

Implementing child neurodevelopmental assessments in rural Tanzania: A pre-testing phase of the Child Health and Infection with Low Density (CHILD) malaria trial

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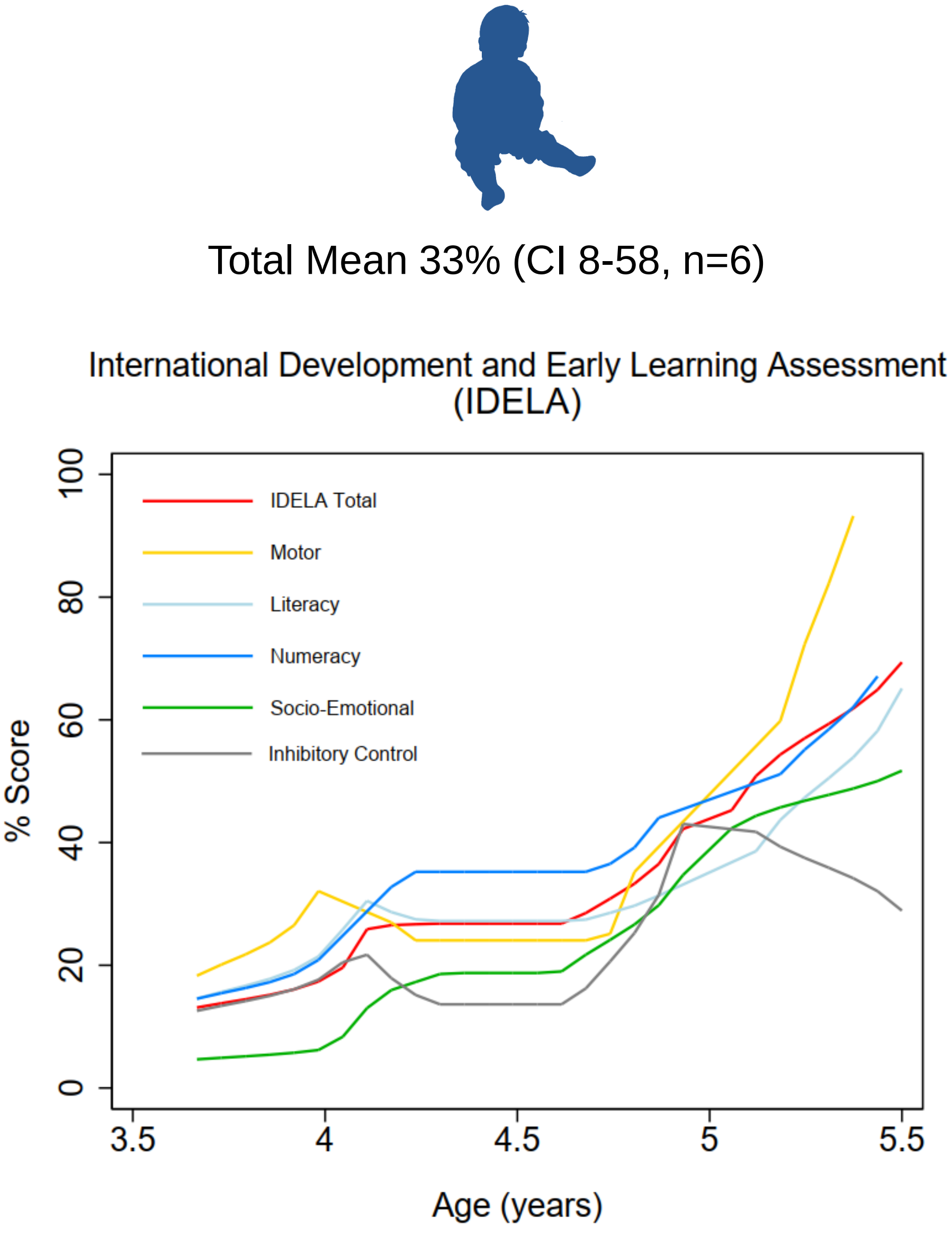
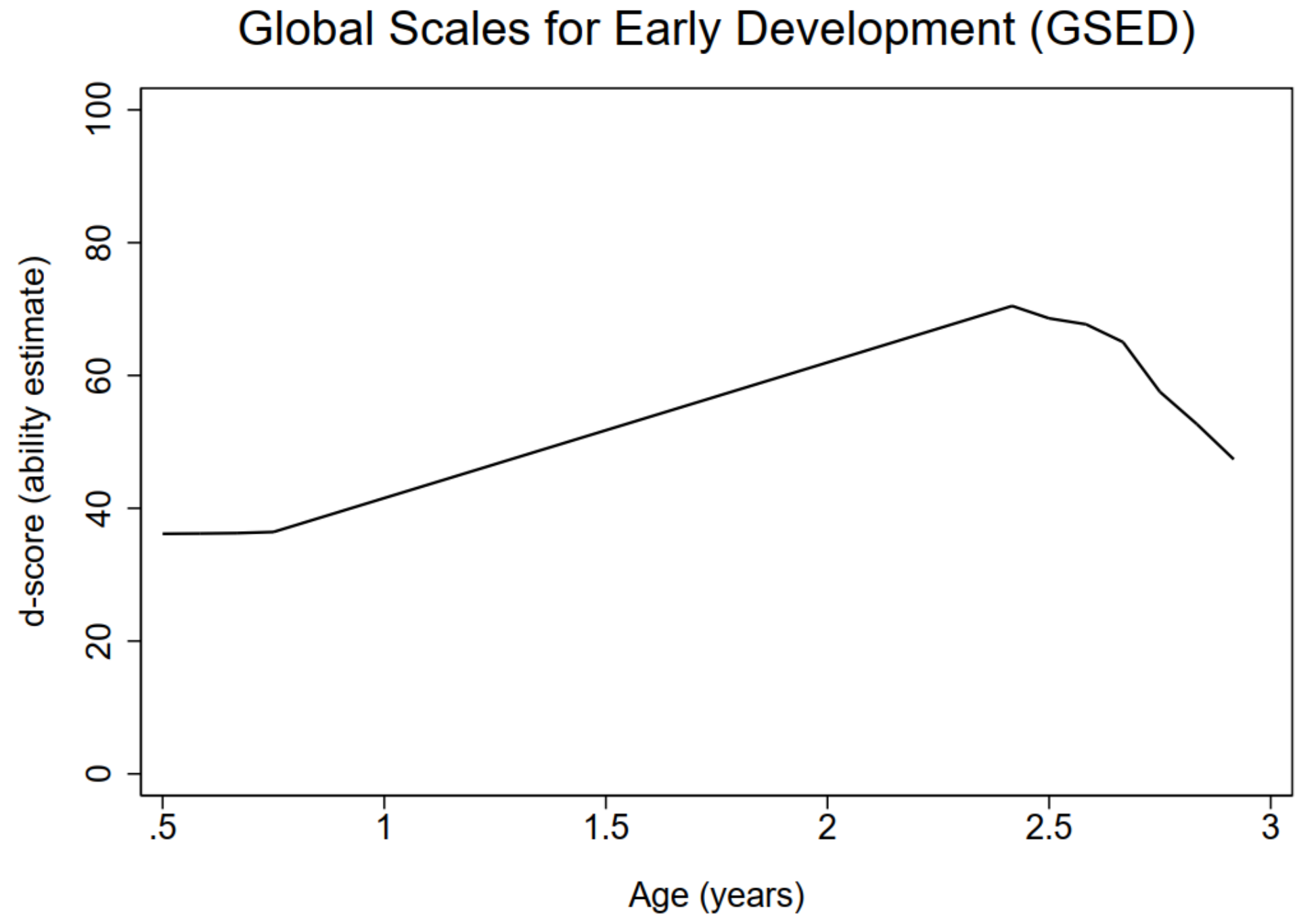


BACKGROUND

The CHILD malaria trial will examine the impact of interventions targeting low-density malaria infection in rural Tanzania. Outcomes include a range of child health and wellbeing measured over 2 years of follow-up including neurocognition and attention. To assess these domains, we will utilize neurodevelopmental tools which have been designed for use in diverse, non-Western settings but not necessarily in the distinct cultural and linguistic context of rural Tanzania, in particular in Bagamoyo district. Here, we aim:

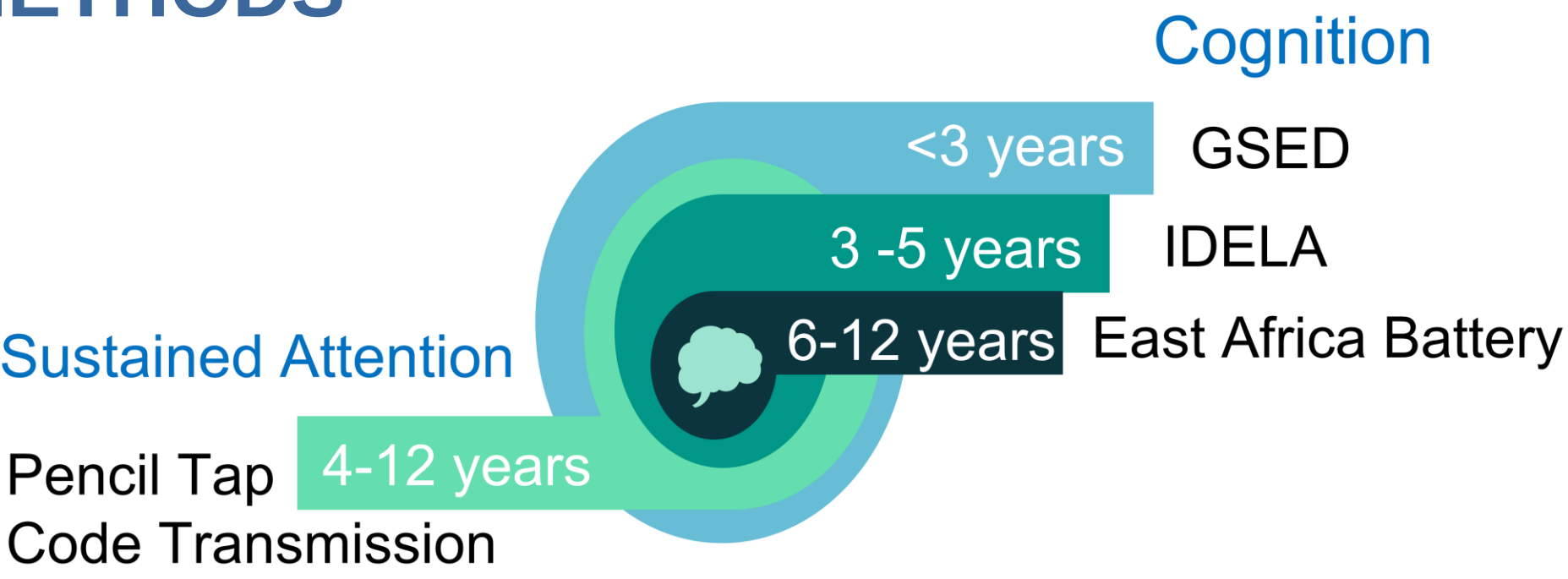
- 1) To quantify and visualize any floor or ceiling effects apparent in the tools,
- 2) To qualitatively understand the cultural appropriateness and feasibility of the tools in this setting with children of various ages, and
- 3) To adapt the tools according to the above findings for use in the pilot validation and main trial studies.

RESULTS

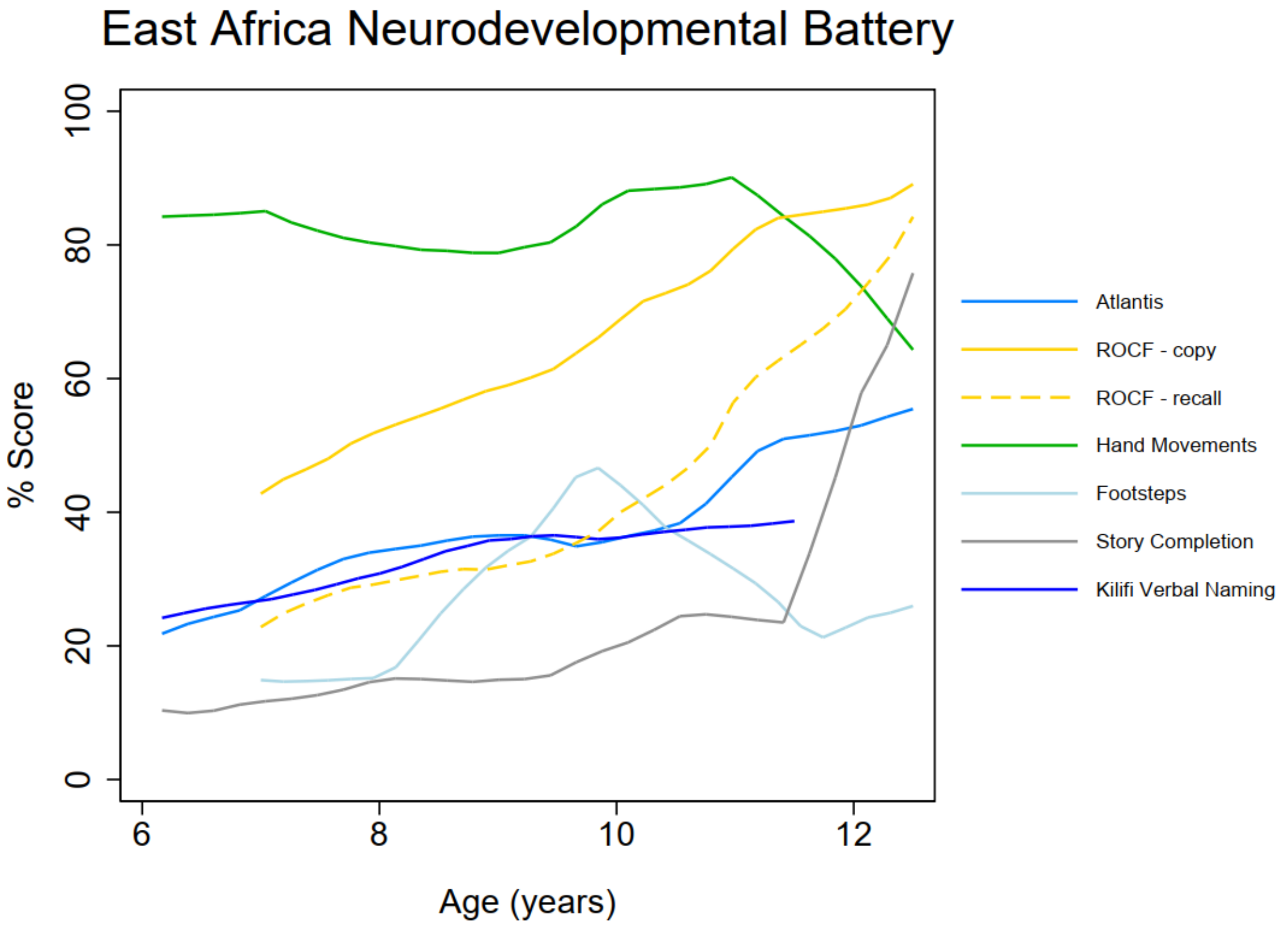


Total Mean 33% (CI 8-58, n=6)

METHODS



- 30 children aged 6 months to 12 years
- Quantitative scoring: check for ceiling and floor effects in performance
- Qualitative observations: environment, administration challenges, child participant experience, age range optimization

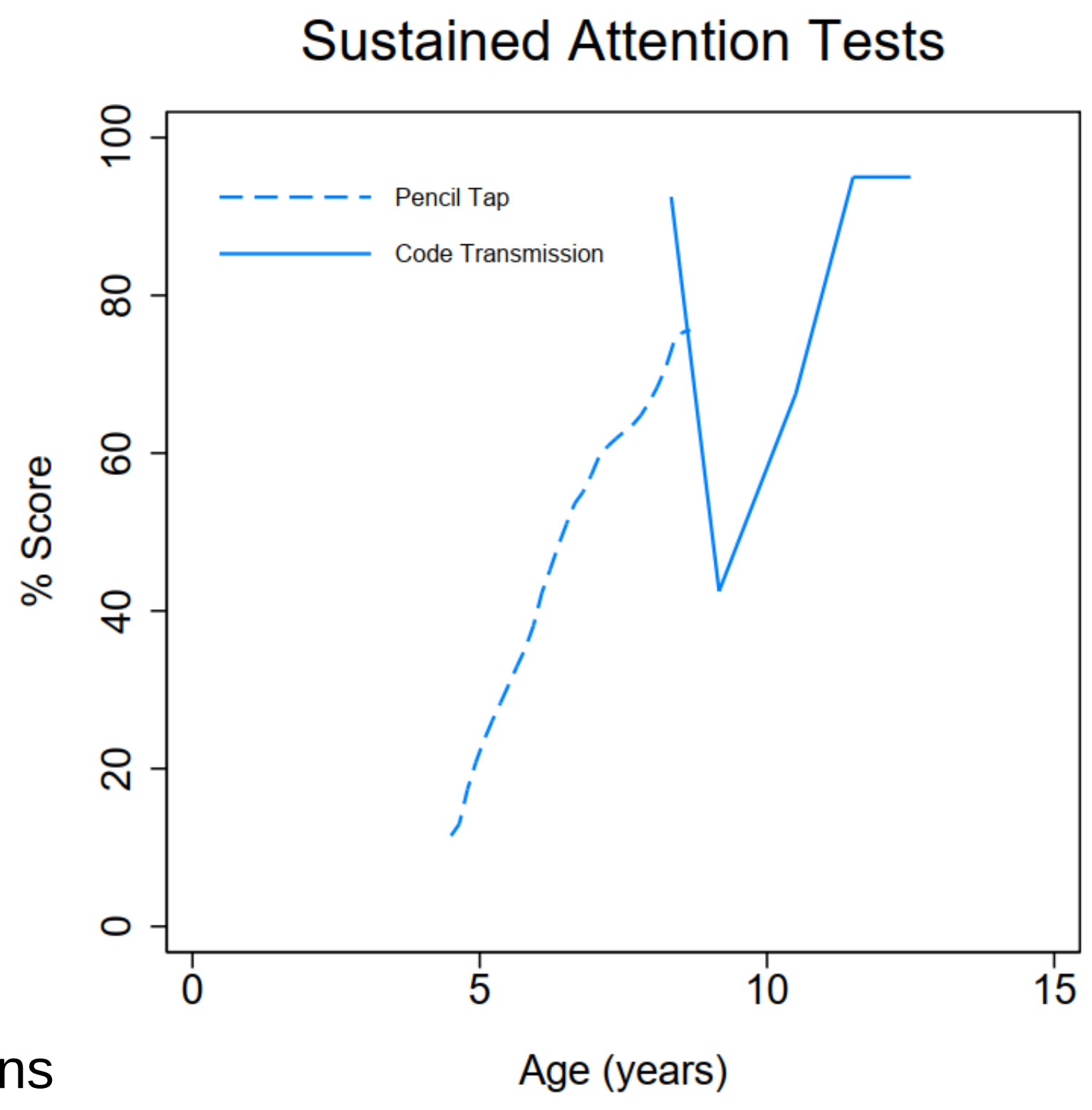


Total Mean 34% (CI 26-43, n=18)



Pencil Tap:
Mean 52% (CI 33-71, n=13)

Code Transmission:
Mean 79% (CI 50-107, n=5)



DISCUSSION

From the quantitative analysis, we observed floor (story completion, footsteps) and ceiling (hand movements) effects in subtests of the East Africa Battery, which prompted adaptations of the test materials to improve clarity and local relevance. Qualitatively, the experience of administering these assessments has informed environmental preparations for future encounters, the digitization of each tool for improved data collection, and the age range specification for the IDELA and sustained attention tests in particular. This preliminary study has gone on to guide the implementation of the CHILD trial pilot study which will involve a larger sample of local children and which will, in turn, inform the main CHILD trial.

ACKNOWLEDGEMENTS:
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