

Language and Autism in Boys with FXS
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This study compares the conversational skills of boys with fragile X syndrome (FXS) with and without autism to boys with autism who do not have FXS in order to ascertain the extent to which individual differences in conversational skills relate to FXS specifically or autism in general. Currently, it is unclear which pragmatic aspects of conversation (e.g., turn-taking, topic maintenance, question asking) are affected by FXS and how comorbid autism affects conversational skills. Pragmatics refers to the use of language in social contexts for the purpose of communication. Pragmatic difficulties can compromise all aspects of daily social interactions, impacting relationships with peers and adults in all settings. Approximately 15-25% (with recent estimates as high as 30-35%) of males with FXS are diagnosed with autism, while other males with FXS have autistic characteristics such as gaze aversion, stereotypic/repetitive behaviors, and hyperactivity. It is possible that difficulties with conversational skills may be a defining feature of communication skills in FXS regardless of autism diagnosis.

The specific aims of this study are to: a) identify differences in pragmatic skills in conversation that are syndrome-specific to FXS among boys with FXS without autism; and b) identify differences in conversational skills specific to either FXS or to autism in boys with FXS. Participants for this study will be 20 boys with FXS without autism, 20 boys with FXS and autism, 20 boys with autism without FXS, and 20 typically developing boys. All boys will be functioning at a nonverbal cognitive level between 3 and 6 years of age and the boys with FXS and boys with autism will be between 6 and 12 years of age. The boys' pragmatic skills, including contingency (topic relatedness and appropriateness to the preceding conversational turn), perseveration (repetition of a word, phrase, or sentence) and question asking (frequency and apparent reason for asking the question), will be assessed during conversation. The boys' nonverbal cognitive skills will also be examined. The statistical analysis will describe conversational skill development among the four groups of: boys with FXS with and without autism, boys with autism without FXS, and typically developing boys to test for differences in pragmatic skills specific to FXS and autism. Determining whether pragmatic skills in boys with FXS differ depending on the child's autism status has direct implications for targeting educational interventions and defining what variables should be targeted in medical treatment studies.