**Paper Title:** Trajectories of Attention Problems and Aggressive Behavior over 10 Years for Children with Fragile X Syndrome

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**Introduction:** Attention problems and aggressive behavior are common challenges associated with fragile X syndrome (FXS). However, little is known about how these behaviors may change across childhood and adolescence. Further, the impact of early parenting on behavioral trajectories in children with FXS have not been explored. In this study, we examined trajectories of attention problems and aggressive behavior from age 6 to 16 in a sample of children with FXS and explored possible linkages between early mother-child interactions and subsequent behavioral trajectories.

**Methods:** Participants were 55 mother-child dyads. Families entered the study when children were over 2 years of age. Repeated measures data were gathered during home visits approximately every 18 months, resulting in 6 to 7 waves of data across childhood and adolescence. For the present analysis, attention problems and aggressive behavior between the ages of 6 and 16 years were measured using the Child Behavior Checklist (Achenbach, 2001). Parenting behavior was measured during mother-child interactions when children were aged 2 to 6 years. All interactions were video-recorded and consensus coded on a behavior-by-behavior basis. Behavioral management strategies employed by the mother included request for behavioral compliance (e.g., mom says “push this one” or “I want you to do it”) and requests for verbal compliance (see Brady et al., 2014).

**Results:** Hierarchical linear modeling was used to examine behavioral trajectories; models were centered at age 15 and child sex and the presence of co-occurring autism were entered as covariates. Findings for attention problems indicated significant quadratic change, such that the slope was zero at age 9 (suggesting no change) but the slope was negative at later ages (−.24 at age 11, −.45 at age 13, and −.66 at age 15). At age 15 the average raw attention problems score was 7.9. A similar pattern was found for aggressive behavior, such that the slope was near zero at age 9, but then negative at later ages (−.26 at age 11, −.44 at age 11, and −.62 at age 15), suggesting declines in these problems. At age 15 the average raw aggressive behavior score was 5.55. Maternal behavior during mother-child interactions before age 6 was related to later aggressive behavior and attention problems. Specifically, greater maternal requests for behavioral compliance was associated with less improvement in both attention problems (F (1,46.1)=4.62, p<.05) and aggressive behavior (F(1, 35.7)=3.95, p=.05) over time.

**Discussion:** Importantly, we found that attentional problems and aggressive behavior are steady during middle childhood and begin to decline in adolescence. Early mother-child interactions marked by heightened levels of behavior management were related to later problematic behavioral trajectories. Implications for future research and interventions to support families will be discussed.


**Support:** NICHD R01 HD084563 (Steve Warren and Nancy Brady, Principal Investigators).