

Background

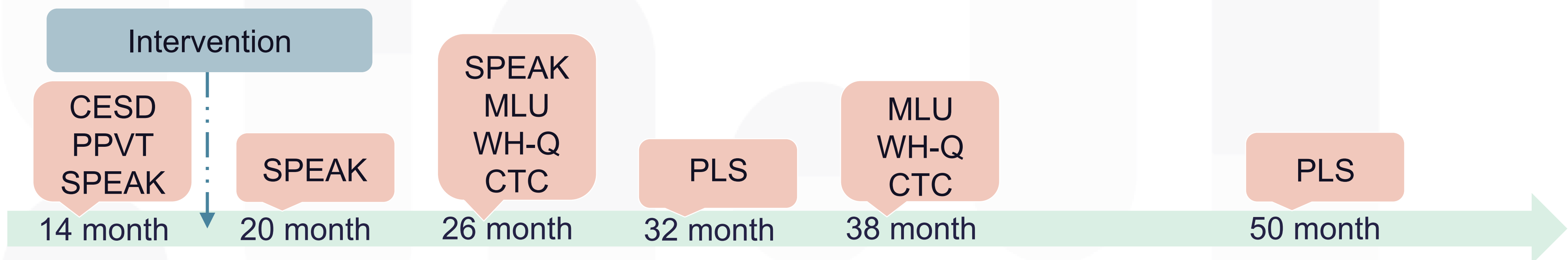
- Enriching early language experiences is a critical step to reduce disparities in young children's vocabulary learning, language development, and later academic skills (e.g., Tamis-LeMonda et al., 2017).
- Supporting parents with knowledge of cognitive and language development provides a strong foundation for fostering caregiver enrichment of their young children's language milieus (Rowe et al., 2016).
- Despite much intervention effort to promote equity in children's early language experience, more research is needed on the process in which increasing parental knowledge would enrich early language input, which in turn promote children's language skills later.
- To address this need, the present longitudinal randomized controlled trial study examined the long-term impact of the 3Ts Home Visiting (3Ts-HV) intervention (Leung et al., 2020) on children's language skills at preschool age through promoting parental knowledge and language input during toddlerhood among families of low-SES.

Methods

- Parent-child dyads of low-SES were randomized to either Intervention ($n = 76$) or Control ($n = 73$) curriculum from 14 to 20 months.

Age	3Ts-HV Intervention	Healthy Lifestyle Control
Parent	M = 29.21 years, SD = 6.18	M = 28.29 years, SD = 5.80
Child	M = 1.18 year, SD = 0.11	M = 1.19 year, SD = 0.11

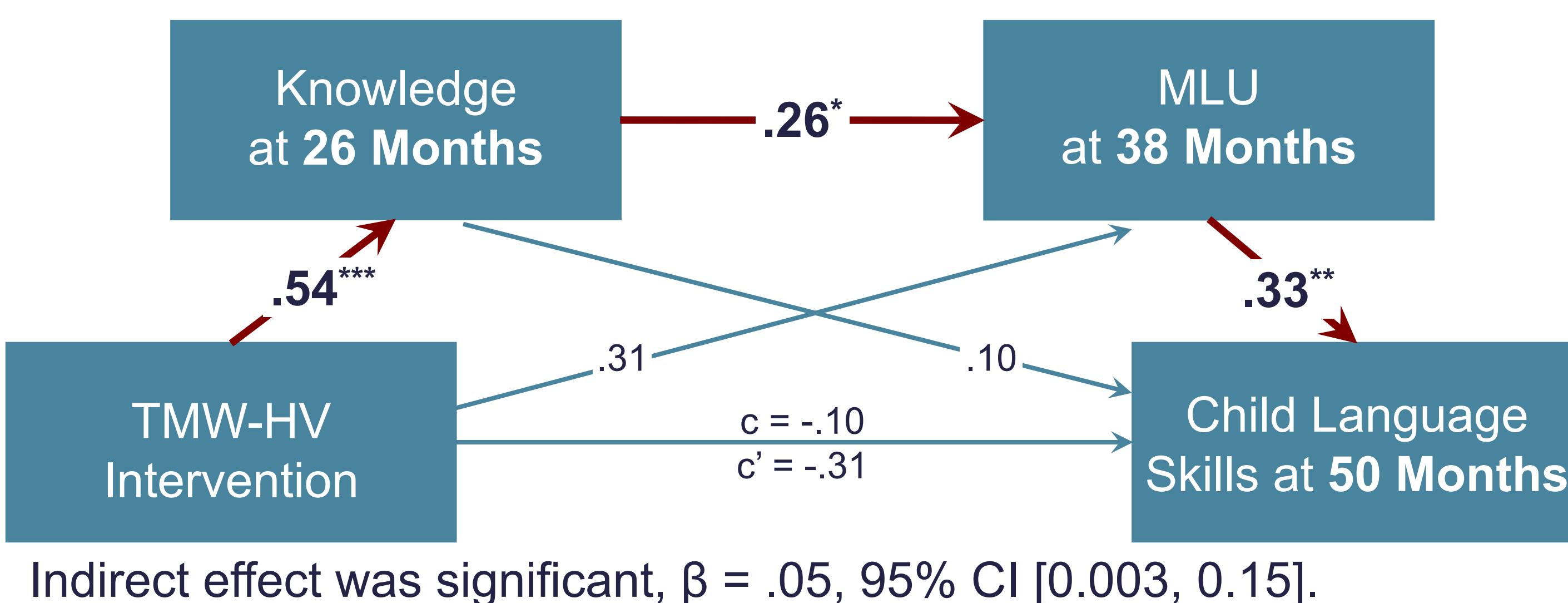
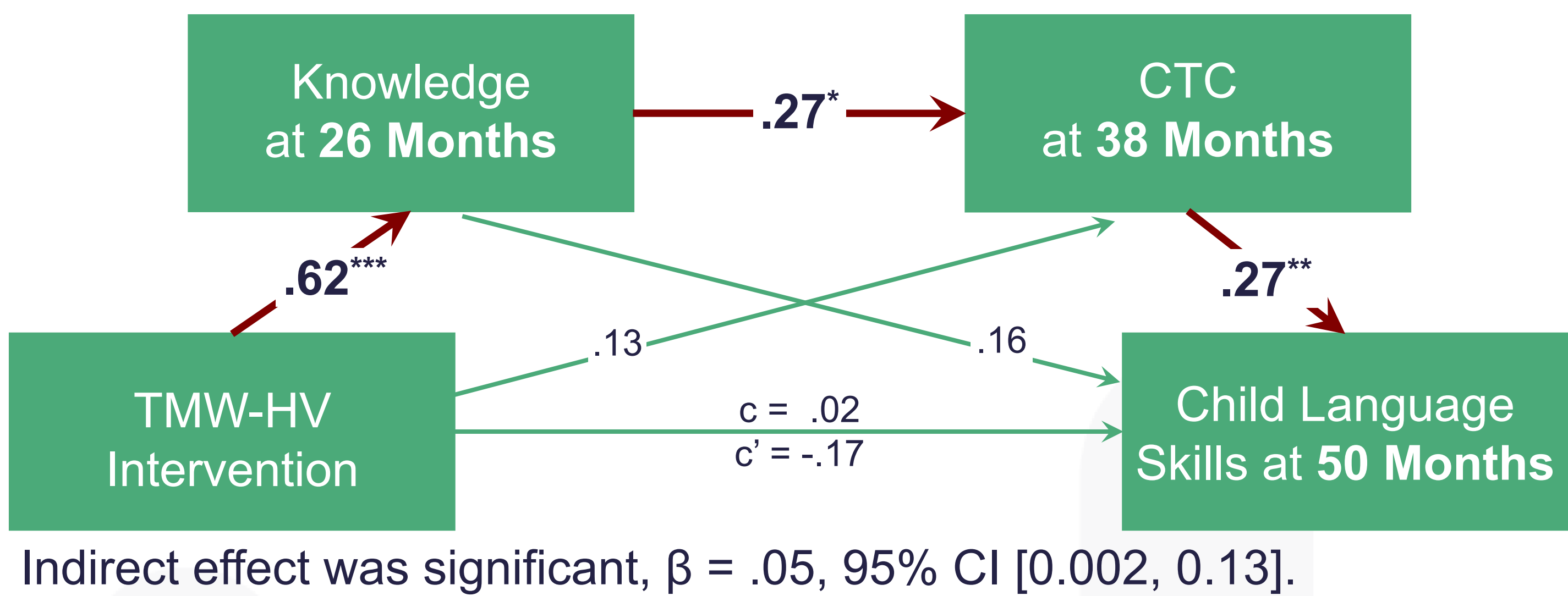
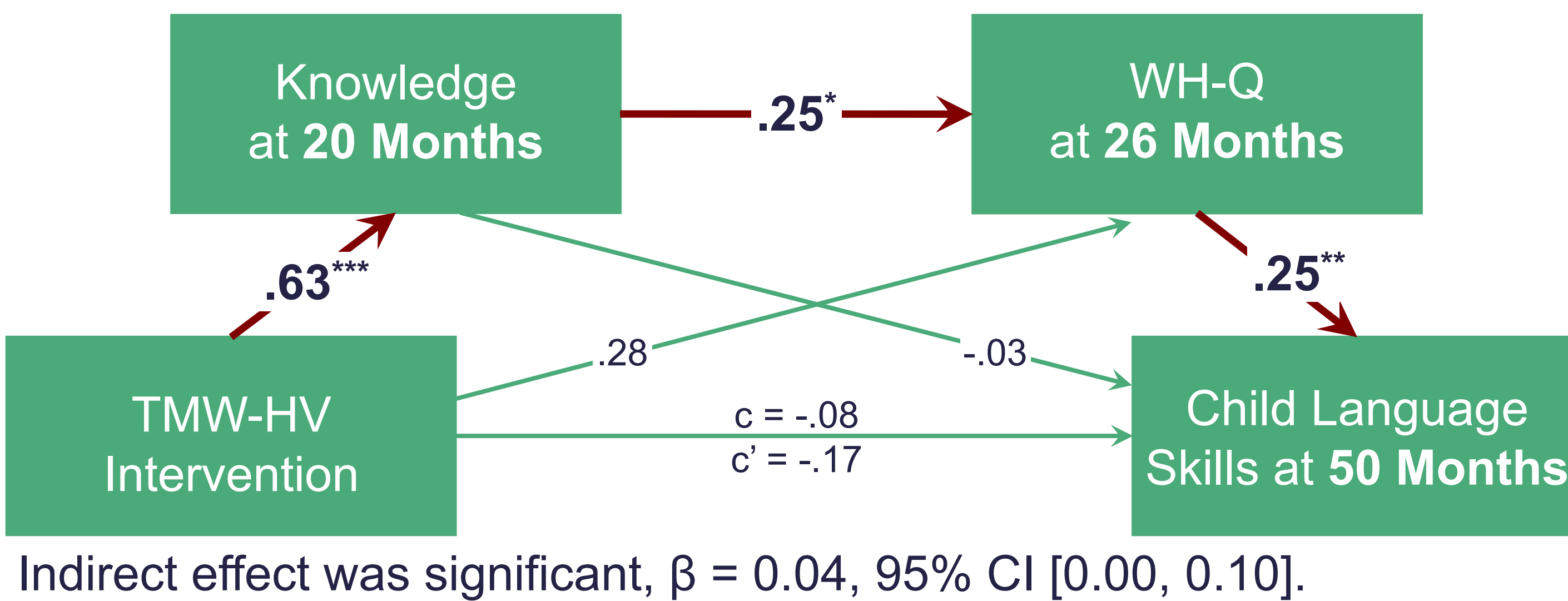
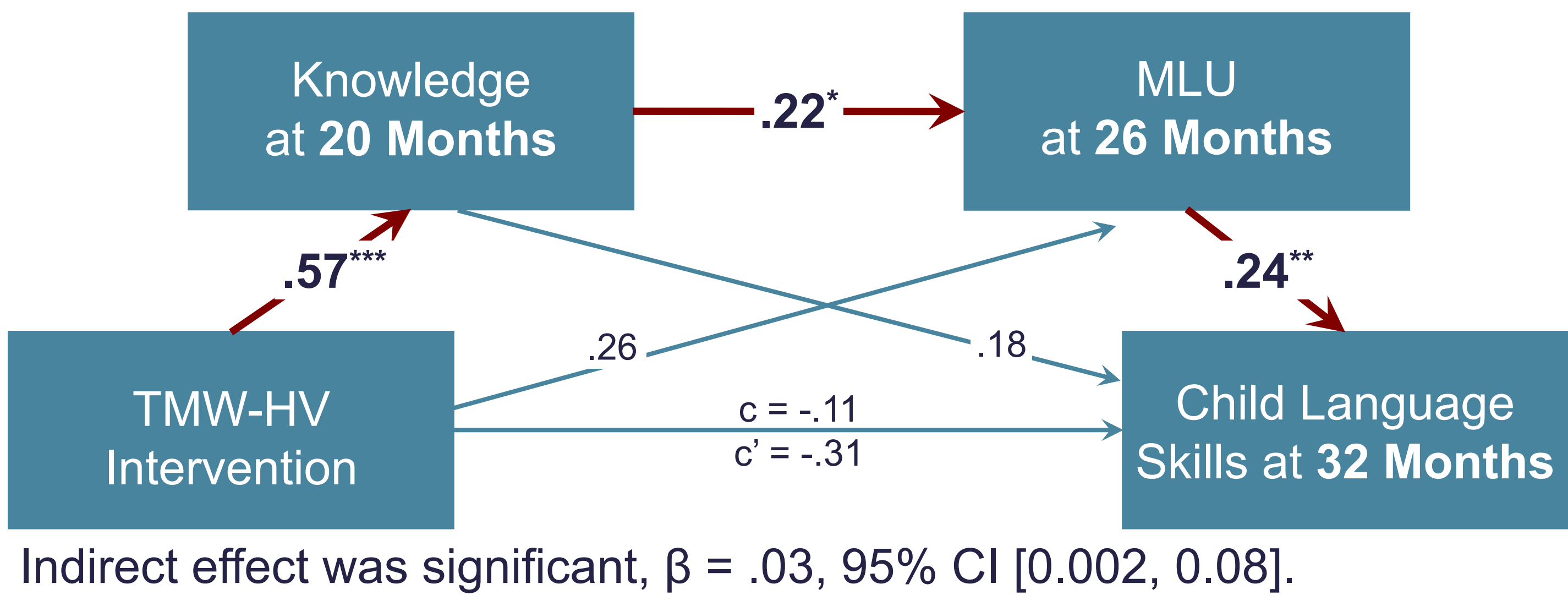
- A matched pairs randomization procedure was applied to ensure baseline equivalence on child age and conversation turn count.
- Curriculum and assessments were conducted as the timeline below:



Study Variable	Assessment/Measure
CESD	Depressive Symptoms Center for Epidemiologic Studies Short Depression Scale (Andresen et al., 1994)
PPVT	Parental Language Skills Peabody Picture Vocabulary Test 4th edition (Dunn & Dunn, 2007)
SPEAK	Knowledge Survey of Parent/Provider Expectations and Knowledge (Suskind et al., 2017)
MLU	Mean Length of Utterance Natural language processing library spaCy (Honnibal, 2016) was applied to
WH-Q	Open-Ended Questions assess parental language input complexity for the child during free play
CTC	Conversational Turn Count Language ENvironment Analysis technology (Richards et al., 2017) was applied
PLS	Child Language Skills to assess the quantity of adult-child linguistic interactions at home Preschool Language Scale 5th edition (Zimmerman et al., 2002)

Results

Serial mediation models revealed four significant indirect effects of the 3Ts-HV intervention on promoting young children's later language skills, fully mediated by parental knowledge gain and subsequent increase in language input (in terms of complexity and adult-child linguistic interactions), controlling for parental education level, language skills, depressive symptoms, child age, and length of free play. * $p < .05$. ** $p < .01$. *** $p < .001$.



Discussion

- Parents who better understand early childhood development are more likely to provide more complex language stimulations and linguistic interactions for their young children (Leung et al., 2022; List et al., 2021).
- More complex language stimulations and linguistic interactions provided during the early years in turn promote young children's later language skills that are essential for school readiness (Reynolds et al., 2019; Vernon-Feagans et al., 2020).
- Findings of the present study provide empirical evidence illustrating the underlying processes from increasing parental knowledge, enriching parental language input, to promoting young children's language development.
- Limited educational attainment and language skills have been discussed as two major barriers to caregivers of low SES in enriching the language environments for their young children (e.g., Rowe, 2018). Yet, the present findings reveal that supporting parents who face socioeconomic disadvantages with evidence-based knowledge and practices through early intervention is indeed one strategy to narrow early language disparities and educational inequity.
- These findings can also help inform community agents, early childhood educators, practitioners, and policy stakeholders who work with caregivers of young children experiencing socioeconomic disadvantages in an effort to promote equity in children's early language experiences and narrow disparities in children's developmental outcomes.