

Measuring Early Childhood Development and Achievement in Developing Countries

Lessons from the Young Lives Study

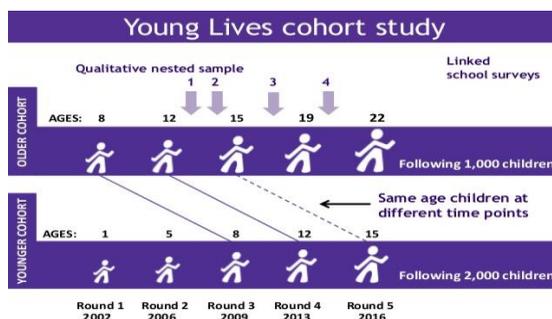
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GRADE



About Young Lives

- A longitudinal mixed-methods study on childhood poverty.
- Following 12,000 children in 4 countries (Peru, Ethiopia, Vietnam, India-Andhra Pradesh/ Telangana) over 15 years.
- Pro-poor sample: 20 sites in each country selected to reflect country diversity (rural-urban, ethnicity, etc.); roughly equal numbers of boys and girls.

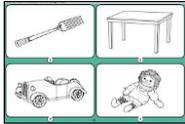


Criteria to select instruments to measure ECD and achievement in Young Lives

- Instrument(s) to be used in the 4 countries.
- With children from different cultures, who may or may not go to school.
- Easy to administer, not necessarily by professionals but trained fieldworkers.
- Fast to administer.
- Established record of reliability and validity.
 - Lack of time and resources to develop tests from scratch. Preference for adapting existing tests.

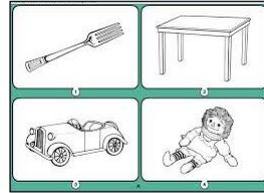


Tests administered to the younger cohort

| Round | Mathematics | | Vocabulary and/or Reading Comprehension | |
|-----------------------|--|---|---|---|
| Round 2 (5 years) | Cognitive Developmental Assessment (CDA) | Look at the bottles. Point to the one that is <u>almost</u> empty.  | Peabody Picture Vocabulary Test (PPVT) |  |
| Round 3 (8 years) | Mathematics Test | $112 + 45 = 467$ | Early Grade Reading Assessment (EGRA) PPVT | Who fell in the river first? Child's response: _____ Who fell in the river last? Child's response: _____ Why did the little chicken fall in the river? Child's response: _____ |
| Round 4 (12 years) | Mathematics Test | $9.81 + 7.62 =$ $\frac{9}{8} \times \frac{2}{3} =$ | Reading comprehension test PPVT | Based on the text, answer the following questions by marking the correct answer with an X. What is the previous text about? a. Seas and rivers <input type="checkbox"/> b. Oceans and the water cycle <input type="checkbox"/> c. The biggest oceans in the world <input type="checkbox"/> d. The effect of the wind and rain <input type="checkbox"/> |

PPVT

- Widely-used test of receptive vocabulary.
- Measures vocabulary acquisition in persons from 2.5 years old to adulthood.
- Individually administered, un-timed, norm-referenced and orally administered.
- The test taker has to select the picture that best represents the meaning of a stimulus word presented orally by the examiner.
- We purchased enough copies of the test .



Guidelines for test adaptation (i)

- Identify all the languages spoken by children.
- For each language, two local experts were identified and requested to translate and adapt independently the test.
- A Young Lives team member per country worked with the experts in order to explain the logic and main criteria followed while developing the test.
- The experts were asked to consider these issues while adapting the tests to try to preserve an increasing level of difficulty in the items.
- After completing their own adaptations, the two experts met with the Young Lives team member, discussed their translation and adaptations of the test; and together agreed on a best final test adaptation.

Guidelines for test adaptation (ii)

- Every country team filled the *Item adaptation pilot testing format*, in which they recorded all the changes and adaptations that have been done to each item.
- Instructions and general procedures of administration of the Fieldworker's Manual were translated only into one, main, national language.
- Pilot Studies before each round.
- In spite of all adaptations, we recommended in the technical documents NOT to compare PPVT scores across languages or countries
- However, we expect results to be reasonably valid to compare associations (e.g. PPVT and maternal education) among language groups.

Psychometric analyses

We checked:

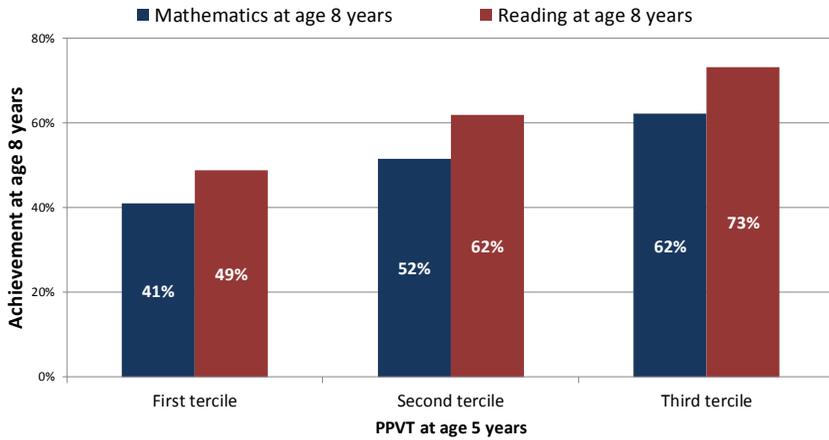
- Distributions of raw and Rasch scores.
- Reliability indexes and SEM according to CTT and IRT.
- Correlation between test scores and socio-demographic and educational variables.

Detailed information available in Young Lives Technical notes:

Cueto, S., León, J., Guerrero, G. & Muñoz, I. (2009). *Psychometric characteristics of cognitive development and achievement instruments in Round 2 of Young Lives*. Oxford: Young Lives. Technical Note 15.

Cueto, S. & León, J. (2012). *Psychometric characteristics of cognitive development and achievement instruments in Round 3 of Young Lives*. Oxford: Young Lives. Technical Note 25.

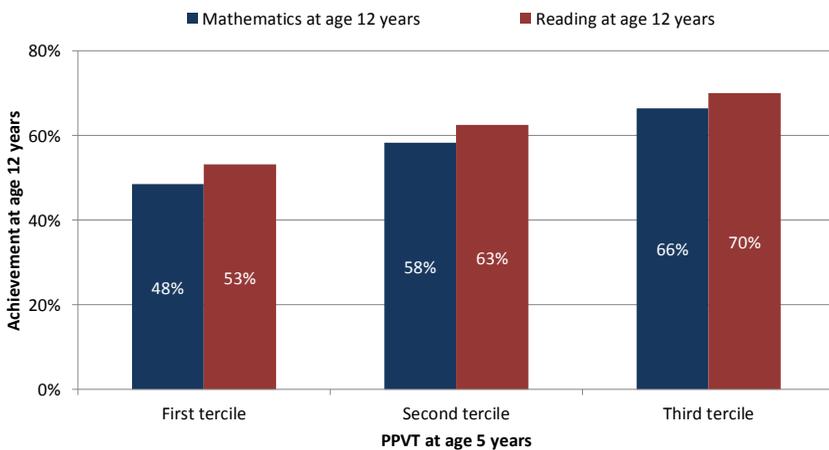
PPVT score at age 5 vs. achievement at age 8 (Peru)



Note: Scores are presented as a percentage of correct answers over total possible score.



PPVT at age 5 and achievement at age 12 (Peru)



Note: Scores are presented as a percentage of correct answers over total possible score.



Conclusions (i)

- Assessing ECD and achievement as part of Young Lives is hard work and takes time.
 - We adapted tests, developed manuals, trained fieldworkers (training sessions included role playing, tests and practice evaluation with children).
 - Doing this took between 6 months and a year, depending on the round and country.
 - Training fieldworkers in administering PPVT: two weeks approximately, considering practice evaluation with children.

Conclusions (ii)

- In spite of limitations, the PPVT (a measure of receptive vocabulary), administered at age 5 has reasonable levels of reliability and validity across languages and cultures, and predicted later achievement in math and reading for all countries.
- For ECD tests –specially verbal tests- be careful for comparison across languages and countries.

Young Lives / Niños del Milenio, a longitudinal study

Visit our websites in English and Spanish to
download publications, surveys and the
indications to access to the data bases of the
three available rounds :

www.younglives.org.uk

www.ninosdelmilenio.org

