

Background

- Prior evidence supports that the home environment is related to children's development of school readiness (e.g., language skills, math skills, and externalizing behaviors).
- However, it remains unclear how construct- and timing-specific aspects of the home environment are related to children's school readiness skills, unique from overall, stable aspects of home quality.
- Estimates that are time- and construct-specific may be less biased when controlling for overall, stable levels of home quality because the overall, stable levels of the home environment are subjected to potential omitted variable biases.
- The aim of the current study is to simultaneously examine the relations between construct- and timing-specific aspects of the home environment and children's school readiness skills.

Current Study

- The current study extends previous literature by examining the extent to which associations between the home environment and preschooler's math, language, and externalizing behaviors vary as a function of specific constructs (i.e., stimulation and responsivity) and the specific timing (i.e., 36 and 54 months) of the home environment relative to overall, stable levels across time.

Participants

A sample of 1,364 children and their mothers from the NICHD Study of Early Child Care and Youth Development was used for this study.

- Mother participants
 - $M = 14.23$ years of education (i.e., a little more than 2 years of college)
 - 80 % White, 13% Black, 5% Hispanic, 2% other
- Child participants
 - Age: 54 months (i.e., 4.5 years old) when school readiness was assessed
 - 52% Male

Measures

Home environment was observed when child was 36 and 54 months old

- Early Childhood Home Observation for Measurement of the Environment Inventory (EC-HOME)
 - Six subscales (Learning Materials, Language Stimulation, Responsivity, Academic Stimulation, Modeling, and Acceptance)
 - *Stimulation* construct consists of Learning Materials, Language Stimulation, and Academic Stimulation
 - *Responsivity* construct consists of Responsivity, Modeling, and Acceptance
- Child assessments of school readiness were conducted at 54 months
- Language skills: Preschool Language Scale-3 (PLS-3)
 - Math skills: Woodcock-Johnson Applied Problems
 - Externalizing behaviors: Parent reported Child Behavior Checklist/4-18 (CBCL/4-18)

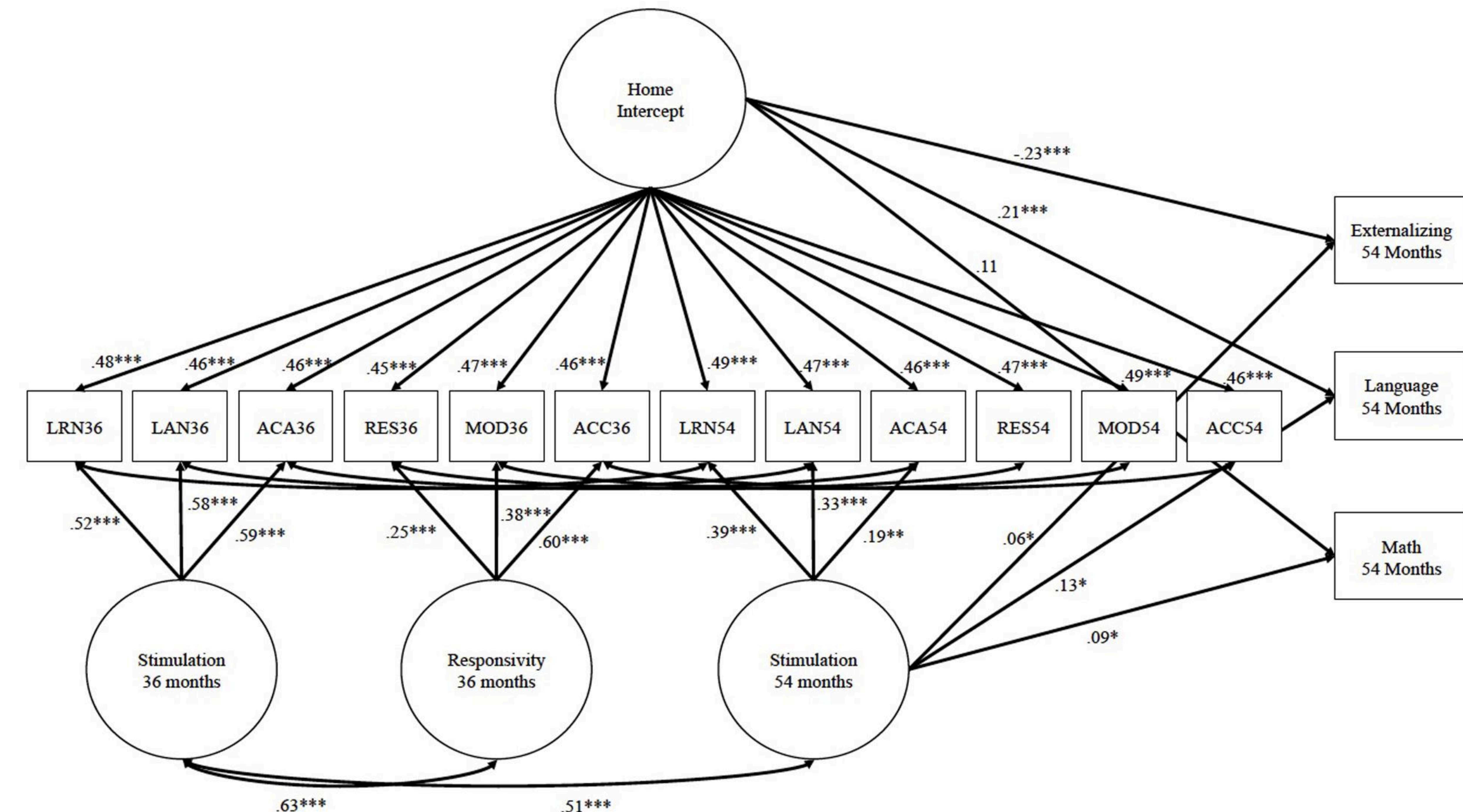


Figure 1. Associations between home factors and children's math, language, and externalizing. * $p < 0.05$, ** $p < 0.01$, and *** $p < 0.001$.

Results

- All HOME scales were significantly correlated with one another and significantly correlated with each of the three school readiness skills.
- All HOME indicator variables (scales) were standardized so the overall factor (random intercept) could represent what is equally shared across all scales independent of scaling characteristics (scales with more or fewer items included) and across both time points.
- The best fitting model of the HOME factor structure was a HOME random intercept model with time- and construct-specific factors ($\chi^2 = 146.25$, $df = 48$, $p = <.001$ CFI = .97, RMSEA = .04).
- The overall HOME factor was significantly associated with 54 months language ($\beta = 0.21$, $p < 0.001$), and externalizing ($\beta = -0.23$, $p < 0.001$), such that overall better home environments were associated with increases in language abilities and decreases in externalizing behaviors.
- The stimulation factor at 54 months had additional significant associations with math ($\beta = 0.09$, $p = 0.047$), language ($\beta = 0.13$, $p = 0.023$), and externalizing ($\beta = 0.06$, $p = 0.049$).

Discussion

- The stimulation construct at 54 months was positively and uniquely associated with children's language and math skills, above and beyond the quality of the overall home environment (i.e., 36 to 54 months).
- It is possible that specific parent-child interactions that take place when children are 54 months are more proximal to academic school readiness skills.
- The stimulation construct at 54 months was positively associated with externalizing behaviors, however, the overall home environment was negatively associated with externalizing behaviors (and substantially larger in magnitude).
- Importantly, aspects of the home environment other than 54-month stimulation (i.e., 36-month stimulation and responsivity, and 54-month responsivity) were more closely associated with reductions in externalizing behaviors than was 54-month stimulation.
- Future research should investigate different aspects of the environment (e.g., home and childcare experiences) for school readiness by using models that simultaneously control for each proximal environmental factor.

Citation

These findings have been published:

King, Y. A., Duncan, R. J., Posada, G., & Purpura, D. J. (2020). Construct-Specific and Timing-Specific Aspects of the Home Environment for Children's School Readiness. *Frontiers in Psychology*, 11, 1959. <https://doi.org/10.3389/fpsyg.2020.01959>