Title: The Relationship between Pragmatic Language Difficulties, Loneliness, and Life Satisfaction in Mother Carriers of the FMR1 Premutation and Mothers of Children with Autism Spectrum Disorder

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Introduction: Building evidence suggests that mother carriers of the FMR1 premutation show difficulties with the social use of language, or pragmatic language (Klusek et al., 2018; Losh et al., 2012). Similar pragmatic language difficulties have been documented in mothers of children with autism spectrum disorder (ASD) as one of the primary features of the broad autism phenotype (Losh et al., 2008). Pragmatic language skills are critical for effective communication and difficulties in this area may lead to difficulty managing social relationships and inability to develop strong social support networks. However, very little is known about the potential functional consequences of pragmatic language difficulties in mothers with the FMR1 premutation or mothers of children with ASD.

Method: Participants included 56 mothers of children with fragile X syndrome who were carriers of the FMR1 premutation, 50 mothers of children with ASD, and 33 control mothers of typically developing children, aged 27-65 years (M = 43). The mothers completed the Satisfaction with Life Scale (Diener et al., 1985) and the UCLA Loneliness Scale-3 (Russell, 1996). Mothers also completed the Parenting Stress Inventory-4 (Abedin et al., 2012) as a measure of parenting stress. Pragmatic language difficulties were evaluated with the pragmatic subscale of the Broad Autism Phenotype Questionnaire (Hurley et al., 2007), via a best-estimate score that is derived from both self and informant reports. A subset of 32 mothers with the FMR1 premutation completed the life satisfaction and loneliness questionnaires again as part of a longitudinal follow-up that took place approximately two years later (M time to follow-up = 1.97 years, SD= 0.6).

Results: Both mothers with the FMR1 premutation and mothers of children with ASD reported lower life satisfaction relative to control mothers (p’s <.012). Loneliness was also higher in mothers of children with ASD relative to control mothers (p=.018) and a trend was detected for increased loneliness in mothers with the FMR1 premutation relative to controls as well (p=.080). Life satisfaction and loneliness levels were similar across the FMR1 premutation and ASD mother groups (p’s > .572). General linear models tested associations between pragmatic language difficulty and life satisfaction and loneliness across groups, controlling for parenting stress level. Elevated pragmatic difficulty was a significant predictor of loneliness across all groups of mothers (F [1, 79] = 25.30, p <.001), even after covarying for parenting stress levels. For the model predicting life satisfaction, a significant group-by-pragmatics interaction was detected, where the association between pragmatic skills and life satisfaction differed across the FMR1 premutation and ASD mother groups (p=.006), but neither of these groups exhibited a pattern that differed significantly from the control mothers (p’s >.391). In mothers with the FMR1 premutation, life satisfaction decreased as pragmatic difficulties increased, whereas the direction of the relationship was opposite in mothers of children with ASD. Finally, general linear models tested pragmatic skills at time 1 as a predictor of life satisfaction and loneliness at time 2 within the longitudinal subsample of mothers with the FMR1 premutation, controlling for parenting stress level. Pragmatic difficulty at the initial assessment predicted higher levels of loneliness two years later, with a large effect size (F [1, 26] = 5.23, p = 0.031; η²_p = 0.17). A trend was detected for greater pragmatic difficulty predicting decreased life satisfaction at the two-year follow-up, with a large effect size (F [1, 26] = 3.40, p = 0.077; η²_p = 0.12).

Discussion: Pragmatic language difficulty was associated with heightened feelings of loneliness in both mothers with the FMR1 premutation and mothers of children with ASD. Pragmatic difficulty was also linked with decreased life satisfaction in mothers with the FMR1 premutation, whereas mothers of children with ASD who experienced greater pragmatic difficulty did not report lower life satisfaction, suggesting that pragmatic difficulties did not negatively impact this group’s overall assessment of feelings/attitudes about their life. This study is the first to investigate the functional consequences of pragmatic language difficulties in mothers with the FMR1 premutation and suggests that pragmatic language features may contribute to poor outcomes for this group.
References/Citations: