

Name of Study: A model-based investigation of face processing in autism

Location: Georgetown University Medical Center, Washington, DC

Eligibility Criteria: Adults with an autism spectrum disorder (ASD); an official diagnosis of ASD is **NOT** required, but subjects must demonstrate characteristic cognitive strengths and weaknesses associated with ASD, generally normal IQ, normal or corrected-to-normal vision (glasses or contacts), ages 18-60 years. Other exclusionary criteria apply, such as no history of seizures or similar neurological disorders.

Principal Investigator: Dr. Maximilian Riesenhuber

Contact Information: Patrick Cox (202) 687-7837; maxlab@georgetown.edu

Dear Parent and other interested adults,

I am writing this letter in the hopes that you will accept our offer to participate in a research study that we hope will directly link what is happening in the brain to behavior in order to further understand processing differences in ASDs. Specifically, we are interested in how ASDs affect the way we understand and learn about pictures of people and objects. The research study is being conducted at the Riesenhuber Laboratory for Computational Cognitive Neuroscience, Georgetown University Medical Center. The purpose of our study is to obtain a better understanding of cognitive processing in adults with ASDs. Our study seeks to quantitatively link behavior and brain imaging to hypotheses about processing differences in ASDs at the neural level. A unique feature of our approach is that it is based on a computational (mathematical) model of cortical processing, which allows us to more finely analyze individual differences in brain function. We believe that this type of study is necessary to understand ASDs, given the heterogeneity of strengths and weaknesses in individuals with ASDs. More specifically, our study explores the neural mechanisms of face processing in neurotypical adults and adults with ASD using behavioral and brain imaging (functional magnetic resonance imaging, fMRI) experiments. The resulting data may help us understand differences in social cognition in individuals with ASD, which may lead to more effective interventions.

The first phase of the study takes place over 2-3 days. It involves cognitive and diagnostic testing to determine eligibility; testing is typically done at Georgetown University Medical Center in Washington, DC, and may include an interview with your parents, if available. Volunteers who meet the study criteria will then be invited for a second session at Georgetown to complete behavioral testing where you respond to pictures on a computer by pressing a button, and complete an fMRI scan where you respond to images while your brain activity is scanned. Individuals can receive a picture of their brain at the end of the session, and if requested, a report on diagnostic test results. These studies take a total of about 2-4 hours and can be split into two visits, if desired. You will be paid \$20/hour for behavioral sessions and \$40/hour for fMRI sessions. Reimbursement for travel expenses and free parking will be provided. If you would like to continue participating in our research, a second phase of the study builds on the results on face processing in the first phase and investigates the mechanisms by which your brain learns new tasks.

There is no charge to participate in the study.

If you are interested in participating, please contact Patrick Cox, our research coordinator, at (202) 687-7837. Thank you in advance for your time and assistance. We look forward working with you in the near future!

Sincerely,

Maximilian Riesenhuber, Ph.D.

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