**Brooke Sandra Jackson**

Clinical and Cognitive Neuroscience Laboratory **Email:** b.jackson@uga.edu

University of Georgia – Psychology Department **Cell Phone:** 561-847-0040

**EDUCATION**

Present PhD *(In Progress)* – Psychology, University of Georgia

**Major Professor:** Dr. Jennifer McDowell

2020 MS – Psychology, University of Georgia

**Thesis Title:** Probing the minimally delayed ocular-motor response

task in psychosis

2015BS – Psychology, University of Florida

**RESEARCH EXPERIENCE**

2016 to Present **University of Georgia -** *Clinical and Cognitive Neuroscience Laboratory*

Current research focuses on saccadic eye-movements, structural and functional MRI to examine the relationship between cognition and psychosis

2014 to 2016  **University of Florida -** *Addiction Research & Education Laboratory*

Research focused on mechanisms underlying cocaine relapse and consequent prevention of relapse using rodent-models

* *Projects examined post-traumatic stress disorder, reversal-learning paradigms, and substance abuse*

**CURRENT PROJECTS**

**Bipolar Schizophrenia Network for Intermediate Phenotypes** **(BSNIP2)**

My role includes collection of MRI, eye-tracking, and cognitive assessments in populations with psychosis. I am responsible for analysis of functional MRI and the neural responses to saccadic eye movements in order to assess aspects of cognitive control. I also analyze eye-tracking paradigms, which examine processes such as inhibition, attention, and working memory.

**Georgia Heart and Stress Study**

My role includes assistance with eye-tracking, cognition, and MRI paradigms and processing for structural MRI and saccadic eye-tracking tasks. This is a longitudinal study examining the relationship between white matter, cognition and cardiovascular health.

**AREAS OF EXPERIENCE**

**Neuroimaging:** Extensive (500+ hours) of operation of GE Excite HD 3.0T MRI scanner & GE MR750 3.0T Discovery scanner. Experience with EyeLink & IView eye-tracking **For analysis:** Analysis of Functional NeuroImages (AFNI), FreeSurfer, Statistical Parametric Mapping (SPM) and voxel-based morphometry (VBM), fsl, Human Connectome Project (HCP) pipelines, 3dSlicer, DSI Studio

**Cognition:** Trained to administer Brief Assessment of Cognition in

Schizophrenia (BACS), Penn Conditional Exclusion Test (PCET), Stop Signal Task (SST), Dynamic Affect Recognition Evaluation (DARE), Spatial Capacity Delayed Response Test (SCAP), Wide Range Achievement Test (WRAT), Spatial Span Test

**Programming:** SSH- (bash and tcsh), MATLAB, SAS, basics of R, Java, Python, C+

**Computer:** Proficient in use of Microsoft and Linux OS

Proficient in Med-PC, GraphPad, ImageJ, SPSS, SAS, Eclipse, SigmaPlot, EyeLink and IView software, and Noldus Ethovison XT

**Neurochemistry:** Analysis and interpretation of Western Blots, several

immunohistochemistry procedures, *in vivo* microdialysis, some

knowledge of HPLC, proficient with pipetting, staining, and mixing solutions

**Behavioral Testing:** T-Maze, EPM (elevated plus maze), ASR (acoustic

startle response), food restriction, weight maintenance, TMT exposure chambers for PTSD (predator scent stress exposure), self administration of drugs - eye-tracking administration

**Histology:**  Cryostat brain slicing, Vibratome brain slicing, tissue

transfers/mounting to slides and slide coverslipping

**Animal Handling:** Rat handling, performance of subcutaneous, intraperitoneal, and microinjections

**Surgical:** Knowledgeable in rodent survival surgeries such as cannula

implantation for microdialysis (stereotaxic surgery), knowledge of pre-op and post-op procedures for rodents

**ORAL PRESENTATIONS**

Network of Greater Georgia Institutions for Neuroimaging and Statistics Conference –

“Probing the Minimally Delayed Ocular-Motor Response Task in Psychosis” –

March 27th, 2020 – Athens, Ga \*cancelled due to COVID-19\*

Psychology Department (Brain and Behavioral Sciences) – Third Year Talk

“Context modulation in psychosis” – April 3rd, 2019 – Athens, Ga

Network of Greater Georgia Institutions for Neuroimaging and Statistics Conference –

“Cognitive control in psychosis” – April 13th, 2018 – Athens, Ga

Psychology Department (Brain and Behavioral Sciences) - First Year Talk

“Cognitive control in psychosis” - October 4th, 2017 - Athens, Ga

Southeastern Psychological Association Conference –

“Cognitive control as measured with saccades” - March 10th, 2017 – Atlanta, Ga

**PUBLICATIONS**

Brown, J.A.\*, **Jackson, B.S.\***, Burton, C.R., Hoy, J.E., Sweeney, J.A., Pearlson, G.D.,

Keshavan, M.S., Tamminga, C.A., Clementz, B.A. & McDowell, J.E. (2021). Reduced White Matter Microstructure in Bipolar Disorder with and without Psychosis. *Bipolar Disorders*. \*shared first authorship

Huang, L., **Jackson, B.S.,** Rodrigue, A.L., Tamminga, C.A., Gershon, E. S., Pearlson,

G.D., Keshavan, M.S., Keedy, S.S., Sweeney, J. A., Clementz, B.A. & McDowell, J.E. (2020). Antisaccade Error Rates and Gap Effects in Psychosis Syndromes from B-SNIP2. *Psychological Medicine,*

Bechard, A., LaCrosse, A., Namba, M., **Jackson, B.S.**, Knackstedt, L. (2018).

Impairments in reversal learning following short access to cocaine self-administration. *Drug and Alcohol Dependence, 192, 239-244.* https://doi.org/10.1016/j.drugalcdep.2018.08.008.

LaCrosse, A. L. & **Jackson, B.S.** (2017). Antipsychotic Medications. *SAGE*

*Encyclopedia of Abnormal and Clinical Psychology.* DOI:

http://dx.doi.org/10.4135/9781483365817.n79.

**Jackson, B.S.,** Rodrigue, A.L., Knox, P.C. & McDowell, J.E. (In Progress). Probing the

Minimally Delayed Ocular-motor Response Task in Psychosis.

Burton, C.B., Hoy, J.E., Huang, L., Parker, D.A., **Jackson, B.S.**, Sweeney, J.A.,

Keshavan, M. S., Pearlson, G. D., Gershon, E. S., Tamminga, C. A., Clementz, B. A., & McDowell, J. E. (Under review). Neural White Matter Distinctions in Biologically Classified Psychosis: Findings from the Bipolar-Schizophrenia Network for Intermediate Phenotypes.

Chung, J., **Jackson, B.S.**, Park, C. & McDowell, J.E. (Under review). Joint Estimation

and Regularized Aggregation of Brain Networks in FMRI Data.

Samaddar, A., **Jackson, B. S.**, Helms, C. J., Lazar, N. A., McDowell, J. E., & Park, C.

(Under review). A Group Comparison in FMRI Data Using a Semiparametric Model Under Shape Invariance.

Samaddar, A., **Jackson, B. S.**, Lazar, N. A., McDowell, J. E., & Park, C.

(Under review). Comparison of Groups Based on Cluster Analysis of fMRI Data.

**POSTER PRESENTATIONS**

**Jackson, B.S.,** Rodrigue, A.L., Knox, P.C., Clementz, B.A. & McDowell, J.E. (2021).

Probing psychosis subgroups using the minimally delayed ocular-motor response task. Society of Biological Psychiatry. Virtual conference, April-May 2021.

**Jackson, B.S.,** Burton, C.B., Auger, E.A., Rodrigue, A.L., Keshavan, M.S., Pearlson,

G.D., Gershon, E.S., Tamminga, C.A., Clementz, B.A., McDowell, J.E. (2018). Cognitive control in psychosis: an fMRI and saccadic eye movement study. Society for Neuroscience. San Diego, CA. November 2018.

Burton, C.B., **Jackson, B.S.,** Huang, L.-Y., Parker, D.A., Schaeffer, D.J., Gershon, E.S.,

Keshavan, M.S., Pearlson, G.D., Tamminga, C.A., Clementz, B.A., McDowell, J.E. (2018). Neural white matter distinctions in biologically classified psychosis. Society for Neuroscience. San Diego, CA. November 2018.

Gordon, M.A., **Jackson, B. S**., LaCrosse, A., & Knackstedt, L. (2016). Reversal Learning

Is Not Protective Against Cocaine Relapse. Center for Addiction Research and

Education. University of Florida, FL. April 2016.

Stennett, B., **Jackson, B.S.,** & Knackstedt, L. (2016). The nucleus accumbens core is less

active during reinstatement to cocaine seeking in animals with a history of alcohol use as compared to cocaine use only. Society for Neuroscience. San Diego, CA. November 2016.

LaCrosse A.L., Gordon M.A., **Jackson B.S**., & Knackstedt L.A. (2015).

Antisense-mediated downregulation of xCT reduces basal glutamate in the NA and alters post-synaptic AMPA receptor subunit expression. Society for Neuroscience. Chicago, IL. October 2015.

**WORKSHOPS & CONFERENCES**

Society of Biological Psychiatry (SOBP) Conference – San Diego, CA (virtual due to

COVID-19) – April 29th-May 1st

Human Connectome Project (HCP) Workshop – Portland, OR – July 2019

Society for Neuroscience (SFN) Conference – San Diego, CA – November 2018

Network of Greater Georgia Institutions for Neuroimaging and Statistics (NOGGINS)

Conference – Athens, GA – April 2018

FreeSurfer Workshop – Massachusetts General Hospital – Boston, MA – September 2017

Southeastern Psychological Association (SEPA) Conference – Atlanta, GA – March 2017

Analysis of Functional NeuroImages (AFNI) Bootcamp – National Institute of Health –

Bethesda, MD – February 2017

Neuroscience of Attention Conference – Columbia, SC – October 2016

**TEACHING EXPERIENCE**

Teaching Assistantship – Research Methods & Design in Psychology – UGA – Fall 2020

Teaching Assistantship – Sensation and Perception – UGA – Spring 2020

Teaching Assistantship – Biological Health Psychology – UGA – Fall 2019

Teaching Assistantship – Psychology of Harry Potter – UGA – Fall 2019

Teaching Assistantship – Elementary Psychology – UGA – Spring 2019

Teaching Assistantship – Elementary Psychology – UGA – Fall 2017

Teaching Assistantship – Elementary Psychology – UGA – Fall 2016

**AWARDS AND SERVICE**

Graduate Mentor for the Psychology Undergraduate Mentoring Program – 2021–Present

Graduate Mentor for the Undergraduate Neuroscience Organization – Fall 2019–Present

President of the Brain and Behavioral Sciences Mentor Committee – 2018–Present

Innovative and Interdisciplinary Research Grant – Spring 2019

Senior Division Judge for the Georgia Science & Engineering Fair – Spring 2019

Michael H. Kernis Research Award – Best First Year Talk Presentation – Spring 2018

Delta Epsilon Iota Academic Honor Society – 2013–Present

**PROFESSIONAL AFFILIATIONS**

Association for Psychological Science – 2019-Present

Society for Neuroscience – 2018

Society for Experimental Psychology and Cognitive Science – 2017

American Psychological Association – 2017

**CURRENT AND PAST COLLABORATIONS**

Bipolar Schizophrenia Network for Intermediate Phenotypes (BSNIP) Consortium

* Data collection and analysis for functional MRI data and eye-tracking paradigms on populations with psychosis – Administration of the Brief Assessment of Cognition in Schizophrenia (BACS) and other cognitive assessments
  + *Dr. Brett Clementz - Dr. Matcheri S. Keshavan – Dr. Godfrey D. Pearlson – Dr. Elliot S. Gershon – Dr. Carol A. Tamminga*

fMRI Statistics – Statistics Department at UGA

* Assistance using a variety of statistical methods to assess functional MRI
  + *Dr. Nicole Lazar – Dr. Cheolwoo Park*

Georgia Prevention Institute – Augusta University

* Provide expertise on set-up, data collection, and analysis for a longitudinal cardiovascular study examining the relationship between brain structure, cognition and hypertension
  + *Dr. Su Shaoyong – Dr. Catherine Davis – Dr. Jennifer McDowell*

West Laboratory – Regenerative Bioscience Center at UGA

* Assistance with neuroimaging of pig stroke models using fMRI, DTI, & ASL
  + *Dr. Franklin West*

**RELEVANT GRADUATE COURSEWORK**

Cognitive Affective Bases of Behavior – PSYC-6230

Neurobiology of Psychosis – PSYC-8000

Clinical Functional Neuroimaging of Emotion – PSYC-8000

MR Data Analysis – PSYC-9100

Functional Neuroanatomy – VPHY-8000

Graduate Seminar on H.M. – PSYC-8000

Adult Psychopathology – PSYC-6240

Applied Statistical Regression – PSYC-6430

Philosophical Issues in Psychiatry – PSYC-9100

Program Design, Data Structures, and Algorithms for Informatics – BINF-7990

Advanced Experimental Psychology – PSYC-6420

Special Issues in Psychology Proseminar – PSYC-9100

Graduate Teaching Seminar – PSYC-7770