

Supplemental Material S2. Additional mediation analyses that were run post hoc to examine LENA variables that were specific to each infant's reported primary caregiver.

Additional mediation analyses were run wherein only the Adult Word Count (AWC) for the primary caregiver (i.e., the caregiver who filled out the Parenting Stress Index Short Form–Fourth Edition [PSI]) was used as the mediator by extracting the relevant Male Adult Near (MAN) and Female Adult Near (FAN) estimated adult word counts for each participant (MAN $n = 2$). We found significant indirect effects such that the language input of the primary caregivers significantly mediated the relations between the rewards parent and child demandingness subscores, respectively, and receptive language (rewards parent 95% CI = $[-0.0629, -0.0041]$, child demandingness 95% CI = $[-0.0718, -0.0088]$). The indirect effect between caregiver stress and receptive language was complete in both models, meaning that the direct effect of caregiver stress on later receptive and expressive language was non-significant when covarying primary caregiver AWC.

There are a few factors that may have contributed to the lack of significant findings for several models when the putative mediator was the AWC for only the biological sex matching the primary caregiver. First, given that only two fathers were reported as the primary caregiver in this sample (1 Sibs-autism, 1 Sibs-NA), there may not be enough diversity in caregivers for this distinction to be meaningful. Second, the LENA recordings indicated that female speakers in the environment talked significantly more than male speakers, $t(44) = 9.35, p < .001, M_{\text{diff}} = 327.0$ words/hour. Closer inspection of the data shows that there were, further, more female than male adult words produced near the child for one of the two infants in the dataset whose father served as the primary caregiver. It is possible that this family may not have recorded truly representative days or that language input for this child comes predominantly from the mother or other adult females despite the fact that the father is considered the primary caregiver. Finally, by parsing the adult word count by primary caregiver's sex, we may have altered the stability of our variables and, thus, our ability to detect effects of interest (see Feldman et al., 2022).