

## Parents' experiences of early intervention: Information they receive and use to support the language development of their children with hearing loss

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Early On Colloquium  
6/5/2015



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Financial Disclosure: Nothing to disclose.

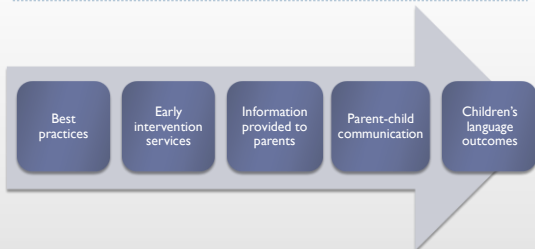
Nonfinancial Disclosure: An Early On® investigator's grant supported the research presented by Dr. Decker. This course is offered for .5 ASHA CEUs (Intermediate level, Professional area).

## Outline

- ▶ Theoretical framework and rationale
- ▶ Methods of data collection
- ▶ Study 1
- ▶ Study 2
- ▶ Discussion
- ▶ Questions, comments

▶ 2

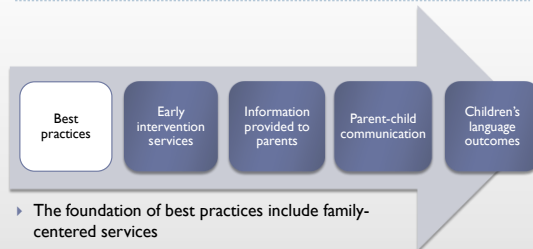
## Theoretical Framework & Rationale



Division for Early Childhood, 2014; Moeller, Carr, Seaver, Stredler-Brown, & Holzinger, 2013; Yoshinaga-Itano, 2014; Tomasello, 2008; Gergen, 1985; Lock & Strong, 2010; Burr, 1995; Desjardin, 2006; Desjardin & Eisenberg, 2007; Cruz, Quttner, Marker, Desjardin, & CDaCI Investigative Team, 2013; VanDam, Ambrose, & Moeller, 2012; Ambrose, VanDam, & Moeller, 2014

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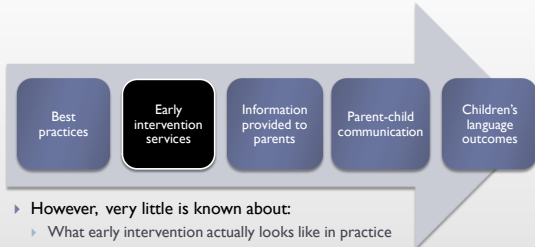
## Theoretical Framework & Rationale



- ▶ The foundation of best practices include family-centered services
- ▶ Should include information to support:
  - ▶ Parental self-efficacy
  - ▶ Decision-making
  - ▶ Positive parent-child interactions

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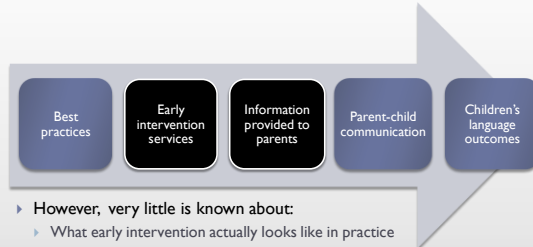
## Theoretical Framework & Rationale



- ▶ However, very little is known about:
  - ▶ What early intervention actually looks like in practice

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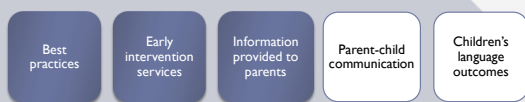
## Theoretical Framework & Rationale



- ▶ However, very little is known about:
  - ▶ What early intervention actually looks like in practice
  - ▶ The specific information provided to parents
- ▶ Some best practices are vague
  - ▶ Parents may receive varied information and advice

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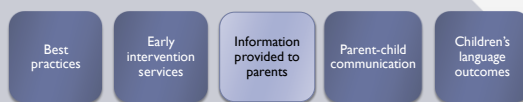
## Theoretical Framework & Rationale



- ▶ Certain quantities and qualities of parents' language are most beneficial for children with hearing loss
  - ▶ Parents' language is most influential when it focuses on children's interests or actions
- ▶ The field is lacking in an understanding of what explains the variation in these aspects of parents' language

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## Theoretical Framework & Rationale



### Study 1 investigates:

- ▶ The information parents report that they receive via early intervention service providers about how to promote their children's language development

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## Theoretical Framework & Rationale



### Study 2 investigates:

- ▶ The variation in parents' language inputs
- ▶ Relationships between the information parents report receiving and their language inputs
- ▶ Patterns between parents' language and contextual characteristics

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## Methods

- ▶ Recruitment primarily through Michigan's *Early On* program

### Criteria for being in the study:

#### ▶ Children:

- ▶ Between 12 and 30 months of age
- ▶ Enrolled in early intervention
- ▶ No additional disabilities
- ▶ Any: degree of hearing loss, hearing support, primary mode of communication (spoken, signed, etc.)

#### ▶ Parents:

- ▶ Typically hearing
- ▶ English as primary language



▶ 10

## Methods

### ▶ Home visit included:

- ▶ Questionnaires, book reading, 10 minute free play, interview
- ▶ ~2 hours
- ▶ \$40 gift card, children's book



▶ 11

## Participants

### ▶ Sample size = 12 families

- ▶ Caucasian
- ▶ 11 mothers
- ▶ Income: 12-19k (n = 3), 40-60k (2), 80k+ (7)
- ▶ Education: high school (n = 2), some college (3), degree (7)

### ▶ Children's characteristics:

- ▶ Age in months:  $M = 21.6$
- ▶ 7 females
- ▶ Mild (n = 4), moderate (2), severe (2), profound (4) hearing loss
- ▶ Age at start of intervention,  $M = 6.7$  months
- ▶ Hearing aids (n = 8), cochlear implants (3)

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## Study 1

This study investigates:

- 1) Parents' reports of the information they receive from their early intervention services providers regarding:
  - a) How to promote the language development of their children with hearing loss
  - b) Their role in this process of supporting the language development of their children

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## Analysis: Qualitative

- ▶ Videotaped interview with parents
- ▶ Thematic analysis (Braun & Clarke, 2006)
  - ▶ Identification of patterns or themes
  - ▶ Inductive approach, data-driven

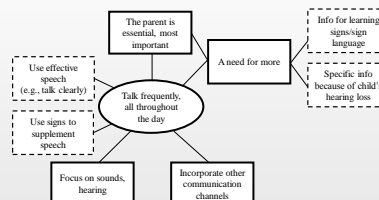


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## Results: Information Received

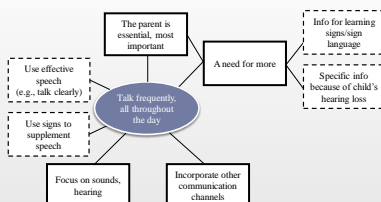
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## Results: Information Received



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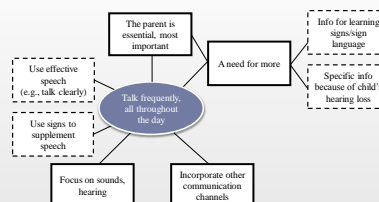
## Results: Information Received



- ▶ Central, most prominent
- ▶ *Talk throughout all everyday activities and routines*
  - ▶ These activities may seem mundane, but are great opportunities for their children to learn language

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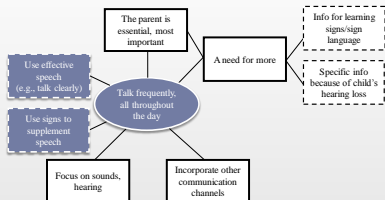
## Results: Information Received



"Everybody through the program always says that no matter what you're doing, you should say everything that you're doing. Everything. [...] They'll pick it up because you're constantly saying everything that's going on: if you're going to the grocery store, if you're driving, if you're eating, if you're brushing their teeth. Every single thing that you do it should be constant language. [...] Pretty much non-stop talking." (110)

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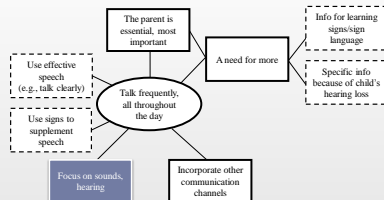
## Results: Information Received



- ▶ Clarity of speech, saying things "right", pronunciation
- ▶ Signing and speaking
  - ▶ Handouts
  - ▶ Websites

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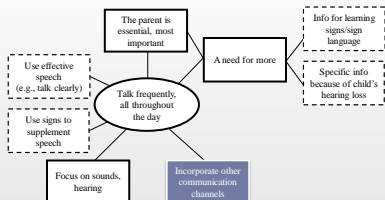
## Results: Information Received



- ▶ Discussing or drawing attention to a variety of sounds
  - ▶ Spoken communication
  - ▶ Sounds within the environment
  - ▶ Toys and other objects

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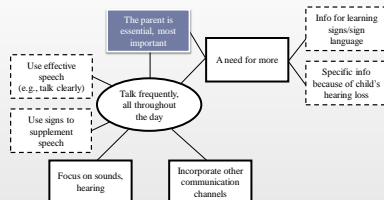
## Results: Information Received



- ▶ Eye contact, being face-to-face
  - ▶ "One of the most important things is they like you to be at eye level with [your child] so they can see your whole face. Otherwise it is hard for them to pay attention or even hear." (110)
- ▶ Touch, to make connections with sounds

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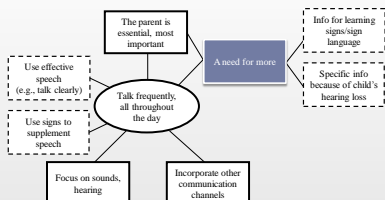
## Results: Information Received



- ▶ The crucial role of the parents
  - ▶ "That basically that I'm his number one teacher." (101)
  - ▶ "Well, they're here twice a month, at best twice a week. That's only two hours a week. So, if I don't do it then it's not going to get done. [...] That's what she said the first time she came here." (112)

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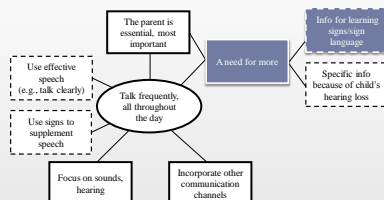
## Results: Information Received



- ▶ Parents discussed a need for two types of additional information
  - ▶ This would make them feel more fully supported

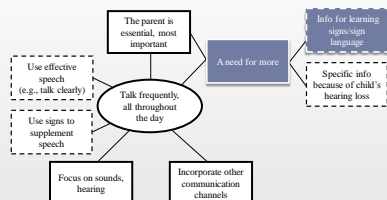
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## Results: Information Received



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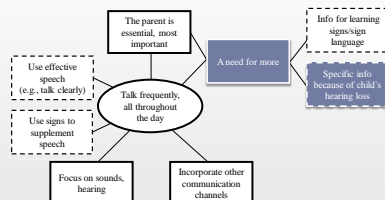
## Results: Information Received



- ▶ “I think it would have been helpful if, I guess, if I could change anything—if I could have got assistance from early intervention in terms of learning sign language myself. That was something we totally had to do on our own [through classes].” (105)

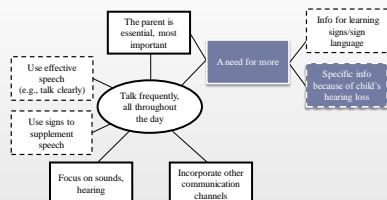
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## Results: Information Received



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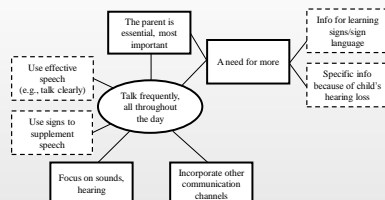
## Results: Information Received



- ▶ “It’s not bad for her to feel like she’s any child and I’m any parent. I mean that’s not a bad thing, but we do have a special situation here that I need to be on top of. And I just kind of feel like I’m coasting along like anyone else would that doesn’t have a special situation, and I don’t like that feeling. I kind of feel powerless and I question everything, and I don’t have anyone telling me. They’re telling me I’m doing good but they’re not telling me anything specific I can do better, so I don’t feel like I’m doing better.” (111)

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## Results: Information Received



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## Discussion

- ▶ The information parents receive is mostly in line with current best practices
  - ▶ Parents are the most important
  - ▶ Frequent communication
  - ▶ Ways to support language during everyday activities
- ▶ However, there is room for improvement
  - ▶ Parents’ communication decision(s) must be supported in an unbiased way by trained professionals
  - ▶ Overall quantity of language is not most important
    - ▶ Parents themselves recognized that something more specific is needed

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## Study 2

This study investigates:

- 1) The variation in the quantities and qualities of parents’ language
- 2) Relationships between the information parents report receiving and their language inputs
- 3) Patterns between parents’ language and contextual characteristics

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## Analysis: Quantitative Observational

- Free play: parents and children were videotaped while playing together for 10 minutes, with toys provided
- Transcripts created of spoken language and signs
- Quantitative observational coding
  - Parents' use of language techniques
    - Adaptation of Desjardin (2006) and Cruz et al. (2013) coding system
    - 33% double coded, Kappa:  $M = .80$  (range = .75 - .85)
      - "Substantial agreement" (Viera & Garrett, 2005)

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	Code	Code Name	Definition
Lower-Level	CQ	Closed-Ended Questions	A question that the child can answer with one word or that only has one specific or expected answer.
	DR	Directive	Giving directions via statements; telling the child to do something specific.
	IM	Imitation	Repeating the child's vocalization or verbalization; usually this will be an exact imitation, but it can also include other words, such as "hmm" or "yeah."
	LM	Linguistic Mapping	Putting the child's potential intended message or actions into words.
	NO	Noise making, onomatopoeias	Noises that imitate animals, objects, or actions.
	PE	Perpendicular Talk	A verbalization that relates to something outside of what the child is involved in or attending to, such as an object, activity, or topic of conversation.
Higher-level	RA	Responsive Acknowledgement	A phrase or word that acknowledges an utterance or action of the child; this could also be phrased as a question.
	EX	Expansion	Expanding upon the child's verbalization; this can include making grammatical corrections or adding new information to the child's verbalization.
	PA	Parallel Talk	A verbalization that relates to what both the parent and child are involved in or attending to, such as an object, activity, or topic of conversation.
	OQ	Open-Ended Questions	A question that the child can answer with more than one word or that could have more than one possible answer; this can also be a phrase ("Tell me...")
	RE	Response-Questions	When a parent changes the child's utterance into a question; this can include one or more words.

32 Adapted from Desjardin, 2006; Cruz et al., 2013

## Analysis: Parent Interview

- Thematic analysis (Braun & Clarke, 2006)
  - Identification of patterns or themes
  - Inductive approach, data-driven
- Themes and codes were turned into binary variables, indicating whether each parent's interview included a specific code or theme
  - 0 = had not received information
  - 1 = had received information

	Talk frequently, all throughout the day	Narrate	Play together	Read books together	Slow down the interaction
Parent 112	1	1	0	0	1

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## Analytic Approach

- Aim 1: Examine the variation in of parents' language
  - Quantities
  - Qualities (language techniques)
- Aim 2: Explore patterns between info and parents' language
- Aim 3: Explore patterns between parents' language and reports of household income and education

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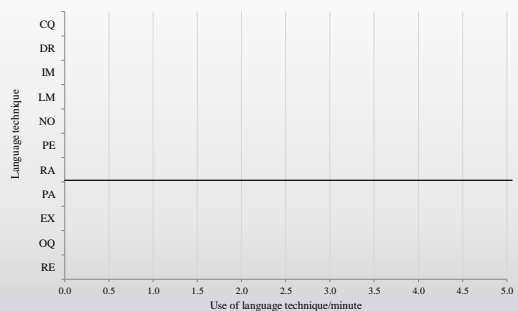
## Results: Aim 1 (Quantities)

Quantities of Parents' Language Use during Free Play

ID	Types	Tokens	Type/Token Ratio	Types that were signs + speech, or signs only	Tokens that were signs + speech, or signs only	Mean length of utterance	LTs/minute
101	198	818	0.24	1	1	3.61	24.00
102	174	704	0.25	0	0	2.92	24.00
103	132	415	0.32	6	6	1.96	21.80
104	169	580	0.29	1	3	3.00	19.50
105	152	498	0.31	37	72	2.76	16.70
106	202	711	0.28	2	5	3.09	24.00
107	160	585	0.27	0	0	3.18	20.20
108	192	698	0.28	3	4	3.21	23.10
109	152	406	0.37	0	0	2.82	14.80
110	95	216	0.44	0	0	2.66	8.10
111	184	723	0.25	0	0	3.83	19.70
112	107	320	0.33	3	3	2.62	12.70
<i>M</i>	159.75	556.17	0.30	4.42	7.83	2.97	19.05
<i>SD</i>	34.42	186.13	0.06	10.42	20.32	0.47	5.07
<i>Range</i>	95-202	216-818	0.24-0.44	0-37	0-72	1.96-3.83	8.10-24.00

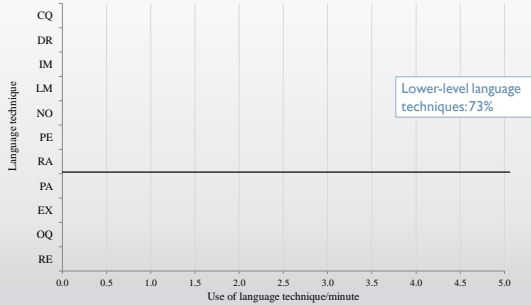
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## Results: Aim 1 (Qualities)



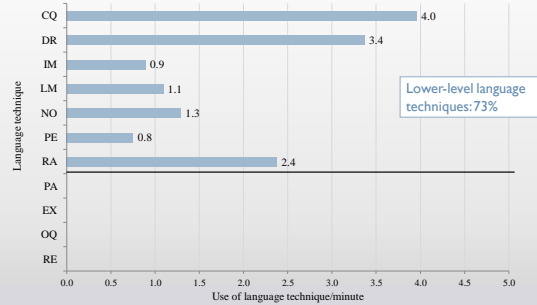
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### Results: Aim 1 (Qualities)



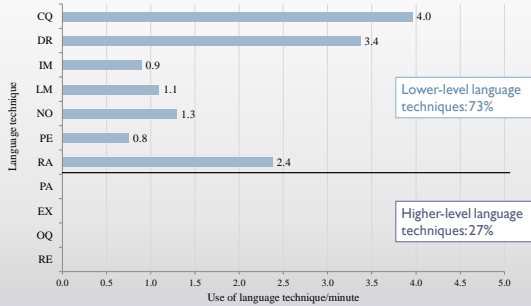
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### Results: Aim 1 (Qualities)



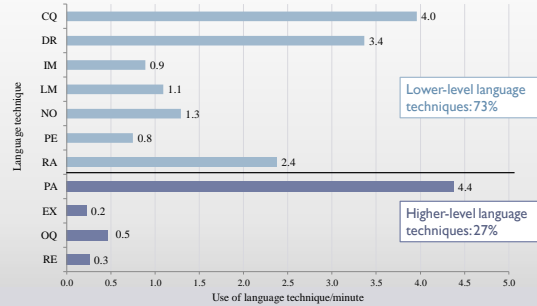
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### Results: Aim 1 (Qualities)



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### Results: Aim 1 (Qualities)



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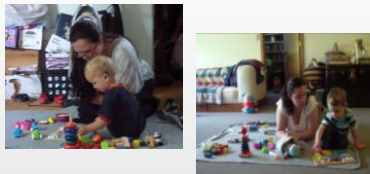
### Video Examples

▶ Example 1:

- ▶ ID 110
- ▶ 4:10-5:10

▶ Example 2:

- ▶ ID 101
- ▶ 3:20-4:20



▶ What do you notice about these video clips?

- ▶ Quantities of language
- ▶ Qualities of language (ex: parallel talk, questions, etc.)

▶ 41

### Results: Aim 2

*Overarching patterns:*

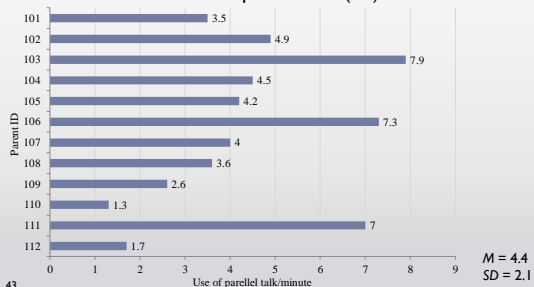
- ▶ The use of parallel talk and receiving information about the importance of frequently talking
  - ▶ Could have led to perpendicular (PE) or parallel talk (PA)
- ▶ The combination of information may be what contributes to the use of parallel talk (PA)
  - ▶ To incorporate other communication channels
  - ▶ This may encourage parents to consider or gain their child's attention before communicating

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## Results: Aim 2

## Qualities of language

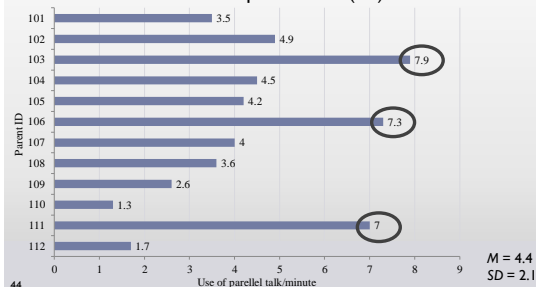
## Variation in the use of parallel talk (PA)



## Results: Aim 2

## Qualities of language

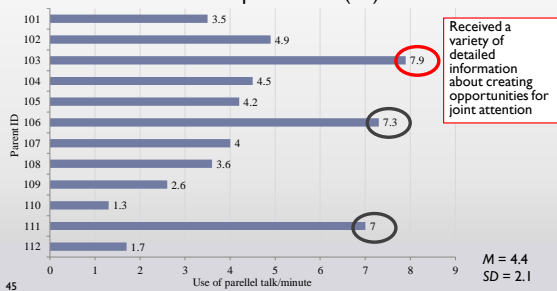
## Variation in the use of parallel talk (PA)



## Results: Aim 2

## Qualities of language

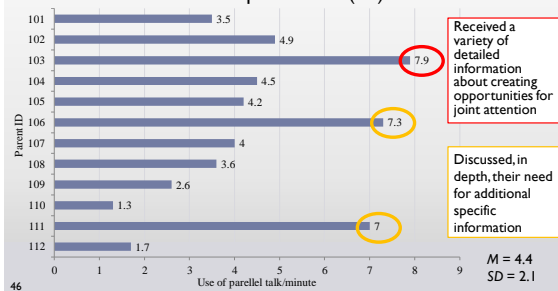
## Variation in the use of parallel talk (PA)



## Results: Aim 2

## Qualities of language

## Variation in the use of parallel talk (PA)



## Results: Aim 3

## Family socioeconomic status

- ▶ The three parents, 102, 109, and 110, used directives (DR) much more often than all others
  - ▶ These parents had the lowest reported income
  - ▶ No identifiable differences in information received
- ▶ Parent 110 had also used the lowest number of word types, word tokens, and LTs per minute
  - ▶ Lowest reported income and level of education

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## Discussion

- ▶ The majority of parents' language included lower-level language techniques
  - ▶ Their use of higher-level language techniques was driven by parallel talk (PA)
- ▶ The information parents receive has the potential to influence both the quantities and qualities of their language
  - ▶ Parents may benefit the most from information that considers not only quantity, but the quality of their language, specifically following their child's lead
- ▶ Contextual factors, such as family income and education, are also related to the quantities and qualities of parents' language

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## Studies 1 & 2

- Discussion
- Future Directions

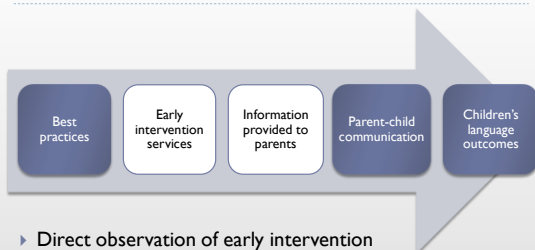
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## Overall Discussion & Implications

- ▶ **Parents receive a variety of information**
  - ▶ Information about parent importance and frequent communication is in line with best practices
  - ▶ Parents need additional information about sign language
- ▶ **The information parents receive is influential**
  - ▶ However, parents primarily receive information about the overall quantity of their language
  - ▶ Parents want more specific, nuanced information
- ▶ **Parents' use of parallel talk provides an opportunity to build on and expand their skills**
  - ▶ This may provide a bridge to other higher-level language techniques
- ▶ **Differentiation is needed**

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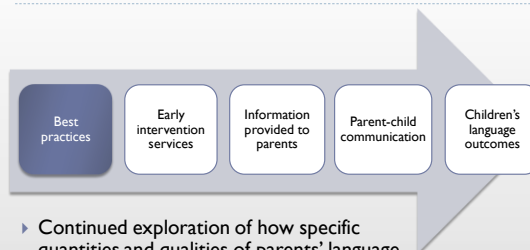
## Future Directions



- ▶ **Direct observation of early intervention**
  - ▶ Information provided and the way in which it is provided
- ▶ **Combined with parents' and service providers' reports**
  - ▶ Would help identify gaps between information provided and internalized

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## Future Directions

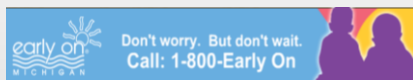


- ▶ **Continued exploration of how specific quantities and qualities of parents' language inputs influences children's language skills over time**
  - ▶ How it is potentially influenced by the variation in information provided and internalized

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## Appreciation and Thanks

- ▶ **Most importantly: to the families that participated**
- ▶ **Early On Center for Education, Faculty Grant Award**
  - ▶ Early On county coordinators and service providers
- ▶ **Fahs-Beck Fund for Research & Experimentation**



Fahs-Beck Fund for Research and Experimentation

A Fund Established with The New York Community Trust for Dissertation and Faculty Research in the Human Services

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## Appreciation and Thanks

- ▶ **My mentors and team**



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## Appreciation and Thanks

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Thank you!  
Questions or comments?