

INTRODUCTION

- What behaviors can parents engage in to support their child's language? Robust literature shows that parent-child reading supports both linguistic and cognitive outcomes in neurotypical (NT) development (Sénéchal et al., 1998; Chow et al., 2003; Bus et al., 1995; Montag et al., 2015; Ece Demir-Lira et al., 2018)
- Formal **shared book reading (SBR) interventions** have been shown to be highly effective for children with language delays and autism spectrum disorder (ASD) (Karrass et al., 2005; Whalon et al., 2015; Boyle et al., 2019; Westerveld et al., 2021; D'Agostino et al. 2020; Fleury & Hugh 2018; Akemoglu & Tomey, 2021).
- To date, there is scant research on the **naturalistic book reading behaviors of parents of autistic children (absent of formal intervention) and associated language outcomes.**

Research Questions:

1. Cross-Group Comparison:

Does reading frequency differ between parent-child dyads from age-matched NT and autistic groups?

2. ASD Group One-Year Follow-Up:

Does caregivers' frequency of naturalistic reading to their children at home relate to language development over one year in autistic toddlers?

METHODS & PARTICIPANTS

- We analyzed data from parent report (reading frequency, demographic factors) and standardized measures of language, vocabulary, autism severity and adaptive behaviors. Participants in the ASD group were evaluated again one year later (mean 13.8 months).
- Full ASD group** participants were 57 autistic toddlers $M_{age} = 30.4$ months at Time 1 and 43.8 months at Time 2. **A subset of this group was matched** to a NT sample (on age in months): 33 autistic toddlers (10 female; $M_{age} = 28.2$ months; $SD = 2.61$) matched to 31 NT toddlers (20 female; $M_{age} = 27.6$ months; $SD = 4.70$) for cross-group comparison.

- We quantified language development over one year using difference scores (PLS-5 raw scores), subtracting participants' score at Time 1 from their score at Time 2.

Figure 1: Age-matched NT ($n=31$) and ASD ($n=33$) Groups, Parent-Reported Weekly Parent-Child Reading by Diagnostic Group

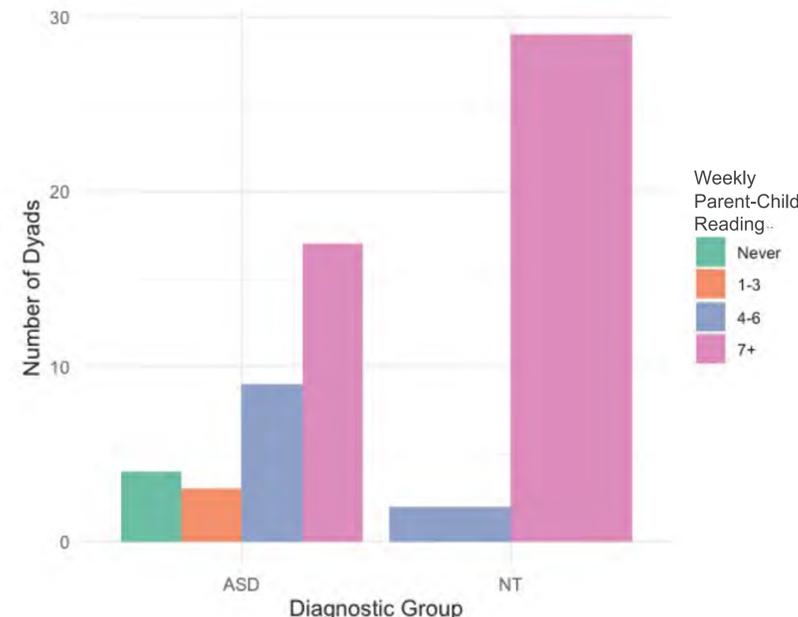
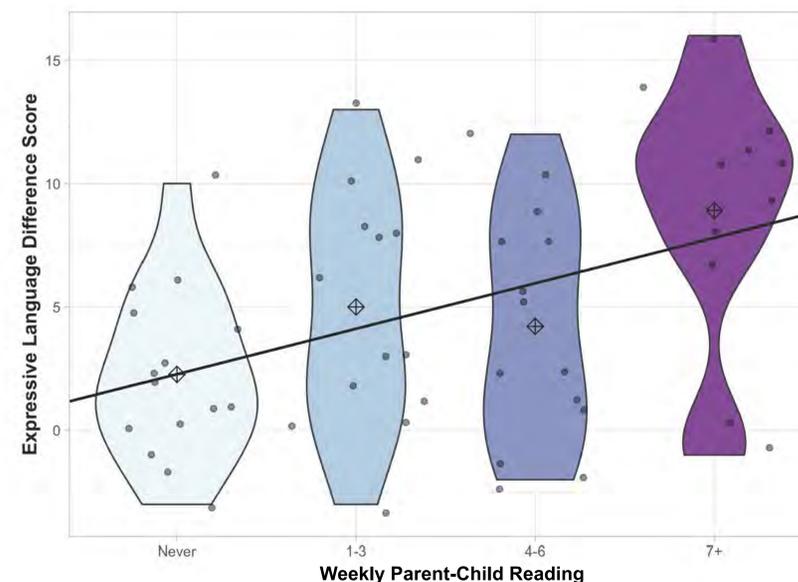


Figure 2: ASD Group, Model Predicting Expressive Language Difference Score (Time 2 – Time 1) as a function of Parent-Reported Weekly Parent-Child Reading



Note. Expressive language ability at each timepoint was measured by *Preschool Language Scales, Fifth Edition* (PLS-5) Expressive Communication Scale raw scores. Points represent individual participants ($n = 57$). Line represents the linear relationship between weekly reading and expressive language difference score. Diamonds represent expressive language difference score means for each categorical bin of reading frequency.

RESULTS

□ Cross-Group Comparison:

- In a generalized linear model, **diagnostic group significantly predicts weekly parent-child reading** ($\beta = 0.753$, $t = 3.91$, $p < .001$), such that NT dyads report more frequent reading, see **Figure 1**.
- When language covariates (PLS & CDI) are added to the model: Group differences no longer significant ($\beta = -0.52$, $t = -1.07$, $p = .29$). Only CDI Words Understood (parent report) significantly predicts total reading ($\beta = 0.003$, $t = 2.20$, $p < .05$).

□ ASD Group One-Year Follow-Up:

- Results revealed **positive associations between reading at home and receptive language difference score** ($\beta = 3.38$, $t = 3.31$, $p < .01$ as well as **expressive language difference score** ($\beta = 1.77$, $t = 2.72$, $p < .001$). **Figure 2** illustrates findings for expressive language across time as a function of reading frequency.
- Maternal education, number of books in the home and ASD symptom severity were covariates in both models.

CONCLUSIONS

Age-matched NT and ASD samples differ in parent-child reading frequency, but this appears to have been largely driven by parent-perceptions of receptive vocabulary – which is lower overall in the ASD group. In other words, parents in both groups appear to be reading less frequently when they think their child understands fewer words.

After a one-year follow-up with the autistic group, **parent-child reading was associated with larger receptive and expressive language difference scores (i.e., larger growth of language skills over one year)** when controlling for ASD symptom severity, number of books in the home & maternal education.

The authors have no financial or non-financial conflicts of interest. Funding was provided by Funded by R01 DC 012513, R01 DC 017974, U54 HD090256.

International Society for Autism Research Annual Meeting
Austin, TX, May 2022

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