

THE MACARTHUR CDI: PAST, PRESENT & FUTURE

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**PARENT REPORT
IN CHILD LANGUAGE RESEARCH:**

**HOW TO BOTTLE
THE DIARY STUDY**

DIARY STUDIES: CLASSICS

- Darwin, C. (1887). A biographical sketch of an infant. *Mind*, 2, 285-294.
- Stern, W., & Stern, C. (1928). *Die kindersprache*. Darmstadt: Wissenschaftliche Buchgesellschaft.
- Leopold, W. (1949). *Speech development of a bilingual child*. Evanston, Ill.: Northwestern University Press.

DIARY STUDIES: MODERN ERA

- Dromi, E. (1987). *Early lexical development*. Cambridge: Cambridge University Press.
- Tomasello, M. (1992). *First verbs: a case study of early grammatical development*. Cambridge: Cambridge University Press.
- Mervis, C. (1994). Studying lexical development: the value of the diary method. In C. Rovee-Collier & L. Lipsitt (Eds.), *Advances in infancy research, Vol. 8*. Norwood, NJ: Ablex.

PARENT REPORT IN GROUP STUDIES

- Nelson, K. (1973). Structure and strategy in learning to talk. *Monographs of the Society for Research in Child Development, 38, 1-2, Serial No. 149.*
- Bates, E., Camaioni, L., & Volterra, V. (1975). The acquisition of performatives prior to speech. *Merrill-Palmer Quarterly, 21(3), 205-226*
- Bates, E., Benigni, L., Bretherton, I., Camaioni, L. & Volterra, V. (1979). *The emergence of symbols.* New York: Academic Press.
- Bates, E., Bretherton, I. & Snyder, L. (1988). *From first words to grammar.* Cambridge: Cambridge Univ. Press.

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*RESEARCH NETWORKS ON
EARLY CHILDHOOD TRANSITIONS*

Robert Emde, Director

DEVELOPMENT OF THE CDI (1982 - 1994)

- Early formulations
 - Parallel developments in US/Italy
 - Initial items based on
 - Prior parent report studies in both countries
 - Literatures for each language
- Successive norming efforts
 - Small sample pilot studies/parent focus groups
 - 500+ "pre-norming" in English
 - Final norming with +1800 infants in English
 - San Diego, Seattle, New Haven
 - Monolingual (biased toward middle class)

OBTAINING VALID & RELIABLE DATA WITH PARENT REPORT: 3 RULES

- Only ask about current behaviors
- Only ask about salient, emerging behaviors that parents can recognize and track
- Respect the science of adult memory

OBTAINING VALID & RELIABLE DATA WITH PARENT REPORT: Rule #1

- Only ask about current behaviors
 - Retrospective reports are subject to 'embellishment'
 - When accurate on the facts, retrospective reports tend to be wrong on the timing

OBTAINING VALID & RELIABLE DATA WITH PARENT REPORT: Rule #2

- Only ask about salient, emerging behaviors that parents can recognize and track
 - Phonology is hard for parents to think about
 - Parents believe that production = comprehension
 - Word comprehension can be tracked up to ~18 months (or the developmental equivalent)
 - Word production can be tracked up to ~30 months (or the developmental equivalent)
 - But see “special lexical categories”, e.g. emotion words
 - Early grammar can be assessed with concrete examples

OBTAINING VALID & RELIABLE DATA WITH PARENT REPORT: Rule #3

- Respect the science of adult memory
 - Rely on recognition rather than recall
 - Checklists
 - Sentence pairs
 - Probe within categories
 - Items serve as contextual cues for each other
 - Minimize the amount of inference that is required
 - Provide examples if/when necessary

**VARIABILITY IN EARLY
COMMUNICATIVE DEVELOPMENT**
(SRCD Monograph #242, Vol. 19:5, 1994)

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J. Steven Reznick
Elizabeth Bates
Donna Thal
Stephen Pethick

New Manual with Updated Norms Due 2003 (Brookes Publishing)

Fenson et al.

**NOTE: VIRGINIA MARCHMAN IS ASKING FOR
LOW-EDUCATION/NON-WHITE CDI'S TO
CONTRIBUTE TO UPDATED NORMS
(CALL ON INFO-CHILDES)
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TWO FORMS OF THE CDI

- WORDS & GESTURES FORM
 - 8-18 months or developmental equivalent
 - Early signs of comprehension
 - Gesture checklist
 - Word comprehension & production checklist (396 items)
- WORD & PHRASES FORM
 - 16-30 months or developmental equivalent
 - Word production checklist (680 items)
 - Grammatical complexity checklist (37 sentence pairs)
 - Morphology checklist (regulars, irregular, overgeneralizations)
 - Three longest utterances

USES OF PARENT REPORT

- PARENT REPORT COMPLEMENTS OTHER METHODS
 - CANNOT REPLACE OBSERVATIONAL AND/OR EXPERIMENTAL METHODS FOR MOST PURPOSES
 - FILLS IN WHERE OBSERVATIONAL/EXPERIMENTAL METHODS ARE IMPRACTICAL
 - BECAUSE OF COST
 - BECAUSE PARENTS KNOW THINGS WE CANNOT SEE WITHOUT MOVING INTO THE HOME

USES OF PARENT REPORT

- Collection & comparison of norms with large samples
- Outcome measure for large-sample studies
- Dependent variable for experimental studies
- Independent variable for experimental studies
- Individual tracking in case studies
- Screening for clinical purposes

USES OF PARENT REPORT

- Collecting/Comparing Norms w. Large Samples
 - Charting growth within domains
 - Curve-Smoothing: "Height-Weight Charts for Language"
 - Curve-Fitting: comparing models of growth
 - Relationships between domains
 - Changes in the composition of vocabulary
 - Production as a function of comprehension
 - Gesture as a function of vocabulary level
 - Grammar as a function of vocabulary level
 - Group comparisons
 - Demographics (gender, social class)
 - Cross-linguistic comparisons
 - Comparisons across clinical groups

USES OF PARENT REPORT

- Outcome measure for large-sample studies
 - Multi-Site Daycare Initiative
 - Treatment of Otitis Media (Pittsburgh study)
 - Behavioral Genetics
 - Twin studies
 - Plomin, Bishop, Dale
 - Reznick et al.
 - Adoption studies

USES OF PARENT REPORT

- Dependent variable for experimental studies
 - Complement to laboratory observations
 - Free speech
 - Experimental probes
 - Cross-validation of methods
 - Hundreds of validation studies now available
 - "Shape of Change"
 - Growth parameters in longitudinal studies as dependent variables that subsume multiple single-point observations

USES OF PARENT REPORT

- Independent variable for experimental studies
 - To define children by language level as well as age
 - Predicting current language behavior
 - Predicting current non-language behavior
 - Predicting long-term outcomes in longitudinal designs
 - Predicting short-term effects of training
 - Predicting brain activity
 - Risk indicators for current status and long-term outcomes in clinical studies
 - To select the items used in experimental studies

USES OF PARENT REPORT

- Individual tracking in case studies
 - Structured diaries
 - “Baby book” for the modern parent/scientist
 - Permits comparison with group norms (see Screening)
 - Comparison of structured and open-ended diaries
 - Mervis' study of Ari
 - Coverage of CDI drops as individual vocabularies increase
 - Bilingual tracking
 - By a single bilingual parent
 - By one caretaker in each language

USES OF PARENT REPORT: HOPES FOR THE FUTURE

- Screening
 - Full coverage short forms
 - Sensitivity at all levels of difficulty
 - High correlations with full form
 - Preferable for pediatric practices & individual parents
 - Screening forms
 - Sensitivity in the lower range of difficulty
 - Lower correlations with full form
 - Preferable for clinics & health care services

USES OF PARENT REPORT: HOPE FOR THE FUTURE

- Computerized Screening
 - Shorten testing by automated step-up/step-down presentation of items
 - Individualized assessment at work stations in pediatric waiting rooms
 - Web-based services for individual parents
 - Versions available in multiple languages to compensate for limited availability of multilingual clinical services