



US Programs IDELA Pilot Study 2016

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Executive summary

This report reviews results from the first implementation of the International Early Learning and Development Assessment (IDELA) in the United States. Save the Children staff assessed 157 children in schools where Save the Children implements its Early Steps to School Success (ESSS) programs in rural areas of California, Mississippi, South Carolina, and Tennessee.

The IDELA results, in combination with a caregiver survey, paint a fairly positive picture of children's learning and development in the schools surveyed, and highlight the importance of learning opportunities in school and at home. We find that children who had attended an ECD program have significantly higher IDELA scores compared to their peers who had not accessed these services, and also that children who spend more hours in an ECD program each week have significantly higher scores. In addition, we find a positive relationship between the learning activities that parents engage in at home and their child's developmental status, and that children from larger families lag behind their peers from smaller families.

We find that the IDELA instrument performs well in the US context. Internal consistency of the tool is strong (overall Cronbach's Alpha = .90). Also, all domains were significantly and highly correlated with each other, with correlations between core domains ranging from a low of 0.533 (Motor to Emergent Numeracy/Social Emotional) to a high of 0.770 between Emergent Numeracy and Emergent Literacy. The distribution of Total IDELA scores is relatively normal, and does not appear to have substantial "ceiling" effects that would limit the utility of the instrument. Finally, IDELA domains exhibit the expected relationship with age; an additional year of age is associated with a 14-18 percentage point higher score on each of the IDELA core domains.

Introduction

Background

Early Steps for School Success (ESSS) is a Save the Children U.S. Program aiming to improve early childhood development through home visitation. This research is not an impact evaluation of the ESSS program, but utilizes Save the Children's presence in these underserved communities to explore differences in early childhood development and investigate what may contribute to the difficulties children face and the learning gaps that may exist.

Save the Children developed the IDELA tool in response to the lack of a valid, rigorous, and easy-to-use methods of assessing early childhood development in low and middle income countries. Since its public release in 2014, IDELA has been used in over 40 countries. While it has been proven to be a valuable tool in these low-resource settings, it has not been used in highly developed countries. As such, this pilot test sought to answer not only questions about the situation of children in areas where Save the Children works in the United States, but also how useful the IDELA assessment could be in a high income country.

Context

Early Steps for School Success works with at-risk parents and children in rural, under-resourced areas of the United States. ESSS offers parents and children a suite of activities that includes home visitation for

parents during their pregnancies up to 3 years of age, parent-child groups for children across ages, and center-based literacy and school transition activities for 3-5 year old children. Overall, it represents a key piece in Save the Children US's pregnancy to 10-years-old strategy to improve the lives of children.

Research questions

The key research questions explored in this report include:

- 1) What is the status of children's early learning and development in preschools supported by Save the Children?
- 2) What are the relationships between learning and development and home environments?
- 3) How well does the IDELA assessment function as a tool of early learning and development in the United States context?

Methods

Measurement

In this study two main tools were used: the IDELA Child Assessment and the IDELA Caregiver Survey. The IDELA Child Assessment was used to measure children's early learning and development and was administered with direct child observation. Items included in IDELA are listed in Table 1. The IDELA Caregiver Survey is detailed in Table 2.

Table 1. IDELA Child Assessment

Motor Development	Emergent Literacy	Emergent Numeracy	Social-Emotional Development	Other items
Hopping	Print Awareness	Comparison by Size and Length	Friends	Approaches to Learning
Copying a Shape	Oral Vocabulary	Sorting and Classification	Emotional Awareness/Regulation	Inhibitory control
Drawing a Person	Letter Identification	Number Identification	Empathy/Perspective Taking	Short-term memory
Folding Paper	Emergent Writing	Shape Identification	Sharing/Solving Conflict	
	First Letter Sounds	One-to-One Correspondence	Self-Awareness	
	Oral Comprehension	Addition and Subtraction		
		Puzzle Completion		

Table 2. IDELA Caregiver Questionnaire

Section	Description
1. General family information	Sex of child, child age, number of children at home, parental literacy, parental education, languages spoken at home
2. ECCD experience and educational expectations	Child participation in ECCD programs, details of participation, parental expectation and aspirations of child's educational attainment.
3. Access to early learning materials and resources at home	Types of reading materials at home, types of toys at home
4. Parenting practices and support for learning and development	Adults in the home engaging with children to promote learning and development.
5. Caregiver self-efficacy	Attitudes about parent's role in child's development.

Data collection & sample

The IDELA child assessment was conducted in-person by US Programs Save the Children staff with 157 children participating in four states. Data collection began in preschools beginning September of 2016 and concluded in January of 2017. The IDELA child assessment was conducted in 9 ECD centers and preschools in rural areas of California, Mississippi, South Carolina, and Tennessee.

While the schools are all in communities served by the ESSS program, the sample for this research include a majority of children outside of the program. The entirety of each class (through caregivers) were invited to participate in the research. As such, the sample should be considered a convenience sample and should not be considered representative of children from these states, communities, or programs overall.

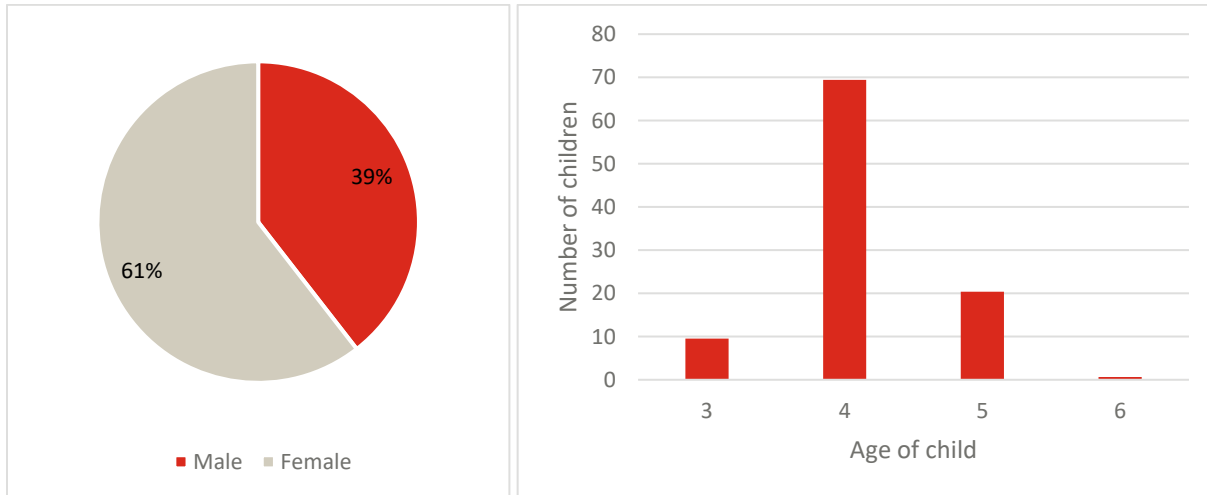
In addition to the child assessment, parents were provided with a caregiver questionnaire to complete by mail. Most parents completed the caregiver questionnaire but 17% (26/157) did not return the caregiver questionnaire.

Table 3. Data Collection by State

State	Both caregiver & child data	Child data only	TOTAL
California	27	7	34
Mississippi	31	5	36
South Carolina	8	9	17
Tennessee	65	5	70
TOTAL	131	26	157

As Figure 1 shows, the breakdown by gender reveals that the majority of student in the sample were female. 95 of the 157 students interviewed for the child assessment were female. Most students (109) in the sample were four years old. There were also 15 three-year-old students and 32 were five years old. A single student in the sample was six years old.

Figure 1. Distribution of Sample by Age and Gender (n=157)



Analysis

The primary purpose of this analysis is to investigate children’s learning and development, and the relationships between learning and development and attributes of parental and home environments.

This analysis covers the following major areas:

First, we present a snapshot summary of the early learning and development status of the average child in the sample. We display the average scores of each subtask in the child assessment, and the composite scores that summarize children’s learning and development in the core domains of Motor Development, Emergent Numeracy, Emergent Literacy, and Social-Emotional Development. In addition the results of the IDELA child assessment, we also briefly outline the performance of the tool from a technical perspective.

Next we report a snapshot of the home situation of children as reported on the caregiver questionnaire. Here, we present information pertaining to the home environment of the average child and examine the variation within the sample.

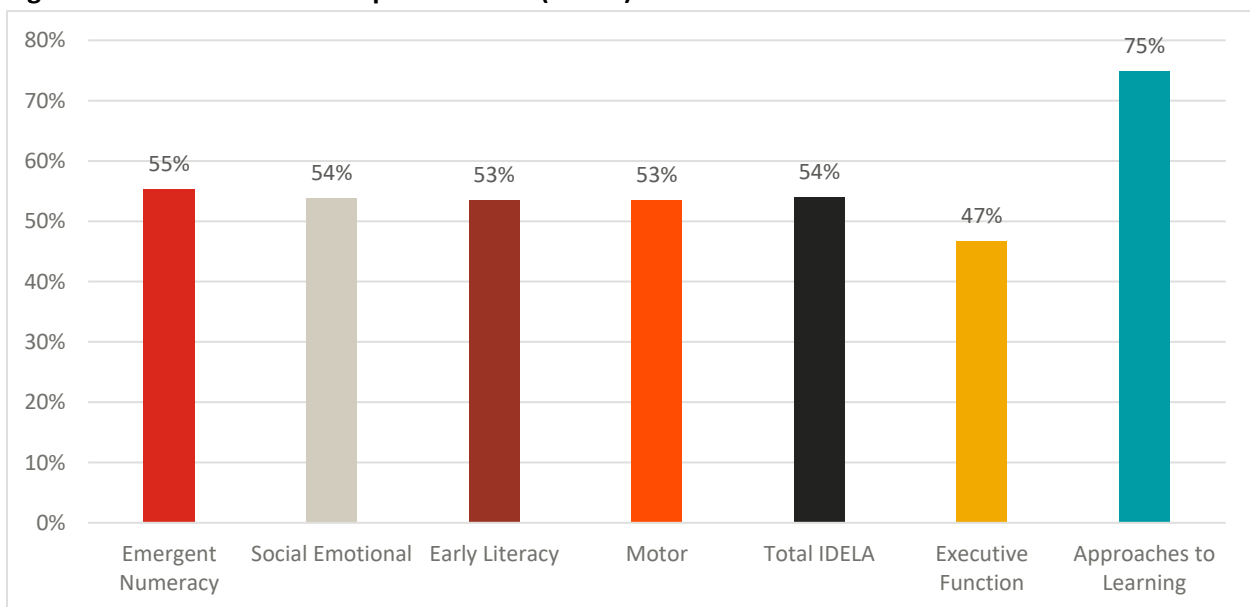
This report concludes by examining the relationship between children’s learning and development status and their home environment as reported by the caregiver’s survey. We build several multivariate regression models to examine how developmental status is related to theorized factors that contribute to or inhibit growth and development at home.

IDELA Child Assessment Results

The 22 core subtasks of IDELA are organized into the four domains of Motor Development, Emergent Numeracy, Emergent Literacy, and Social-Emotional Development. Domain scores are calculated as an average of subtask performance. An unweighted average of domains is calculated to create a Total IDELA score to report children’s overall early learning and development.

In addition to the four core domains, assessors also mark additional short-term memory and inhibitory control items as a proxy for Executive Function and report observations on children’s persistence and engagement as a measure of their Approaches to Learning. These domains are less rigorously tested and validated than the core IDELA domains and are not yet part of the total IDELA composite. However, these observations can help provide a more holistic picture of children’s early learning and development.

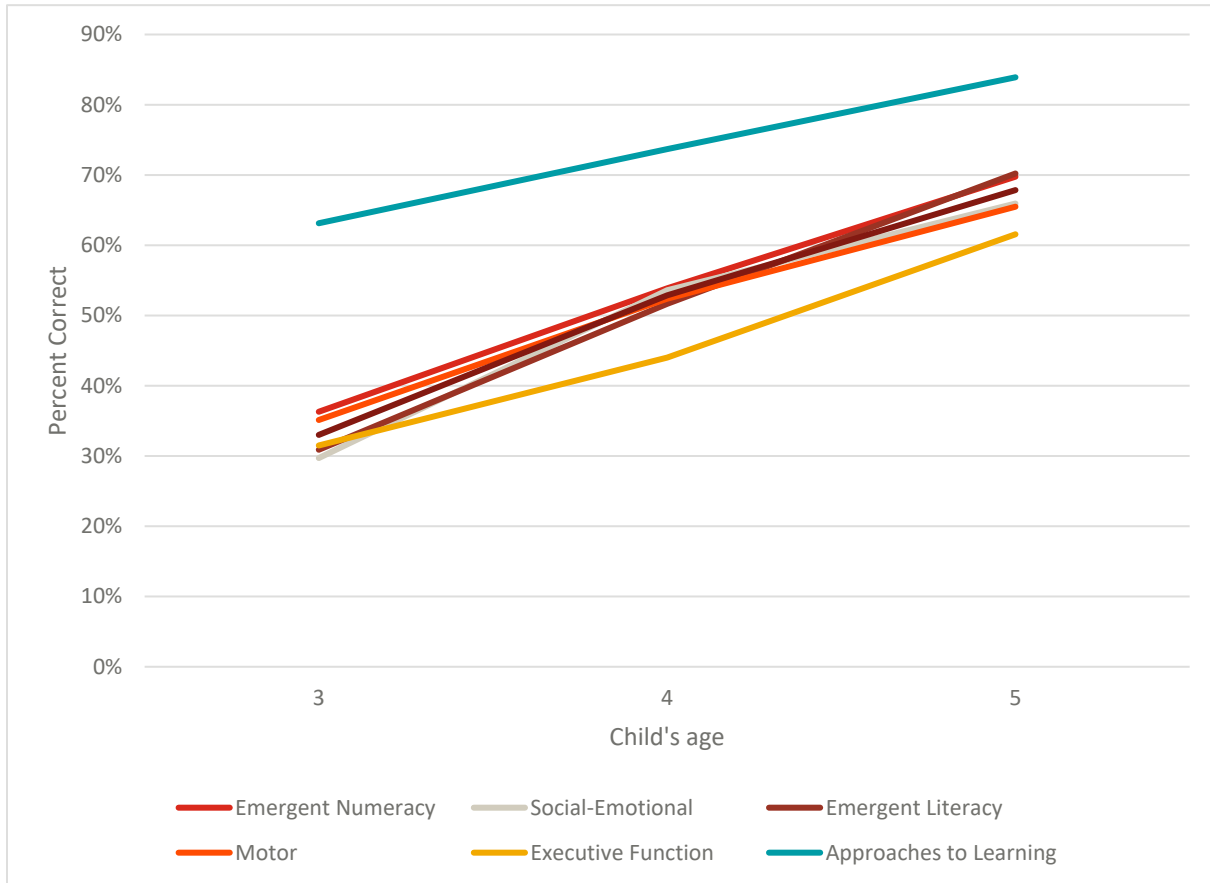
Figure 2. Total IDELA and Composite Scores (n=157)



As Figure 2 demonstrates, there were few differences in the core IDELA domain scores. This is a somewhat unusual finding. In other contexts, we often see large disparities between Motor Development and Emergent Numeracy and Literacy scores. The results from this data collection suggest that children are not lagging in any particular domain and that children are being supported to develop evenly across the four core domains.

The non-core domains present a slightly different story. As is often the case, there were substantial “ceiling effects” in the Approaches to Learning domain. As a subjective interpretation (without “right” and “wrong” answers), enumerators often rate children highly on their interpretation of the motivation, persistence, and overall observation of attitudes. Executive Function demonstrated scores slightly lower than in the other domains.

Figure 3. IDELA Scores by Age (n=157)



IDELA domains also exhibit the expected relationship with age. Older children score more correctly than younger children. While this is not a true measure of growth (because we are looking at children of multiple ages at a single point of time), the results suggest a strong, largely linear, relationship between children’s age and their learning and development as measured by the IDELA child assessment. The strength of the relationship for each of the core domains is similar. An additional year is associated with a 14-18 percentage point higher score on each of the IDELA core domains.

Motor development

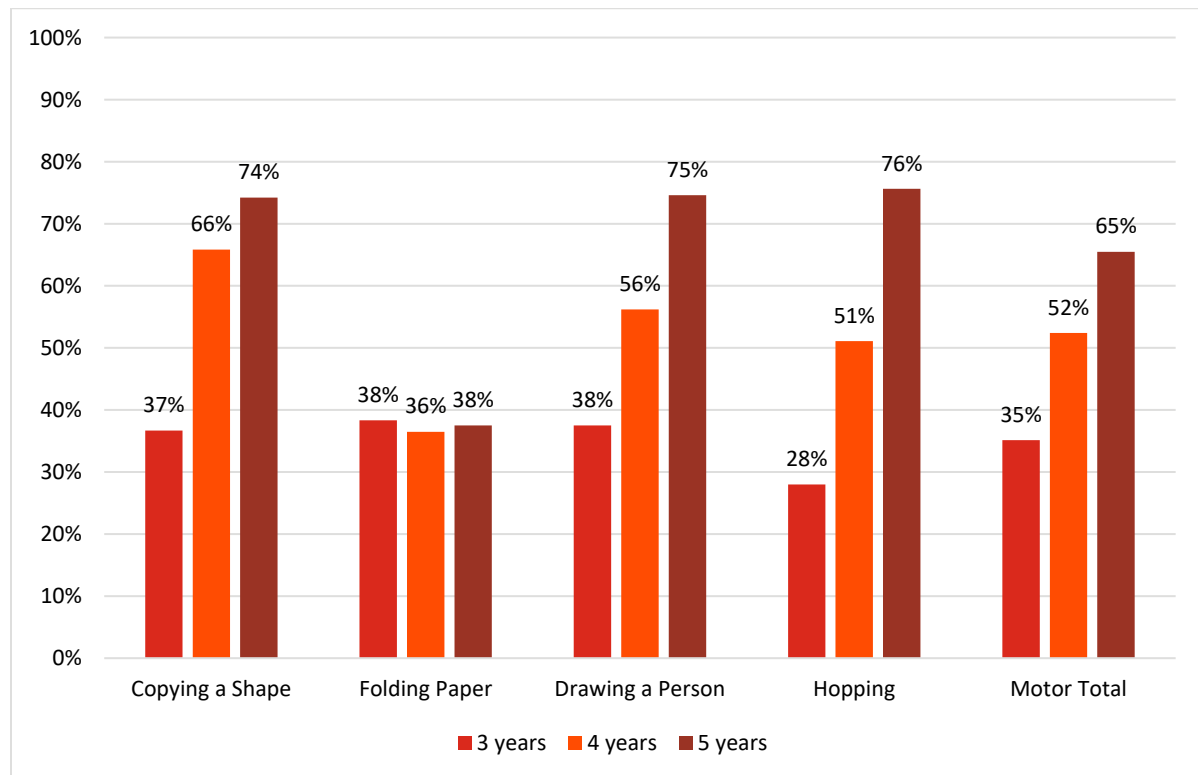
Table 4 displays the mean and median scores of the motor development subtasks.

Table 4. Motor Development at Baseline (n=157)

Subtask	Median	Mean	Standard Deviation
Copying a Shape	75%	65%	40%
Folding Paper	25%	37%	29%
Drawing a Person	63%	58%	31%
Hopping	50%	54%	38%
Motor Total	57%	53%	25%

The most difficult task for children was, by far, the Folding Paper subtask. In this subtask, which measures fine motor skills, children are asked to fold paper multiple times and scored according to how many folds they complete precisely. Children demonstrated the highest scores on the other fine motor task, Copying a Shape, where they were asked to draw a triangle. The one gross motor task, hopping on one foot, demonstrated that the median child was able to hop about five times on a single leg.

Figure 4. Motor Subtasks by Age (n=157)



The Motor subtasks generally follow the expected associations with age. Older children performed better on every subtask with the exception of the folding paper subtask. The hopping subtask showed the largest associate with age, indicative of the large changes that children experience in gross motor skill ability between the ages of three and five. The folding paper subtask does not display the expected association and there are no significant differences by age. This is an unusual result and may be the result of unclear instructions (e.g., not asking the child to fold precisely) or inconsistent administration (e.g., not measuring folds correctly) of the subtask.

Emergent Literacy

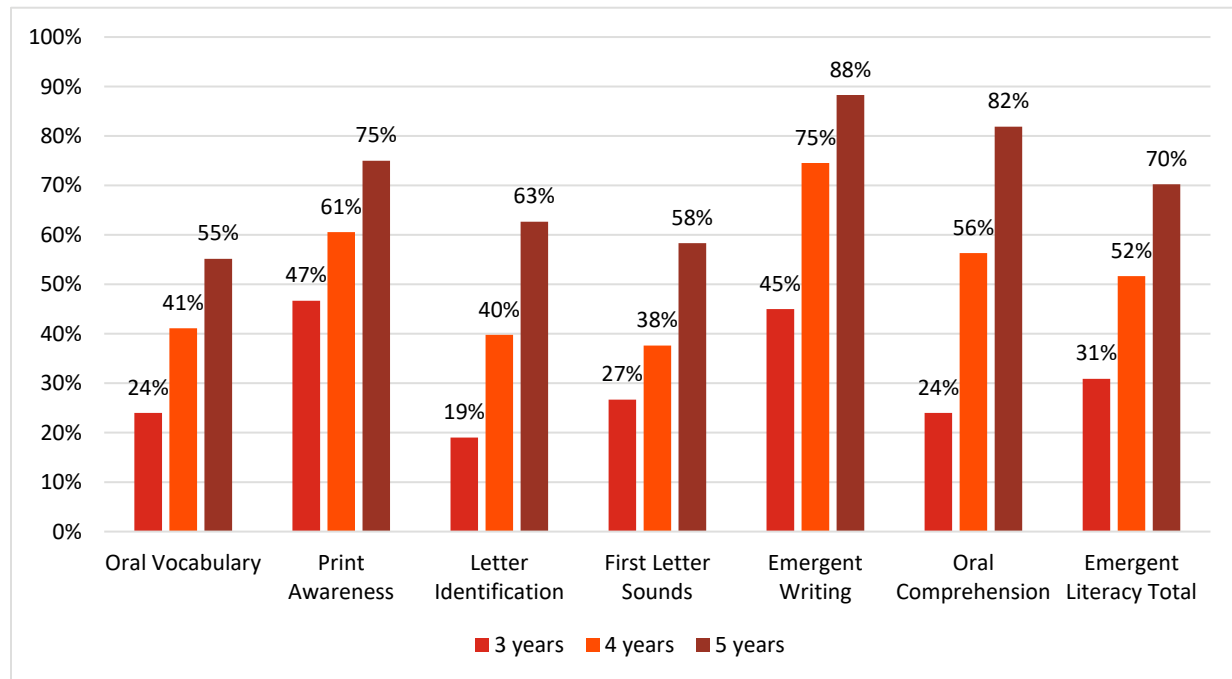
Table 5 displays the mean and median scores of the Emergent Literacy subtasks.

Table 5. Emergent Literacy at Baseline (n=157)

Subtask	Median	Mean	Standard Deviation
Print Awareness	67%	62%	31%
Letter Identification	15%	42%	41%
First Letter Sounds	33%	41%	34%
Emergent Writing	75%	75%	32%
Oral Comprehension	60%	59%	34%
Emergent Literacy Total	55%	53%	23%

Overall, children demonstrated strong Early Literacy skills except in Letter Identification and First Letter sounds, a measure of phonological awareness. The discrepancy between the mean and the median reveals an important finding with Letter Identification. While the average score was fairly high at 42%, the median child scored only 15% and the scores had a comparatively large standard deviation. This is the result of a large number of zero scores on the Letter ID subtask. Over 25% of children were unable to identify even one letter, and fewer than half could identify more than three. Conversely, there were also a large number of high scores. Nearly one in six children were able to identify every letter correctly.

Figure 4. Emergent Literacy Subtasks by Age (n=157)



All Emergent Literacy subtasks follow the expected associations with age. There is a strong relationship between the performance on every subtask and age, with older children performing better. The Oral Comprehension subtask showed an especially strong relationship. While Letter ID does demonstrate a significant relationship with age, it's evident from these results that the disparity between children who could identify all letters and those who could not cannot be explained by age alone.

Emergent Numeracy

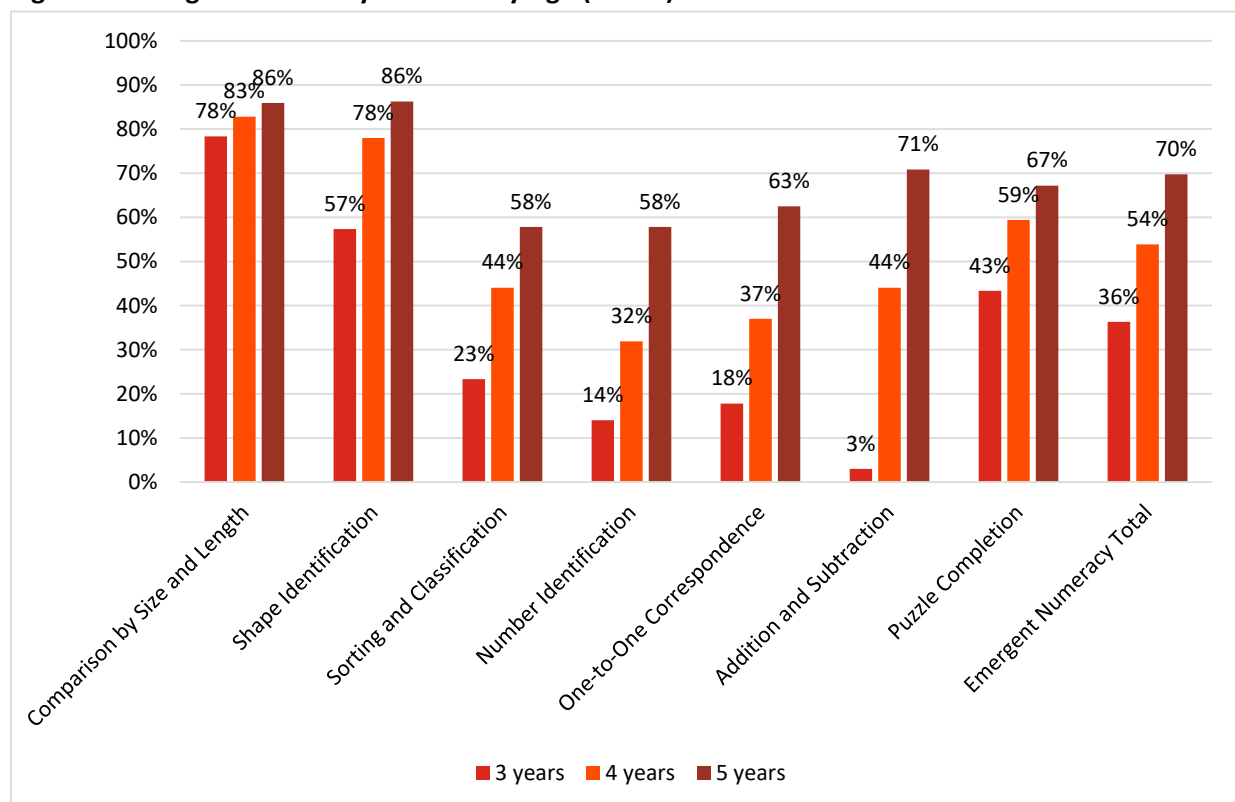
Table 6 displays the mean and median scores of the Emergent Numeracy subtasks.

Table 6. Emergent Numeracy at Baseline (n=157)

Subtask	Median	Mean	Standard Deviation
Comparison by Size and Length	100%	83%	23%
Shape Identification	80%	78%	28%
Sorting and Classification	50%	45%	37%
Number Identification	30%	35%	32%
One-to-One Correspondence	33%	40%	35%
Addition and Subtraction	33%	47%	35%
Puzzle Completion	50%	60%	38%
Emergent Numeracy Total	55%	55%	21%

Children demonstrated strong Early Numeracy in the Comparison by Size and Length and Shape ID subtasks. Results were more mixed in the other subtasks. Children found the Number ID subtask even more difficult than the Letter ID subtask; over 40% of children identified fewer than four numbers.

Figure 5. Emergent Numeracy Subtasks by Age (n=157)



All Emergent Numeracy subtasks follow the expected associations with age. There is a strong relationship between the performance on every subtask and age, with older children performing better. The Comparison by Size and Length subtask was easy across age groups. The association with age is particularly strong with the Addition and Subtraction subtask, where children are asked to first perform concrete addition with the aid of materials, and then asked to do simple abstract calculations. Three-year-olds uniformly got almost all questions wrong, with older children performing much better.

Social-Emotional Development

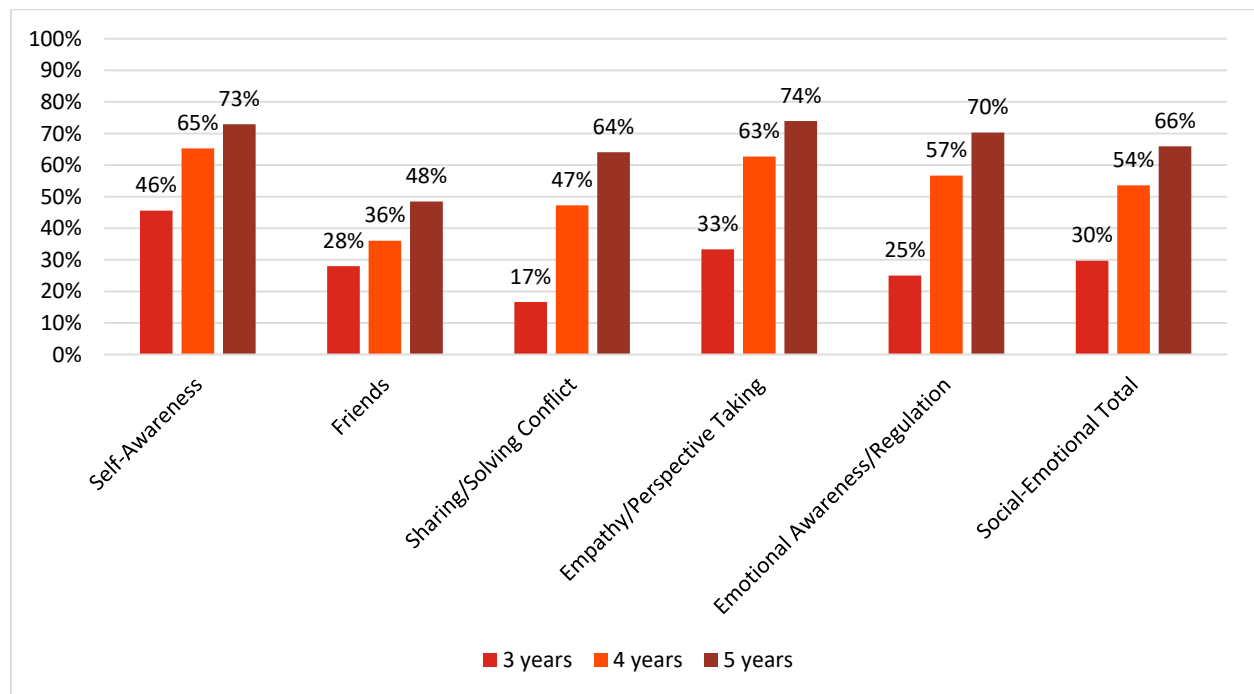
Table 7 displays the mean and median scores of the Social-Emotional subtasks.

Table 7. Social-Emotional Development at Baseline (n=157)

Subtask	Median	Mean	Standard Deviation
Self-Awareness	67%	65%	22%
Friends	30%	38%	26%
Sharing/Solving Conflict	50%	47%	44%
Empathy/Perspective Taking	67%	62%	40%
Emotional Awareness/Regulation	50%	56%	40%
Social-Emotional Total	58%	54%	25%

The tasks subtasks within Social Emotional domain had a relatively narrow range of average and median scores compared to the other domains. The Friends subtask, where children were asked to name up to ten of their friends, represented the task with the lowest average and median scores.

Figure 6. Social-Emotional Development Subtasks by Age (n=157)



All Social-Emotional subtasks follow the expected associations with age. There is a strong relationship between the performance on every subtask and age, with older children performing better. The conflict task is most strongly related to age.

Technical performance of the IDELA child tool

The IDELA child assessment performed strongly from an internal consistency standpoint. All domains were significantly and highly correlated with each other, suggesting that they are measuring a cohesive construct of early childhood development consistent with IDELA’s performance in other countries. As Table 8 demonstrates, the correlations between core domains range from a low of 0.533 (Motor to Emergent Numeracy/Social Emotional) to a high of 0.770 between Emergent Numeracy and Emergent Literacy.

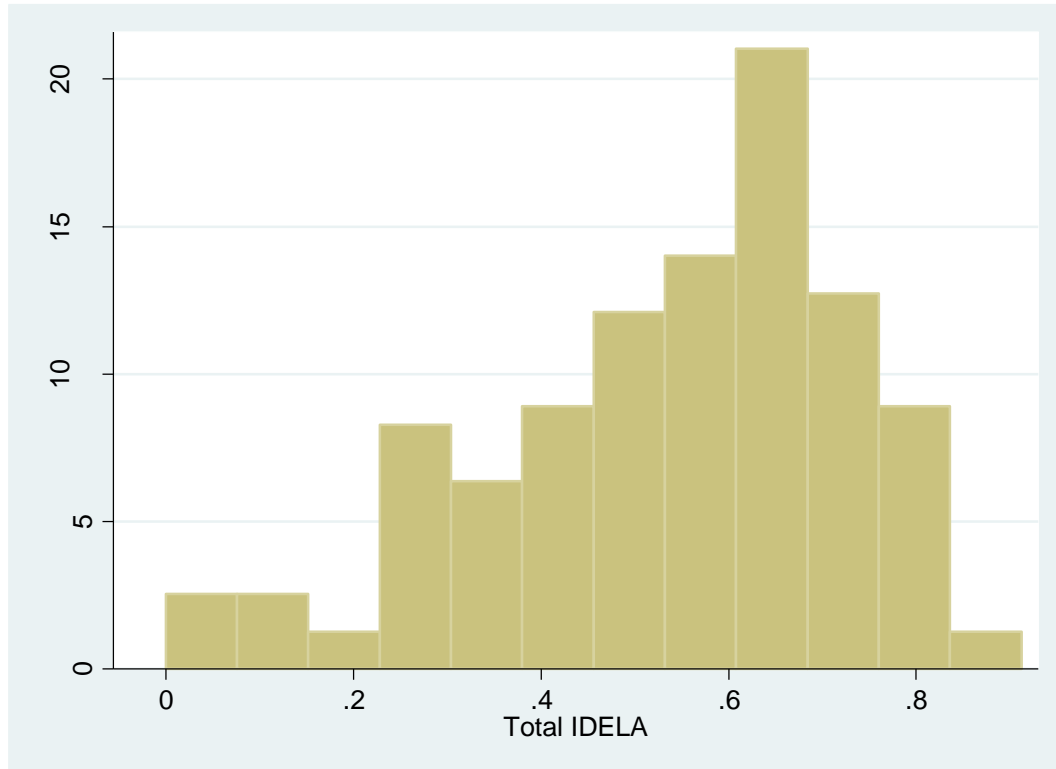
Table 8. Correlation coefficients of IDELA Domains (n=157)

	IDELA Total	Motor	Emergent Literacy	Emergent Numeracy	Social-Emotional
IDELA Total	1.000				
Motor	0.805	1.000			
Emergent Literacy	0.876	0.587	1.000		
Emergent Numeracy	0.842	0.533	0.770	1.000	
Social-Emotional	0.812	0.533	0.585	0.556	1.000

Appendix A presents the results of a domain-by-domain analysis of each domain’s internal consistency as measured by Cronbach’s Alpha. The Emergent Literacy, Emergent Numeracy, and Social-Emotional Domains all had alphas considered on the high end of the “Acceptable” range of internal consistency while the Motor Domain had an alpha in the “Questionable” range. The overall assessment had an alpha of 0.901, which is considered an “Excellent” measure of internal consistency.

Overall, the IDELA instrument appeared to function well as a measure of early learning and development. The distribution of Total IDELA scores, as figure 7 indicates, was relatively normal, and does not appear to have substantial “ceiling” effects that would limit the utility of the instrument.

Figure 7. Distribution of Total IDELA scores (n=157)



Caregiver Survey Results

In addition to the child assessment, parents were provided with a caregiver questionnaire to complete by mail. While most parents completed the caregiver survey, about 17% did not respond. In addition, not all caregivers completed all sections of the caregiver survey. As a result, while the IDELA Child Assessment results above are representative of all 157 children, the caregiver surveys may be missing important responses and not representative of the IDELA sample.

Demographic characteristics

Table 9 presents a snapshot of the demographic characteristics of the caregivers in the sample. While nearly every responding parent was literate¹, but educational achievement was varied. Just 80% of mothers and 72% of fathers confirmed that they had achieved at least a high school level of education.

The average family in the sample had 2.6 children, with a father aged 32 and mother aged 29. While 93% of families reported that English was a home language, 20% of families also listed Spanish as a home language. The child's preferred language was skewed more towards English, with 96% of children reporting English as a preferred language and just 12% listing Spanish.

¹ Note that because the caregiver survey was administered as a mailed form, and that there was a 17% non-response rate, that some estimates may be biased. In particular, literacy, education, and language estimates are likely to be affected.

Table 9. Demographic characteristics of caregiver sample

	Mean	Observations
Mother is literate	98%	132
Mother has completed elementary school	95%	128
Mother has completed high school	80%	128
Father is literate	99%	122
Father has completed elementary school	87%	120
Father has completed high school	72%	120
English is a home language	93%	134
Spanish is a home language	20%	134
English is the child's preferred language	96%	134
Spanish is the child's preferred language	12%	134
Mother's age	29.5	124
Father's age	32.1	108
Number of children in family	2.6	121

Educational participation and expectation, and disability

Table 10 presents a snapshot of the ECCD participation, educational expectations, and disability status of caregivers/children in the sample. 100% of caregivers expect their children to complete high school, but there is slightly more ambiguity about college completion. A vast majority of children in the sample are attending preschool at the moment, with a mean attendance of 6.1 hours per day.

Fifteen percent of responding caregivers (19/123) reported that their child had some type of disability. These disabilities were primarily concentrated in the intellectual and social development with 12% of caregivers reporting concerns about their children's social or intellectual development, and 3% reporting concerns about physical development.

Table 10. Educational participation and expectation, and disability from caregiver sample

	Mean	Observations
The child is attending preschool	96%	134
Average ECCD hours/day	6.1	111
Parent expects child to complete high school	100%	134
Parent expects child to complete college	90%	134
The child has a disability	15%	123
Caregiver is worried about the child's intellectual or social development	12%	124
Caregiver is worried about child's physical development or growth	3%	125

Learning materials and caregiver interactions

Interactions between parents and children and the learning environment of a child’s home have been shown to positively impact childhood development. When parents create a better environment and engage in learning activities with them, it can lead to long term benefits for their children. A lack of materials and stimulation can have the opposite effect. The caregiver survey asks about the number of types of reading materials and toys in the home. It also asks about the learning interactions that various caregivers had with the child within the last week. Table 11 presents the average number of types of materials, and learning activities disaggregated by caregiver and Appendix B provides a more complete description of each type of learning material and caregiver interactions.

Table 11. Learning Materials in the Home and Caregiver Interactions

	Mean	Observations
Number of types of reading materials in the home	4.7	134
Number of types of toys child plays with	9.6	134
Number of types of learning activities (any caregiver) in past week	8.2	134
Number of types of learning activities with mother in past week	4.8	134
Number of types of learning activities with father in past week	2.9	134
Number of types of learning activities with another caregiver in past week	1.6	134

A majority of caregivers (62%) reported that at least one caregiver engaged in every type of interaction asked about within the last week. However, there was as stark difference in who was interacting. Perhaps not unexpectedly, caregivers reported that mothers were engaging in a greater number of types of learning interactions with their children than fathers.

Relationships between characteristics and early learning and development

Background characteristics and factors in the home have been proven to influence early childhood development. The following section details the factors that we found to be associated with differences in developmental levels. We can’t assert whether or not these variables *cause* differences in development, but these relationships can support hypotheses and highlight potential areas for intervention.

We use multiple regression analysis to examine the relationships between items on the caregiver survey and children’s learning and development as measured on the IDELA. The full details of our final models, including insignificant variables, can be found in tables in Appendix C.

In the following sections, we first examine the relationship of the variable with learning and development, controlling only for the child’s age. After discussing each variable in turn, we try to fit a “best fit” model combining variables which had a significant relationship with early learning and development into a more complex multivariate regression model. The goal is to build a single model that

best explains children's early learning and development as a product of their home, family, and individual characteristics.

Gender

There were no significant differences by gender. Boys and girls scored equally well on the overall IDELA and each of the individual subdomains. Despite this insignificant result, due to convention we will continue to control for children's gender in our final model.

Home Learning Environment & Learning interactions

The evidence on the importance of home learning environment and learning interactions is mixed in this dataset. We observe no evidence that IDELA scores are related to the number of types of materials in the home, but the relationship with learning interactions and is more complicated. When controlling just for child's age, the number of types of learning interactions engaged in by the caregiver has a marginally significant positive association with a higher IDELA score ($p = 0.054$). When examining the domain scores, this relationship becomes a bit clearer. Home learning interactions is significantly associated with the Motor Domain and the Approaches to Learning Domain, and is marginally associated with the Emergent Numeracy Domain. There is no evidence of a relationship between learning activities and the Social-Emotional or Emergent Literacy domain.

Family and parental characteristics

Nearly all parents in the sample were literate and did not have difficulty reading. We find no association between parent's literacy skills and children's early learning and development. Education was a slightly more complicated picture. Children whose mothers did not complete elementary school scored significantly lower. However, this must be taken in context: only 3 of 128 mothers reported no education.

We detect no differences in IDELA scores by parental age of either the mother or the father. However, we do find a significant negative relationship between the number of children in the household and Total IDELA score. After controlling for the child's age, for each additional child present in the house, a child in the sample was expected to score 3.5 percentage points lower on overall IDELA ($p = 0.005$).

When examining the domain-level scores, we find that the number children in the household is associated most strongly with the Social Emotional Domain. One additional child is associated with a 5.8 percentage point lower Social-Emotional Domain score. The number of children is also significantly negatively associated with the Emergent Numeracy and Emergent Literacy domains.

Linguistic setting

Parents were asked about the languages spoken in the home, and also about the languages the child speaks. We find no differences by the language the child speaks, but do find that children from Spanish-speaking homes have significantly lower total IDELA scores ($p = 0.025$). On average, children from homes that spoke Spanish had Total IDELA scores 8.7 percentage points lower than children who did not. Looking at the results domain-by-domain, we find that this negative relationship is largely motivated by a large and significant difference in the Social Emotional Domain. Children from Spanish speaking families scored 16.9 percentage points lower in the Social Emotional Domain ($p = 0.002$), but did not

score significantly lower in any other domain, and actually scored significantly higher in the Approaches to Learning Domain.

State

The results are not representative of the states from which the children come. However, we do observe that children in California scored significantly lower than children in Mississippi, Tennessee, and South Carolina. This negative relationship is largely explained by the high proportion of Spanish-speaking families in California but again, this relationship is only correlational.

Table 12. Average IDELA score by state (n=157)

State	Mean	Number of children
California	42%	34
Mississippi	55%	36
South Carolina	63%	17
Tennessee	57%	70
All States	54%	157

Exposure to Early Childcare and Development

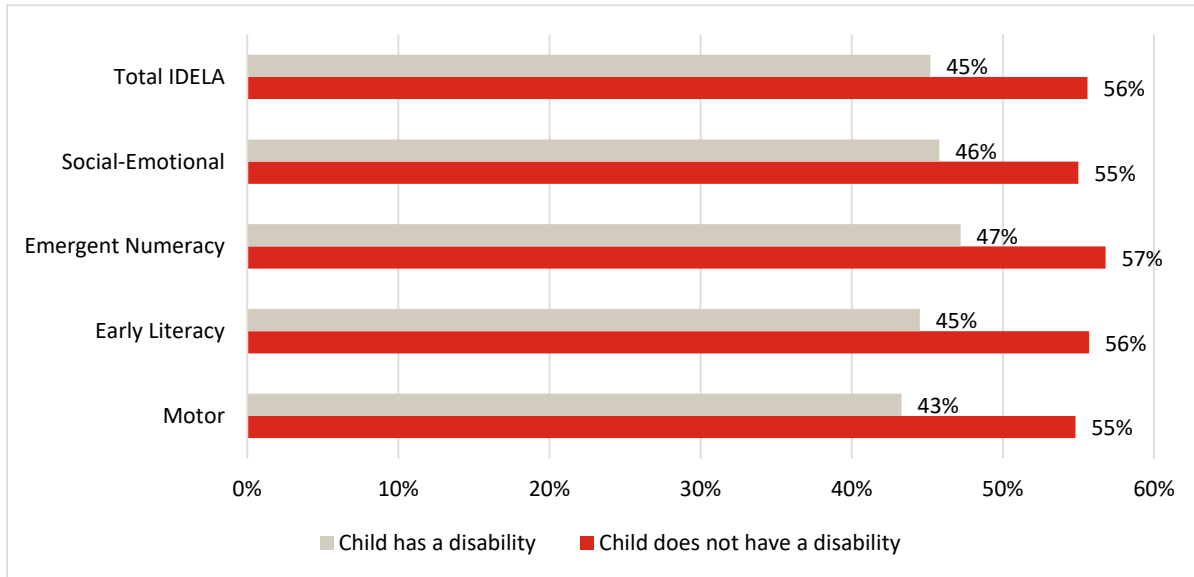
Children who attend more hours of ECD classes scored significantly higher. After controlling for age, one additional hour of ECD was associated with a 2.6 percentage point higher Total IDELA score ($p = 0.018$). This was also motivated by a large 5.0 percentage point difference in Social Emotional Development.

While these results are consistent with the hypothesis that children who are exposed to more ECD have better developmental outcomes, we cannot assume a causal relationship. Also, there are large differences by state. In California, the average hours per day was just 3.5, whereas in the other states, it was over 6.5 hours. Differences in states and the compositions in families by state may be leading to misleading inferences.

Disability status

15% of caregivers reported that they believed their child had a disability. In our simple model, we find a large and significant relationship between a child’s disability status and their developmental outcomes. As figure 8 shows, children whose caregiver’s reported that they had a disability scored approximately 10 percentage points lower on Total IDELA. The association was fairly consistent across all domains.

Figure 8. IDELA Domains by Disability Status (n=121)



Final Model

After examining the simple regression models of the factors above and the relationships with early learning and development, we developed a “final model” which best fits our data and presents the most significant controlled associations we could find.

To reach this model, we began with all of the variables identified as having a significant relationship with IDELA score above and then did backwards-stepwise regression. This eliminated the least significant variable from the model one-by-one until all variables remaining in the model were at least marginally significant (excepting child’s gender and age, which we fixed due to convention). Our final model dropped home language, state, and disability variables and kept Learning Interactions, ECCD attendance hours, and the number of children in the home.

The following charts are predictions based off of this final model and present fitted estimates according to these three criteria.

Figure 9 presents the predicted IDELA domain scores by the types of home learning activities after fitting our final model. As Appendix C shows, the Motor Domain and Total IDELA were significantly associated with home learning activities, and Emergent Numeracy and Emergent Literacy were marginally significant.

Figure 9. IDELA Domain Scores by Number of Types of learning Interactions (n=102)

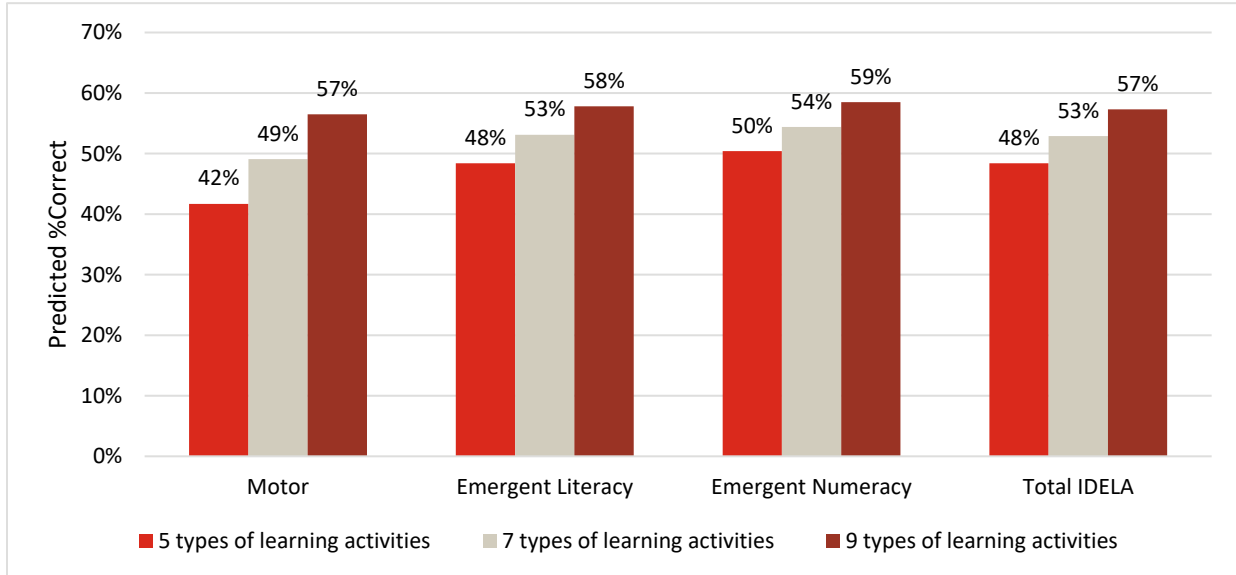


Figure 10 illustrates the dramatic negative association between the number of children in a household and the predicted IDELA domain score. In our final model, the number of children in a family was negatively associated with Total IDELA and the Emergent Numeracy, Emergent Literacy and Social Emotional Domains.

Figure 10. IDELA Domain Scores by Number of Children in Family (n=102)

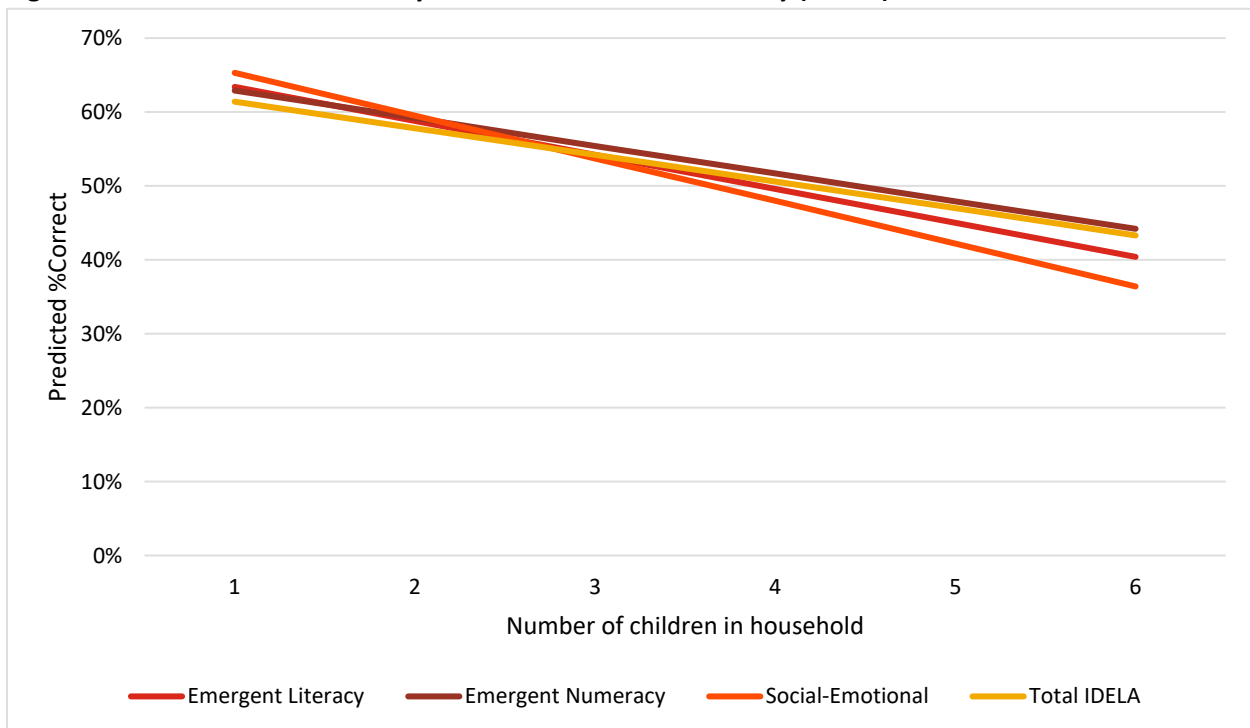
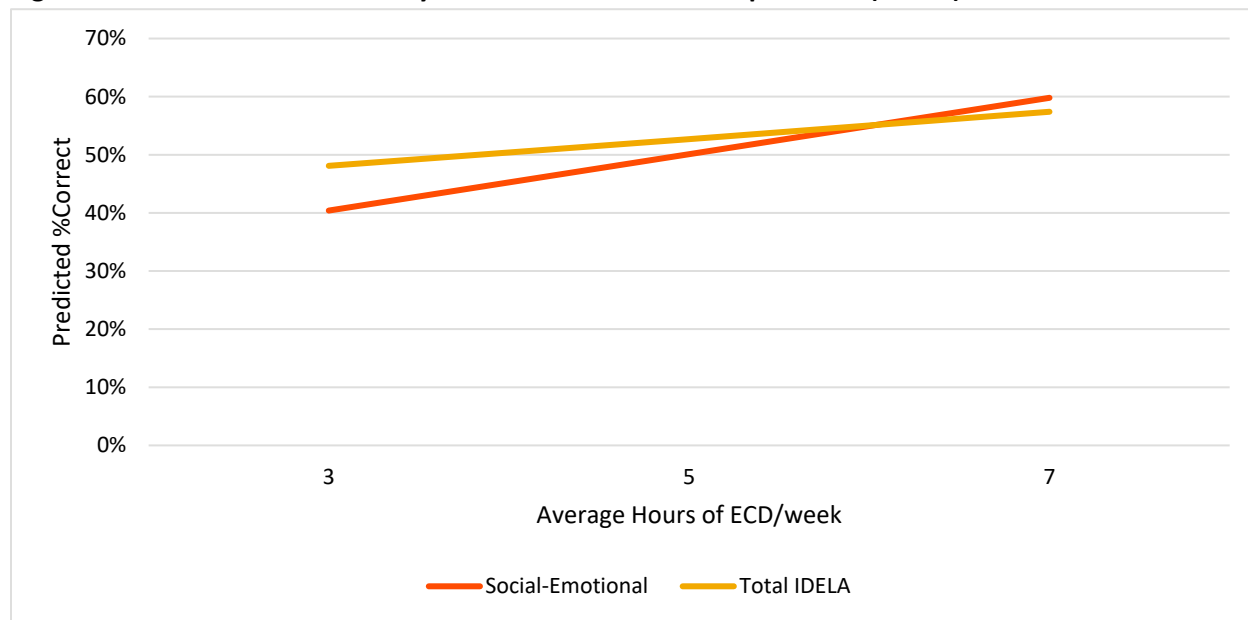


Figure 11, the final figure, illustrates the positive association between the average number of ECCD hours in a week and predicted IDELA score. As can be seen in the graph, this association is particularly

large for the Social Emotional Domain. Other domains did not have a significant relationship with ECD exposure.

Figure 11. IDELA Domain Scores by Hours of ECD attendance per week (n=102)



Limitations & recommendations

A number of limitations arise from this analysis. The first and largest is the issue of generalizability. Because students were not selected in a random manner, we do not know if the sample is representative of the population. Future studies would benefit from greater emphasis placed on a rigorous sampling strategy that aims to create generalizable findings.

Because we rely on data from both the caregiver survey and the IDELA child assessment, we must restrict our sample to those children for whom we have both sets of information. This means that our subsample may not be representative of *all* the children in the sample. We did check whether children whose caregivers responded to the caregiver survey differed in their performance on the IDELA child assessment. We find no significant differences on any of the domains or overall IDELA total score by the presence or absence of a caregiver assessment.

As a cross-sectional study, all results should be interpreted as correlational. While we find many statistically significant relationships, we cannot interpret any causally.

Conclusion

Compared to implementations of the IDELA child assessment and caregiver tool in the developing world, the US Programs results paint a fairly positive impression of US children's early learning and development. While the results are not generalizable, children in the sample did not struggle on any particular aspects of the assessment, suggesting a fairly even developmental trajectory.

Correlations from the caregiver survey reinforce the importance of strong involvement of caregivers in their children's early learning and development. We also find evidence of some of the barriers to children's early learning and development. Findings surrounding home language and disability status highlight important dimensions of equity and reinforce the call to ensure that Save the Children is supporting the most vulnerable children to thrive.

Finally, we find that the IDELA assessment performed reasonably well in the US context. Questions appeared to share a similar structure with its implementations in other countries, and the results did not call into question the conclusions drawn from the use of IDELA abroad: that it is a rigorous, holistic, and valid measurement of children's early learning and development.

Appendix A: Internal consistency of the IDELA Child Assessment

Item	Obs	Sign	Item-test correlation	Item-rest correlation	Inter-item covariance	Alpha
Comparison by Size and Length	157	+	0.5025	0.4602	0.035203	0.8993
Shape Identification	157	+	0.6235	0.5807	0.03413	0.8966
Sorting and Classification	157	+	0.3858	0.3095	0.035087	0.903
Number Identification	157	+	0.6309	0.5829	0.033726	0.8962
One-to-One Correspondence	157	+	0.6441	0.5919	0.033302	0.8957
Addition and Subtraction	157	+	0.7173	0.6733	0.032752	0.8936
Puzzle Completion	157	+	0.4057	0.328	0.034882	0.9027
Self-Awareness	157	+	0.6048	0.5698	0.034793	0.8976
Friends	157	+	0.478	0.4281	0.035082	0.8996
Sharing/Solving Conflict	157	+	0.587	0.5134	0.033005	0.8983
Empathy/Perspective Taking	157	+	0.582	0.5152	0.033363	0.8979
Emotional Awareness/Regulation	157	+	0.6183	0.5556	0.033076	0.8967
Copy Shape	157	+	0.5712	0.5029	0.03344	0.8982
Folding Paper	157	+	0.3364	0.274	0.035729	0.9028
Drawing a Person	157	+	0.6929	0.6524	0.033428	0.8947
Hopping	157	+	0.5688	0.5043	0.033629	0.8981
Oral Vocabulary	157	+	0.7382	0.7087	0.033751	0.8944
Print Awareness	157	+	0.5431	0.4887	0.034346	0.8983
Letter Identification	157	+	0.5442	0.4716	0.033598	0.8992
First Letter Sounds	157	+	0.5829	0.5258	0.033799	0.8974
Emergent Writing	157	+	0.6736	0.63	0.033467	0.8951
Oral Comprehension	157	+	0.7457	0.7067	0.032689	0.8929
Test scale					0.033922	0.9019

Appendix B: Learning Materials in the Home and Caregiver Interactions

Reading materials in the home

	Mean	Observations
Family has cook books in the home	61%	134
Family has magazines in the home	62%	134
Family has newspapers in the home	51%	134
Family has religious books in the home	78%	134
Family has coloring books in the home	93%	134
Family has comic books in the home	33%	134
Family has cook books in the home	61%	134

Toys in the home

	Mean	Observations
Child plays with store-bought toys	99%	134
Child plays with household objects	69%	134
Child plays with outside materials	88%	134
Child plays with drawing materials	100%	134
Child plays with puzzles	89%	134
Child plays with stacking toys	85%	134
Child plays with color/size/shape toys	94%	134
Child plays with number toys	96%	134
Child plays with riding toys	93%	134

Home Learning Interactions

	Mean	Observations
Family member read or looked at books with child in last week	94%	134
Mom read or looked at books with child in last week	60%	134
Dad read or looked at books with child in last week	30%	134
Other caregiver read or looked at books with child in last week	22%	134
Family member told stories to child in last week	82%	133
Mom told stories to child in last week	46%	134

Appendix C: Final model predicting IDELA Domains

	Motor	Emergent Literacy	Emergent Numeracy	Social-Emotional	Executive Function	Approaches to Learning	Total IDELA
Age in Years	0.105*	0.182***	0.140***	0.05	0.156**	0.136**	0.119**
	(0.051)	(0.044)	(0.037)	(0.049)	(0.058)	(0.05)	(0.035)
Female	0.048	0.074~	0.019	0.067	0.027	0.048	0.052
	(0.047)	(0.04)	(0.034)	(0.045)	(0.053)	(0.046)	(0.032)
Number of types of learning activities (any caregiver) in past week	0.037*	0.024~	0.020~	0.008	-0.008	0.036*	0.022*
	(0.016)	(0.013)	(0.011)	(0.015)	(0.018)	(0.015)	(0.011)
Average ECCD hours/day	0.015	0.013	0.018	0.048**	0.033~	-0.024	0.023*
	(0.016)	(0.014)	(0.011)	(0.015)	(0.018)	(0.016)	(0.011)
Number of children in family	-0.003	-0.046**	-0.038**	-0.058**	-0.033	-0.021	-0.036**
	(0.02)	(0.017)	(0.014)	(0.019)	(0.022)	(0.019)	(0.013)
Constant	-0.315	-0.390~	-0.201	0.097	-0.247	0.066	-0.202
	(0.247)	(0.21)	(0.177)	(0.237)	(0.277)	(0.241)	(0.17)
Observations	102	102	102	102	102	102	102
R-squared	0.13	0.292	0.287	0.237	0.168	0.144	0.299
Adjusted R-squared	0.085	0.255	0.249	0.198	0.125	0.099	0.262

Note: ~ = $p < 0.10$; * = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$)

Standard errors presented in parentheses below estimates.