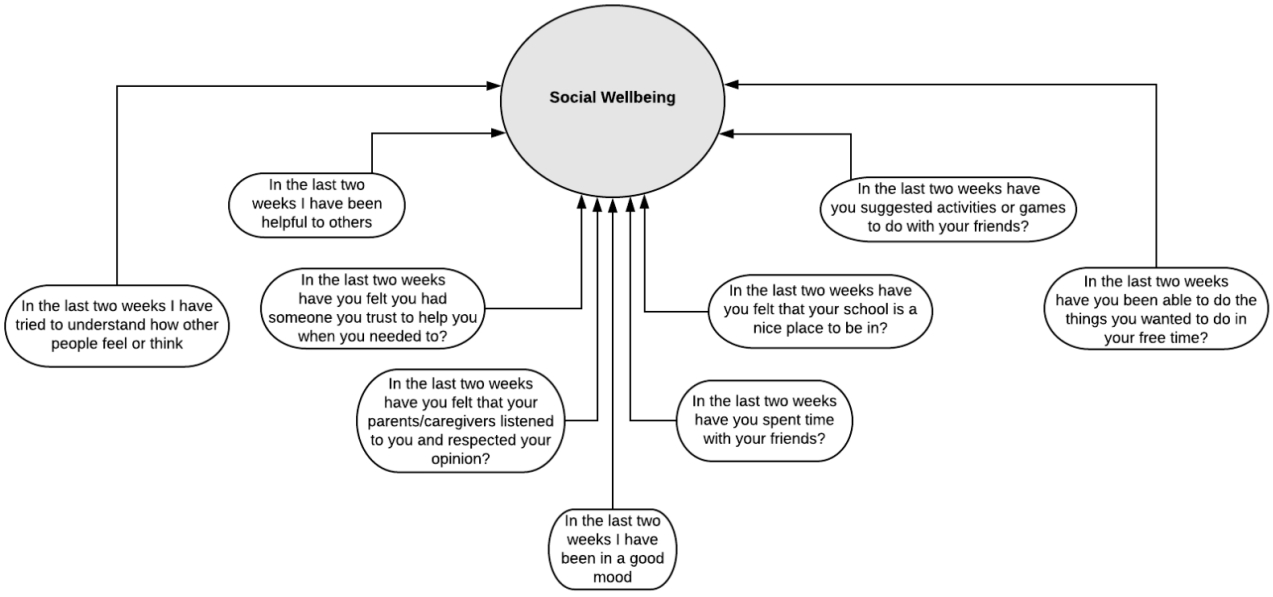


Figure 3. Social Well-Being Items

Emotional Well Being included questions about feeling helpless, feeling sad, losing one's temper, being bullied, having bad dreams, and worrying (Figure 4).

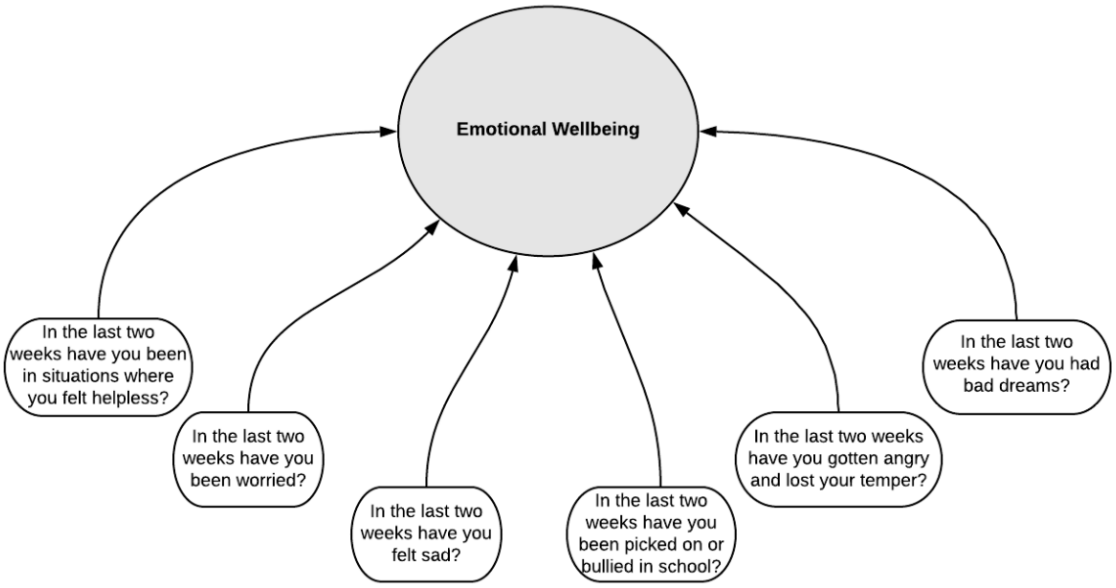


Figure 4. Emotional Well-being Outcomes

Resilience/Coping included questions on dispute resolution, calming skills, understanding one's mood, concentration in class, and teacher listening (Figure 5).

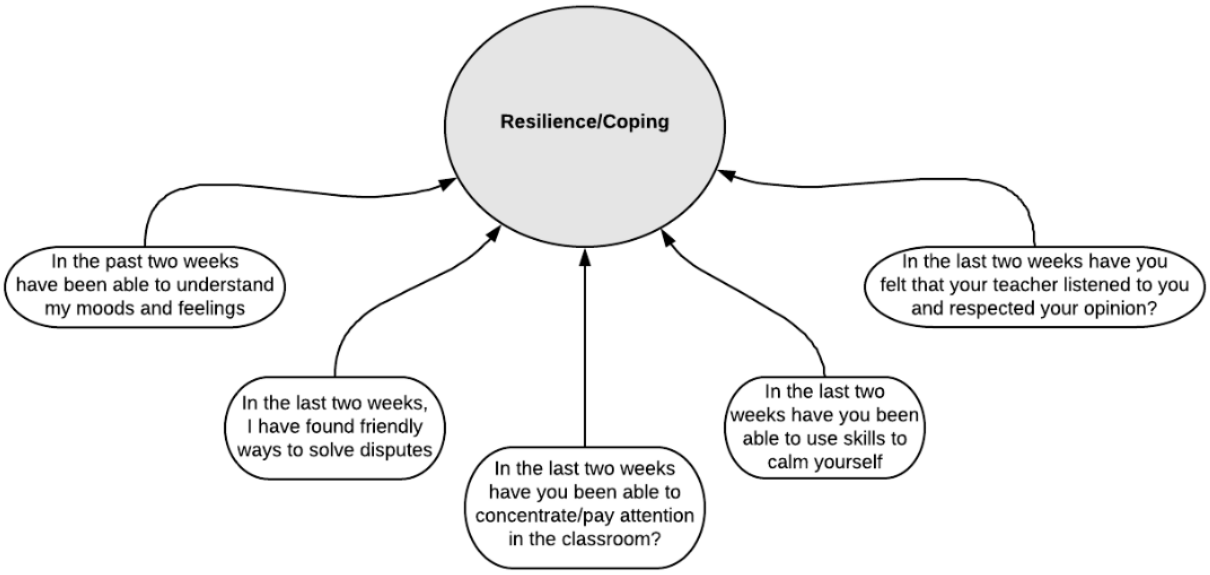


Figure 5. Resilience/Coping Items

Confirmatory Factor Analysis

The finalized question loadings are as follows:

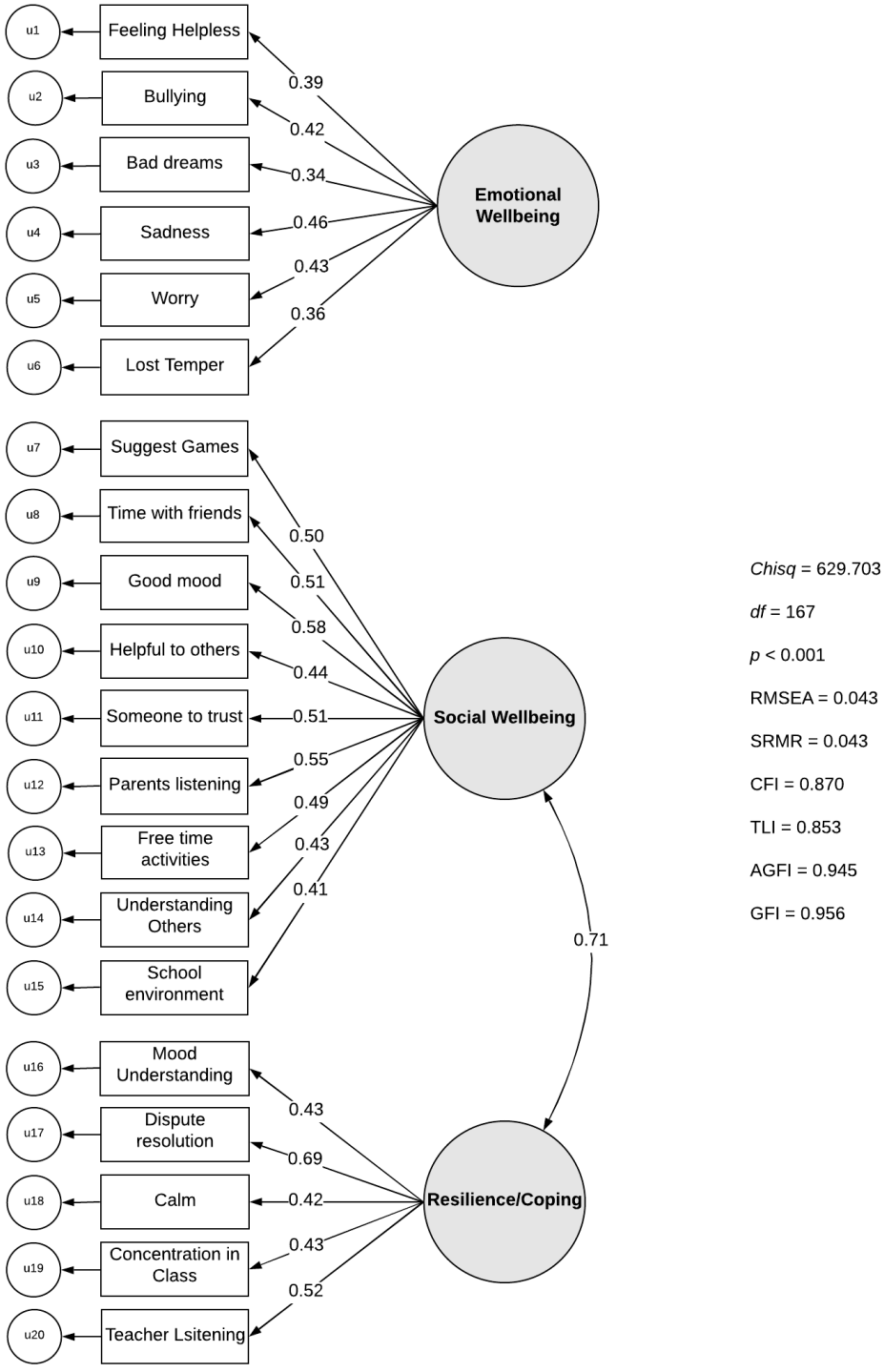


Figure 6. *Confirmatory factor analysis path diagram for 3-factor model*

Appendix 4: Student Survey

PSYCHOSOCIAL SUPPORT IMPACT EVALUATION: STUDENT SURVEY

Questionnaire code	
Enumerator ID	
Date of survey	_____/_____/_____
Name of School	

Start time: _____ **End time:** _____

General instruction: Answer Questions by ticking, unless otherwise

Q1. Which class are you in?

1. P3 ☐
2. P8 ☐

Q2. Are you a boy or a girl?

1. Boy ☐
1. Girl ☐

Q3. How old are you? _____ (years)

Q4. What is your mother tongue? _____

Q5. In what language do you learn in school?

1. English ☐
1. Arabic ☐
2. Other (write here) _____

Q6. How long have you been in this school?

1. Less than 1 year ☐
2. 1 to 3 years ☐
3. 3 to 5 years ☐
1. 5 or more years ☐

Q7. How many times do you eat breakfast in a week?

1. Not at all ☐
1. 1 to 3 days per week ☐
2. 4 to 6 days per week ☐
3. Every day of the week ☐

Q8. How many times do you eat lunch in a week?

1. Not at all ☐
1. 1 to 3 days per week ☐
2. 4 to 6 days per week ☐
3. Every day of the week ☐

Q9. How many times do you eat supper in a week?

1. Not at all ☐
1. 1 to 3 days per week ☐
2. 4 to 6 days per week ☐
3. Every day of the week ☐

Q10. For each of the following statements, choose <u>one option</u> you agree with.

10a). In the last two weeks, have you been worried about anything?

1. Never ☐
1. Sometimes ☐
2. Most of the time ☐
3. All the time ☐

10b). In the last two weeks, have you been able to calm yourself down when you are upset or angry?

1. Never ☐

1. Sometimes
2. Most of the time ☐
3. All the time ☐

10c). In the last two weeks, have you felt that your teacher listened to you and respected your ideas?

1. Never ☐
1. Sometimes ☐
2. Most of the time ☐
3. All the time ☐

10d). In the last two weeks, have you felt sad?

1. Never ☐
1. Sometimes ☐
2. Most of the time ☐
3. All the time ☐

10e). In the past two weeks, have you been able to understand your moods or feelings?

1. Never ☐
1. Sometimes ☐
2. Most of the time ☐
3. All the time ☐

10f). In the last two weeks, have you been bullied in school?

1. Never ☐
1. Sometimes ☐
2. Most of the time ☐
3. All the time ☐

10g). In the last two weeks, have you been able to find friendly ways to solve misunderstandings or disputes?

1. Never ☐
1. Sometimes ☐
2. Most of the time ☐

3. All the time ☐

10h). In the last two weeks, have you been able to concentrate or pay attention in the classroom?

1. Never ☐
1. Sometimes ☐
2. Most of the time ☐
3. All the time ☐

10i). In the last two weeks, have you felt that your school is a nice place to be in?

1. Never ☐
1. Sometimes ☐
2. Most of the time ☐
3. All the time ☐

10j). In the last two weeks, have you felt you had someone you trust to help you when you were in need?

1. Never ☐
1. Sometimes ☐
2. Most of the time ☐
3. All the time ☐

10k). In the last two weeks, have you been able to do the things you wanted to do in your free time?

1. Never ☐
1. Sometimes ☐
2. Most of the time ☐
3. All the time ☐

10l). In the last two weeks, have you been in a good mood?

1. Never ☐
1. Sometimes ☐
2. Most of the time ☐
3. All the time ☐

10m). In the last two weeks, have you spent time with your friends?

1. Never ☐
1. Sometimes ☐
2. Most of the time ☐
3. All the time ☐

10n). In the last two weeks, have you been helpful to others?

1. Never ☐
1. Sometimes ☐
2. Most of the time ☐
3. All the time ☐

10o). In the last two weeks, have you gotten angry and lost your temper?

1. Never ☐
1. Sometimes ☐
2. Most of the time ☐
3. All the time ☐

10p). In the last two weeks, have you been in situations where you felt helpless?

1. Never ☐
1. Sometimes ☐
2. Most of the time ☐
3. All the time ☐

10q). In the last two weeks, have you tried to understand how others feel?

1. Never ☐
1. Sometimes ☐
2. Most of the time ☐
3. All the time ☐

10r). In the last two weeks, have you felt that your parents or guardians listened to you and respected your ideas?

1. Never ☐

1. Sometimes
2. Most of the time ☐
3. All the time ☐

10s). In the last two weeks, have you suggested activities or games to do with your friends?

1. Never ☐
1. Sometimes ☐
2. Most of the time ☐
3. All the time ☐

10t). In the last two weeks, have you had bad dreams?

1. Never ☐
1. Sometimes ☐
2. Most of the time ☐
3. All the time ☐

Q11. For each of the following questions, choose <u>one option</u> you agree with.

11a). In the last two weeks, have you had opportunities to show others that you can act responsibly?

1. Never ☐
2. Sometimes ☐
3. Most of the time ☐
4. All the time ☐

11b). In the last two weeks, have you felt under pressure?

1. Never ☐
2. Sometimes ☐
3. Most of the time ☐
4. All the time ☐

11c). In the last two weeks, have you done well taking care of your tasks at home or at school?

1. Never ☐
2. Sometimes ☐

3. Most of the time ☐
4. All the time ☐

11d). Do you believe that your confidence or trust helps you to get through hard times?

1. Never ☐
2. Sometimes ☐
3. Most of the time ☐
4. All the time ☐

Q12. Choose <u>one option</u> for each of the following statements.

12a). A lot of things about me are good.

1. Strongly disagree ☐
2. Disagree ☐
3. Agree ☐
4. Strongly agree ☐

12b). My friends stand by me during difficult times.

1. Strongly disagree ☐
2. Disagree ☐
3. Agree ☐
4. Strongly agree ☐

12c). If I really try, I can do almost anything I want to do.

1. Strongly disagree ☐
2. Disagree ☐
3. Agree ☐
4. Strongly agree ☐

Thank you!!

Appendix 5: Teacher Survey

PSYCHOSOCIAL SUPPORT IMPACT EVALUATION TEACHER SURVEY – *To be completed by ALL TEACHERS available on the day of the survey!*

Identification	
Questionnaire code	
Enumerator ID	
Field supervisor ID	
Date of survey	[_____] [_____] [_____] Day Month Year
Name of School	
School PSS status	
1. PSS school (Intervention)	[____]
2. Non-PSS School (Control)	[____]
Survey site type	
1. POC site	[____]
2. Non POC site	[____]
Type of school	
1. Government/Public school	[____]
2. Private school	[____]
School location	
1. Urban	[____]
2. Rural	[____]
State	
1. Upper Nile	[____]
2. Jonglei	[____]
3. Unity	[____]
4. Western Equatoria	[____]
5. Central Equatoria	[____]
Name of County	

Start time: _____

End time: _____

Q1. Are you male or female?

1. Male ☐
2. Female ☐

Q2. How old are you? *Please write age in years.*

_____ (years)

Q3. What is the highest level of education that you have completed? *Please tick one choice*.

1. Primary/Elementary education ☐
2. Secondary education ☐
3. Certificate ☐
4. Diploma ☐
5. Bachelor's degree ☐
6. Master's degree ☐
7. Other (Specify)

_____

Q4. What is your employment status? *Please tick one choice.*

1. A formal, private employed teacher ☐
2. Government employed teacher ☐
3. A volunteer teacher ☐
4. Community employed teacher ☐
5. Part time teacher ☐

Q5. How long have you been a teacher? *Please tick one choice.*

1. Less than 1 year ☐
2. Between 1 to 3 years ☐
3. Between 3 to 5 years ☐
4. Between 5 to 10 years ☐
5. More than 10 years ☐

Q6. What is your mother tongue? *Please write in the space provided.*

_____

Q7. In what language do you most frequently teach your classes? *Please tick one choice or write in the space provided beside "other"*

1. English ☐
2. Arabic ☐
3. Other *(write here)* _____

Q8. Did you receive training in Psychosocial Support (PSS)? *Please tick one choice.*

1. Yes ☐
2. No ☐

******IF YOU ANSWERED 'NO' TO THE ABOVE QUESTION, DO NOT BOTHER ANSWERING QUESTIONS 9 to 18, BUT INSTEAD SKIP TO QUESTION 19.***

Q9. Which organization gave you the PSS training? *Please write in the space below*

_____

Q10. The following statements ask about the relevance of the PSS training you received with an emphasis on the community, the school, and the students' behaviors. *Please tick one choice.*

10a). The training was relevant to the school.

1. Strongly disagree ☐
2. Disagree ☐
3. Neutral ☐
4. Agree ☐
5. Strongly agree ☐

10b). The training was aligned to the students' behaviors in class.

1. Strongly disagree ☐
2. Disagree ☐
3. Neutral ☐
4. Agree ☐
5. Strongly agree ☐

10c). The training was relevant to the community.

1. Strongly disagree ☐
2. Disagree ☐
3. Neutral ☐
4. Agree ☐
5. Strongly agree ☐

Q11. The following statements ask about how you apply the knowledge you received from the PSS training in your classes. *Please tick one choice.*

11a). I apply the knowledge I received in the PSS training to class activities.

1. Never ☐
2. Rarely ☐
3. Most of the time ☐
4. All of the time ☐

11b). I apply the knowledge I received in the PSS training to interactions between me and students.

1. Never ☐
2. Rarely ☐
3. Most of the time ☐
4. All of the time ☐

11c). I apply the knowledge I received in the PSS training to interactions between me and other teachers.

1. Never ☐
2. Rarely ☐
3. Most of the time ☐
4. All of the time ☐

Q12. Since you started implementing PSS activities, how has it affected the delivery of the academic syllabus?

1. I cover less than I planned. ☐
2. I cover the same amount as I planned. ☐
3. I cover more than I planned. ☐

Q13. If you joined a different school, would you continue to apply PSS activities in your class?

1. Yes ☐
2. No ☐

Q14. If no, why? _____

Q15. The following statements ask about your impressions on the changes in the students' behaviors after participating in PSS training in your classes. *Please tick one choice.*

15*a).* What changes have you observed from the students who participate in PSS with regard to a difference *in anger management?*

1. Got worse ☐
2. No change ☐
3. Some change ☐
4. A great change ☐

15b).* What changes have you observed from the students who participate in PSS with regard to c*lass performance (reading and math)?

1. Got worse ☐
2. No change ☐
3. Some change ☐
4. A great change ☐

15c).* What changes have you observed from the students who participate in PSS with regard to a difference in r*elating with other students?

1. Got worse ☐
2. No change ☐
3. Some change ☐
4. A great change ☐

15d).* What changes have you observed from the students who participate in PSS with regard to a difference in c*oncentration in class?

1. Got worse ☐
2. No change ☐
3. Some change ☐
4. A great change ☐

15e).* What changes have you observed from the students who participate in PSS with regard to a difference in *sense of well-being?

1. Got worse ☐
2. No change ☐
3. Some change ☐
4. A great change ☐

Q16. In which of the following areas have girls improved more than boys as a result of PSS implementation? *Tick **ALL** that apply.*

1. Anger management ☐
2. Class performance ☐
3. Concentration in class ☐
4. Relating to students ☐
5. Relating to teachers ☐

17. As you apply PSS, what changes has this had on your own well-being in terms of the following? *Please tick one choice.*

17a).* As you apply PSS, how has this changed your *control of the class?

1. Got worse ☐
2. No change ☐
3. Some change ☐
4. A great change ☐

17b).* As you apply PSS, how has this changed your own e*motional well-being?

1. Got worse ☐

2. No change ☐
3. Some change ☐
4. A great change ☐

17c).* As you apply PSS, how has this changed your *ability to relate with others?

1. Got worse ☐
2. No change ☐
3. Some change ☐
4. A great change ☐

18. Please answer the following questions by ticking once choice.

18a). Since implementing PSS, how has the dropout of students from your classes changed?

1. Increased a lot ☐
2. Increased a little ☐
3. No change ☐
4. Decreased a little ☐
5. Decreased a lot ☐

18b). Since implementing PSS, how has your students' daily attendance changed?

1. Increased a lot ☐
2. Increased a little ☐
3. No change ☐
4. Decreased a little ☐
5. Decreased a lot ☐

Q19. These questions are about job satisfaction and confidence. *Please tick one choice.*

19a). How satisfied are you with your job?

1. Strongly dissatisfied ☐
2. Dissatisfied ☐

3. Neutral
4. Satisfied ☐
5. Strongly satisfied ☐

19b). How confident are you about your job?

1. Not at all ☐
2. To some extent ☐
3. A lot ☐

Q20. In your current school, how severe is each problem listed below? *Please tick one choice.*

20a). Teachers do not have adequate workspace (e.g., for lesson preparation, or meeting with students)

1. Strongly disagree ☐
2. Disagree ☐
3. Neutral ☐
4. Agree ☐
5. Strongly agree ☐

20b). Teachers do not have adequate instructional materials and supplies

1. Strongly disagree ☐
2. Disagree ☐
3. Neutral ☐
4. Agree ☐
5. Strongly agree ☐

20c). The school classrooms are not cleaned often enough.

1. Strongly disagree
2. Disagree ☐
3. Neutral ☐
4. Agree ☐
5. Strongly agree ☐

Thank you for your time and participation!!!!

Appendix 6: Interview Questionnaires

INTERVIEW QUESTIONNAIRES GUIDES

IMPLEMENTER PARTNER

1. Tell us about the history of PSS program at this location.
    a. Tell us how PSS is being implemented?
    b. What tools or resources were used to support implementation?
    c. Who delivers PSS to the students?
    d. What criteria were used to select schools for implementation?
    e. When did you start training students?
2. Do you see any positive impacts from PSS? If so, what are they?
3. Do you see any negative impacts from PSS? If so, what are they?
4. What are the challenges of implementing PSS program at this school from your perspective?
5. How will this PSS program sustain over time from your perspective?
6. What recommendations do you have on ways to improve the program?
7. What else would you like to share?

PSS-TRAINED TEACHER

1. When were you trained in PSS? What organization trained you?
2. What PSS activities do you do for each class?
    a. What tools or resources did you use?
    b. How else have you integrated PSS into your teaching?
3. Are there others who offer PSS in your school or child friendly space?
4. What changes, if any, have you noticed among your students since you started implementing PSS activities in:
    a. Students' behavior since they started participating in these PSS activities?
    b. Students' emotions/mood since they started participating in these PSS activities?
    c. Students' academic performance since they started participating in these PSS activities?

Appendix 7: PSS Outcomes Disaggregated by Gender, Class, Urbanicity, School type, POC Status, and States

By Gender

We see that significant positive differences for social well-being outcomes are consistent for both male and female students, who have effect sizes of the difference for their social well-being outcomes in similar ranges (Table 15). However, we see that the positive outcomes for emotional well-being between treatment and control school students are largely driven by male students. There are no significant differences for female students, and neither group observes significant impacts on their resilience/coping outcomes.

Table 15. Inferential statistics results of students' well-being outcomes disaggregated by gender

Construct	Gender (test)	Treatment *(male=1111) (female=666)*	Control *(male=703) (female=494)*	Effect size of difference (Cohen)	p-value
Social Well Being	Male (Student)	3.206	3.042	0.29	<0.001
	Female (Student)	3.143	2.953	0.33	<0.001
Emotional Well-being	Male (Student)	3.256	3.147	0.17	<0.001
	Female (Student)	3.106	3.061	NA	0.079
Resilience/Coping	Male (Student)	2.850	2.816	NA	0.140
	Female (Student)	2.834	2.828	NA	0.445

By Class

We see that significant positive differences for social well-being outcomes are consistent for students in both classes P3 and P6, with larger effect sizes of the difference for their social well-being outcomes observed among students in class P6 compared to class P3 (Table 16). However, we see that the positive outcomes for emotional well-being between treatment and control school students are largely driven by students in class P6. There are no significant differences for emotional well-being outcomes for P3 students, and neither group observes significant impacts on their resilience/coping outcomes.

Table 16. Inferential statistics results of students' well-being outcomes disaggregated by class

Construct	Class (test)	Treatment *(P3=546) (P6=1232)*	Control *(P3=445) (P6=755)*	Effect size of difference (Cohen)	p-value
Social Well Being	P3 (Welch)	3.291	3.145	0.24	<0.001
	P6 (Student)	3.134	2.923	0.39	<0.001

Emotional Well-being	P3 (Welch)	3.094	3.069	NA	0.231
	P6 (Student)	3.230	3.137	0.18	<0.001
Resilience/Coping	P3 (Student)	3.022	2.956	NA	0.052
	P6 (Student)	2.766	2.742	NA	0.223

By Urbanicity

We see that significant positive differences for social well-being outcomes are consistent for students in both urban and rural regions, with larger effect sizes of the difference for their social well-being outcomes observed among students in urban settings compared to rural (Table 17). Conversely, we see that the positive outcomes for emotional well-being between treatment and control school students are largely driven by students in rural settings. Neither group observes significant impacts on their resilience/coping outcomes.

Table 17. Inferential statistics results of students' well-being outcomes disaggregated by urbanicity

Construct	Urbanicity (Test)	Treatment *(Urban=1555) (Rural=227)*	Control *(Urban=1007) (Rural=193)*	Effect size of difference (Cohen)	p-value
Social Well Being	Urban (Student)	3.171	3.012	0.29	<0.001
	Rural (Welch)	3.256	2.970	0.48	<0.001
Emotional Well-being	Urban (Student)	3.181	3.131	0.09	0.011
	Rural (Student)	3.223	3.009	0.44	<0.001
Resilience/Coping	Urban (Student)	2.835	2.813	NA	0.211
	Rural (Student)	2.914	2.864	NA	0.213

By School type

We see that significant positive differences for social well-being outcomes are only observed in government schools (Table 18). However, we see that the positive outcomes for emotional well-being between treatment and control school students are consistent for both government and community schools although largely driven by students in community schools. We see a significant negative difference for resilience in coping outcomes observed in community schools but a significant positive difference in government schools.

Table 18. Inferential statistics results of students' well-being outcomes disaggregated by school type

Construct	School type (test)	Treatment *(Govt=1335) (Comm=447)*	Control *(Govt=833) (Comm=367)*	Effect size of difference (Cohen)	p-value
Social Well Being	Govt (Student)	3.227	2.969	0.45	<0.001
	Comm (Welch)	3.049	3.088	NA	0.153
Emotional Well-being	Govt (Welch)	3.202	3.155	0.07	0.024
	Comm (Student)	3.141	3.013	0.27	<0.001
Resilience/Coping	Govt (Student)	2.865	2.725	0.21	<0.001
	Comm (Student)	2.784	3.040	-0.43	<0.001

*Govt – Government,
*Comm – Community

By POC Status

We see that significant positive differences for social well-being outcomes are consistent for students located in both POC sites and Non-POC sites with larger effect sizes of the difference for their social well-being outcomes observed among students in POC sites (Table 19). Conversely, we see that the positive outcomes for emotional well-being between treatment and control school students are largely driven by students in Non-POC sites. There are no significant emotional well-being differences for students in Non-POC sites. There are no significant impacts on the resilience/coping outcomes of students in POC sites and marginally negligible impact on students in Non-POC sites.

Table 19. Inferential statistics results of students' well-being outcomes disaggregated by POC status

Construct	Location (test)	Treatment *(POC=992) (Non-POC=790)*	Control *(POC=180) (Non-POC=1020)*	Effect size of diff (Cohen)	p-value
Social Well Being	POC (Student)	3.218	2.973	0.45	<0.001
	Non-POC (Student)	3.138	3.011	0.22	<0.001
Emotional Well-being	POC (Student)	3.207	3.200	NA	0.435
	Non-POC (Welch)	3.160	3.096	0.12	0.006
Resilience/Coping	POC (Welch)	2.912	2.874	NA	0.288

	Non-POC (Student)	2.760	2.812	-0.08	0.046

By States

We see significant positive differences for social well-being outcomes for students located in Unity, Jonglei, and Central Equatoria states (Table 20). We also see significant positive differences for emotional well-being outcomes for students located in Unity and Jonglei, but negative significant differences for emotional well-being outcomes for students located in Western Equatoria. We also see only significant positive differences for resilience and coping for students located in Jonglei, making it the only state with positive differences in all three well-being outcomes. However, we see significant negative differences for resilience and coping for students located in Unity, Western Equatoria, and Central Equatoria, with large effect sizes observed in Western and Central Equatoria.

Table 20. Inferential statistics results of students' well-being outcomes disaggregated by states

Construct	Location (test)	Treatment *(Unity=659) (Jonglei=506) (UN=100) (WE=208) (CE=309)*	Control *(Unity=415) (Jonglei=272) (UN=120) (WE=213) (CE=180)*	Effect size of difference (Cohen)	p-value
Social Well Being	Unity (Student)	3.260	3.025	0.25	<0.001
	Jonglei (Student)	3.264	3.042	0.36	<0.001
	Upper Nile (Student)	3.073	3.181	NA	0.076
	WE (Student)	2.905	2.907	NA	0.486
	CE (Student)	3.102	2.906	0.36	<0.001
Emotional Well-being	Unity (Student)	3.247	3.111	0.27	<0.001
	Jonglei (Student)	3.332	3.197	0.26	<0.001
	Upper Nile (Student)	3.133	3.240	NA	0.066
	WE (Welch)	2.873	3.004	-0.27	0.004
	CE (Welch)	3.045	3.025	NA	0.323

Resilience/Coping	Unity (Welch)	2.920	2.846	-0.11	0.042
	Jonglei (Student)	2.856	2.682	0.23	0.001
	Upper Nile (Student)	2.758	3.118	-0.55	<0.001
	WE (Student)	2.621	2.825	-0.44	<0.001
	CE (Student)	2.846	2.773	NA	0.100

Appendix 8: Academic Assessment Results Disaggregated by Gender, School type, and Urbanicity

Literacy Outcomes by Gender

We see no significant differences when the results are disaggregated by gender (Table 21).

Table 21. Inferential statistics results of Modified EGRA (2019) disaggregated by gender

Construct	Location (test)	Treatment *(Male=214) (Female=142)*	Control *(Male=161) (Female=104)*	Effect size of difference (Cohen)	p-value
Letter Name Identification	Male (Welch)	83.486	80.565	NA	0.094
	Female (Student)	73.127	68.077	NA	0.069
Familiar Word Identification	Male (Student)	38.523	36.988	NA	0.180
	Female (Student)	33.408	29.923	NA	0.086
Oral Reading Passage	Male (Student)	42.925	41.037	NA	0.183
	Female (Student)	33.908	29.740	NA	0.096
Reading Comprehension	Male (Student)	4.981	5.373	NA	0.645
	Female (Student)	7.155	7.375	NA	0.551
Listening Comprehension	Male (Welch)	1.874	2.199	NA	0.926
	Female (Welch)	1.838	2.308	NA	0.824
English Vocabulary	Male (Student)	8.336	8.379	NA	0.550
	Female (Student)	7.239	7.327	NA	0.582
Aggregate Sum Score	Male (Welch)	180.126	174.540	NA	0.145
	Female (Student)	156.676	144.750	NA	0.066

We observe that the negative significant differences in addition level one is largely driven by the male students while the negative significant difference in subtraction level two is largely driven by the female students (table 22).

Table 22. Inferential statistics results of Modified EGMA (2019) disaggregated by gender

Construct	Location	Treatment *(Male=214) (Female=142)*	Control *(Male=161) (Female=104)*	Effect size of difference (Cohen)	p-value
Number Identification	Male (Welch)	18.921	19.031	NA	0.673
	Female (Welch)	19.211	19.183	NA	0.455
Quantity Discrimination	Male (Welch)	9.565	9.522	NA	0.372
	Female (Student)	9.592	9.423	NA	0.123
Missing Numbers	Male (Welch)	6.491	6.348	NA	0.307
	Female (Student)	6.585	6.212	NA	0.106
Addition Level One	Male (Student)	15.336	16.224	-0.20	0.048
	Female (Welch)	15.254	15.885	NA	0.821
Addition Level Two	Male (Student)	4.210	4.280	NA	0.729
	Female (Student)	4.331	4.192	NA	0.164
Subtraction Level One	Male (Student)	12.589	13.447	NA	0.806
	Female (Student)	12.028	12.317	NA	0.695
Subtraction Level Two	Male (Student)	3.491	3.571	NA	0.703
	Female (Student)	3.401	3.971	-0.41	0.002
Word Problems	Male (Student)	4.762	4.994	NA	0.089
	Female (Welch)	4.803	4.962	NA	0.827
Aggregate Sum Score	Male (Student)	75.364	77.416	NA	0.901
	Female (Student)	75.204	76.144	NA	0.707

Literacy Outcomes by School type

We see that the positive significant difference in letter name identification is largely driven by students in government schools (Table 23). We also see positive significant differences in familiar word identification for students in community schools, and negative significant differences in listening comprehension for students in community schools.

Table 23. Inferential statistics results of Modified EGRA (2019) disaggregated by school type

Construct	School type (test)	Treatment *(Govt=270) (Comm=91)*	Control *(Govt=188) (Comm=80)*	Effect size of difference (Cohen)	p-value
Letter Name Identification	Govt (Student)	79.126	74.612	0.19	0.021
	Comm (Student)	79.857	77.375	NA	0.253
Familiar Word Identification	Govt (Student)	36.200	35.388	NA	0.317
	Comm (Student)	37.363	31.600	0.33	0.016
Oral Reading Passage	Govt (Student)	39.322	36.644	NA	0.108
	Comm (Student)	39.484	37.213	NA	0.248
Reading Comprehension	Govt (Student)	5.767	6.489	NA	0.740
	Comm (Student)	5.857	5.238	NA	0.351
Listening Comprehension	Govt (Welch)	1.830	2.207	NA	0.874
	Comm (Student)	1.923	2.275	-0.33	0.032
English Vocabulary	Govt (Student)	7.667	7.840	NA	0.702
	Comm (Welch)	8.582	8.300	NA	0.248
Aggregate Sum Score	Govt (Student)	169.911	163.181	NA	0.100
	Comm (Student)	173.066	162.000	NA	0.101

Numeracy Outcomes by School type

We observe that the negative significant differences in addition level one and subtraction level two are largely driven by students in community schools (Table 24). We also see a negative significant difference for aggregate numeracy scores for students in community schools.

Table 24. Inferential statistics results of Modified EGMA (2019) disaggregated by school type

Construct	Location	Treatment *(Govt=270) (Comm=91)*	Control *(Govt=188) (Comm=80)*	Effect size of difference (Cohen)	p-value
Number Identification	Govt (Welch)	19.122	19.037	NA	0.339
	Comm (Welch)	18.758	19.250	NA	0.915
Quantity Discrimination	Govt (Welch)	9.574	9.457	NA	0.171
	Comm (Student)	9.571	9.538	NA	0.415
Missing Numbers	Govt (Welch)	6.674	6.287	NA	0.059
	Comm (Student)	6.044	6.300	NA	0.752
Addition Level One	Govt (Welch)	15.393	15.830	NA	0.821
	Comm (Student)	14.978	16.713	-0.45	0.004
Addition Level Two	Govt (Student)	4.322	4.197	NA	0.110
	Comm (Student)	4.044	4.375	NA	0.058
Subtraction Level One	Govt (Student)	12.456	13.027	NA	0.751
	Comm (Student)	12.055	12.863	NA	0.897
Subtraction Level Two	Govt (Student)	3.474	3.686	NA	0.941
	Comm (Student)	3.352	3.850	-0.34	0.026
Word Problems	Govt (Welch)	4.756	4.995	NA	0.058
	Comm (Student)	4.846	4.988	NA	0.760
Aggregate Sum Score	Govt (Student)	75.770	76.516	NA	0.697
	Comm (Welch)	73.648	77.875	-0.35	0.025

Literacy Outcomes by Urbanicity

We see positive significant differences in oral reading and aggregate sum score for students in rural areas.

Table 25. Inferential statistics results of Modified EGRA (2019) disaggregated by urbanicity

Construct	Location (test)	Treatment *(Urban=301) (Rural=60)*	Control *(Urban=210) (Rural=58)*	Effect size of difference (Cohen)	p-value
Letter Name Identification	Urban (Student)	79.575	77.010	NA	0.104
	Rural (Welch)	77.983	69.741	NA	0.051
Familiar Word Identification	Urban (Student)	37.708	36.581	NA	0.229
	Rural (Student)	30.400	25.845	NA	0.107
Oral Reading Passage	Urban (Student)	40.339	39.929	NA	0.417
	Rural (Student)	34.467	25.534	0.38	0.021
Reading Comprehension	Urban (Student)	5.379	5.710	NA	0.635
	Rural (Student)	7.850	7.586	NA	0.460
Listening Comprehension	Urban (Welch)	1.841	2.181	NA	0.908
	Rural (Welch)	1.917	2.397	NA	0.795
English Vocabulary	Urban (Student)	8.073	8.357	NA	0.834
	Rural (Student)	7.017	6.603	NA	0.244
Aggregate Sum Score	Urban (Student)	172.914	169.767	NA	0.254
	Rural (Student)	159.633	137.707	0.35	0.030

We observe that the negative significant differences in addition level one, subtraction level two, and word problems are largely driven by students in urban schools.

Table 26. Inferential statistics results of Modified EGRA (2019) disaggregated by urbanicity

Construct	Location (test)	Treatment *(Urban=301) (Rural = 60)*	Control *(Urban=210) (Rural=58)*	Effect size of difference (Cohen)	p-value
Number Identification	Urban (Welch)	19.000	19.157	NA	0.782
	Rural (Welch)	19.183	18.897	NA	0.192
Quantity Discrimination	Urban (Welch)	9.605	9.452	NA	0.076
	Rural (Welch)	9.417	9.586	NA	0.739
Missing Numbers	Urban (Welch)	6.578	6.367	NA	0.182
	Rural (Student)	6.200	6.017	NA	0.334
Addition Level One	Urban (Student)	15.199	16.395	-0.28	0.002
	Rural (Welch)	15.733	15.000	NA	0.274
Addition Level Two	Urban (Student)	4.203	4.262	NA	0.728
	Rural (Student)	4.500	4.207	NA	0.080
Subtraction Level One	Urban (Welch)	12.571	13.081	NA	0.775
	Rural (Welch)	11.267	12.603	NA	0.799
Subtraction Level Two	Urban (Student)	3.455	3.819	-0.26	0.004
	Rural (Student)	3.383	3.431	NA	0.566
Word Problems	Urban (Welch)	4.748	5.071	-0.25	0.007
	Rural (Welch)	4.933	4.707	NA	0.163
Aggregate Sum Score	Urban (Welch)	75.359	77.605	NA	0.965
	Rural (Student)	74.617	74.448	NA	0.477

Appendix 9: EGRA/EGMA 2015/2017 Student Descriptives

Table 9. Descriptive statistics of students (2015 EGRA & EGMA)

Category	Groups	Percentage (%)
Students (n = 1095)		
Intervention Status	Control	82
	Treatment	18
Gender	Male	53
	Female	47
Class	P3	100
State	Unity	18
	Jonglei	30
	Lakes	29
	Western Equatoria	13
	Central Equatoria	10
Schools (n = 116)		
Intervention Status	Control	82
	Treatment	18

Table 11. Descriptive statistics of students (2017 EGRA)

Category	Groups	Percentage (%)
Students (n = 1365)		
Intervention Status	Control	81
	Treatment	19
Gender	Male	51
	Female	49
Class	P3	100
State	Unity	12
	Jonglei	35
	Lakes	26
	Western Equatoria	11
	Central Equatoria	8
	Eastern Equatoria	8
Schools (n = 137)		
Intervention Status	Control	80
	Treatment	20

Table 13. Descriptive statistics of students (2017 EGMA)

Category	Groups	Percentage (%)
Students (n = 1365)		
Intervention Status	Control	80
	Treatment	20
Gender	Male	52
	Female	48
Class	P3	100
State	Unity	15
	Jonglei	34
	Lakes	25
	Western Equatoria	10
	Central Equatoria	8
	Eastern Equatoria	8
Schools (n = 137)		
Intervention Status	Control	82
	Treatment	18

Appendix 10: EGRA/EGMA Assessment

Assessment of Early Grade Learners in Literacy and Numeracy

Pupil English / Mathematics

General Instructions

It is important to establish a playful and relaxed rapport with the pupils to be assessed, via some simple initial conversation among topics of interest to the pupil (see example below). The pupil should perceive the following assessment almost as a game to be enjoyed rather than a test. It is important to read ONLY the sections in boxes aloud slowly and clearly. You may read the instructions (in the grey boxes) in a language that the pupil understands. For the Mathematics assessment (EGMA): The pupil may answer in any language: He may speak English or his/her language or mix both languages. He may use the number words in English or in his language. You tick the boxes to indicate which language he used for speaking and which language he used for the number words.

Good morning. My name is ____ and I live in _____. I'd like to tell you a little bit about myself.

[Number and ages of children; sports; etc.]

1. **Could you tell me a little about yourself and your family? [*Wait for response; if the pupil is reluctant, ask question 2, but if they seem comfortable continue to verbal consent*].**
2. **What do you like to do when you are not in school?**

Verbal Consent

- Let me tell you why I am here today. We are trying to understand how children learn to read and do math. We selected pupils randomly from your class, and you were one of the pupils selected by chance.
- We would like your help in this. But you do not have to take part if you do not want to.
- We are going to play reading and math games. I am going to ask you to read letters, words, a short story and do math problems out loud.
- Using this stopwatch, I will see how long it takes you.
- This is NOT an exam and it will not affect your marks at school.
- I will also ask you other questions about your family, like what language your family uses at home and some of the things your family has.
- I will NOT write down your name so no one will know these are your answers.
- You do not have to participate if you do not wish to. Once we begin, if you would rather not answer a question, that's all right.
- Do you have any questions? Are you ready to get started?

☐

Check box if verbal consent is obtained:

(If verbal consent is not obtained, thank the pupil and move on to the next pupil, using this same form)

A. Date of Assessment:	Day: ____ Month: _____ Year: _____	**I. School Name:**	
B. Enumerator's Code:		**J. Type of School**	☐ Public/Government ☐ Community ☐ Private

C. Survey No.:		**K County:**	
D. Cl		**L. State:**	
E. Pupil's Age in years:		**M. POC Site:**	☐ Yes ☐ No
F. Pupil's Gender	☐ Male ☐ Female	**N. School Shift:**	☐ Full Day ☐ Morning only ☐ Afternoon only
G. Time at start of assessment:		**H. Time at end of assessment:**	

SUMMARY SCORE SHEET

Enumerator Code: _____ Survey No: _____

School Name_____

Start Time: _____ End Time: _____

Task Number	No. of Correct Answers	Time Taken	Discontinued Exercise? (✓or ✗)	Method of calculation Used (✓ all that apply)	Language of response
Task 1: Letter Name Identification					
Task 2: Familiar Word Identification					
Task 3a: Oral Reading Passage					
Task 3b: Reading Comprehension					
Task 4: Listening Comprehension					
Task 5A: English Vocabulary *Body Parts*					
Task 5B: English Vocabulary- *Spatial word*					
Task 6: Number Identification					
Task 7: Number Discrimination					
Task 8: Missing Number					

Task 9A: Addition Level 1				his/her head Solved problems in Counting Fingers with a pencil Tick marks on paper Other	
Task 9B: Addition Level 2		[redacted]		his/her head Solved problems in Counting Fingers with a pencil Tick marks on paper Other	
Task 10A: Subtraction Level 1				his/her head Solved problems in Counting Fingers with a pencil Tick marks on paper Other	
Task 10B: Subtraction Level 2				his/her head Solved problems in Counting Fingers with a pencil Tick marks on paper Other	

Task 11: Word Problems		[redacted]		his/her head Solved problems in Counting Fingers with a pencil Tick marks on paper Other	

Task 1: Letter Name Identification	**Page 1**	***60 seconds***
	If you marked as incorrect all of the answers on the first line, say "Thank you!" and discontinue the exercise.	If the pupil hesitates for 3 seconds, point to the next letter and say "Please go on." Mark the skipped letter as incorrect.

General Instructions:

The answer is "correct" if the pupil gives the name of the letter. If the answer is correct you do NOT mark the item in any way. However,

(/) Cross out each item for which the pupil has given an incorrect answer.

(O) Circle the item if the pupil self-corrects.

( ]) After the last item read, put this bracket.

[say to the pupil]:
Here is a page full of letters of the English alphabet. Please tell me the NAMES of as many letters as you can.
For example, the name of this letter *[point to S]* **is "S".**
Let's practise: Tell me the name of this letter ***[****point to V]:*
✓: Good, the name of this letter is "V." : The name of this letter is "V." Now you say the name.

Now try another one: Tell me the name of this letter *[point to L]:*
✓: Good, the name of this letter is "L." : The name of this letter is "L." Now you say the name.

Do you understand what you are to do?
When I say "Begin," start here and read across the page *[Point to the first letter on the row after the example and draw your finger across the first line]***. Point to each letter and tell me the name of that letter in a loud voice. Read as quickly and as carefully as you can. If you come to a letter name that you do not know, go on to the next letter. Put your finger on the first letter. Ready? Begin**.

Example: S v L

1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
t	R	a	B	P	i	j	n	G	o
s	A	H	u	R	t	k	e	N	w
a	T	u	e	O	F	S	E	T	d
m	b	h	L	I	J	v	M	i	e
y	d	e	G	i	a	f	i	Q	o
l	W	O	Y	k	E	n	h	s	n
e	z	m	N	R	O	s	t	c	t
o	S	r	e	P	e	R	c	w	u
i	r	j	e	x	A	E	I	D	T
E	a	Z	T	u	G	n	s	q	x

(10)

(20)

(30)

(40)

(50)

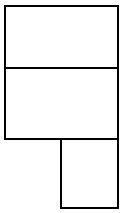
(60)

(70)

(80)

(90)

(100)



How many names of the letters did the student read CORRECTLY within the 60 seconds?

Time elapsed on stopwatch at completion (number of SECONDS):

Tick this box if the exercise was discontinued because the pupil had no correct answers on the first line.

Task 3: Familiar Word Identification	**Page 3**	***60 seconds***
	If you marked as incorrect all of the answers on the first line, say "Thank you!" and discontinue the exercise.	If the pupil hesitates for 3 seconds, point to the next word and say "Please go on." Mark the skipped word as incorrect.

General Instructions:

Mark answer as "correct" if the pupil correctly reads the word.

(/) Cross out each item for which the pupil has given an incorrect answer.

(O) Circle the item if the pupil self-corrects.

( ]) After the last item read.

[say to the pupil]:
Here are some words. I would like you to read as many words as you can. Do not spell the words, but read them. For example, this word is: "cat".

Let's practise: Please read this word *[point to the next word:* **"fall"***].*
✓: Good this word is "fall" : This word is "fall." Now you say the word.

Now try another one: Please read this word *[point to the next word:* **"clap"***].*
✓: Good, this word is "clap"
✓: This word is "clap." Now you say the word.

When I say "begin," start here and go across the page *[Point to the first word on the row after the example and draw your finger across the first line]***. Point to each word and read it in a loud voice. Read as quickly and are carefully as you can. If you come to a word you do not know, go on to the next word. Put your finger on the first word. Ready? Begin**.

Example: cat fall clap

1	*2*	*3*	*4*	*5*	
see	go	her	Food	leg	
door	sleep	do	Around	chair	
words	tree	river	Hair	far	
sad	house	walk	Man	sister	
called	fly	long	After	mother	
me	on	get	Time	girl	
all	more	that	Eat	in	
work	blue	ear	Sun	school	
they	uncle	come	Stop	wall	
boy	run	eye	Out	window	

(5)

(10)

(15)

(20)

(25)

(30)

(35)

(40)

(45)

(50)

How many words did the student read CORRECTLY within the 60 seconds? Time elapsed on stopwatch at completion (number of SECONDS):

Tick this box if the exercise was discontinued because the pupil had no correct answers in the first line. If the pupil had no correct answers in the first line and no correct answers in the first line of the letter sound identification, END the EGRA assessment and continue with EGMA.

5

Task 3a : Oral Reading Passage	Page 4	*60 seconds*
	If you marked as incorrect all of the answers on the first line, say "Thank you!" and discontinue the exercise.	➲ If the pupil hesitates for 3 seconds, point to the next word and say "Please go on." Mark the skipped word as incorrect.

(/) Cross out each item for which the pupil has given an incorrect answer.
(O) Circle the item if the pupil self-corrects.
( ]) After the last item read.

When the pupil has finished reading, ***remove the text from their possession.***

Task 3b : Reading Comprehension	Page 4	*60 seconds*
	Ask only those questions which relate up to and including the last line that the pupil has completed.	➲ If the pupil remains silent after 10 SECONDS repeat the question and give the pupil another 5 seconds, then mark No Response.

The correct answers can be provided in English or any other language. Ask questions until the last line that the pupil has completed.

(✓) Correct, Incorrect or No Response

[Put the text in front of the pupil. Point to the first line.]
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. If you come to a word you do not know, go to the next word. Put your finger on the first word. Ready? Begin.

		Now I am going to ask you a few questions about the story you just read. Try to answer the questions as well as you can.			
		QUESTIONS	**Pupil Responses**		
			Correct	**Incorrect**	**No Response**
David went fishing on the bank of a river.	9	**Where did David go fishing?** [the river, bank of the river]			
He found that he had forgotten a hook.	17	**What had David forgotten?** [a hook, a fishing hook]			
David was sad. He went to find a hook. At his home,	29	**Where did David decide to look for a hook?** [at his home, from his mother]			
he could not find one, so he asked his mother.	39	**Who did David ask for help finding the hook?** [his mother]			
David's mother told him where to find the hook.	48				
David went back to the river to fish.	56				

How many words did the student read CORRECT in 60 seconds?

Time elapsed on stopwatch at completion (# of

Number of correct responses to Task 4

Task 5: Listening Comprehension – Class 3	**X**	***60 seconds***
		If the pupil remains silent after 10 SECONDS repeat the question and give the pupil another 5 seconds, then mark No Response. Remove the pupil stimuli booklet from the pupil's view. Do not allow the pupil to look at the passage or the questions. If a pupil says "I don't know," mark as incorrect.

General Instructions:

You will read aloud a story twice, then ask the pupil some comprehension questions.
The correct answers can be provided in any language.

(✓) Correct, incorrect or no response

[Tell the Pupil:]
I'll read you a story twice and then I'll ask you some questions. Please listen carefully and then answer the question as best you can. You can answer questions in any language you prefer. Are you ready? Let's begin.

The little boy's parents are farmers and there is no rain to grow food. The boy is crying because he is hungry. The neighbours give the boy food. The boy feels happy now that he has eaten enough. He is now playing. The parents thank the neighbours. *[Read the story a second time, then ask the following questions.]*

QUESTIONS	Correct answers	PUPIL RESPONSES

	(DO NOT READ TO THE PUPIL)	Correct	Incorrect	No Response
1. Why is the boy crying?	*[he is hungry, there is no food]*			
2. Why do the parents not feed the boy?	*[no food, no rain to grow food]*			
3. Who gives the boy food?	*[the neighbours]*			

Total number of CORRECT responses:	

7

Task 7. ENGLISH VOCABULARY	Materials : a sheet of paper, pencil, rubber	**X**

(/) Mark any incorrect words with a slash
(Ø) Circle self-corrections if you already marked the word incorrect

A. **Body Parts:**

Tell the pupil, in any language that they can understand, *I'll say words in English that represent parts of the body. Show me what part of your body the word means. Let's practice. "nose"* (Point to your nose so that you model for the Pupil). Say, "**head".** Wait for the pupil to gesture to his/her head. Thereafter say, *Good you understand the directions! Let's start*.	

foot arm chin knee ear back elbow shoulder

Part A Total Correct	/8

B. Words from the Environment:

- Now I will say other words and you will show me examples of those words.

pencil shoes desk rubber paper floor

Part B Total Correct /6

C.B. Spatial Words	
(Hand the pencil to the pupil.) Say, *Take this pencil. You will place the pencil where I tell you to put it. Put the pencil…*	Place a pencil and sheet of paper side by side in front of the pupil.
on the paper next to the paper behind you under the paper in front of you to the right of the paper	
Part C Total Correct	/6
Overall Total Correct = (Part A + Part B + Part C))	/ 20 14

Make sure all subpart scores are filled out, including time elapsed and discontinued. Now, proceed to the EGMA assessment.

Task 8 : Number Identification	Page 4	60 seconds (Timed)
Here are some numbers. I want you t and tell me what the number is. I am goin you when to begin and when to stop. *- [Point to the first number]* **Start here.** *[Gli* **Are you ready? Begin.**	**o point to each number g to time you and will tell** *de hand from left to right]***.**	(Stop) • Only if the time runs out (60 seconds).
Mark on the table if incorrect or no re sponse Put a bracket ( ]) on the table after the last number read. 3 8 0 16 25 33 59 48 13 20 62 71 44 86 95 167 287 506 713 957		(Move on) • If a pupil stops on a number for **5 SECONDS,** mark as wrong then prompt pupil to move on.
Number of correct responses:		
Record time elapsed (seconds):		
Tick here if the task was discontinued due to multiple incorrect responses:		
What language(s) did the Pupil use for this activity?	English Juba Arabic Nuer Dinka Zande Toposha Bari Other :_____	

Task 9 : Number Discrimination - PRACTICE	Pages 5-6	(Not Timed)
Example 1: **Look at these numbers. Tell me which number is bigger.** 8 4 ✓ **That's correct, 8 is bigger. Let's do another one.** **The bigger number is 8.** *[Point to 8]:* ***T*****his is 8.** *[Point to 4]:* ***t*****his is 4. 8 is bigger than 4. Let's do another one.**		
Example 2: **Look at these numbers. Tell me which number is bigger.** 12 22 ✓ **That's right, 22 is bigger. Let's continue.** **The bigger number is 22.** *[Point to 22]:* ***T*****his number is 22.** *[Point to 12]:* ***T*****his is 12. 22 is bigger than 12. Let's continue.**		
Point and say [Repeat for each item] **Look at these numbers. Tell me which number is bigger**		(Stop)

Mark on the Tablet if incorrect or no response 7 5 *7* * Correct * * Incorrect 11 24 *24* * Correct * * Incorrect 39 23 *39* * Correct * * Incorrect 58 49 *58* * Correct * * Incorrect 65 67 *67* * Correct * * Incorrect 94 78 *94* * Correct * * Incorrect 146 153 *153* * Correct * * Incorrect 287 534 *534* * Correct * * Incorrect 623 632 *632* * Correct * * Incorrect 867 965 *965* * Correct * * Incorrect	• If the pupil makes 4 successive errors. (Move on) • If the pupil doesn't respond after **5 SECONDS**, mark as wrong then prompt pupil to move on.
Number of correct responses:	
Tick here if the task was discontinued due to multiple incorrect responses:	
What language(s) did the pupil use for this activity? [check all that apply]	English Juba Arabic Nuer Dinka Zande Toposha Bari Other :_____

Task 10 : Missing number – PRACTICE	**Page 7**	(Not Timed)
Example 1: **Here are some numbers. 1, 2, and 4, what number goes here?**		

1	2	(3)	4	

✓ **That's correct, 3. Let's do another one.**
The number three goes here. Say the numbers with me. *[Point to each number]* **1, 2, 3, 4. 3 goes here. Let's do another one.**
Example 2: **Here are some numbers. 5, 10, and 15, what number goes here?**

5	10	15	(20)	

✓ **That's correct, 20. Let's do some more. The number 20 goes here. Say the numbers with me.** *[Point to each number]* **5, 10, 15, 20. 20 goes here. Let's do some more.**

Task 8: Missing number	Pages 7-8	× (Not Timed)
[Repeat for each item] **Here are some more numbers. *[Point to the box]*. . . What number goes here? [Repeat for each set of numbers]** Mark on the Tablet if incorrect or no response		(Stop) • If the pupil gets 4 successive errors. (Move on) • If the pupil doesn't respond after **5 SECONDS,** mark as wrong then prompt pupil to move on.

1	2	3	4	(5)	C	I	6	457	458	(459)	460	C	I
2	16	17	(18)	19	C	I	7	38	(36)	34	32	C	I
3	40	(50)	60	70	C	I	8	25	30	35	40	C	I
4	(600)	700	800	900	C	I	9	390	380	370	360	C	I
5	3	5	7	(9)	C	I	10	11	16	(21)	26	C	I

Number of correct responses:

Tick here if the task was discontinued due to multiple incorrect responses:

What language(s) did the pupil use for this activity? [check all that apply]

English | Juba Arabic | Nuer | Dinka | Zande | Toposha

Bari | Other:_____

Task 191A: A : Addition: Level 1	Pages 9-10	60 seconds (Timed)
Here are some addition exercises I am going to tell you when to begin and for each problem. If you don't know an problem. Are you ready? Begin.	*[glide hand from top to bottom]*. **when to stop. Say the answer answer, move to the next**	(Stop) • If the time runs out (60 seconds).

<table>
<tr>
<td>(/) Incorrect or no response
( ]) After last problem attempted

1 + 3 = (4) = (15)
2 + 3 = (5) = (11)
6 + 2 = (8) = (12)
4 + 5 = (9) = (14)
3 + 3 = (6) = (17)
8 + 1 = (9) = (13)
7 + 3 = (10) = (16)
3 + 9 = (12) = (13)
2 + 8 = (10) = (12)
9 + 3 = (12) = (18)

7 + 8

4 + 7

7. + 5

8. + 6

9. + 8

6 + 7

8 + 8

8 + 5

10 + 2

8 + 10</td>
<td>(Move on)
• If a pupil stops on an item for <u>5 SECONDS,</u> mark as wrong then prompt pupil to move on.</td>
</tr>
<tr><td>Number of correct responses:</td><td></td></tr>
<tr><td>Record time elapsed (seconds):</td><td></td></tr>
<tr><td>Tick here if the task was discontinued du e to multiple incorrect responses:</td><td></td></tr>
</table>

To solve the problems, indicate the method t □ Solved the problems in his/her head □ Fingers □ Counters □ Tick marks on paper with a pencil □ Other (describe) _____	he pupil used (tick all that apply): _____
What language(s) did the pupil use for this activity? [check all that apply]	English Juba Arabic Nuer Dinka Zande Toposha Bari Other :_____

Task 191BB: : Addition: Level 2	**Page 11**	(Not Timed)
❖ Paper and pencil.		(Stop) • If the pupil did not answer any Level 1
Here are more addition exercises. You may use this paper and pencil if you want to. You do not have to do so. **Start here** *[point to the first problem].*		

Circle: Tick the correct box. 11 + 3 = (14) Correct Incorrect 16 + 9 = (25) Correct Incorrect 11 + 17 = (28) Correct Incorrect 27 + 32 = (59) Correct Incorrect 34 + 19 = (53) Correct Incorrect	question correctly. • If the pupil makes 4 consecutive errors. • If a pupil uses an inefficient strategy (e.g., tick marks), ask the pupil "Do you know another way to solve the problem?" (Move on) • If a pupil continues to use an inefficient strategy or stops on an item **for 5 SECONDS.**
Number of correct responses:	
Tick here if the task was discontinued due to multiple incorrect responses:	

To solve the problems, indicate the method the pupil used [(✓) tick all that apply]: □ Solved the problems in his/her head □ Set up the problem with paper and pencil □ Fingers □ Counters □ Tick marks □ Other (describe) _____

What language(s) did the pupil use for this activity? [check all that apply]	English Juba Arabic Nuer Dinka Zande Toposha Bari Other :_____

Task 1102AA: : Subtraction: Level 1	**Pages 12-13**	60 seconds (Timed)
Here are some subtraction exercises [glide hand from top to bottom]**. I will tell you when to begin and when to stop. Say the answer for each problem. If you don't know an answer, move to the next problem. Are you ready? Begin.**		(Stop) • If the time runs out (60 seconds).

(/) Incorrect or no response ( ]) After last problem attempted 4 – 3 = (1) 15 – 8 = (7) 5 – 3 = (2) 11 – 7 = (4) 8 – 2 = (6) 12 – 5 = (7) 9 – 5 = (4) 14 – 6 = (8) 6 – 3 = (3) 17 – 8 = (9) 9 – 1 = (8) 13 – 7 = (6) 10 – 3 = (7) 16 – 8 = (8) 12 – 9 = (3) 13 – 5 = (8) 10 – 8 = (2) 12 – 2 = (10) 12 – 3 = (9) 18 – 10 = (8)	(Move on) • If a pupil stops on an item for **5 SECONDS,** mark as wrong and prompt pupil to move on.
Number of correct responses:	
Record time elapsed (seconds):	
Tick here if the task was discontinued due to multiple incorrect responses:	

To solve the problems, indicate the method the pupil used [(✓)tick all that apply]: □ Solved the problems in his/her head
□ Fingers
□ Counters
□ Tick marks on paper with a pencil
□ Other (describe)
_____

What language(s) did the pupil use for this activity? [check all that apply]	English Juba Arabic Nuer Dinka Zande Toposha Bari Other :_____

Task 1102BB: : Subtraction: Level 2	Page 14	(Not Timed)
❖ Paper and pencil.		
Here are more subtraction exercises. You may use this paper and pencil if you want to. You do not have to do so. **Start here** *[point to first problem].*		(Stop) • If the pupil did not answer any Level 1 question correctly.
Circle: 1 = Correct. 0 = Incorrect or no response. 14 – 3 = (11) Correct Incorrect 25 – 9 = (16) Correct Incorrect 28 – 17 = (11) Correct Incorrect 59 – 32 = (27) Correct Incorrect 53 – 19 = (34) Correct Incorrect		• If the pupil makes 4 consecutive errors. • If a pupil uses an inefficient strategy (e.g., tick marks), ask the pupil "Do you know another way to solve the problem?" (Move on) • If a pupil continues to use an inefficient strategy or stops on an item for **5 SECONDS.**

Number of correct responses:	
Tick here if the task was discontinued due to multiple incorrect responses:	
To solve the problems, indicate the method the pupil used [(✓)tick all that apply]: □ Solved the problems in his/her head □ Set up the problem with paper and pencil □ Fingers □ Counters □ Tick marks □ Other (describe) _____	
What language(s) did the pupil use for this activity? [check all that apply]	English Juba Arabic Nuer Dinka Zande Toposha Bari Other :_____

Task	**111:3 : Word Problems - PRACTICE**	(No stimuli Sheet)	(Not Timed)
❖ Counters, paper and pencil.			

I have some exercises that I am going to ask you to solve for me. Here are some objects to help you. You can use them if you need them, but you don't have to use them. Listen very carefully to each exercise. If you need, I will repeat the exercise for you. Okay, let's get started.

There are three children at the school. *[pause and check]* **One child leaves the school.** *[pause and check]* **How many children are left at the school?**

✓ **That's right. There are two children left at the school. Let's do some more.**

Pretend these counters are children. [*Point to counters, count out three children.*] These children are at the school. One child leaves the school. Using the counters, show me one child leaving the school. How many children are left at the school? That's right. There are two children left at the school. Let's do some more.

Task 13 : Word Problems	(No stimuli Sheet)	(Not Timed)
❖ Counters, paper and pencil.		
Now I have some more exercises for you.		(Stop) • If the pupil gets 4 successive errors
Problem 1 2 children are in the car. [*pause and check*] 3 more children get in. [*pause and check*] How many children are in the car altogether?	Correct answer: 5 ***Tick one***: Correct Incorrect	
Problem 2 There are 6 children in the house. [*pause and check*] 2 are boys. The others are girls. [*pause and check*] How many girls are in the house?	Correct answer: 4 ***Tick one***: ** ** Correct Incorrect	(Move on) • If a pupil stops on an item for **5**

Problem 3 ⍰ There are 2 children in the first house. [*pause and check*] There are 8 children in the second house. [*pause and check*] How many more children must join the first house so that it has the same number of children as the second house?	Correct answer: 6 ***Tick one*:** Correct Incorrect	**SECONDS.** (and does not attempt to use counters, fingers, paper, or pencil) OR • If the pupil doesn't respond to a question after one minute. • Comment: The "[pause and check]s" in each problem indicate that you should be certain that the pupil understands what you have said before continuing.

Problem 4 □ There are some children in the car. [*pause and check*] 2 more children get into the car. [*pause and check*] Now there are 9 children in the car. [*pause and check*] How many children were in the car at the beginning?	Correct answer: 7 ***Tick one*:** Correct Incorrect	You may want to ask, "Do you understand?"
Problem 5 □ There are 12 sweets. [*pause and check*] 4 children share the sweets equally. [*pause and check*] How many sweets does each child get?	Correct answer: 3 ***Tick one*:** Correct Incorrect	
Problem 6 □ There are 5 benches in a room. [*pause and check*] There are 2 children on each bench. [*pause and check*] How many children are in the room altogether?	Correct answer: 10 ***Tick one*:** Correct Incorrect	
Number of correct responses:		
Tick here if the task was discontinued due to multiple incorrect responses:		
To solve the problems, indicate the method the child used [(✓)tick all that apply]: □ Solved the problems in his/her head □ Set up the problem with paper and pencil □ Fingers □ Counters □ Tick marks □ Other (describe) _____		

What language(s) did the child use for this activity? [check all that apply]	English Juba Arabic Nuer Dinka Zande Toposha Bari Other :_____

Now, if the school's language of instruction is Dinka, Nuer, Bari, Zande, or Toposha:
Administer the relevant National Language EGRA, regardless of the language the child speaks.

Else, record the time ended below. Do not administer NL EGRA.
Proceed directly to the pupil background interview.

Time Ended: : AM/PM

Letters Name and Sounds Subtests - Example: S v L

t	r	a	B	P	I	j	n	g	o
s	A	H	u	R	t	k	e	n	w
a	T	u	e	O	F	S	E	t	d
m	b	h	L	I	J	v	M	I	e
y	d	e	G	i	a	f	I	Q	o
l	W	O	Y	k	E	n	h	s	n
e	z	m	N	R	O	s	t	c	t
o	S	r	e	P	e	R	c	w	u
I	r	j	e	x	A	E	l	D	T
E	a	Z	T	u	G	n	s	q	x

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MASARYK UNIVERSITY
INDIANA UNIVERSITY
CRS CATHOLIC RELIEF SERVICES
PURDUE UNIVERSITY

Familiar Words Subtest - Example: cat fall clap

see	go	her	Food	leg
door	sleep	do	Around	chair
words	tree	river	Hair	far
sad	house	walk	Man	sister
called	fly	long	After	mother
me	on	get	Time	girl
all	more	that	eat	in
work	blue	ear	Sun	school
they	uncle	come	Stop	wall
boy	run	eye	Out	window

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MAASTRICHT UNIVERSITY
INDIANA UNIVERSITY
CRS CATHOLIC RELIEF SERVICES
PURDUE UNIVERSITY

David went fishing on the bank of a river.

He found that he had forgotten a hook. David was sad. He went to find a hook.

At his home, he could not find one, so he asked his mother. David's mother told him where to find the hook. David went back to the river to fish.

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INDIANA UNIVERSITY
CRS CATHOLIC RELIEF SERVICES
PURDUE UNIVERSITY

Number Identification - Learner Stimuli

3	8	0	16	25
33	59	48	13	20
62	71	44	86	95
167	287	506	713	957

Number Discrimination – Practice Examples

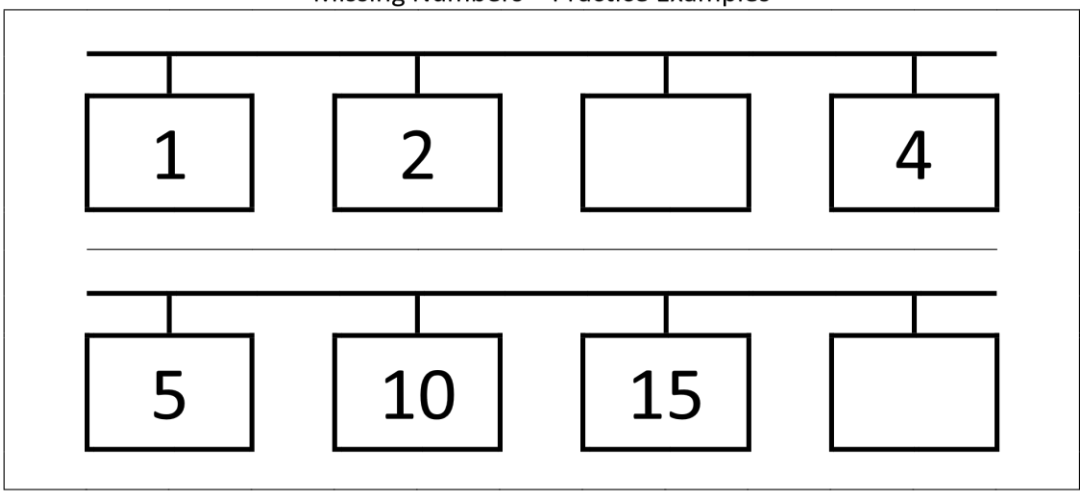
8	4
12	22

Number Discrimination- Learner Stimuli

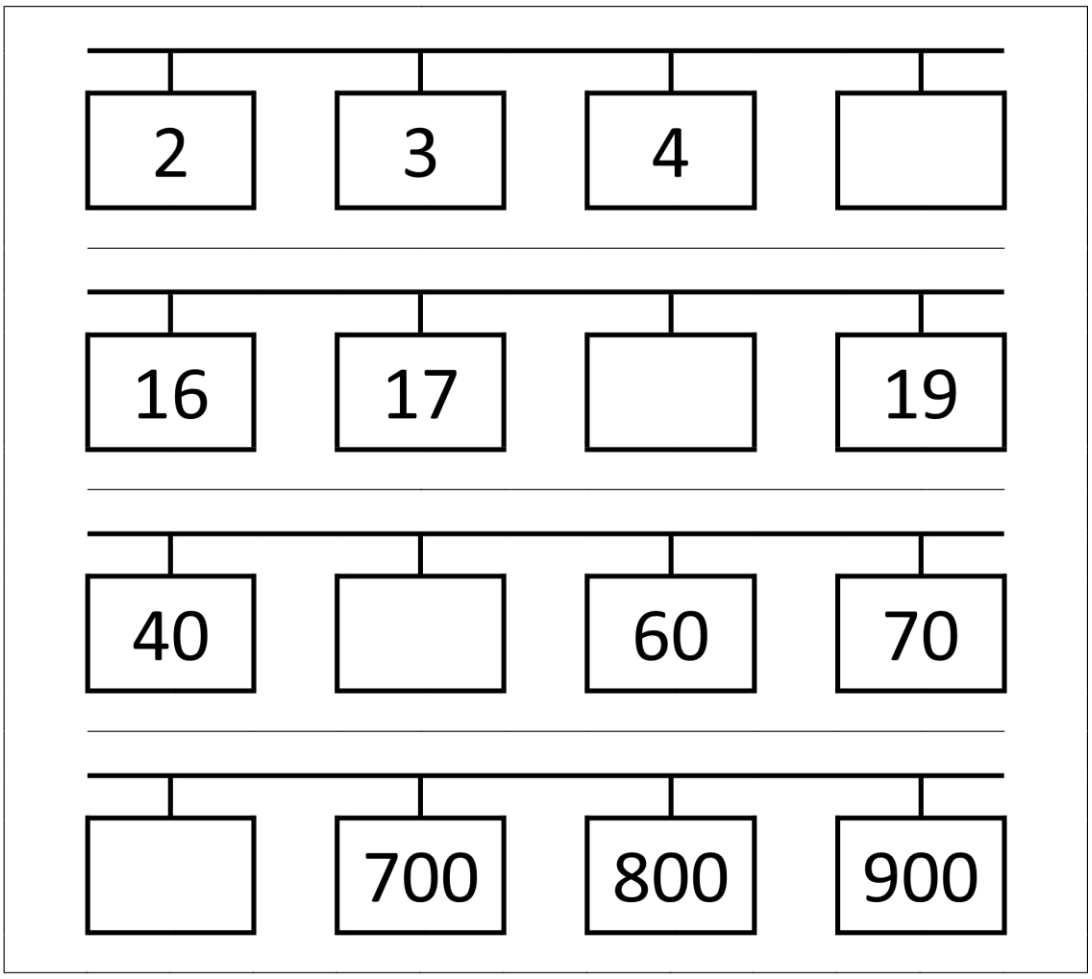
7	5
11	24
39	23
58	49
65	67
94	78
146	153
287	534

623	632

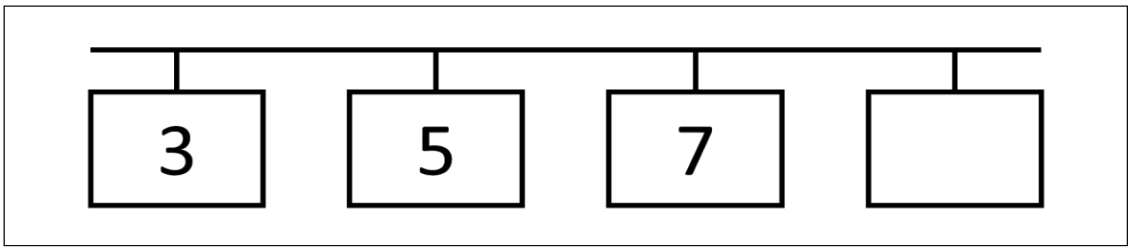
Missing Numbers – Practice Examples

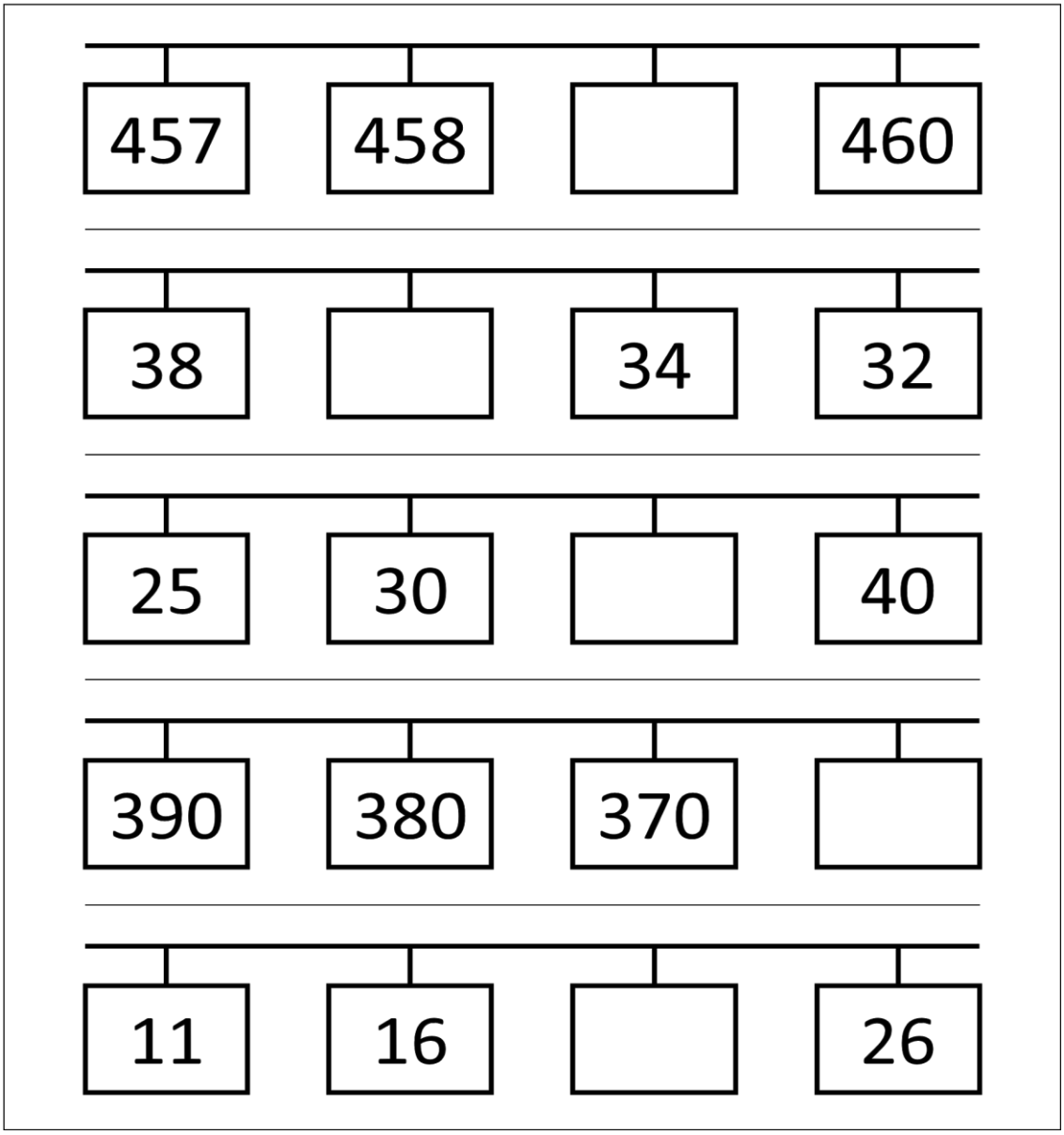


Missing Numbers – Learner Stimuli



Page 6





Addition Level 1- Learner Stimuli

1 + 3 =	7 + 8 =
2 + 3 =	4 + 7 =
6 + 2 =	7 + 5 =
4 + 5 =	8 + 6 =
3 + 3 =	9 + 8 =
8 + 1 =	6 + 7 =
7 + 3 =	8 + 8 =
3 + 9 =	8 + 5 =
2 + 8 =	10 + 2 =
9 + 3 =	8 + 10 =

Addition Level 2 – Learner Stimuli

11 + 3 =
16 + 9 =
11 + 17 =
27 + 32 =
34 + 19 =

Page 9

Subtraction Level 1- Learner Stimuli

4 – 3 =	15 – 8 =
5 – 3 =	11 – 7 =
8 – 2 =	12 – 5 =
9 – 5 =	14 – 6 =
6 – 3 =	17 – 8 =
9 – 1 =	13 – 7 =
10 – 3 =	16 – 8 =
12 – 9 =	13 – 5 =
10 – 8 =	12 – 2 =
12 – 3 =	18 – 10 =

Subtraction Level 2 – Learner Stimuli

14 - 3 =
25 - 9 =
28 - 17 =
59 - 32 =
53 - 19 =

Appendix 11: Domains of Wellbeing

PSS Domains	Construct	Sub-construct	SEL Competency
Emotional Wellbeing			
Emotions/Feelings			
1. In the past two weeks have been able to understand my moods and feelings.[i]	Skills and knowledge for everyday (in and out of school)	Emotional awareness Self-regulation	Self -awareness
		Coping skills	self-management
2. In the last two weeks have you been able to use skills to calm yourself.	Skills and knowledge for everyday (in and out of school)	Emotional awareness Self regulation	Self awareness
		Coping skills	self management
3. In the last two weeks I have been in a good mood[ii] [iii]	Emotional state	Sense of wellbeing	NA
4. In the last two weeks have you felt sad?[iv]	Emotional state	Response to negative stimuli (stress, conflict, food insecure, etc.)	NA
5. In the last two weeks have you been worried?[v] [vi]	Emotional state	Response to negative stimuli (conflict, food insecure, etc.)	NA
Behavioral			
6. In the last two weeks have you gotten angry and lost your temper?[vii]	Emotional state	Response to negative stimuli/stressor	Self awareness
		Emotional awareness and Self-regulation	self management

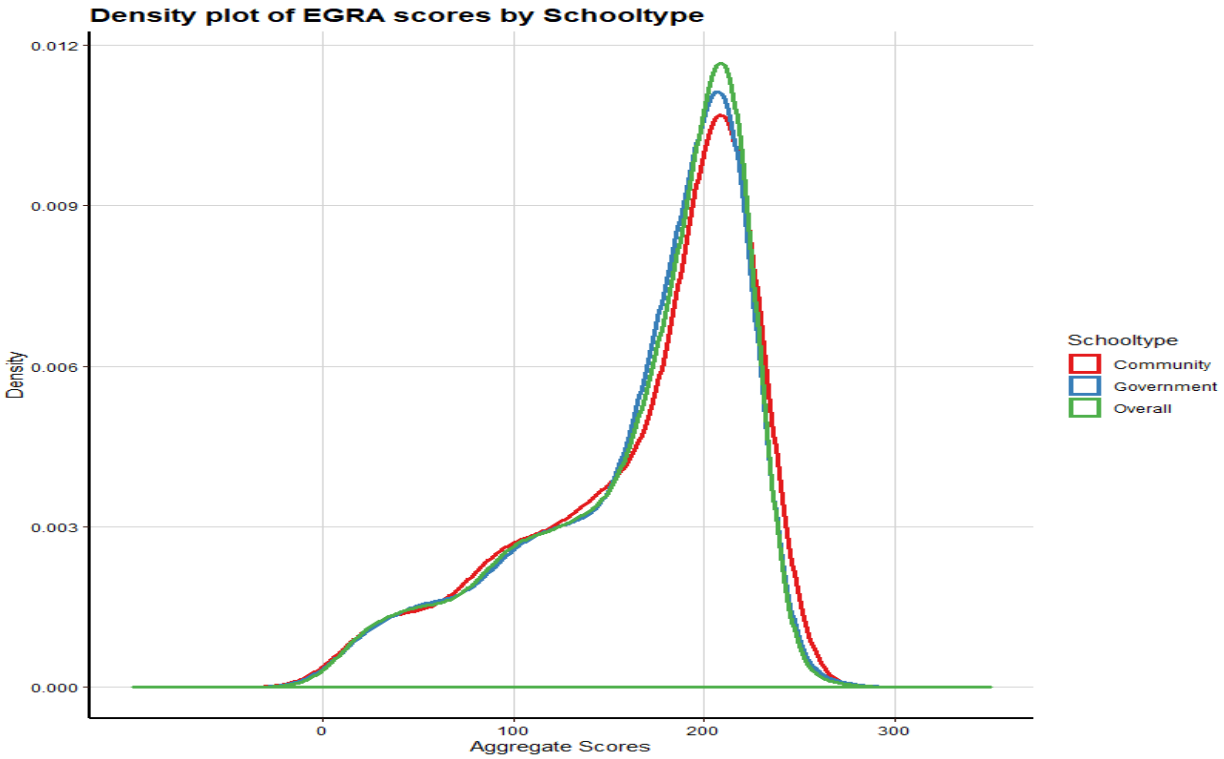
7. In the last two weeks have you had bad dreams?[viii]	Cognitive impacts	Stress reaction Response to negative stimuli/stressor	NA
8. In the last two weeks have you been able to concentrate/pay attention in the classroom?[ix]	Cognitive impacts	Response to negative stimuli /stressor	
	~~Skills and knowledge for everyday~~	~~Emotional awareness and Self-regulation~~	
Social Wellbeing			
9. In the last two weeks I have been helpful to others[x]	Positive view of self and feeling valued Hope	Role fulfillment empathy Self-efficacy	Social Awareness Responsible decision making Self-awareness
10. In the last two weeks have you felt you had someone you trust to help you when you needed to? [xi]	Sense of security, safety and support	Supportive adult relationship	Social Awareness Relationship skills
11. In the last two weeks have you felt that your parents/caregivers listened to you and respected your opinion?	Sense of security, safety and support	Supportive adult relationship	Social Awareness Relationship skills
	Positive view of self and feeling valued	Self esteem	Self-awareness
12. In the last two weeks have you been picked on or bullied in school? [xiv]	Sense of security, safety and support	Interpersonal skills School climate	Relationship skills
13. In the last two weeks have you spent time with your friends? [xv]	Social connectedness	Secure peer relationships Sense of belonging	Relationship skills
14. In the last two weeks have you felt that your school is a nice place to be in? [xvi]	Sense of security, safety and support	School climate Supportive adult relationship Sense of belonging	NA
15. In the last two weeks have you felt that your	Sense of security, safety and support	Supportive adult relationship	Relationship skills

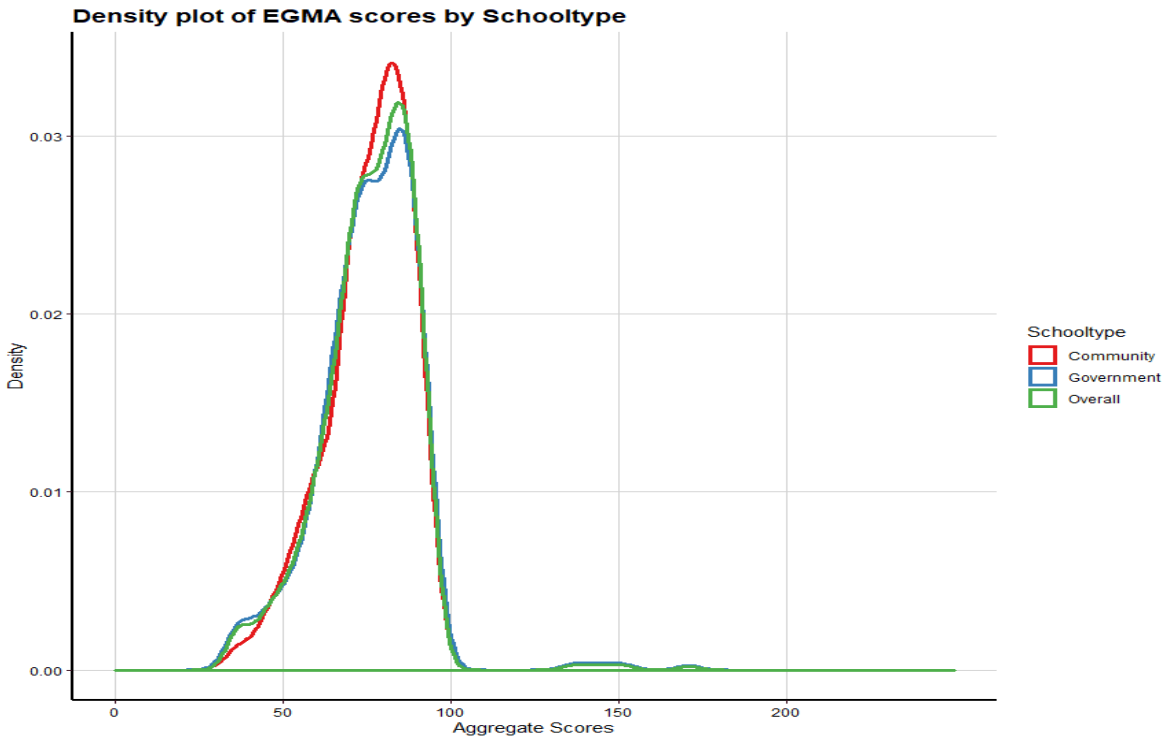
teacher listened to you and respected your opinion? [xvii]	Positive view of self and feeling valued	Self-esteem	Self-awareness
Resilience/Coping			
16. In the last two weeks have you been in situations where you felt helpless?[xviii]	Sense of security, safety and support	Supportive adult relationship	Relationship skills
	Emotional state	Response to negative stimuli/stressor	Self-awareness
	Positive view of self and feeling valued	Self-efficacy	Self-management
17. In the last two weeks, I have found friendly ways to solve disputes[xix]	Skills and knowledge for everyday (in and out of school)	Emotional awareness Self-regulation	Self-management
		Respecting others	Social awareness
		Communication	Relationship skills
18. In the last two weeks I have tried to understand how other people feel or think[xx]	Social connectedness Skills and knowledge for everyday (in and out of school)	Empathy respecting others Sense of belonging	Social Awareness
19. In the last two weeks have you been able to do the things you wanted to do in your free time?[xxi]	Positive view of self and feeling valued Hope	Self-efficacy Creative thinking, time for play	Responsible decision making Self-awareness
20. In the last two weeks have you suggested activities or games to do with your friends? [xxii]	Positive view of self and feeling valued Social connectedness	Creative thinking, time for play Self-efficacy	Self-awareness
Adolescents			
21. In the last two weeks, I have had opportunities to show others that I am becoming an adult and can act responsibly. [xxiii]	Positive view of self and feeling valued	Self-efficacy Personal achievement	Responsible decision making
	Skills and knowledge for everyday (in and out of school)	Role fulfillment	Social awareness
22. In the last two weeks, have you done well taking	Positive view of self and feeling valued	Self-efficacy Personal achievement	Responsible decision making

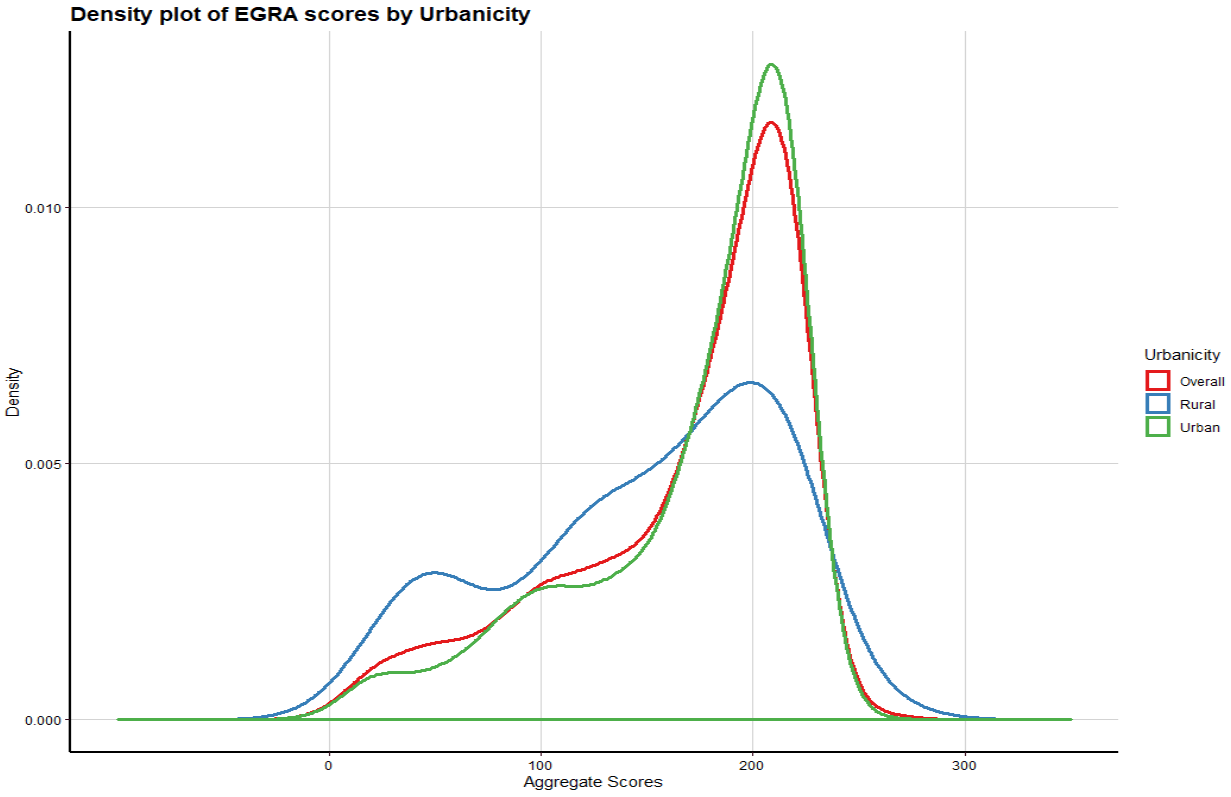
care of your responsibilities?	Skills and knowledge for everyday (in and out of school)	Role fulfillment	Social Awareness
23. In the last two weeks I have been feeling under pressure. [xxiv]	Cognitive impacts/emotional state	Stress response	Self-awareness
		Role fulfillment	Social awareness
		Peer relationships	Responsible decision making
24. My friends stand by me during difficult times[xxv]	Social connectedness	Peer relationships Sense of belonging	Relationship skills
25. A lot of things about me are good.[xxvi]	Positive view of self and feeling valued hope	Self-esteem	Self-awareness
26. My belief in myself gets me through hard times.	Positive view of self and feeling valued Hope	Self-esteem Self-efficacy	Self-awareness
27. If I really try, I can do almost anything I want to do.[xxvii]	Positive view of self and feeling valued Hope	Self esteem Self-efficacy	Self-awareness

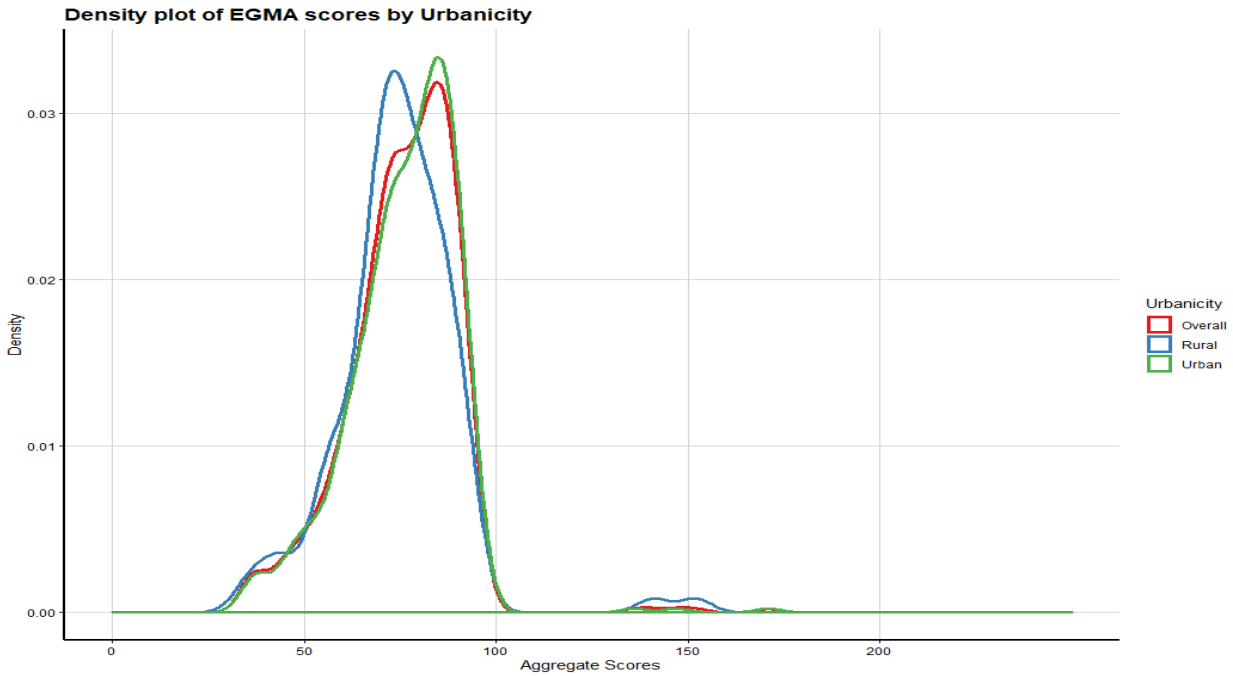
Appendix 12: Density plots of EGRA and EGMA scores by school type and urbanicity

We illustrate the differential distribution of students in rural vs. urban schools and in government vs. community schools to show more clearly the justification for this approach. Although the distribution of EGRA and EGMA scores for government and community schools is similar, it is notable that the mean scores are in the mid to lower range of the EGRA/EGMA scales, with a clear right skew. Students in rural schools vs. urban schools show a clearly lower distribution of scores, in particular on literacy, and it was this differential that initially concerned us and led to sampling P5.




Density plot of EGMA scores by Schooltype
Density
0.03
0.02
0.01
0.00
0
50
100
150
200
Aggregate Scores
Schooltype
Community
Government
Overall


Density plot of EGRA scores by Urbanicity
Density
0.010
0.005
0.000
0
100
200
300
Aggregate Scores
Urbanicity
Overall
Rural
Urban


Density plot of EGMA scores by Urbanicity
Density
0.03
0.02
0.01
0.00
0
50
100
150
200
Aggregate Scores
Urbanicity
Overall
Rural
Urban