Parent Anaphora Use Lit Review

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- [Grice, 1969]: Utterer's Meaning and Intention
- [Snow, 1972]*: Mothers' Speech to Children Learning Language
- [Phillips, 1973]*: Syntax and Vocabulary of Mothers' Speech to Young Children: Age and Sex Comparisons
- [Bruner, 1974]: From communication to language—a psychological perspective
- [Fraser and Roberts, 1975]*: Mothers' Speech to Children of Four Different Ages
- [Seitz and Stewart, 1975]*: Imitation and expansions: Some developmental aspects of mother-child communications
- [Gleason and Weintraub, 1976]: The Acquisition of Routines in Child Language
- [Blount and Padgug, 1977]: Prosodic, paralinguistic, and interactional features in parent-child speech: English and Spanish
- [Snow, 1977a]: The development of conversation between mothers and babies
- [Snow, 1977b]: Mothers' speech research: From input to interaction
- [De Paulo and Bonvillian, 1978]*: The effect on language development of the special characteristics of speech addressed to children
- [Messer, 1978]: The Integration of Mothers' Referential Speech with Joint Play
- [Furrow et al., 1979]: Mothers' speech to children and syntactic development: some simple relationships
- [Cross, 1979]: Mothers' speech adjustments and child language learning: Some methodological considerations

- [Bellinger, 1980]: Consistency in the pattern of change in mothers' speech: some discriminant analyses
- [Bohannon et al., 1982]: The "Fine-Tuning" Hypothesis of Adult Speech to Children: Effects of Experience and Feedback
- [Kantor, 1982]: Communicative Interaction: Mother Modification and Child Acquisition of American Sign Language
- [Wolchik, 1983]: Language patterns of parents of young autistic and normal children
- [Lipscomb and Coon, 1983]: Parental Speech Modification to Young Children
- [Tomasello and Farrar, 1986]: Joint Attention and Early Language
- [Nwokah, 1987]: Maidese Versus Motherese — Is The Language Input of Child and Adult Caregivers Similar?
- [Papousek et al., 1987]: Didactic Adjustments in Fathers' and Mothers' Speech to Their 3-Month-Old Infants
- [Hayes and Ahrens, 1988]: Vocabulary simplification for children: a special case of 'motherese'?
- [Rabain-Jamin and Sabeau-Jouannet, 1989]: Playing with pronouns in French maternal speech to prelingual infants
- [Baldwin, 1993]: Infants' ability to consult the speaker for clues to word reference
- [Bard and Anderson, 1994]: The unintelligibility of speech to children: effects of referent availability
- [Siller and Sigman, 2002]: The Behaviors of Parents of Children with Autism Predict the Subsequent Development of Their Children's Communication
- [Kitamura and Burnham, 2003]: Pitch and Communicative Intent in Mother's Speech: Adjustments for Age and Sex in the First Year
- [Cameron-Faulkner et al., 2003]: A construction based analysis of child directed speech
- [Hoff, 2006]: How social contexts support and shape language development
- [Brodsky and Waterfall, 2007]: Characterizing Motherese: On the Computational Structure of Child-Directed Language
- [Blackwell, 2007]: Variations in "motherese" pronoun usage

- [Rowe, 2008]: Child-directed speech: relation to socioeconomic status, knowledge of child development and child vocabulary skill
- [Roy et al., 2009]: Exploring Word Learning in a High-Density Longitudinal Corpus
- [Romski et al., 2011]: Parent perceptions of the language development of toddlers with developmental delays before and after participation in parent-coached language interventions
- [Fischer et al., 2011]: Mindful tutors: Linguistic choice and action demonstration in speech to infants and a simulated robot
- [Kunert et al., 2011]: Adaptation in Child Directed Speech: Evidence from Corpora
- [Rowe, 2012]: A Longitudinal Investigation of the Role of Quantity and Quality of Child-Directed Speech in Vocabulary Development
- [McMurray et al., 2013]: Infant directed speech and the development of speech perception: Enhancing development or an unintended consequence?
- [Freeman and Kasari, 2013]: Parent–child interactions in autism: Characteristics of play
- [van Dijk et al., 2013]: Dynamic Adaptation in Child–Adult Language Interaction
- [Cox and van Dijk, 2013]: Microdevelopment in Parent-Child Conversations: From Global Changes to Flexibility
- [Smith et al., 2014]: Parent Stress and Perceptions of Language Development: Comparing Down Syndrome and Other Developmental Disabilities: Parent Stress, Perceptions, and Down Syndrome
- [Vouloumanos et al., 2014]: Do 6-month-olds understand that speech can communicate?
- [Dale et al., 2015]: Why does parental language input style predict child language development? A twin study of gene–environment correlation
- [Vihman, 2015]: Pick it up: a look at referential devices in Estonian child-directed speech
- [Yurovsky et al., 2016]*: Linguistic input is tuned to children's developmental level
- [Yurovsky, 2017]: A communicative approach to early word learning
- [Smith and Slone, 2017]: A Developmental Approach to Machine Learning?

- [Poulain and Brauer, 2018]: The changing role of mothers' verbal and nonverbal behavior in children's language acquisition
- [Smith et al., 2018]: The Developing Infant Creates a Curriculum for Statistical Learning
- [Suanda et al., 2019]: The Signal in the Noise: The Visual Ecology of Parents' Object Naming
- [Leung et al., 2019]*: Parents Calibrate Speech to Their Children's Vocabulary Knowledge
- [Kidd and Donnelly, 2020]: Individual Differences in First Language Acquisition
- [Quigley and Nixon, 2020]: Infant language predicts fathers' vocabulary in infant-directed speech

1 Early Work on 'Motherese'

- [Snow, 1972]: found that 1) parents keep speech simple/comprehensible for young children, 2) child-directed speech is designed (subconsciously) to aid children in learning language, 3) mothers and nonmothers made similar changes when speaking to older children than younger children
- [Phillips, 1973]: "the present study investigated the effect of the child's age on the speech of the speaker."
  - looked at children at 8, 18, and 28 months
  - found that mother adjusts speech complexity to the child's level of linguistic development, especially between 18 and 28 months
- [Fraser and Roberts, 1975]: "On four of the measures, both task and age of child had strongly significant effects. In general, with increasing age of child, mothers spoke more, in longer and grammatically more complex utterances, with greater diversity of vocabulary. The differences in speech addressed to 1.5 years olds and that addressed to 2.5 year olds were particularly marked."
- [Seitz and Stewart, 1975]: "Thus, it seems that mothers do tailor their language for the language learning child, but that a number of variables may influence the type and complexity of maternal speech. This study was conducted to examine (a) the influence of different utterance types on the mean length of mothers' utterances; (b) the relationships between mothers' and children's mean utterance length; and (c) the relationships between selected aspects of child speech and mothers' usage of expansions."
  - compared two groups of kids and their mother–mean age for younger group was 22.7 months, mean age for older group was 55.6 months

- video-recorded free play
- "From these data we propose that child speech that is responsive to mother's speech provides a gauge whereby mothers monitor their language to the child. This enables the child to exert an active influence on his language environment so that it changes with his increasing competence."

- [Gleason and Weintraub, 1976]: not as useful as the others, but the intro has a good way of putting the relationship between child language acquisition and the verbal input they receieve from parents
  - "A number of studies have shown that language addressed to children is char- acterized by phonological, morphological, and syntactic features that render it simpler, more regular, and easier to segment than language addressed to adults (Broen 1972; Remick I969; Snow 1972). If, as seems to be the case, the rules of such language are more easily discoverable than has been previously suggested, the child's task in extracting these rules need not be as dependent upon innate mechanisms as some researchers have suggested."

- [Blount and Padgug, 1977]: "It was expected that feature selection by the parents would change as the children advanced in age and that the changes would be significant over the entire age range. For the most part, this expectation was not met, at least in terms of the composite records for the children. As noted above, the most striking aspect of the parental speech was its uniformity across children."

- [Snow, 1977a]: "The early mothers' speech studies (and too many of the more recent ones as well) paid little or no attention to what the child was saying or doing." SOMETHING TO LOOK INTO FOR OUR STUDY
  - "This is perhaps not surprising; after all, mothers know pretty well what their children will and will not be able to under- stand, and they certainly want to produce comprehensible utterances. It would be enlightening to analyze samples of adult-adult speech for the presence of the prevalent semantic relations."

- [Snow, 1977b]: "The hypothesis that mothers operate on the basis of a conversational model in interacting with their babies helps to explain some of the striking aspects of the mother-infant interaction and some otherwise puzzling aspects of the mothers' speech register as well. This hypothesis accounts for the fact that mothers talk to young babies at all"
  - interestinggggg "Even children as young as 4 ; o produce many of these same modifications when addressing two- year-olds"

- [De Paulo and Bonvillian, 1978]: a super thorough lit review on this whole subject!!!
  - "The results of a number of recent studies, focusing primarily on mother-child interaction, show that adults are quite sensitive to changes in the child's productions and alter their speech(though probably not consciously)to

keep pace with the child's development. There is some evidence that adults gauge their speaking styles to the child's age and linguistic level."

- [Messer, 1978]: really similar to what we did! but they specifically focused on how mothers synchronize their non-verbal cues with verbal references to objects (during free play) and how this indicates that parents adjust their child's "early linguistic environment" to match language competence and "thereby make the input more comprehensible".
  - "Here, however, we have drawn attention to the fact that nonverbal aspects are not merely used to supplement speech but are finely integrated with it-with the result that the child is given plenty of help in understanding the identity of the referent by the mother's careful timing of her utterance to coincide with the manipulation of the appropriate object"

- [Furrow et al., 1979]: not very helpful, more focused on how child's language development is impacted by mother's speech, only briefly discusses "that the motherese code differed from adult-adult speech in ways which aided language development."
  - Focuses on it mostly as a suggestion for future work: "Our data on this point are not comprehensive enough to constitute a definitive test of the functional effects of using motherese, but they do suggest an interesting relationship between the motherese code, effective communication and child language development which warrants further study."

- [Cross, 1979]: basically saying that studies that examine how speech input of parents affects child language development needs to take into consideration how the child's current language development influences the parents' speech...essentially a chicken and egg problem
  - "it is argued that much of the inconsistency in the results of investigations of cause and effect has been produced by failure to take into account the effects of individual children's linguistic abilities and communicative behaviours on the form and quality of parental conversations with them"
  - "Earlier work investigating this question (e.g., Cross 1973, 1975, 1977a & 1978) has shown that some aspects of mothers' speech are not only adjusted generally to language-learning children in comparison with adult-directed speech, but also that some adjustments are made quite continuously and sensitively to small increments in the child's developmental progres"
  - "can therefore be studied reliably only under research conditions that adequately control for the child's level of development"
  - **INTERESTING FOR US: "suggests further that the mothers were generally adjusting more sensitively to the children's linguistic abilities than to their ages."**

- [Bellinger, 1980]: "The purpose of this study is to determine whether or not mothers' speech follows a consistent pattern of change across speakers as children get older. The strongest support for the hypothesis that

it does would be the demonstration that one can predict the age of the child to whom a particular mother is speaking simply by comparing the co-occurrence relationships which characterize her speech to the co-occurrence relationships which are known to characterize the 'typical' speech which mothers address to children of various ages."
- "The fact that mothers' group membership could be predicted very accurately from brief samples of speech confirms the expectation that there is striking consistency across mothers (at least white, well-educated, upper-middle-class mothers) in the way they talk to children of the same age within the 1 ; 0-5 ; o year range."
- INTERESTING: this actually goes against what [Cross, 1979] found because they said child-directed speech modifications are adjusted more strongly to child linguistic ability rather than age...
- ** "It is reasonable to suppose that this particular pattern of change in mothers' speech is related to concurrent changes in children's language. The 1.5 to 2.5-year period is commonly regarded as the interval during which the structural sophistication of children's linguistic efforts increases most dramatically and, indeed, it was during the 1 ; 8-2 ; 3 year interval that the children in the present sample made the greatest advances in terms of the mean length of their utterances"

- [Bohannon et al., 1982]: looked at whether children's verbal feedback (of comprehension or non-comprehension) to their parents can "fine-tune" the length of utterances spoken by the parent
  - looked at 1) whether verbal or nonverbal feedback from the child was more important, and 2) see if adult's experience with one child would generalize to another child
  - "No significant differences were found in the narratives due to differing experience. However, the speech addressed to the children's pictures was simpler than that addressed to the picture of the adult."
  - results not particularly interesting?

- [Lipscomb and Coon, 1983]: are fathers as sensitive as mothers to child linguistic capability? yes.
  - "The present results demonstrate very similar patterns of speech adjustment for fathers and mothers. In fact, the uniformity of fathers' and mothers' speech is quite striking. Thus, both types of parents were found to moderate the concreteness and diversity of their vocabulary relative to the age of the child."

- [Papousek et al., 1987]: more on fathers being able to adjust speech too
  - "demonstrating the universality speech adjustments across both sexes"

- [Hayes and Ahrens, 1988]: "A new corpus of spontaneous conversations between adults and children is examined for evidence that adults simplify their vocabulary choices when speaking with young children. If these simplifications are found to be age-dependent, then they would broaden the

pattern of simplifications characteristic of 'motherese' to include lexical choice as well."
- "Current thinking on child language development stresses the child's active role in shaping its own experience by selecting from among potential experiences and, by its own speech and behaviour, shaping others' behaviour towards the child (Bell & Harper 1977, Gleason 1977, Scarr & McCartney 1983). The absence of age-dependent lexical accommodations to children suggests that the lexical behaviour of adults is not as much under the child's control as the strong and consistent evidence of grammatical adjustments implies."
- "Second, however, contrary to the well-established pattern of age-dependent grammatical simplifications, lexical simplification was not age-dependent."

- [Rabain-Jamin and Sabeau-Jouannet, 1989]: goes along with what we're saying about human communication being smooth: "Among the syntactic characteristics of maternal speech can be singled out the great use of interrogatives when the child is 3 months old. This should be seen as an intention by the adult to include the child in a dialogue rather than as an intention to help the child acquire language skills (Snow 1977). Mothers treat their babies as if they were full participants in a dialogue and mark the baby's place as an interlocutor." Overall not that useful

2 Later work on parent modifications of child-direction speech

- [Kitamura and Burnham, 2003]: title basically says it all
- more evidence for parents adjusting to age
- interesting though that gender differences have an effect too: "The results here support the hypothesis that there is a developing differentiation between interactional styles by girl and boy infants, and also suggest that mothers are responsive to such changes... We suggest that the gender differences found here show that mothers adapt their IDS register in response to the infant's developmental needs. That is, mothers respond, albeit unconsciously, to cues from female and male infants at different ages."

- [Hoff, 2006]: "The evidence suggests that all human environments support language acquisition by providing children with opportunities for communicative experience, which motivate the language acquisition process, and a language model, which serves as data for the language acquisition mechanism."

- [Brodsky and Waterfall, 2007]: basically asking does CDS have special characteristics that make it easier to learn from?
- "This work sets the stage for the development of more powerful unsu-

pervised algorithms for language acquisition, which would make use of the coordinated structures present in natural child-directed speech."

- [Blackwell, 2007]: could be good to reference just to state some facts about pronoun usage in CDS, but not very relevant

- [Rowe, 2008]: most interesting finding was that they were able to determine that parents who had more knowledge of child development information were able to fine-tune their child-directed speech more
  -"Most notable is the current finding that parental knowledge of child development mediates the relationship between SES and child-directed speech, suggesting that parents from different SES groups have different beliefs about child development which influence how they communicate with their children on a day-to-day basis."
  - "However, we did find that parental knowledge of child development mediated the relation between SES and child-directed speech. That is, differences in child-directed speech based on parental education level and income were due to differences in parental knowledge of child development."
  - WOAH "Following this reasoning, the current results suggest that parents with more knowledge of child development are more 'in tune' with their children's language abilities and adjust their child-directed speech accordingly."
  - FOR US: maybe useful as a limitation of the study? need to expand SES demographics of participants

- [Roy et al., 2009]: "Our goal was to test two versions of the tuning hypothesis. First, we were interested in characterizing what we will call 'coarse tuning': adjustment of caregivers' speech to the general linguistic competence of the child... The second version of the tuning hypothesis we call 'fine lexical tuning': adjustment of caregivers' speech at the level of individual lexical items."
  - "caregivers' utterance length, type-token ratio, and proportion of single-word utterances all show significant temporal relationships with the child's development, suggesting that caregivers 'tune' their utterances to the linguistic ability of the child."

- [Kunert et al., 2011]: very useful!! "Our results show that there is a strong correlation in all measures between the complexity of the child's and the mother's utterances, indicating that adults adapt their speech at different levels of linguistic processing when interacting with children in dialogue."
  - perhaps a useful line for the intro: "Although it is by now uncontroversial that the speech directed to young children constitutes a mode of speaking distinguishable from adult-adult talk, the function and properties of CDS are the subject of considerable debate."
  - **THIS!!** "Another open question regarding the nature of CDS concerns its dynamics. It has been observed that CDS is not a static register but

rather a dynamic form of speech that changes over time as the child's language develops – a process referred to as "finetuning" by Snow (1995). It is far from clear, however, whether the input to the child is grossly adjusted to the child's age and overall level of development or whether the observed changes are in fact the result of fine-grained adaptations to the child's linguistic behaviour during the course of a conversation."
- "Our results show that there are strong correlations in linguistic complexity between the child and mother utterances."

- [van Dijk et al., 2013]: built mathematical model to "argue that CDS can be described as the result of a dynamic adaptation between child and adult."
  - "Most support was found for what the authors call 'coarse tuning,' adaptation to the general linguistic competence of the child, by using shorter utterances and a more limited vocabulary. However, the authors concluded that caregivers also fine tune utterance length on a word-by-word basis, in the sense that they adjust their utterance length depending on whether the utterance consists of unfamiliar words or not."

- [Cox and van Dijk, 2013]: probably less useful because this article is talking about fine-tuning CDS on the microlevel of how CDS evolves over the course of a single conversation

- [Yurovsky et al., 2016]: **ALL OF IT**

- [Yurovsky, 2017]: **ALSO ALL OF THIS ONE**

- [Poulain and Brauer, 2018]: yet another article confirming that "mothers adapt their behavior to the advancing abilities of their children."
  - Has some important info about nonverbal cues (e.g. pointing) in CDS declining in importance/use as children get older

- [Leung et al., 2019]: **"the particular struc- ture of children's language environments may also play a role in supporting language development."**
  - **THIS IS THE MOST IMPORTANT**: "Why do parents modify the way they speak according to their children?... we argue that effective communication is the proximal goal. The field of linguistics has long established that adults communicate in ways that are efficient. Grice's (1975) maxim of quantity states that speech should be as informative as necessary, and no more. Adults are able to adhere to these maxims, adapting speech according to conversational partners' knowledge as needed for successful communication (Clark & Wilkes-Gibbs, 1986). We argue that the parent's goal to communicate with their child drives the change in language use. Specifically, parents adapt their speech according to their children's language abilities."
  - Tamis-LeMonda et al. (2014). Why Is Infant Language Learning Facilitated by Parental Responsiveness? Current Directions in Psychological Science, 23(2), 121–126.

- [Quigley and Nixon, 2020]: "These findings add to the limited body of research on sources of individual difference in fathers' IDS and provides some evidence that paternal speech is tailored to infants' receptive vocabulary."

3 Comprehension-based modifications in other contexts

- [Kantor, 1982]: happens with sign language too!
  - "The hypothesis was that deaf mothers and their deaf children similarly engage in conversations that are carefully adjusted to the children's level of linguistic competence and that these conversations are made possible by the mothers' modifications in their language."

- [Fischer et al., 2011]: how does 'robotese' compare to motherese? Does a human adult make speech and multimodal adjustments while talking to a robot that looks like a child in the same way that adults do when talking to human children?
  - "The systematicity in participants' adaptations in the interactions with 'Baby- face' corresponds not to the robot's actual capabilities, but to participants' perceptions of the robot's capabilities as indicated by its feedback."
  - speech modifications are highly specific to the interlocutor/speakers' perception of the interlocutors language abilities: "This is a clear indication for participants' attention to the robot's capabilities, showing that participants are not transferring mind- lessly behaviour from interactions with preverbal children, but are choosing their instruction strategies as they understand them to be appropriate for the current interlocutor. Thus, even though the behaviour parameters used in interactions with a robot are comparable with, and possibly inspired by, child-directed inter- action, they are online customized for this particular interlocutor."
  - a possible interdisciplinary framing for the paper: "This means for robot design that the robot's behav- iour has to be congruent with the robot's real capabilities since users will use it to infer its capabilities and to build up a partner model that then determines their own behaviour in the interaction with their artificial communication partner. The closer the robot's feedback corresponds to its real processing states, the more users' behaviour will match the robot's current needs."

4 Multimodal Cues

- [Messer, 1978]

- [Rodrigo et al., 2006]: "The third research aim was to analyse how close are the patterns of change of mother and child gestures and actions across sessions in both age groups. Data from the mothers showed a significant

developmental trend in the rate of mothers' gestures but not in the actions. Thus, maternal adaptation to developmental changes was not due to a generic adjustment to motor activity but was specific for gesturing. Gestures are generally intended to be commu- nicative (De Ruiter, 2000). Therefore, it makes sense that mothers may adapt their gestures in trying to successfully communicate with their children."

- [Gabouer et al., 2020]: Parental Use of Multimodal Cues in the Initiation of Joint Attention as a Function of Child Hearing Status
- [Brand et al., 2002]: "As predicted, demonstrations to infants were higher in interactiveness, enthusiasm, proximity to partner, range of motion, repetitiveness and simplicity, indicating that mothers indeed modify their infant-directed actions in ways that likely maintain infants' attention and highlight the structure and meaning of action. The findings demonstrate that 'motherese' is broader in scope than previously recognized, including modifications to action as well as language."
- **TODO:** look into 'motionese'/'multimodal motherese'
  - Iverson, J. M., Capirci, O., Longobardi, E. & Caselli, C. M. (1999). Gesturing in mother-child interactions. Cognitive Development, 14, 57–75.

5 ML Framing

- [Smith and Slone, 2017]: to learn to identify objects, children create learning environments/curricula that are optimized for learning - should we be applying this computer vision training data? Should do for the same NLP systems since we know that parents provide structured/scaffolded language learning environments for children by adjusting CDS to child's language
  - "One current relevant approach in machine learning trains attention in deep networks during the course of learning so that the data selected for learning changes with learning (Mnih et al., 2014; Gregor et al., 2015)."
- [Smith et al., 2018]
- [Suanda et al., 2019]: maybe

6 Miscellaneous Notes

6.1 Notes from Chen

6.1.1 Framing

- Human communication is smooth.
- Anaphora is used for efficiency in smooth communication, e.g. avoid repetition, while still conveying information that the other person in a dyadic social interaction needs to comprehend.
- Anaphora is widely used in everyday adult-to-adult conversation.
- Little is known when we start to use it, for example, whether its usage starts even early on during parent-child interaction when a developed adult talks to a developing child who doesn't have a full language capacity, and who may or may not be able to infer the referent used in anaphora. if the child cannot understand the referential intent of the parent, using anaphora would hurt parent-child communication. However, if the child can understand it, then it would make parent-child interaction more efficient and more adult like.

6.1.2 Hypothesis

Overall: if anaphora is used for smooth and efficient communication, then parents should use it according to their perception of how well their children can understand what they refer to by anaphora.

- **Hypothesis 1:** how often parents use anaphora should relate to not their child's age, but to their child's language level. that is, parents with high-vocab children use anaphora more than parents with low-vocab children do.
- **Hypothesis 2:** parent with low-vocab children use visual cues in accompany with anaphora to help children understand her referential intent.
- **Hypothesis 3:** if anaphora serves for efficient communication, disregard of how often anaphora is used and how often visual cues are used, parents and children maintain a high level of communication through using anaphora and visual cues as needed.

6.2 Earlier Lit Review Thoughts

[Snow, 1972] seems like a foundational, seminal work in the study of how parents, specifically mothers, adapt their speech and behavior to children. [Snow, 1972] compares interactions between mothers and their 2-year old child, mothers and their 10-year old child, and nonmothers with children. This age difference is huge though! Seems obvious that of course parents will adapt their language

complexity to the child's language ability when you're looking at a 2-year old child vs. a 10-year old. A possible avenue for us to add on to this is to say, ok [Snow, 1972] found this for this huge age gap, can we say something similar when the age range is much, MUCH smaller? The granularity of our study is potentially interesting...shows us just how attuned parents are to their child's language abilities...it would be even more interesting if we could show a bigger difference between merely ages but actually the MCDI scores. A question that comes to mind though is what are the implications of this? And is it enough to just do look at anaphora and make this claim about all language? What specifically within the realm of anaphora resolution child development research can we contribute to? Also what do we do about the finding that nonmothers don't differ very much in speech changes...doesn't that sort of go against what we're saying in terms of parents being extremely attuned to how kids are able to comprehend language? **TODO:** find articles that cite [Snow, 1972]

A thought on MCDI scores...if MCDI scores use parent reports to measure the child's language capability then...isn't it not an interesting finding/redundant to say parents' perceptions of child speech change with language ability...because MCDI is already measuring that. But could you say, well ok MCDI measures the parent's perception of the child's language capability, but now we can say oh wow look, so parents actually act on that knowledge, maybe even subconsciously in their verbal interactions with the child. But on the other hand then, does that actually make the age correlations more interesting than the MCDI correlations?

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