

Determining the Validity of the Vocal Development Landmarks Interview:

A Parent-Report Tool for Infants and Toddlers - Presentation Handout

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Overview:

- What is the Vocal Development Landmarks Interview (VDLI)?
- Does it work?
- What's next?

Part 1: What is the VDLI?

Background:

- Vocal development leading up to word production in infants with normal hearing follows a continuum of predictable stages (precanonical, canonical, advanced forms & words)
- Monitoring infants' progression through these stages has the potential to guide intervention for children who are deaf or hard of hearing.
- Tools are needed that can effectively monitor the vocal development of infants to give us insights about auditory and prelinguistic communication skills underlying spoken language.
- Parent report is a viable and efficient method for assessing babble onset and vocabulary development in young children.
- However, less is known about parents' ability to report on the earliest aspects of their infants' vocal productions (e.g., vowels, marginal syllables).
- The Vocal Development Landmarks Interview (VDLI) is a parent-report tool that assesses the early vocal development of infants, ages 6-21 months.
- This presentation introduces two studies that examine the validity of the VDLI.

Two existing parent-report scales:

- Production Infant Scale Evaluation (PRISE) – Kishon-Rabin, et al. (2005)
- Infant Monitor of Vocal Production (IMP) Cattle Moore (2009)

Vocal Development Landmarks Interview (VDLI):

- 18-item interactive interview
- Developmental range: 6-21 months
- Presents authentic infant vocalizations; often in paired comparison paradigm
 - To avoid use of technical terms
 - To ensure that parents and providers "on same page"
 - To calibrate examiners
- Uses standard interview format and Power Point slides with audio files

Item Types on the VDLI:

VDLI Response Types and Scoring Schemes		
Response Type	Description	Scale/Scoring (points)
Frequency Rating	Judge how often the child produces the behavior using a 4-point Likert scale	Never = 0 Rarely = 1 Sometimes = 2 Frequently = 3
Inventory	Report of the number of different vowels, consonants, or words the child produces	Scale varies based on the behavior. Scoring ranges from 0-3, depending on number of types for each behavior
Accuracy Rating	Judge accuracy of imitations	No imitation = 0 Far off = 1 Somewhat close = 2 Very close = 3

Part II: Does it Work?

Research Questions: Study 1

1. Does the VDLI capture the expected developmental stages?
2. Are scores related to a concurrent measure of early speech behaviors?
 - Communication and Symbolic Behavior Scales – Developmental Profile (CSBS-DP, Speech Composite)

Participants and Procedure:

- 160 hearing infants; split in 8 age groups (20 in each)
6-7, 8-9, 10-11, 12-13, 14-15, 16-17, 18-19, 20-21 months
- Internet supported parent interviews – parents accessed power point online
- Parents also completed DP-3 and CSBS-DP

Results Summary:

- VDLI reflects expected sequence of development
 - Precanonical, canonical, and word subscales differ as a function of age
- Age is a significant predictor of scores
- Subscales differentially sensitive depending on the child's age
- Strong positive correlation with CSBS-DP ($r = .933, p < .001$)

Research Questions: Study 2

1. How well do parents and a researcher agree in their judgments of infant vocal behaviors that are surveyed on the VDLI?

Participants and Procedure:

- Subgroup of 40 of the infants participating in Study 1
- Collected a full day LENA recording within 2 weeks of the VDLI interview
- 30 minutes of highly vocal periods were analyzed (categorized, transcribed and then given a VDLI score)
- Children's scores converted to z scores relative to age group – lower 3rd = rare, middle 3rd = sometimes, highest 3rd = frequent (to match parent scoring system)

- Two agreement measures:
 - **Bidirectional adjacency:** “in agreement” if ratings fell within one point of each other parent said “1” and examiner said “2”
 - **Presence-absence:** “in agreement” if both reported behavior as “present” (i.e., 1, 2, or 3) or “absent” (i.e., 0)

Results Summary:

- Agreement reached acceptable-to-strong levels or presence-absence scoring and for bidirectional agreement on non-frequency based items (e.g., those that did not require a Likert-scale frequency judgment such as inventories)
- Frequency-based items often fell below chance in bidirectional agreement, more were acceptable for presence-absence scoring
- VDLI shows promise, so we are moving on to next steps

Part III: What’s next?

- Use findings from Study 1 & Study 2 to strengthen the scale
- Finalize revisions to administration manual
- Conduct item analysis (IRT to develop adaptive presentation mode)
- Develop web and app based versions to share with clinicians and educators

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