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A review of: "Talking to children matters: Early language experience strengthens processing and builds vocabulary"

It has long been established that infants who receive a richer language input early on, develop a richer vocabulary later on. What has been a little less clear was how directly that richer input related to vocabulary development. Was the quality and quantity of language stimulus the only factor in determining a child's lexical development? Were there other factors, either indirectly, or directly, that were also in play? In "Talking to children matters: Early language experience strengthens processing and builds vocabulary", Adrianna Weisleder and Anne Fernald discuss the results of an experiment that answered these questions.

The primary factor that the research article was interested in (in addition to the richness of early language experience) was the language-processing skill of an infant, and much of the article was about how the two factors related to one another, if at all. Weisleder and Fernald explored two main possibilities. First, that early language experience and language-processing skills played equal but independent roles in influencing an infants vocabulary development. This would suggest that infants who lacked a rich early language experience for example, could make up for the difference if they had better language-processing skills (or vice versa). In other words a strong vocabulary would not strictly necessitate a rich early language experience. The second possibility was that early language experience and language-processing skills were directly linked. Early language experience directly influenced an infant's language-processing skills, and these skills

then influenced their vocabulary development. This suggested that language-processing skills were more of a learned ability and less of an innate ability, and that this skill relied heavily upon an infant's early exposure to a rich language environment.

To find out which of these possibilities were more more likely, the researchers collected language exposure data from a group of infants at 19 months of age, filtered and analyzed the data, and then conducted experiments with the infants at 24 months of age to test for vocabulary size and language-processing efficiency. Language exposure data was collected by attaching a microphone to each infant's clothes. Speech within the infants earshot was then recorded for an average of 11 hours over 1-6 days. This data was then processed with the LENA system to differentiate adult speech from infant vocalizations, as well as infant directed speech (IDS) from undirected conversational speech. Once the infants reached 24 months, the researchers asked the parents to complete the Spanish version of MCDI to measure their child's vocabulary. A look-while-listening task was given to the infants, once at 19 months and again at 24 months, to measure their language-processing ability. Infants were presented two pictures in combination with an auditory stimulus, with time gaps in between. Their processing efficiency was then calculated as the proportion of time they spent looking the target picture out of total time spent looking at either picture.

After charting and comparing the data, the results revealed that the second possibility was the more probable one, but further more, that the type of early language experience mattered. There were two main ways in which the infants were exposed to speech - directly, in the form of infant directed speech, and indirectly, in the form of conversation among other people in the earshot of the infant. The researchers found that infants with higher exposure to infant-directed speech had correspondingly larger vocabularies, while a higher exposure to undirected

conversation had no correlation to vocabulary size. This aligns with discussions had in class about infants preferring infant-directed speech over normal speech - preference for IDS would suggest that infants only pay attention to IDS and thus are only affected by the contents of IDS.

With the results of this study, it would appear that a child's language development is much more heavily influenced by their early environment than their innate processing skills, and as such re-confirms a widely shared sentiment, that nothing can replace a parent's attention in the early stages of childhood. Science now shows that the loving, emotionally-charged, pitch swinging noises that parents make to their kids is more than just a way to show affection, it's a scientifically proven teaching tool.