MCTFR NeuroHealth Research Assistant
Position Description (for posting 307818)

The Minnesota Center for Twin and Family Research seeks a “NeuroHealth Research Assistant” (8352R2: Research 2) responsible for collecting MRI, neuropsych, psychophysiology and biospecimens. This position also requires processing MRI, psychophysiology and biospecimen data. It requires participation in safety and quality control feedback meetings. Candidate expectations are: (1) Bachelors degree in Psychology or related field; (2) Coursework and/or interest in Physiological Psychology, MRI, Psychophysiology, or related biological psychology topics; (3) comfortable collecting blood or other biological specimens; and (4) must be comfortable working with a diverse subject pool. Position works closely with MCTFR Principal Health Tech, interviewers and other research assistants to assess MCTFR and ABCD research participants.

Major Responsibilities

• (50%) Collect Neuro-Health data:
  o Collect MRI data by serving as either the primary tech (completed all required certifications) or the assistant tech. Primary tech role requires detailed knowledge of Sieman software interface to adjust Prisma 3T magnet to safely collect both structural and functional MRI data;
  o Collect psychophysiological data by recording physiological signals (e.g., electroencephalogram (EEG), electrooculogram (EOG), electrocardiogram (ECG), blood pressure (BP), skin conductance (SC), etc.) to infer the psychological status of our research participants. To record these signals, psychophysiologists must properly and safely use electrodes, signal conditioners, the Active Two Biosemi Data Collection System, its software interface, a data acquisition computer and a computer network to store data;
  o Collect a variety of biospecimens – including: blood, breath, saliva, hair, urine and stool samples using lancets, phlebotomy needles, vacutainer tubes, plus various collection kits;
  o Conduct neuropsychological assessments associate with lab tasks;
  o Store data across various networks and servers.

• (45%) Process Neuro-Health data:
  o Retrieve data across various networks and servers;
  o Screen and review MRI, psychophysiology, biospecimen and neuropsych data for quality assessment and refer cases requiring radiological or quality control follow ups;
  o Remove artifacts from and standardize MRI and physiological recordings using MRI processing tools like Freesurfer, EEG processing apps like MATLAB’s Psychophysiology Toolbox;
  o Parameterize data in preparation of data analysis.

• (5%) Develop batch data processing scripts:
  o Write batch data processing scripts to efficiently and effective review and process MRI and psychophysiology data.

Essential Qualifications

• Bachelor's degree in psychology, or an equivalent combination of psychology related education and/or research experience totaling at least four (4) years, to include a minimum of one (1) year of related research experience;
• Must be comfortable drawing blood and other biospecimens;
• Must be able to work evenings and weekends with an ability to accommodate a flexible work schedule.

Preferred Qualifications

• Prior experience collecting MRI, psychophysiology, and biospecimens;
• Prior experience processing neurohealth data in preparation for data analysis;
MCTFR/ABCD
The Minnesota Center for Twin and Family Research seeks to identify environmental and genetic influences on psychological traits. Focusing on adolescent children and their parents, the MCTFR includes studies of twins, adoptees, and biologically related adolescent siblings. MCTFR participants are involved in a variety of projects including: assessment of psychopathology, psychophysiology and collection of DNA samples in collaboration with the National Institute of Health's Genetics Consortium. The ABCD Study Consortium is a collaborative effort of 19 sites across the US that will seek to address many questions related to substance use and development that will help inform prevention and treatment research priorities, public health strategies, and policy decisions, including: (1) What is the impact of occasional versus regular use of marijuana, alcohol, tobacco, and other substances, alone or in combination, on the structure and function of the developing brain; (2) How does the use of specific substances impact the risk for using other substances; (3) What are the brain pathways that link adolescent substance use and risk for mental illnesses; (4) What impact does substance use have on physical health, psychological development, information processing, learning and memory, academic achievement, social development, and other behaviors; (5) What factors (such as prenatal exposure, genetics, head trauma, and demographics) influence the development of substance use and its consequences?

Appointment
MCTFR Neurohealth Research Assistants are appointed by the MCTFR’s Director and report to him with recommendations from the Principal NeuroHealth Tech. Position is 100%-time and classified as a civil-service appointment. It is contingent upon the availability of funds and/or work for the position. Appointment will provided health, dental, vacation and sick-time benefits plus is covered by Social Security and Minnesota State Retirement System. Position requires a background check and applicant must verify authorization to work in United States. Appointment is renewable with acceptable performance. Salary is competitive and commensurate with education and experience.

The University of Minnesota shall provide equal access to and opportunity in its programs, facilities and employment without regard to race, color, creed, religion, national origin, gender, age, marital status, disability, public assistance status, veteran status, sexual orientation, gender identity, or gender expression. This document is available in alternative formats upon request.