

Supplemental Material

Given the nature of the prospective design, visit attendance at each age (though strongly encouraged) was not required as long as families completed 3 of the 8 visits from 6 to 36 months of age (6, 9, 12, 15, 18, 24, 30, and 36). The final visit must have occurred between 24 and 36 months of age for outcome classifications to be determined (i.e., BAP group; TYP group). The majority of the participants completed 2 or more visits from 12-24 months (BAP on average 3.1 visits; TYP 2.8 visits). In addition, the percent of visits attended from 12 to 24 months for participants in the current study were 42%, 53%, 92%, and 97%, respectively.

Our initial investigation included running ANCOVAS (Aim 1: 20 models; Aim 2: 28 models), by each visit age and variable, to maximize the number of observations included in each model, as only 33% of the sample completed all 4 assessed visits. However, by running ANCOVAS we, 1) assumed independence of group comparisons across models, while knowing the majority of participants completed multiple visits, and 2) drastically increased the probability of making a Type 1 error. To better account for the developmental data and maximize power, the models were moved into a nonparametric repeated measures multilevel model framework to, 1) limit the total number of models conducted (Aim 1: 5 models; Aim 2: 7 models), 2) not constrain the data to a linear model, 3) better represent participants with multiple data points, and 4) allow us to interpret the participants' developmental trajectories.

Nonparametric multilevel models were used to estimate developmental trajectories across the MSEL raw scores, VABS standard scores, and the dyadic variables from 12 to 24 months of age, while accounting for group membership (i.e., BAP, TYP) and covariates (i.e., infant sex, maternal education). Visit was initially characterized by assessment visit age (i.e., 12, 15, 18, 24 months), assessment wave (0, 3, 6, 12 months), and exact age (e.g., 12.15, 14.87, 17.24, 24.34 months). Categorical assessment visit age was included in the final model, recognizing the results with age recoded for wave and exact age were consistent. Maternal education in years was included in the final model. In addition, partial correlations, with infant sex and maternal education as covariates, did not reveal significant associations for the dyadic variables. These adjustments all reflect specifications to maximize power, by removing non-theoretically driven interactions to maximize degrees of freedom.

The final set of models included fixed effects for group membership, visit, infant sex, maternal education, and the interaction between group and visit. Residuals were most variable at the 15-month visit compared to the 12, 18, and 24 month visits. Specifically, Cook's D revealed three influential points hovering around .05. Inspection of these data points revealed three TYP dyads that received a higher rating of joint engagement (i.e., 6 out of 7 versus average of 5.2 at 15 months). To determine influence, models were conducted with and without these three data points. Recognizing no significant change to the fixed effects, these three data points remained in the final model.