Developing a Screening Tool to Support Early Childhood Development in Brazil

The prevalence of children with developmental delays worldwide is estimated to be up to 18 percent. However, fewer than one-third of these children are identified by their health care providers. Early detection of delays and disabilities is critical. Addressing developmental concerns early on yields greater benefits to the child and provides more opportunity to mitigate factors that place children at risk of poor outcomes. Brazil faces significant challenges in identifying children's developmental problems early on due to the limited number of standardized screening and assessment tools. Our research aims to address this disparity.

RESEARCH GOALS

- Develop the **Dimensional Inventory for Child Development Assessment (IDADI)**, a multidimensional inventory used to assess a variety of developmental factors among young children in Brazil: cognitive, motor, communication and language, social-emotional and adaptive behavior.
- Test and refine the IDADI screening tool to obtain reliability and validity evidence to support using IDADI test scores.
- Construct age-based norms to help compare children's development to a large sample of typically-developing children living in Brazil.

WHY IS THIS RESEARCH NEEDED?

Standardized instruments are essential for tracking individual children's development and identifying potential delays, as well as evaluating the effectiveness of interventions that seek to improve children's developmental outcomes. Prior to developing the IDADI screening tool, there were no psychometrically sound standardized screening and assessment tools with normative data to evaluate development among young children in Brazil.

COLLABORATORS

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(Principal Investigator)
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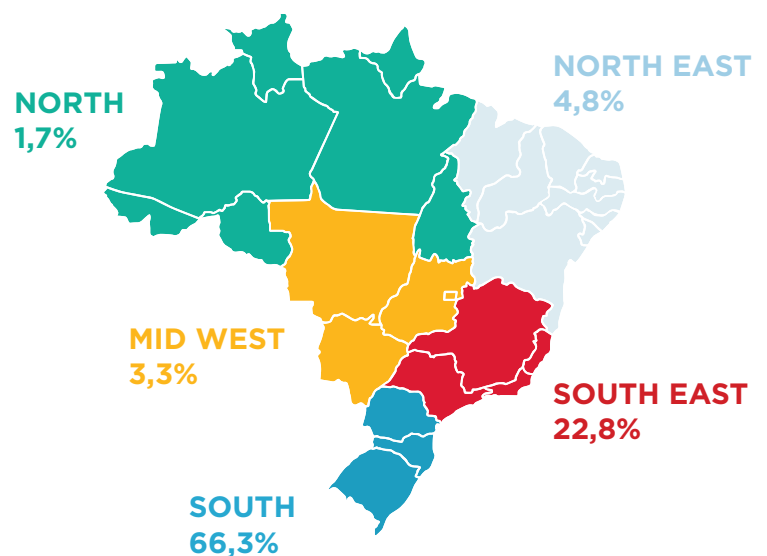- Euclides Mendonça Filho

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(Principal Investigator)
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LOCATION

Data were collected from all five regions of Brazil.

NORTH 1,7%

NORTH EAST 4,8%

MID WEST 3,3%

SOUTH EAST 22,8%

SOUTH 66,3%

2,190

mothers completed IDADI,
via paper* and web

21%

mothers with family
income of $1,200-2,500 per
month (U.S. dollars)

51.6%

male children
(ages 4-72 months)

Mothers who completed the paper versions were recruited from public and private institutions of education, university clinical service centers and health service centers across Brazil.

RESULTS

- IDADI scores demonstrated reliability evidence, as indicated by excellent score consistency and differentiation among children at different developmental levels.
- IDADI scores demonstrated validity evidence, using variables such as child age, developmental diagnosis and maternal education.
- Although the IDADI was not specifically designed to screen for Autism Spectrum Disorder, IDADI scores showed strong sensitivity and specificity in distinguishing children with ASD from typically developing children.

RECOMMENDATIONS

- In early childhood, negative outcomes can be mitigated when developmental delays are detected and treated early.
- Systematic use of psychometrically sound standardized screening and assessment tools with appropriate normative data can improve detection of developmental delays.
- IDADI offers researchers and clinicians a psychometrically supported and low-cost tool for assessing development among young children in Brazil.
- IDADI Rasch interval scores can be used to monitor children's developmental trajectories across a wide developmental period (4 to 72 months of age).
- IDADI scores may be useful for evaluating the effectiveness of early interventions and education programs, although more research is needed to evaluate these proposed uses.

Researcher Euclides Mendonça Filho talks to a child while her mother completes the IDADI.

What's next?

- Prepare an IDADI User's Manual
- Develop a short version of IDADI (with age-based norms)
- Develop a direct assessment version of IDADI

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