

Shared reading with mothers and fathers: Infants' language development in low-income, ethnic minority families

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INTRODUCTION

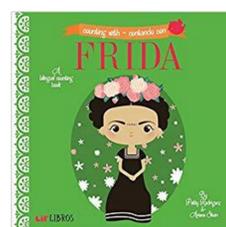
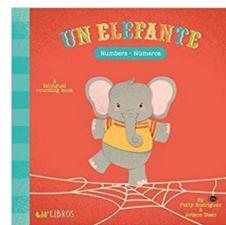
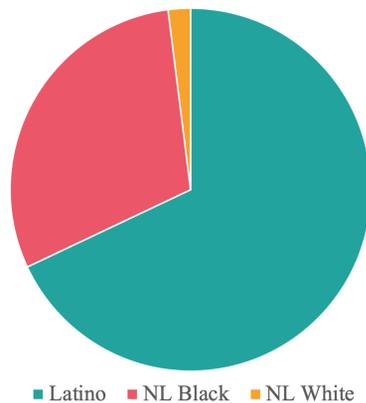
- Quality of parent-child shared reading contributes to children's receptive and expressive language skills.^{1,2}
- Children learn best from social interactions when they are aroused and attentive.³
- Many low-income parents provide linguistic input of enough quality to support children's language development.⁴
- Although fathers read to children less often than mothers, they tend to provide higher-quality language input.⁵
- Previous research has focused on toddlers and preschoolers and mothers in middle-income families. Less is known about infants and their reading activities with fathers, especially in at-risk families.
- To address these gaps, we examined low-income, ethnic minority mothers' and fathers' shared reading with 9-month-old infants.

RESEARCH QUESTIONS

- Research Question 1** What are the characteristics of low-income mothers' and fathers' reading activities with 9-month-old infants?
- Research Question 2** Does mothers' and fathers' reading quality at 9 months predict infants' receptive and expressive language skills at 18 months (main effect)?
- Research Question 3** Does infants' interest in shared reading at 9 months mediate the association between reading quality at 9 months and language skills at 18 months (mediation)?

METHOD

- Data drawn from a larger ongoing parenting intervention (Baby Books 2 Project).
- First-time, low-income, ethnic minority (67.5% Latino) fathers ($n = 20$) and mothers ($n = 20$) and their 9-month-old infants ($n = 20$; 35% boys).
- Researchers conducted home visits during which mothers and fathers read a book with their infant for up to 10min.



MEASURES

- Reading frequency (1-8 scale)**⁶: about how often do you read to your child at home?
- Word token**: transcribed in Datavyu and analyzed in CLAN
- Preschool Language Scale** (4th edition): expressive and receptive language skills at 18mo
- Reading quality**^{7,8}: number of utterances coded based on transcripts

	Loadings	Examples
Direct		
Counting	0.74	One, two, three.
Direct prompt	0.72	Say "two".
Direct labeling	0.56	Elephants.
Engaged		
Conventional labeling	0.84	That's a parrot.
Personal connections	0.75	This is where your cousins live in Mexico.
Description	0.68	She has flowers in her hair.
Elaborative		
Elaboration	0.99	[The elephants] all work for the Cirque du Soleil.
Wh-questions	0.53	What's this?
Semantic labeling	0.42	Clouds are things you see in the sky.

- Interest in shared reading**^{8,9}: coded at 30s intervals (Cronbach's alpha = 0.75)

Attention	Participation
1 = not attending to book/parent	1 = did not participate
5 = attending entirely	5 = participated more than 4 times by touching, grabbing, turning page, etc.

RESULTS

Research Question 1 & Preliminary Analysis



- Paired samples t-test showed no significant differences between maternal and paternal variables.
- Infant's expressive language score was significantly correlated with intervention condition ($r = 0.49, p < 0.01$) and parents' elaborative utterances ($r = 0.34, p = 0.04$).

RESULTS

Research Question 2 (main effect)

	Standardized Coefficients			
	Model 1	Model 2	Model 3	Model 4
Intervention condition	0.50**	0.49**	0.47**	0.43*
Reading frequency	0.12	0.12	0.15	0.16
Word token	0.13	0.04	-0.08	-0.02
Direct	-0.08	-0.05	0.02	-0.01
Engaged		0.23	0.23	0.25
Elaborative			0.33*	NA
Wh-questions				0.15

- Model 1: $F(4, 34) = 3.33, p = 0.02, R^2 = 0.20$
- Model 2: $F(5, 33) = 3.17, p = 0.02, R^2 = 0.22$
- Model 3: $F(6, 32) = 3.82, p < 0.01, R^2 = 0.31$

Research Question 3 (mediation)

	Standardized Coefficients	
	Model 5	Model 6
Intervention condition	0.49***	0.49***
Reading frequency	0.15	0.15
Word token	0.01	0.01
Elaborative	0.33*	0.34*
Interest in reading		-0.10

- Elaborative utterances explained additional variance in infants' expressive language score, above and beyond other factors.
- No mediational effect of infants' interest in shared reading.
- Model 1: $F(4, 34) = 5.06, p < 0.01, R^2 = 0.30$
- Model 2: $F(5, 33) = 4.11, p < 0.01, R^2 = 0.29$

DISCUSSION

- Fathers read less often and speak more words than mothers. Overall reading quality is not low among low-income parents.
- Elaboration and wh-questions are rare at 9 months. However, an elaborative way of reading makes a big difference for language skills at 18 months.
- The pathway from reading quality to language skills at 9 months is direct and not through infants' attention and participation in shared reading, suggesting that infants learn words in rich social interactions with parents.
- Future studies need to compare mothers and fathers on their contribution to infants' language development.

REFERENCES

Roberts, J., Jurgens, J., & Burchinal, M. (2005). The role of home literacy practices in preschool children's language and emergent literacy skills. *Journal of Speech, Language, and Hearing Research, 48*, 345-359.

Boyce, L. K., Cook, G. A., Roggman, L. A., Innocenti, M. S., Jump, V. K., & Akers, J. F. (2004). Sharing books and learning language: What do Latina mothers and their young children do? *Early Education & Development, 15*(4), 371-386.

Kuhl, P. K. (2007). Is speech learning "gated" by the social brain? *Developmental Science, 10*(1), 110-120.

Hirsh-Pasek, K., Adamson, L. B., Bakeman, R., Owen, M. T., Golinkoff, R. M., Pace, A., ... & Suma, K. (2015). The contribution of early communication quality to low-income children's language success. *Psychological Science, 26*(7), 1071-1083.

Rowe, M. L., Leech, K. A., & Cabrera, N. (2016). Going beyond input quantity: Wh-questions matter for toddlers' language and cognitive development. *Cognitive Science, 1-18*.

Farver, J. A. M., Xu, Y., Eppe, S., & Lonigan, C. J. (2006). Home environments and young Latino children's school readiness. *Early Childhood Research Quarterly, 21*(2), 196-212.

Fletcher, K. L., Cross, J. R., Tanney, A. L., Schneider, M., & Finch, W. H. (2008). Predicting language development in children at risk: The effects of quality and frequency of caregiver reading. *Early Education and Development, 19*(1), 89-111.

Malin, J. L., Cabrera, N. J., & Rowe, M. L. (2014). Low-income minority mothers' and fathers' reading and children's interest: Longitudinal contributions to children's receptive vocabulary skills. *Early Childhood Research Quarterly, 29*(4), 425-432.

Deckner, D. F., Adamson, L. B., & Bakeman, R. (2006). Child and maternal contributions to shared reading: Effects on language and literacy development. *Journal of Applied Developmental Psychology, 27*(1), 31-41.

