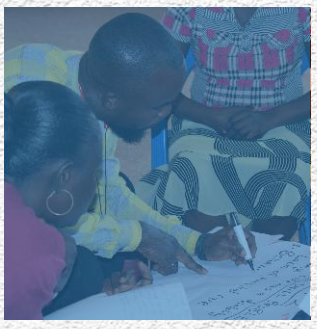
GHANA EDUCATION SERVICE



BASELINE EVALUATION REPORT

Community of Excellence Program

March 30, 2023

Ghana Education Service (GES)

unicef | for every child

TABLE OF CONTENTS

ACKNOWLEGEMENTS

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The GES also wishes to express its deepest gratitude to the Center for Learning and Childhood Development Ghana staff, Sandra Paluku and Esinam Adade for leading data collection and training GES staff and Dr. Kwame Sakyi for overseeing the study, and leading the analysis and writing of this report.

We further wish to thank the District Directors at Builsa North and KAPND for rallying teachers to be trained and participate in this important exercise. Further thanks to all the teachers that were involved in data collection.

Finally, our sincere thanks go to UNICEF and Jacob's Foundation for providing financial support, and specifically, we will love to thank Agnes Arthur, Education Specialist at UNICEF and Timoah Kunchire, Education Officer at UNICEF for their technical and supervisory support on this project

ABBREVIATIONS

CI	Confidence Interval
GES	Ghana Education Service
KAPND	Kwahu Afram Plains North District
KG	Kindergarten
MICS	Multiple Indicator Cluster Survey
OR	Odds Ratio
SEoT	Socio-emotionally on Track
UNICEF	United Nations Children's Fund

LIST OF TABLES

LIST OF FIGURES

INTRODUCTION

Report Overview and Summary

This report highlights key results from the baseline evaluation of the Community of Excellence Program (CEP) led by UNICEF and the Ghana Education Service (GES). The CEP is a teacher- and community-focused intervention to improve children' socio-emotional development in the Kwahu Afram Plains North District (KAPND), Eastern Region, and the Builsa North District, Upper East Region of Ghana. The report has three parts. **Part 1** covers characteristics of the school, teachers, and children that were involved in the study.

Part 2 provides estimates of the percentage of children who are socio-emotionally developmentally on track (SEoT) overall and disaggregated by school, class, teacher, and children characteristics. **Part 3** showcases results of the key determinants of childrens' socioemotional development in the two districts. The data that inform this report are drawn from quantitative and qualitative interviews conducted in January 2023.

A total of 540 children randomly selected from 30 schools participated in this study. All responses were provided by teachers. The estimated percentage of children whose socio-emotional development was on track was 63%, which is **four points lower** than the national average of 67% . However, there are disparities across the two districts. In Builsa North, the percentage SEoT was about 6 percentage points higher than the national average (73%), but in KAPND, it was 14 points lower than the national average.

This result suggests that more needs to be done to support the socio-emotional development of children in KAPND. Part of the difference between the two districts could be explained by the number of teachers who have received any in-service training from UNICEF.

The results indicate that about 96% of teachers from Builsa North reported being trained by UNICEF in the past six months compared to 79% from KAPND. In addition, the percentage of children who were SEoT was 11 points higher among UNICEF-trained teachers in Builsa North compared to KAPND (71% vs 60%).

When the two districts are combined, **the significant predictors of SEoT were gender, the number of teachers in the classroom, and a child's overall health**. Female children were more likely to be on track than males. Children who had two or three teachers in the classroom had greater odds of being on track compared to those who had one teacher. This finding could be linked to the average class size. The mean class size in this sample was 41; thus, children with more teachers may have had more attention and supervision to guide their development. Children whose teachers rated their health as being poor fared worse than the overall sample. Less than 40% of them were on track in meeting their socio-emotional milestones.

At the district level, the factors that predicted children' socio-emotional development differed significantly. In Builsa North, only training received by UNICEF in the past six months was the most significant determinant. In KAPND, it was both the child's overall health and the number of teachers in the classroom. The **most startling finding** was that in KAPND, the odds or chances of a child being SEoT was reduced by 95% comparing children who were rated as having poor health compared to those who were rated as having excellent health.

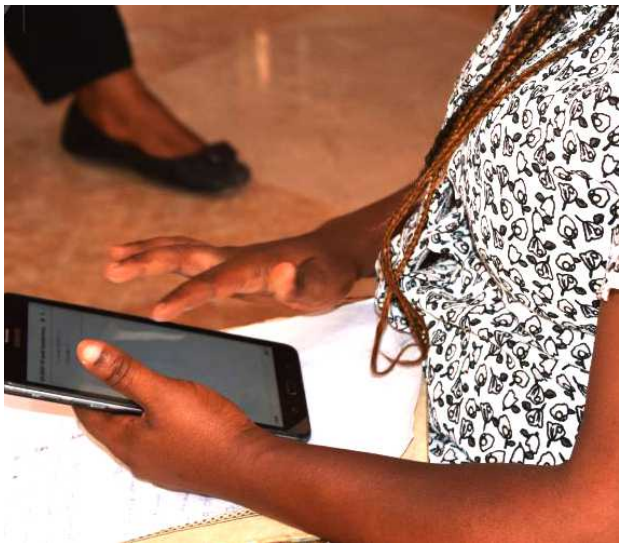
The qualitative results demonstrate that challenges within the familial environment, school-related factors, and geographic and environmental drivers affect children's socio-emotional development in the two districts. The familial challenges mentioned primarily related to **parenting** (e.g., poor parenting styles, lack of affection and care), and **resources at home** (poor socioeconomic status/poverty). The school factors mentioned related to **teacher attitudes and support systems** (e.g., verbal abuse, lack of critical supervision), **school readiness** (lack of preschool or early childhood teachers), **peer influences** (e.g., modeling, bullying), and **children's high expectations** of teachers transferred from urban centres. Environmental factors highlighted included geographic and seasonal variations (e.g., rainy vs. dry season) and inadequate economic resources (e.g., communal poverty, hunger).

In conclusion, the results show that overall, the percentage of children on track varies by location, with children in KAPND needing more support. Children's health, gender, and resources at the school level, particularly the number of teachers in a class, are important factors to tackle. Teachers recognize that the factors that can positively drive children's socio-emotional development are multifaceted and may go beyond training teachers. Nevertheless, the results also demonstrate clearly that teacher training is a necessary ingredient, particularly in Builsa North.

PRE-SURVEY ACTIVITIES

Training and Capacity Development

Selected teachers and supervisors undergoing training at Builsa North District



KG Teacher doing online data entry at KAPND

The data collection management team worked closely with the GES District Directors at each site to select and train teachers. In each district, the Directors guided the team to randomly select a representative sample of participating schools and their corresponding kindergarten (KG) teachers.

They also disseminated information about the evaluation to all the participants and helped plan and execute the training sessions. They were involved in welcoming participants and highlighting the significance of the CEP and its evaluation.

A total of 60 teachers and 15 supervisors were trained across the two Districts: 30 teachers and 8 supervisors from KAPND, and 30 teachers and 7 supervisors from Builsa North District. From each school, three teachers were selected. Two KG teachers and one non-KG teacher were selected, with latter serving as a neutral supervisor of data collection.

Teachers were trained on the process of random selection, methods of evaluation, use of tablets for data collection, socio-emotional development, and data entry. The format of the training included didactic instruction, group discussion, review of materials, and role play

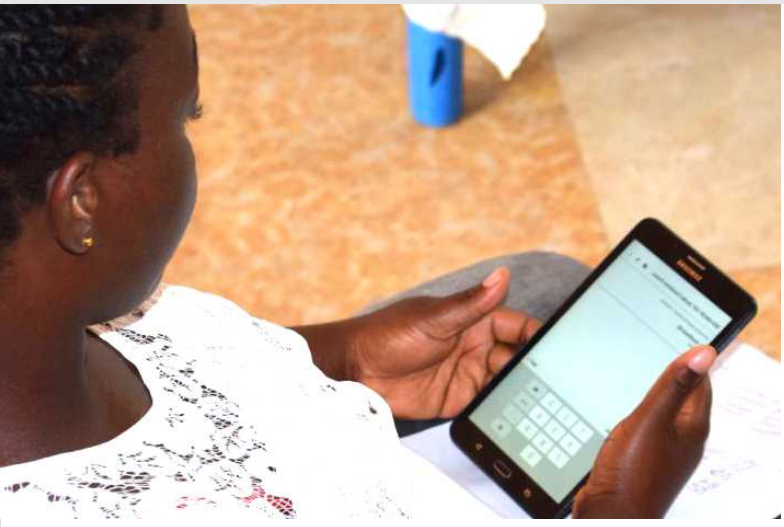
SURVEY IMPLEMENTATION AT A GLANCE

Evaluation Design

- **Primary objective:** Evaluate the Community Excellence Program
- **Specific objective:** Conduct baseline assessment of study participants
- **Evaluation design:** Pre and Post Intervention Design, with no control group
- **Number of Districts Selected:** 2
- **Names of Districts:** Builsa North and Afram Plains North District
- **Sampling Design:** World Health Organization 30-by-7 design
- **Type of Sampling:** two-multistage, random sampling
- **Number of schools selected:** 15 per district
- **Sampling Strata:** Class--Kindergarten 1 vs. Kindergarten 2
- **Types of Data Collected:** Survey and Qualitative Data

Data Collection at a Glance

- **Data Collection Period:** January 2023
- **Average number of children selected per class:** 10
- **Total Sample Size:** 540 children aged 2 to 10 years
- **Survey Respondents:** Teachers of KG1 and KG 2
- **Format for Data Collection:** Tablet; in-person
- **Main Outcome of Interest:** Baseline prevalence of children socio-emotionally on track
- **Tools for assessing socio-emotional development:** UNICEF's Early Childhood **Development**
- **Index Tool;** Strengths and Difficulties Questionnaire
- **Quantitative Data Collected:**
  - School Characteristics: location, district, public or private,
  - Class Characteristics: number of children, number of teachers
  - Teacher Characteristics: experience, training, age, years of teaching, gender
- **Children Characteristics:** health, socio-demographic, nutrition



RESULTS

SAMPLE AND SURVEY CHARACTERISTICS

A total of 542 children were enrolled in the baseline evaluation. The unweighted percentage and descriptive statistics of the sampled schools and their teachers are presented in Table 1 and that of the children are presented in Table 2.

Table 1. Socio-demographic Characteristics of Selected Schools, their Classroom composition, and Teacher Variables

Variable Name	Frequency	Unweighted percentage
SCHOOL AND CLASS LEVEL CHARACTERISTICS		
District		
Kwahu Afram Plains North District, Eastern Region	245	45.20%
Builsa North, Upper West Region	297	54.80%
Location of School		
Peri-Urban	66	12.18%
Rural	476	87.82%
Number of teachers assigned to KG1 or KG2 class		
1 teacher	496	91.51%
2 or 3 teachers	46	8.49%
Continuous Variables	**Mean**	**± SD**
Total number of children in class	40.71	± 19.38
Number of boys-to-girls ratio	1.06	±.42
Variable Name	**Frequency**	**Unweighted percentage**

TEACHER-LEVEL CHARACTERISTICS		
Teacher's highest education level		
MSCL	11	2.03%
Secondary	9	1.66%
Tertiary and above	522	96.31%
Training received and in-service training by UNICEF in the past six months		
Yes	482	88.93%
No	60	11.07%
Continuous Variables	**Mean**	**± SD**
Years of teaching	12.65	± 8.80
Teacher's age	38.38	±9.48

Key Messages

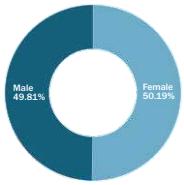
A total of 297 children (45.20%) and 245 children (54.80%) were recruited from Builsa North (BN) and KANDP, respectively. Approximately 12% of the schools sampled were in peri-urban areas, while 88% were in rural areas

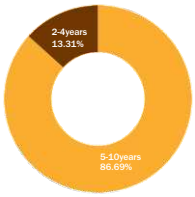
The teachers who evaluated the children were older, highly educated with several years of experience, and had high children to teacher load. The average years of teaching experience was 13. Almost all (96%) of the teachers had a tertiary education or higher. Only 2% had Middle School Leaving or Secondary School Level certificate. On average, teachers taught 41 children per class (mean=40.71, SD=19.38). Most teachers (91.51%) taught a class by themselves, and 8.49% taught in groups of two or three. Only one class had three teachers

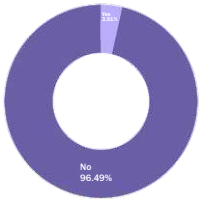
About 8 in 10 of the teachers had reported receiving training from UNICEF in the past month

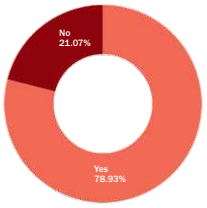
Table 2. Characteristics of Children Sampled in the Study

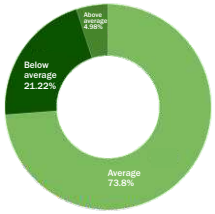
Characteristic	Frequency	Unweighted percentage
SOCIO-DEMOGRAPHIC CHARACTERISTICS		
Child's gender		
Male	269	
Female	271	
Age group (years)		
2-4 years	72	
5-10 years	469	
Any Disability?		
Yes	19	
No	233	
Living with both parents?		
Yes	427	
No	114	
Household economic status		
Above average	27	
Average	40	
Below average	115	
Class		
Kindergarten 1	259	
Kindergarten 2	283	

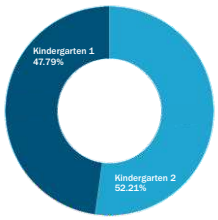










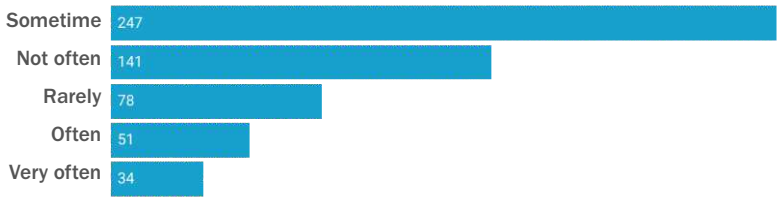


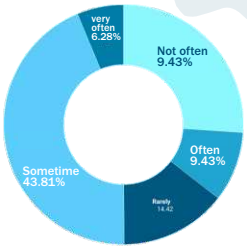
Continuous Variable	Mean(± SD)	Standard error
Number of days a child missed school	16.87 (± SD)	1.39

Frequency | Unweighted percentage

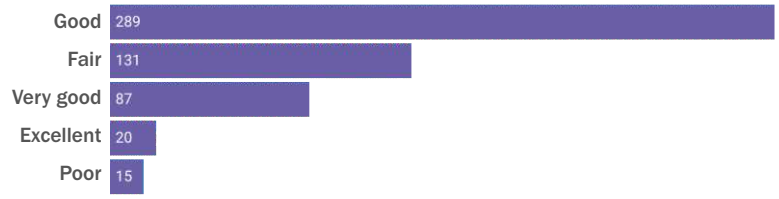
HEALTH AND NUTRITION FACTORS

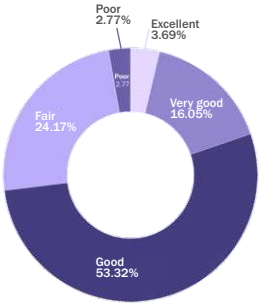
Energy to participate in class activities



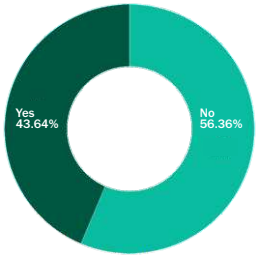


Rating of child's overall health?

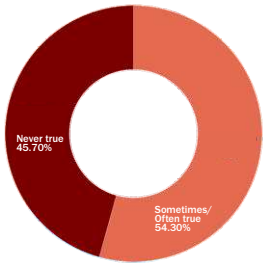




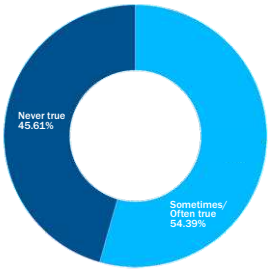
Food Insecure



Within the past month, did the child worry that the food at home will run out before his/her parents/ guardians are able to get more?[1]



Within the past month, did the child worry about how hard it is for his/her parents/guardians to get enough food for his/her family?



[1] Only Children in Builsa North were asked

Key Messages

The majority of the children evaluated were female, had no disability, lived with their biological parents, and were from average income households. Specifically, 50.19% were female, 96.49% were reported to have no disability, and 78.93% were living with their biological parents. Relative to their peers, only 4.98% came from economically above-average households. The majority (73.80 %) were from average economic status households and 21.22% were from low economic status households

Most children were in Kindergarten 1 (47.79%), were between the ages of 5-10 (52.21%), and had missed on average about 2 days of school during the last term

·Children' level of energy to participate in school activities is a proxy for their nutritional status and overall health. About 1 in 4 children (24%) often did not have energy to participate in class activities. Relatedly, teachers rated about 1 in 3 children's health (26.94%) to be fair or poor. Only 3% of children' health was rated as excellent.

Over half (56.36%) of the children in Builsa North were rated as food insecure. Food insecure is defined as endorsing **either of or both** of these two statements as "sometimes true" or "often true": (1) Within the past month, did the child worry that the food at home will run out before his/her parents/guardians are able to get more, (2) Within the past month, did the child worry about how hard it is for his/her parents/guardians to get enough food for his/her family?[2]

[2] Only Children in Builsa North were asked

Figure 1: Weighted percentage of children who gets along with other children; are distracted easily, kicks hits and bites; and are socioemotionally- developmentally on track

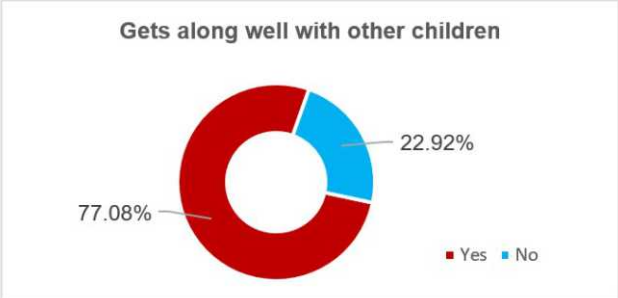


Figure 1a: Weighted percentage of children who gets along with other children

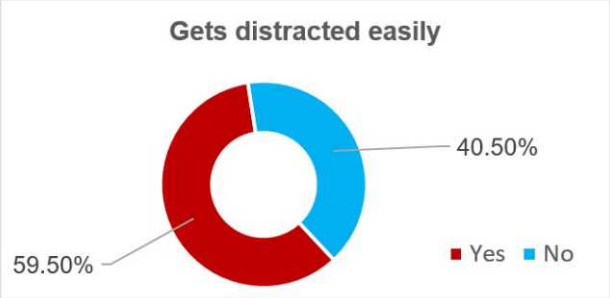


Figure 1b: Weighted percentage of children who gets along with other children

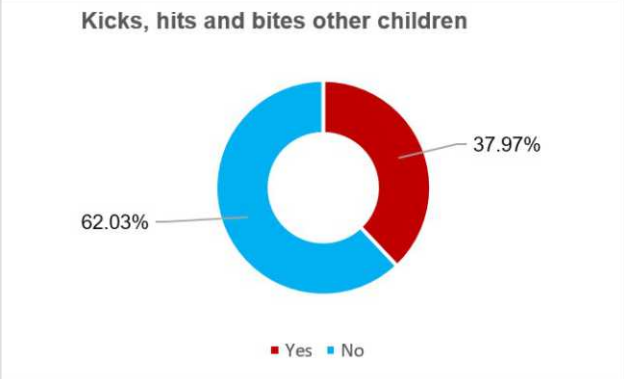


Fig 1c: Weighted percentage of children who kicks, bites or hits other children

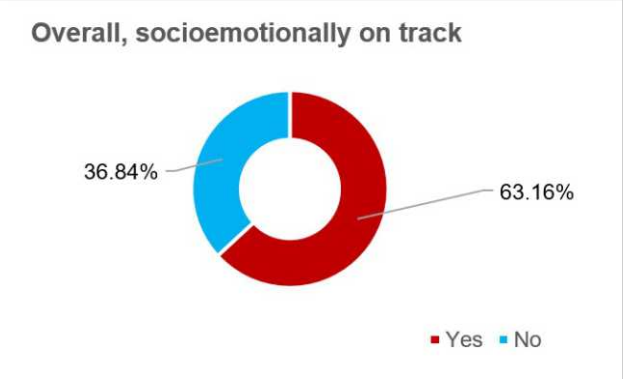


Fig 1c: Weighted percentage of children who are developmentally on track socio-emotionally

Key Messages

Children's socioemotional development was evaluated based on the early childhood development index used in the Multiple Indicator Cluster Survey. To be socio-emotionally on track, the children should meet two out of the three items on the scale: (1) Does not kick, hit, or bite, (2) does not get distracted easily, (3) gets along with others

About 77% got along well with others and 23% did not. Close to two-thirds (60%) were easily distracted and a little over a third (38%) bit, kicked, and hit others

About 63% of the children sampled were socio-emotionally on track and 37% were not. Those on track met two out of the three socio-emotional behaviors

The percentage of children who were socio-emotionally on track is 4% points lower than the national average (67%), according the 2017-2018 multiple indicator cluster survey

PART 2: CHILDREN SOCIO-EMOTIONAL DEVELOPMENT BY SCHOOL, CLASS, TEACHER AND CHILDREN CHARACTERISTICS

Socio-emotional development disaggregated by School, Class and Teacher Characteristics

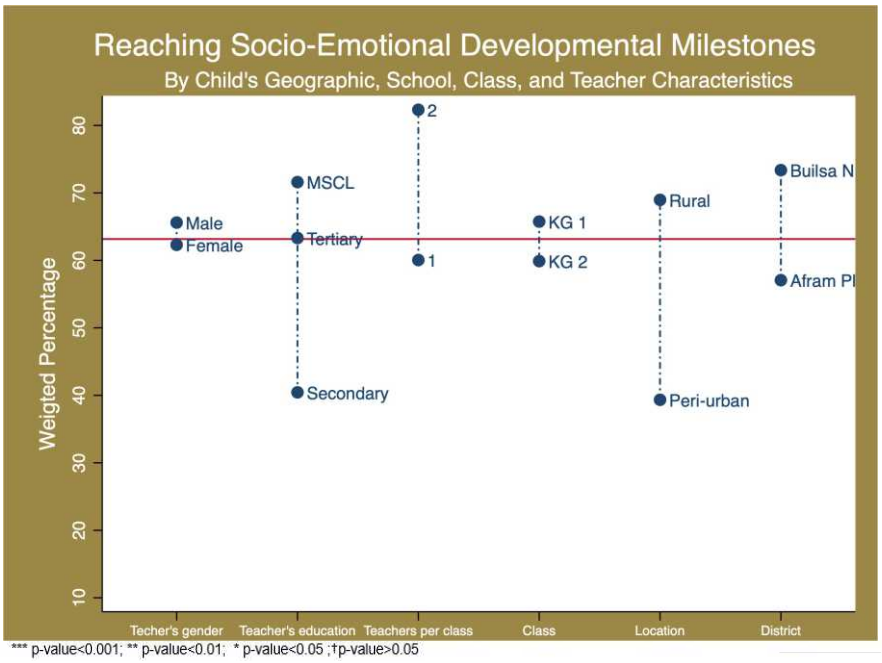


Figure 2: Weighted percentage of children who meet their socio-emotional developmental milestone by school, class, teacher characteristics; N (540)

[3] 2017-2018 MICS

Key Messages

The percentage of children who were socio-emotionally on track (SEoT) were 16 percentage points more in Builsa North than in KAPND (73.37% vs. 57.07%).

Although children in rural areas often fair less than those in urban and peri-urban areas on several measures on children's wellbeing, in this sample, more children in rural areas were developmentally on track than those in peri-urban areas (68.97% vs. 39.34%)

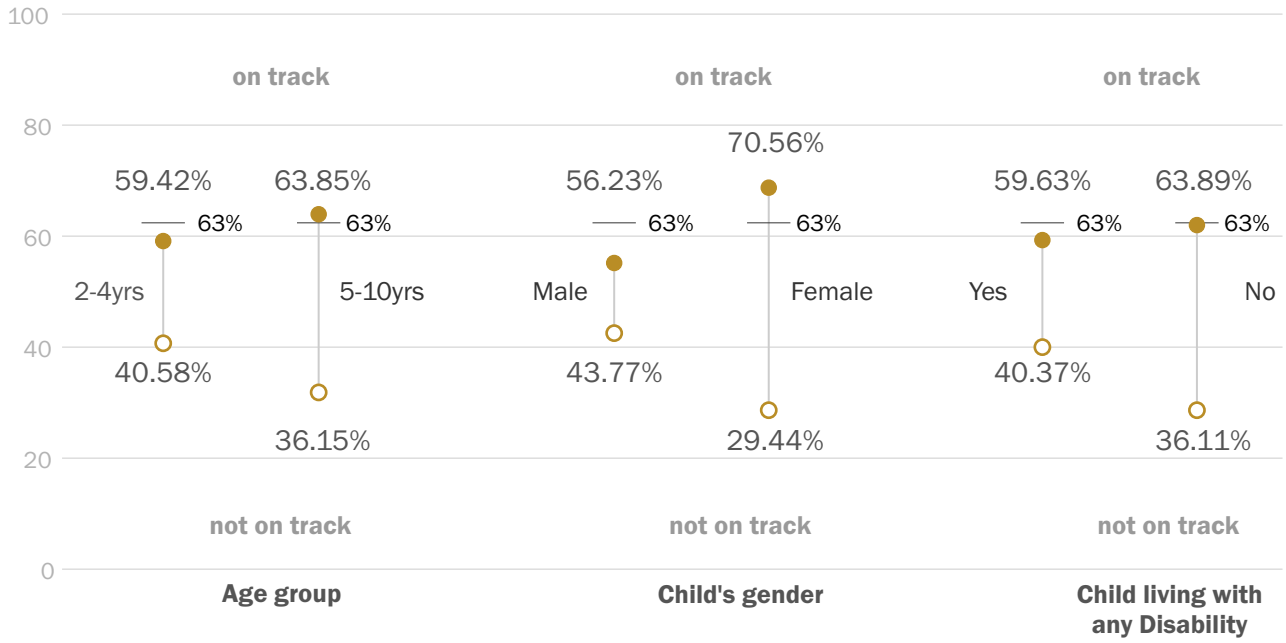
Surprisingly, more children who were SEoT were taught by teachers with MSLC (71.6%) compared to teachers with secondary level education and tertiary level of education. Specifically, 71.6% children taught by teachers with MSLC were SEoT, compared to 40.44% teachers with secondary education and 63.32% with tertiary education

The percentage of children on track differed by whether their teachers have received training from UNICEF or not (65.86% vs. 51.09%) and by number of teachers in the classroom. About 82.32% of those who had 2-3 teachers in their class were on track compared to 60.05%of those who had only 1 teacher

The percentage of children SEoT were similar for those in KG1 and KG2, as well us by the gender of children teachers

Table 3. Percentage of children in Builsa North and KAPND who meet their socio-emotional developmental milestone by school, class, and teacher Characteristics

Continuous variables	On Track Mean (SE)	Not on Track Mean (SE)
Total number of children in class	39.39 (±3.08)	42.10 (±3.08)
Number of boys to girls in the classroom	1.05 (±.05)	1.05(±.05)
Years of teaching	12.25(±1.60)	13.33 (±1.60)
Teacher's age	37.92 (±9.43)	39.18 (±9.43)



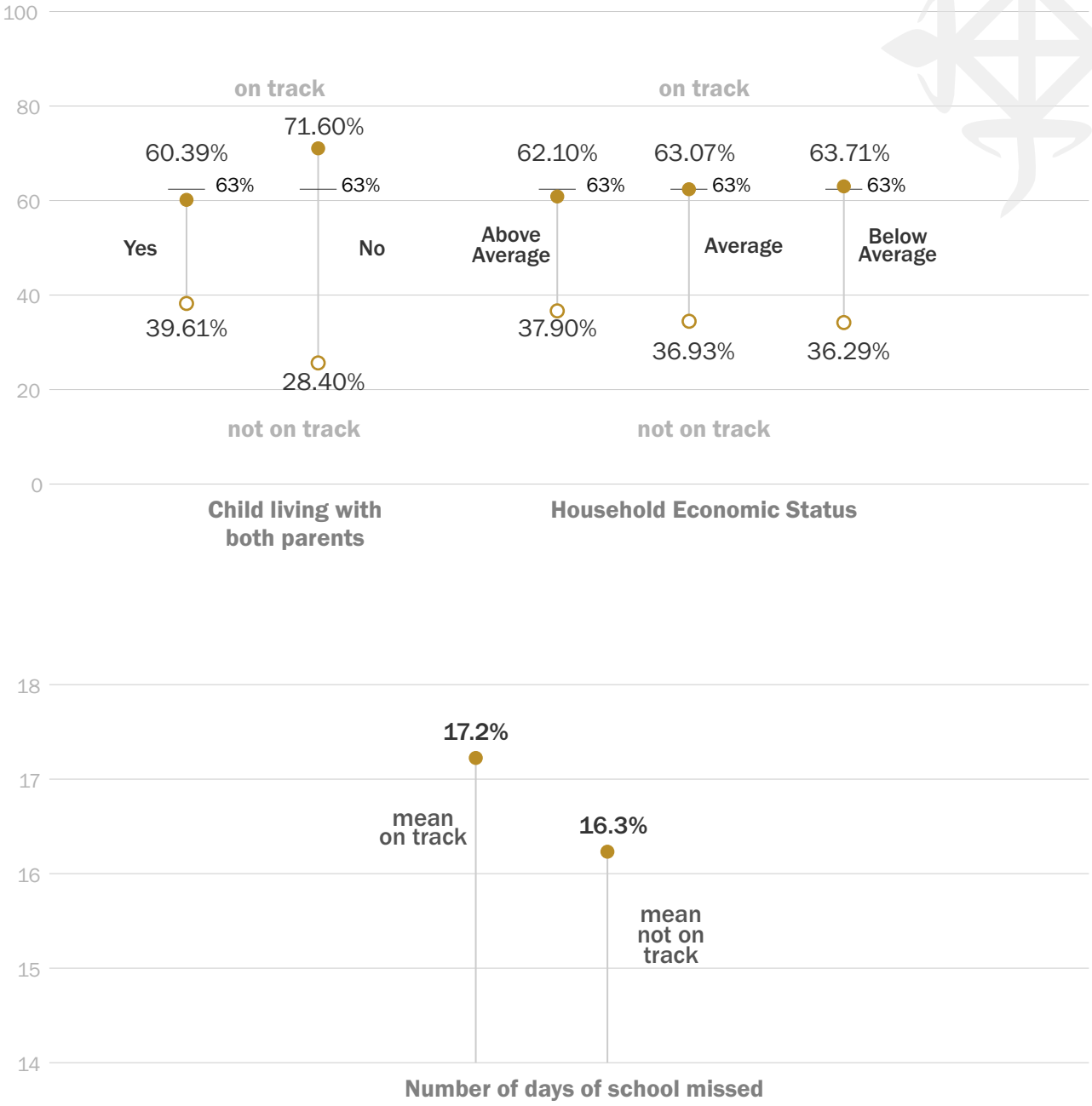


Figure 3. Weighted percentage of children in BN and KPAND who met their socio-emotional developmental milestone by children socio-demographic characteristic

Key Messages

The percentage of children whose socio-emotional development was on track differed by individual, school, class, and teacher characteristics

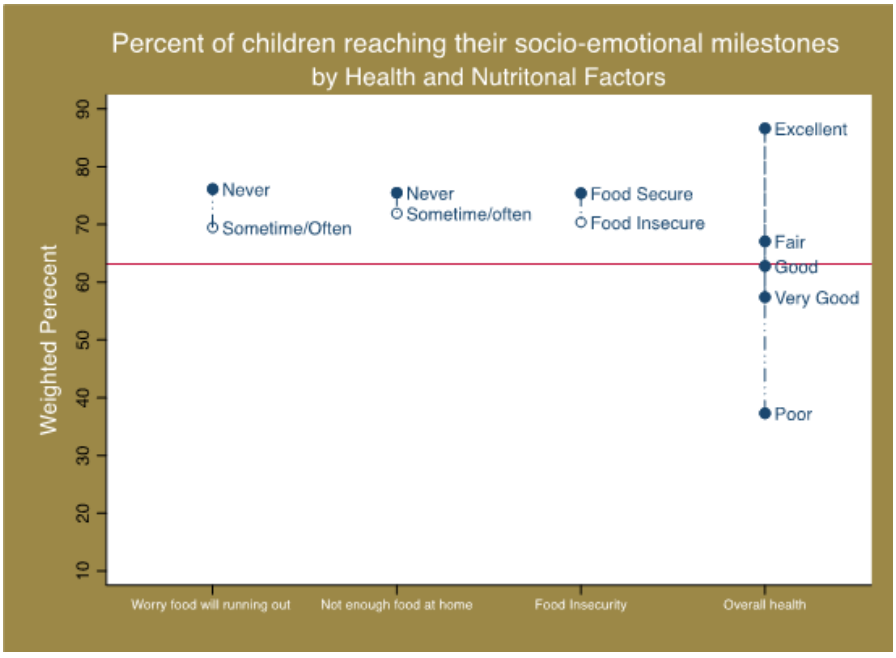
As shown in the graphs above, approximately 59% of children aged 2-4 years met their socio-emotional developmental milestone compared to 64% of children aged 5-10 years of age

The percentage of female children who were socio-emotionally on track was about 14 points higher than those of male children who were on track (females: 70.56% vs males: 56.23%). Similarly, the percent of children without a disability who met their SE milestones was 20-percentage points higher than those who did have a disability (63.89% vs. 40.37%).

Among the children living with both biological parents, 60.39% were socioemotionally on track, but 39.61% were not. For those not living with both their parents, 71.60% met their socio-emotional developmental milestone and 28.40% did not

Disaggregated by economic status, the percentage of children SEoT were very similar, hovering around 62 to 64%.

Although it seems that the mean number of days children who were on track missed school was higher, this difference is not statistically significant



SEoT by Nutrition and Health Factors

Figure 4. Percentage of children in Builsa North and KAPND who are SEoT by health and nutritional factors

Key Messages

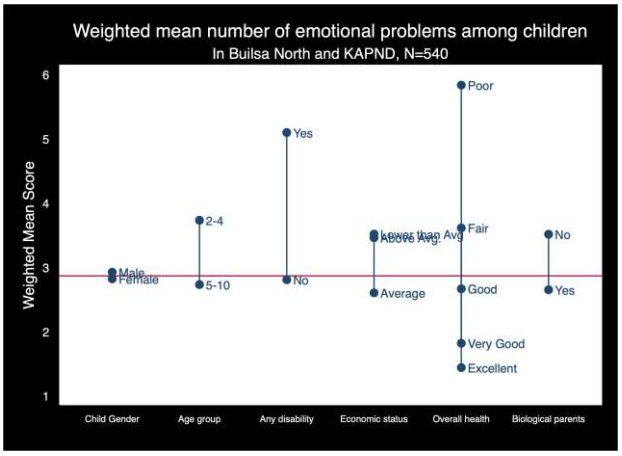
Although children who were food secured had a higher percentage of being SEoT, the difference between them and children who were food insecure was very small, about 2%.

Children with excellent health had the highest percentage (86.65%) of being on track on their socioemotional development compared to children's whose health was rated as poor (37.32%).

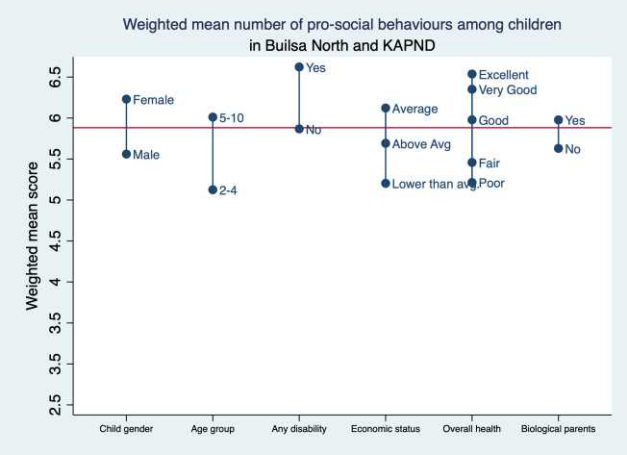
† p>0.05, not statistically significant

Part 3: Type of Socioemotional Problems by Selected Child Characteristics

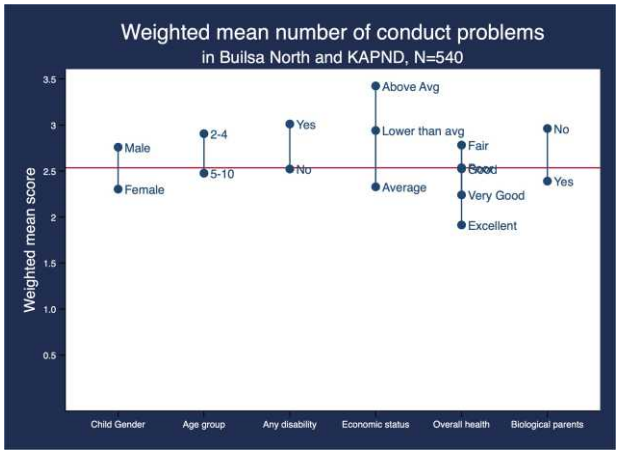
A. Emotional Problems



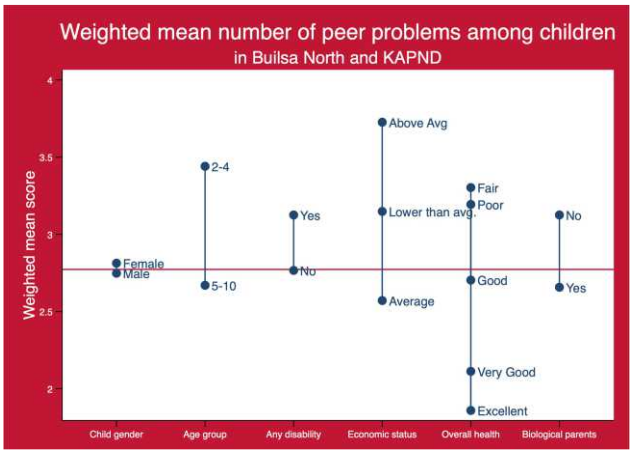
B. Prosocial skills



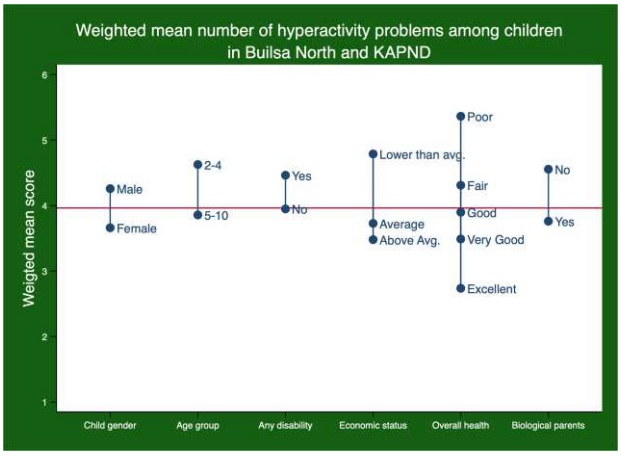
C. Conduct Problems



D. Peer problems



E. Hyperactivity



Key Messages

Socio-emotional challenges have different dimensions, including emotional and behavioral problems. In this study, these dimensions was assessed using the Strengths and Difficulty questionnaire, a scale widely used in child development. All the items presented here are scored on a continuous scale with higher mean scores indicating more elements of the dimension. Children with prosocial skills are helpful when someone is hurt, considerate of others, shares, are kind, and helpful. Those who have emotional problems worries a lot, are unhappy, complaint of physical illness, clingy and easily afraid. Those who have conduct problems throw tantrums, are involved in fights, tell lies, and steams. Those who are hyperactive are restless, fidgety, easily distracted an inattentive. Those with peer problems are often lonely, unpopular, bullied and do not have a friend

On all the types of socioemotional dimensions (emotional problems, prosocial skills, conduct problems, peer problems, and hyperactivity), children with disabilities had a high mean score

With the exception of prosocial skills, children aged 2-4 scored higher on all the of socio-emotional problems

The mean score for males and females on peer and emotional problems were not significant. However, males scores averagely high on hyperactivity and conduct behaviors. This is not surprising given that females generally have a lower prevalence of conduct disorders and hyperactivity than males

Children whose health ranged from excellent to good performed better in terms of prosocial behavior

The graphs revealed a significant mean difference between children who lived with their biological parents and those who did not. Those who did not leave with their biological parents had higher means scores on emotional, conduct problems, peer problems and hyperactivity

Those from above average households had averagely high levels of prosocial skills whilst those from lower and above average households had higher mean scores on emotional problems, social problems, hyperactivity and conduct problems

Based on the variables collected, we determined which factors are associated with an increased odds of being developmentally on track

Table 4: Predictors of socio-emotional development in both Builsa North and Afram Plains North District

Descriptive characteristics	Crude OR [95% CI]	p-value	Adjusted OR [95% CI]	p-value
Gender				
Male	.54 [.31-.92]	.02	0.51 [0.27-0.95]	0.03
Female	1.00 (ref)		1.0 [ref]	
Living with biological parents				
Yes	0.60 [.35-1.04]	.07	0.72 [0.40-1.31]	0.28
No	1.00 (ref)		1.0 [ref]	
Energy to participate in class activities				
Often	.90 [.36-2.25]	.81	0.91 [0.40-2.09]	0.82
Rarely	1.14 [.54-2.37]	.73	1.27 [0.57-2.82]	0.55
Sometimes	.56 [.29-1.09]	.09	0.59 [0.31-1.12]	0.11
Very often	.73 [.30-1.77]	.48	0.83 [0.37-1.87]	0.65
Never	1.0 [Ref]		1.0 [ref]	
Children overall health				
Poor	.09 [.11-.74]	.03	.06 [0.10-1.07]	0.01
Fair	.31 [.05-1.10]	.18	.22 [0.06-1.75]	0.07
Good	.26 [.04-1.46]	.12	.19 [0.01-.74]	0.045
Very Good	.18 [.05 - .85]	.03	.19 [.05 - .85]	0.02
Excellent	1.00 (ref)		1.0 [ref]	
Number of teachers in the classroom				
1	1 [ref]		1 [ref]	
2 or 3 teachers	3.09 [1.72-5.56]	<0.0001	3.29 [1.57-6.91]	0.001
Teachers level of education				
Secondary	0.27 [.11-.64]	.000	0.56 [0.13-2.37]	0.43
Tertiary and above	0.68 [.42-1.10]	.012	0.16 [0.47-2.87]	0.074

Descriptive characteristics	Crude OR [95% CI]	p-value	Adjusted OR [95% CI]	p-value
MSCL	1.00 [ref]		1.0 [ref]	
School District				
Builsa North – Upper East	2.07 [1.02-4.17]	0.04	1.63 [0.71-3.74]	0.24
KANPD – Eastern Region	1.00 [ref]		1.0 [ref]	
School Location				
Rural	3.43 [1.91-6.16]	0.00	2.02 [.86-4.73]	0.10
Peri-urban	1.00 [ref]		1.0 [ref]	
Teachers trained by UNICEF				
Yes	1.85 [.87-3.90]	0.105	1.53 [.69-3.41]	0.28
No	1.00 [ref]		1.0 [ref]	

*CI is confidence interval

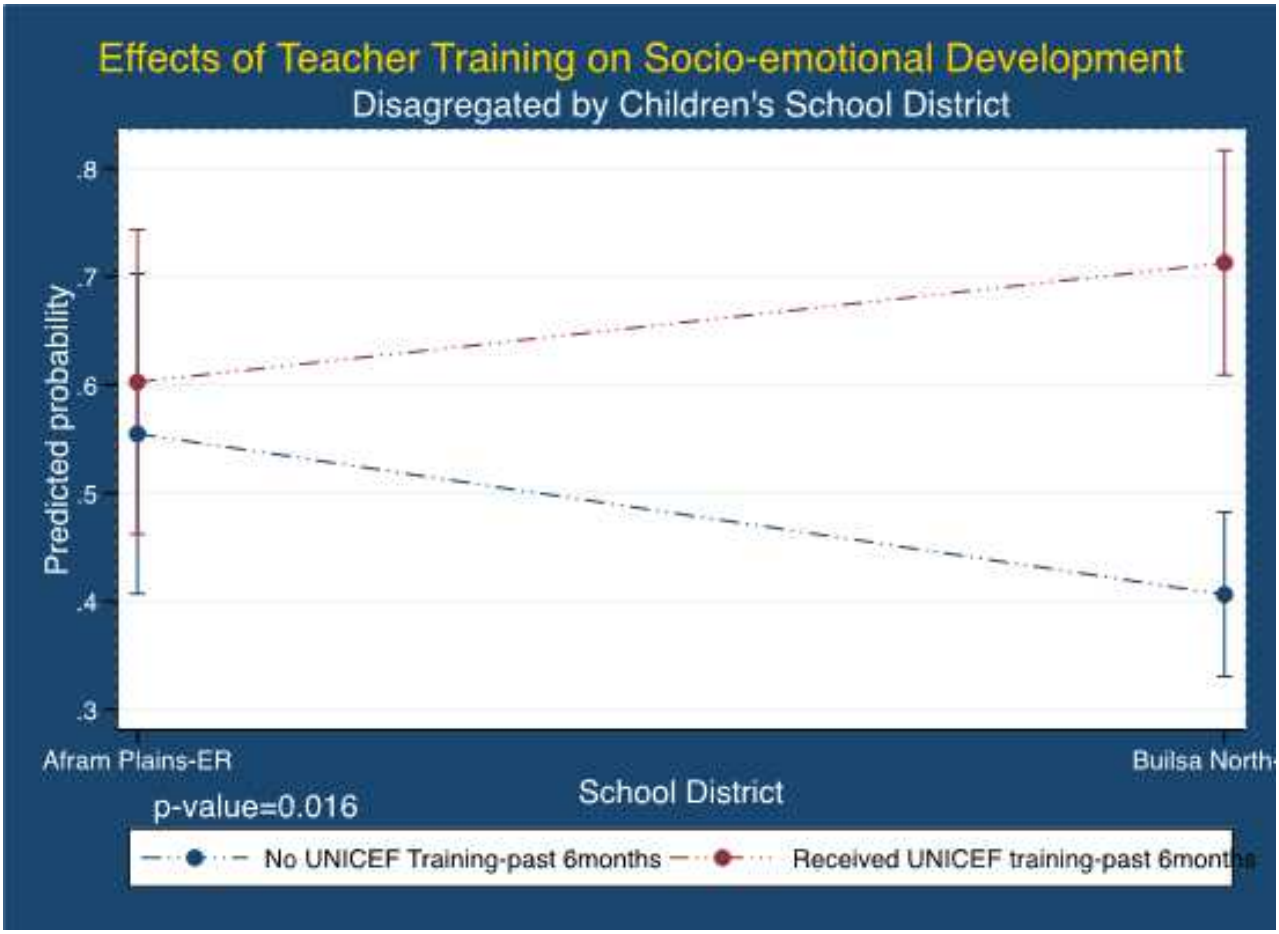


Fig 5 Predictive probability of being socio-emotionally on track by UNICEF-teacher training status in the past 6 months disaggregated by school district.

Notes to the Results

Table 4 is an output from a logistic regression model. The goal of this model is to predict or identify the factors that contribute to or are related to children's socio-emotional development. Building a model is important because it helps account for confounding factors, that is, variables that are related to the predictors and outcome. When we account for all the important factors, some associations may be important, and others may not. For example, a children scores high on a homework assignment because he was helped by his senior brother. Another children scores poorly on the assignment because he did not receive any help. To assess the children fairly, it is important to make sure that each child does not receive help. The assignment should be performed in a controlled environment where each child does not receive help. Accounting for confounding is like this analogy. When a model is built, controlling for confounders enables each factor to be assessed independently.

This model also accounted for how the study was designed (multistage sampling)[4]

In this analysis, we took three main steps to predict the odds of a child meeting the socio-emotional milestones

Step 1 (Crude analysis): First, the relationship (odds ratio) between each child teacher, class, and school was examined. For simplicity, not all the results are shown here. The probability of rejecting the null hypothesis that there is no difference between each factor (variable) and socio-emotionally development was first set at <0.2 (p-value less than or equal to 0.2). The results from this first analysis is called crude or bivariate analysis. Factors that met this criterium are shown in Table 5XX.

The values calculated from this first step is called Crude Odds Ratio (OR). An odds is a value calculated by taking the number of individuals who possess the outcome (on track) and dividing it by the number of people who are not (not on track).

When the odds of two groups are compared (that is divided), the resulting number is called an odds ratio (OR). When an OR is greater than 1, then the odds of achieving the outcome is higher or increases, in this case, socio-emotional development milestone (for example, see the effects of the number of teachers in a classroom). If it is less than 1, then it means that the odds of meeting the outcome is reduced (see teachers education level, for example).

Step 2 (Multivariate analysis): the variables that met the first criteria were then carried forward for a further, second analysis, called multivariate analysis. The numbers that are calculated from this model is referred to as an adjusted Odds Ratio because many factors are considered at once.

[4]Technical note: The analysis was adjusted for complex survey design. The analysis was performed in Stata 17. Variance was estimated using Taylor linearization method. The primary sampling unit was the school. The strata was children class.

The cut-off to judge that two groups or individuals are not different was set at a probability <0.05. Every estimate from a model has some uncertainty because the precise number is often unknown. The 95% CI interval is a number that quantifies the uncertainty around each estimate. Wide confidence intervals indicate that the estimate is less precise. In this study, the confidence interval around each variable is relatively narrow, indicating a
precise estimate.

Step 3: Given that training teachers may have a significant bearing on the baseline results, and that differences in region may exist, we examined if the effects of training was different for each district. This analysis approach is called effect modification. We found that the effects of teachers being trained on children's socio-emotional development differed by district. We estimated the probability of reaching SEoT. That result are presented in figure 5

Key Messages

When the two districts are combined, **the most significant predictors of children's socio-emotional development were their gender, the number of teachers who taught in their classroom, and the child's overall health**

Specifically, the odds that male children were SEoT was reduced by 49% compared to female children suggesting that female children are more likely to be SEoT than males

The odds of being SEoT for children who were evaluated as having poor health was reduced by 91% compared to children who were evaluated as having excellent health, adjusting for key variables

We did not find years of teaching, teachers' level of education, children disability status, the school district, location of school, age group of the children, number of days of missed school, or nutritional factors to be associated with being SEoT in this sample

Table 5 Selected Key Determinants of SEoT in Afram Plains Alone

Variable	Adjusted OR [95% CI]	p-value
Gender		
Male	.47 [.20 -1.11]	0.084
Female	1.00 [ref]	
Children overall health		
Fair	.29 [.061-1.43]	
Poor	.05 [0.004 -.68]	0.03
Good	.24 [0.046 -1.28]	0.09
Very Good	.18 [1.04-27.34]	0.01
Excellent	1.0 [ref]	
Number of teachers in the classroom		
1	1.0 [ref]	
2 or 3 teachers	5.87 [2.32-14.86]	0.001

*Model additionally adjusts for children's energy level, teacher's level of education living with biological parents, N-540

Selected Key Determinants of SEoT in Afram Plains Alone

[5]Technical note: For this model, we examined collinearity using variance inflation factor. We also examined evidence of effect modification using Wald's test, but we found none
[6]P-value for interaction between teacher training and district =0.016

Variable*	Adjusted OR [95% CI]	p-value
Teachers trained by UNICEF		
Yes	4.44 [2.44 -8.06]	<0.001
No	1.00 [ref]	

*Model additionally adjusts for children's energy level, teacher's level of education living with biological parents, overall health, number of teachers in the classroom, and child's gender

Key Messages

In the Afram plains, only a child's overall health and number of teachers in the classroom predicted children's socio-emotional development

Although males had lower odds (chances) of being on track socio-emotionally, this difference was not statistically significantly different from females. In essence, the results suggest that there is gender parity in socio-emotional development in Kwahu Afram Plains

In Builsa North, however, only receiving training by UNICEF was the strongest predictor of the odds of being SEoT

QUALITATIVE RESULTS

For the qualitative study, themes were generated from teachers' discussion on two main issues: 1) what constitutes socio-emotional development of children, and 2) what causes socio-emotional problems. They discussed these questions in groups and a group leader reported their findings

Key message

Indicators of socioemotional problems in children

Behaviours such as conduct disorders, fighting, bullying, lack of concentration, and hyperactivity were listed as behavioral indications that a child has a socio-emotional problem.

For **social indicators** the teachers mentioned shying away from roles, lack of communication, unfriendliness, refusal to participate in group activities, and refusal to share items with others.

Crying, depression, isolation, apathy/lack of interest, mood swings, irritability, lack of empathy, and poor socialization skills were stated **as emotional indications** that a child has a socio-emotional problem

Causes of socioemotional problems in children

This theme reflects the causes of the emotional problems children go through. Based on the participants responses, a child's socioemotional problem is influenced by familial, school, and environmental factors.

Familial factors include poor parenting styles, broken homes, modelling parents' attitudes, lack of affection and care, poor socioeconomic status/poverty, and lack of critical supervision.

School factors that contribute significantly to socioemotional problems children face are lack of preschool or early childhood teachers, lack of critical supervision, teacher attitudes (verbal abuse and poor observation skills), peer influence, bullying, high learner expectations of teachers transferred from urban centres, and inadequate resources.

Environmental Factors: Changes in seasonal patterns (dry vs. rainy season), poor societal perceptions of education, hunger/poor nutrition, sexual abuse, geographic location, and poor health conditions were mentioned

Conclusion

This evaluation assessed the socioemotional development of children. We found that 63% of the children sampled were socio-emotionally on track and 37% were not. The children sampled from Builsa North were more likely to be socio-emotionally on track than those from KAPND. Gender, the number of teachers who taught the class, and the child's overall health were all significant predictors of children's socio-emotional development.

Female children, children who had excellent health, and children who had two or more teachers in their classroom were more likely to be socio-emotionally on track. This evaluation also shows that familial, social, and environmental factors contribute to socio-emotional development in children

Tables

Table A1: Weighted percentages of key health and nutritional variables
Table A2: Crude and Adjusted Odds Ratio of Being Socio-emotionally on Track by Children, Class, Teacher and School Characteristics
Table A4: Results of interaction between teacher training and intervention district.
Table A4: Predictive Margins of SEoT by District and Teacher training

	Socio-emotional Development On Track (Weighted %)	p-value
Socio-demographic variables		
Child's gender		0.023
Male	56.23%	1.0 [ref]
Female	70.56%	
Age group (years)		0.74
2-4 years	59.42%	
5-10 years	63.85%	
Any Disability?		
Yes	40.37%	
No	63.89%	
Living with both biological parents?		0.068
Yes	60.39%	
No	71.60%	
Household economic status		0.98
Above average	62.10%	
Average	63.07%	
Below average	63.16%	
Health and Nutritional Factors		
Energy to participate in class activities		
Not often	25.1%	0.98
Often	08.96%	

	Socio-emotional Development On Track (Weighted %)	p-value
Rarely	16.74%	
Sometime	43.13%	
Very often	6.00%	
Rating of child's overall health?		
Poor	37.32%	0.15
Fair	67.09%	
Good	62.80%	
Very Good	57.43%	
Excellent	86.65%	
Food insecure		
Yes	51.56%	0.43
No	48.44%	
Within the past month, did the child worry that the food at home will run out before his/her parents/guardians are able to get more?		
Never true	76.15%	.264
Sometimes/Often true	64.99%	
Within the past month, did the child worry about how hard it is for his/her parents/guardians to get enough food for his or her family?		
Never true	75.53%	0.60
Sometimes/Often true	71.941%	

Table A2: Crude Odds Ratio and Adjusted Odds Ration of Being Socio-emotionally on Track in Both Builsa North and Kwahu Afram Plains

Characteristics	Crude Odds Ratio (OR)	p-value	Adjusted OR	p-value
Gender				
Male	.54 [.31-.92]	0.02	0.51 [0.27-0.95]	0.03
Female	1.00 (ref)		1.0 [ref]	
Living with biological parents				
Yes	0.60 [.35-1.04]	0.07	0.72 [0.40-1.31]	0.28
No	1.00 (ref)		1.0 [ref]	
Energy to participate in class activities				
Often	.90 [.36-2.25]	0.81	0.91 [0.40-2.09]	0.82
Rarely	1.14 [.54-2.37]	0.73	1.27 [0.57-2.82]	0.55
Sometimes	.56 [.29-1.09]	0.09	0.59 [0.31-1.12]	0.11
Very often	.73 [.30-1.77]	0.48	0.83 [0.37-1.87]	0.65
Never	1.0 [Ref]			
Children overall health				
Poor	.09 [.11-.74]	0.03	0.56 [.10-1.06]	0.58
Fair	.31 [.05-1.10]	0.18	0.06 [.66-2.14]	-1.90
Good	.26 [.04-1.46]	0.12		
Very Good	.18 [.05 - .85]	0.03	0.98 [0.03]	0.03
Excellent	1.00 (ref)			
Number of teachers in the classroom				
1	1 [ref]			
2 or 3 teachers	3.09 [1.72-5.56]	<0.0001	0.00 [1.57-6.91]	3.22
Teachers level of education				
Secondary	0.27 [.11-.64]	.000	0.43 [0.13-2.37]	0.43
Tertiary and above	0.68 [.42-1.10]	.012		
MSCL	1.00 [ref]			

Descriptive characteristics	Crude OR [95% CI]	p-value	Adjusted OR [95% CI]	p-value
MSCL	1.00 [ref]			
School District				
Builsa North – Upper East	2.07 [1.02-4.17]	0.04	0.24 [.71-3.74]	
KANPD – Eastern Region	1.00 [ref]			
School Location				
Rural	3.43 [1.91-6.16]	0.00	1.66 [.86-.4.73]	
Peri-urban	1.00 [ref]			
Teachers trained by UNICEF				
Yes	1.85 [.87-3.90]	0.11	0.28 [.69-3.41]	
No	1.00 [ref]			

*CI is confidence interval

Note: _cons estimates baseline odds.

Table A3: Adjusted model with effect modification results

	Odds Ratio	Std. Err	t	P>|t|	95% [Conf. Interval]	
Child gender						
Male	0.53	0.16	-2.08	0.04	0.28	0.98
Lives with both parents						
Yes	0.71	0.22	-1.11	0.27	0.39	1.31
Energy						
Often	0.88	0.37	-0.30	0.77	0.38	
Rarely	1.17	0.47	0.39	0.70	0.5	0.29
Overall health						
Good	0.28	0.17	-2.10	0.04	0.82	0.94
Teachers	3.00	1.04	-0.93	0.36	1.49	6.00

	Odds Ratio	Std. Err	t	P>|t|	95% [Conf. Interval]	
Teachers' Education						
Secondary/ Technical	0.56	0.35	-0.93	0.36	0.16	1.97
Tertiary Education and above	1.22	4.86	0.50	0.62	0.55	2.71
School District						
Builsa North-UE	0.51	0.20	-1.72	0.90	0.23	1.17
Location of School						
Rural	2.19	0.87	1.89	0.05	1.00	4.85
Teacher Training						
Yes	1.25	0.51	0.54	0.59	0.55	2.84
Teacher trainings						
Yes#Builsa North -UE	3.43	1.70	2.49	0.02	1.27	9.24
_cons	1.15	0.78	0.20	0.84	0.29	4.50

Note: _cons estimates baseline odds

Table A4: Predictive Margins Table SEoT by District and Teacher Training

		Margin (probability of being SEoT)	Standard Error	t	P>|t|	95% [Conf. Interval]
District	UNICF-Trained in the past six months					
KAPND	No	.6945336	.5414542	7.09	0.000	.3883747
Builsa North	No	.483513	.4037866	10.15	0.000	.3240602
KAPND	Yes	.7273784	.6050092	9.91	0.000	.4826399
Builsa North	Yes	.8120437	.7155392	14.86	0.000	.6190347

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