

**RESULTS:** This phenomenon may involve epilepsy induced excitation of the thalamus. This then acts to reduce the fidelity of retinogeniculate transmission and increase “signal to noise ratio” in visual transmission. This may contribute to complex visual hallucinations with eyes open. The hallucinated figures becoming clearer with eyeglasses provides support that this complex hallucination arises in the pathway from retina-LGN-cortex, not from stored visual associated cortex of top-down cortical release.

**CONCLUSIONS:** Given the above, those with visual hallucinations should be queried as to the influence of refraction on the clarity of hallucination.

**FUNDING:** No funding.

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### Fragile X Syndrome Sharing Similar Neural Network Abnormalities as ADHD

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**ABSTRACT:** Title: Fragile X syndrome sharing similar neural network abnormalities as ADHD

**STUDY OBJECTIVE(S):** The Fragile X syndrome (FXS) phenotype typically involves a variety of psychiatric symptoms, including features of autism, attention deficit/hyperactivity disorder (ADHD), anxiety, and aggression. Studies have shown that ADHD is characterized by multiple functional and structural neural network abnormalities including fronto-striatal, fronto-parietotemporal, fronto-cerebellar and fronto-limbic networks (Rubia, 2014; Norman, 2017). Studies have shown that ADHD is characterized by a delay in structural brain maturation (Rubia, 2007). Absence of the FMR1 gene product Fragile X mental retardation protein (FMRP) results in FXS, an inherited form of mental retardation. FMRP is an RNA binding protein functioning as a nucleocytoplasmic shuttling. In a knockout mouse model of FXS (Fmr1 null), Qin, et al showed regionally selective effects on cerebral metabolic rates for glucose (rCMRglc) (Qin, 2002) and rates of cerebral protein synthesis (Qin, 2005). In the present study, we asked if there is a relationship between brain regions most vulnerable to the effects of the absence of FMRP in the Fmr1 null mouse, and if the distribution consistent with the

structural and functional brain abnormalities in ADHD. We also asked if there is a difference between males and females in the regional distributions and the levels of the FXR mRNAs.

**METHOD:** We used 35S-labeled probes specific for the mRNAs to perform in situ hybridization on brains from male (n = 4) and female (n = 4) mice at 6 months of age. Flowing hybridization, brain sections were exposed to X-ray film and optical density were measured in nine brain regions on autoradiograms of sections hybridized to the probe.

**RESULTS:** The highest levels of expression we observed were in the cerebellum, granular layers of the hippocampus. Levels of expression were also high in CA1 pyramidal neurons of hippocampus, amygdala and granule layer of olfactory bulb. We found intermediate levels in the anterior hypothalamus and in cingulate and frontal cortex. Low levels of expression were found in thalamus and caudate. The distribution for the probe was similar in male and female mice, but we found a tendency for male mice to have higher levels than females.

**FUNDING ACKNOWLEDGEMENTS:** No funding.

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### Enhancing Emotional Wellness With Smartphone Apps in Early Psychosis

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**ABSTRACT:** Introduction: There is wide consensus that the combination of psychopharmacology and psychotherapy is superior to either approach used alone, in managing depressive, anxiety and psychotic disorders. Completing homework assignments are prerequisite for successful outcomes in psychotherapy. The convergence of digital computer technology and consumer self-empowerment have generated a bewildering array of mental health applications for smartphones and other mobile devices. The purpose of the present poster is to review available apps of interest for patients with early psychosis.

**METHOD:** A search was recently conducted of the stores on the iOS and Android platforms, seeking apps for mood, anxiety, psychotic and cognitive disorders. Reviews of digital technology resources provided by the International Mental Health Research Organization (IMHRO) at [www.psyberguide.org](http://www.psyberguide.org) were consulted. Criteria for inclusion included: (1) popularity measured by greater