

# Study sheds new light on how socioeconomics impact childhood language comprehension

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Credit: University of Maryland

New research from the University of Maryland Department of Hearing and Speech Sciences suggests that understanding the effect of socioeconomic status on children's ability to learn and understand language requires identifying not just what children hear but how they use it.

Prior studies have found systematic relationships between how much caregivers talk to children and what they learn. A famous 1995 study by researchers Betty Hart and Todd Risley indicated that some children

heard thirty million fewer words by their 4th birthdays than others. On average, research has found that children from higher-socioeconomic status families hear more language than their lower-socioeconomic status peers; and it is commonly assumed that exposure to fewer words is a significant barrier to language learning for children in lower-socioeconomic households.

Now, the results of a new UMD-led study forthcoming in the journal *Cognition* suggest that socioeconomic status differences are much more targeted.

"Our research tests the hypothesis that all children—regardless of socioeconomic status—learn grammatical structure with minimal input, but hearing more language allows children to retrieve their knowledge from memory more efficiently during comprehension," said Yi Ting Huang, an Assistant Professor in the Department of Hearing and Speech Sciences, who led the study. "This means the effect of socioeconomic status on development reflects not a failure to learn language but challenges with recalling what has already been learned during communication."

Huang and study co-authors Kathryn Leech from the University of Maryland Department of Human Development and Quantitative Methodology and Meredith Rowe from the Harvard University Graduate School of Education tested roughly 130 English-speaking three- to seven-year-olds from families of various socioeconomic levels on their comprehension of an infrequent [grammatical structure](#) (e.g., passives like "The seal is eaten by it"). Relative to the higher- socioeconomic status (SES) peers, children from lower-SES families had more difficulty understanding sentences that introduce high comprehension demands. Yet, when these demands were removed (e.g., "It was eaten by the seal"), no SES differences were found. These findings suggest that all children learned infrequent structures, but language experience may

enable some to access this information more readily during later comprehension.

This work also sheds light on why vocabulary size differs across [socioeconomic backgrounds](#). Current interventions like the 30 Million Words Initiative are based on the assumption that children's failure to learn words reflects a lack of experience with those words at home. Yet Huang and her colleagues found that even when that input exists from caregivers, learning can be challenging if children can't accurately retrieve grammatical knowledge in order to comprehend sentences.

"In total, our results suggest that isolating why outcomes vary across populations requires identifying not just what children hear but how they use it," said Huang. "Gaining a better understanding of the effects of socioeconomic status on early language development is crucial for reducing achievement gaps in school readiness. I hope our research can help in the development of new strategies and interventions to help all [children](#) with [language](#) development, regardless of their [socioeconomic status](#)."

**More information:** Yi Ting Huang et al. Exploring socioeconomic differences in syntactic development through the lens of real-time processing, *Cognition* (2017). [DOI: 10.1016/j.cognition.2016.11.004](https://doi.org/10.1016/j.cognition.2016.11.004)

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