**Title:** The Dynamic Dyad: Relationships between Maternal Responsivity and Communication and Adaptive Functioning Outcomes in Children with FXS

**Authors:** Kandace Fleming, Steven F. Warren, Nancy Brady, & Rebecca Swinburne Romine

**Introduction:** We conducted a 10-year longitudinal study of children with FXS and their biological mothers which demonstrated that early and sustained maternal responsivity has substantial effects on language development in these children (Warren et al., 2010; Brady, et al 2014) and that sustained responsivity is related to adaptive behavior development (Warren et al in review). We have now extended our analysis by examining maternal responsivity as a time-varying predictor for communication and adaptive behavior. In this presentation, we examine the between-mother-child dyadic relationships of intercepts and slopes as well as within-dyad relationships of residuals on several important child outcome variables. This allows us to better understand the nature of changes within the dyad and their relationship to child outcomes over time.

**Method:** Children with FXS (44 boys, 11 girls) and their mothers were visited in their homes five times from early through middle childhood to examine child language and adaptive behavior outcomes. Parent-child observation data was collected during each visit in a variety of contexts and coded to measure maternal responsivity within the parent-child interaction resulting in a time-varying predictor assessed on the same occasions as the child outcomes. A series of multivariate longitudinal models were estimated within *Mplus* to describe the mean and variance in both maternal responsivity and child outcomes across age.

**Results: Within-Dyad:** For rate of different words, Vineland communication, and Vineland daily living, maternal responsivity residuals were correlated with outcome residuals such that higher responsivity than expected was related to higher outcomes than expected for the child. **Random Intercepts:** There were significant between-dyad relationships among the responsivity intercept and all child outcome intercepts with higher maternal responsivity corresponding to better outcomes. For all outcomes except socialization, children whose mothers had higher responsivity intercepts had outcome scores that were increasing more rapidly. **Random Linear Age Slopes:** There was a positive between-person association between maternal responsivity slope and rate of child different words slope.

**Discussion:** Using multivariate longitudinal models, we were able to determine that there are significant within-dyad effects on communication and daily living. Consequently, regardless of a mother’s overall level of responsiveness, during observations when mothers were more responsive, child outcome scores were higher. This suggests that intervention targeting increasing maternal responsivity could increase child outcomes regardless of the mother’s previous level of responsivity. Additionally, consistent with our previous findings, dyads with a highly responsive mother over time scored higher on all child outcomes at 70 months.

**References/Citations:**