

Analicia Howard

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EDUCATION:

University of Colorado- Boulder Behavioral, Psychiatric, and Statistical Genetics	2027 (expected)
University of Colorado- Boulder M.A. in Psychology	2024
University of Puget Sound B.S. in Biochemistry	2016

TEACHING EXPERIENCE:

Teaching Assistant, Psychology 3000: Research Methods in Psychology University of Colorado, Boulder	2022 and 2023
Teaching Assistant, Psychology 3102: Behavioral Genetics University of Colorado, Boulder	2023 and 2024
Guest Lecturer for Psychology 3102: Behavioral Genetics University of Colorado, Boulder	2023 and 2024

RESEARCH EXPERIENCE:

Predoctoral Student, University of Colorado Boulder 2022-present
Institute for Behavioral Genetics

Community Liaison, University of Colorado Boulder 2024-present
Colorado Multiethnic study on Development and Aging Dynamics (COMUNIDAD)

Senior Clinical Research Assistant, Oregon Health and Sciences University (OHSU) 2019-2022

Adolescent Brain and Cognitive Development (ABCD) Study

Developmental Brain Imaging Lab

- Genetics Workgroup Trainee Member
- Responsible for the training of new staff members and of continuing training of current staff members
- MRI scan operator working to run T1 and T2-weighted, DTI, and BOLD sequence fMRI scans
- Phlebotomy-trained to obtain blood samples from participants for epigenetic DNA analysis as well as comprehensive blood cell counts
- Administration of neuropsychological assessments and neurocognitive batteries for adolescents
- Collection and processing of biological samples for analysis: including saliva for DNA and hormonal analysis, as well as urine, hair, and teeth for analysis of substance use exposure

- Image analysis and abstraction through AFNI

Research Assistant II, OHSU

2017-2019

Developmental Brain Imaging Lab

- Administration of neuropsychological assessments and neurocognitive batteries for adolescents
- Collection and processing of biological samples for analysis: including saliva for DNA and hormonal analysis, as well as urine, hair, and teeth for analysis of substance use exposure

Research and Academics Volunteer, OHSU

2017

Developmental Brain Imaging Lab

- MRI scan assistant working to run E-Prime based cognitive and behavioral assessments for adolescents during fMRI scans for ABCD and At-Risk studies in the Developmental Brain Imaging Lab

Research and Academics Volunteer, OHSU

2016-2017

Spina Bifida Clinic as part of the National Spina Bifida Registry

- Assisted with IRB continuing review and new document approval process through OHSU's eIRB system
- Assisted with data collection, survey administration, and data entry for the purpose of tracking longitudinal outcomes on the CDC funded Spina Bifida Research Study
- Assisted with implementation of a sub-study tracking urology-related outcomes in Spina Bifida population

Student Researcher, Neuroscience Methods Course, University of Puget Sound

2016

- How does embryonic stress in *Drosophila melanogaster* affect the concentration of dopaminergic neurons in 2nd instar larvae?
 - Dissected dozens of larval brains and stained for dopaminergic receptors using tyrosine-hydroxylase primary antibodies and other immunohistochemical techniques
 - Quantified the number of receptors in the larval brains under a fluorescent microscope

Summer Research Grant Recipient, University of Puget Sound

2014

- Mapping the pathway through which Bisphenol-A disrupts the Gonadotropin releasing Hormone neurons in the teleost fish *Oryzias latipes*.
 - Proposed identification of a possible thyroid- hormone receptor pathway through which BPA disrupts the GnRH neurons
 - Proposed analysis of results of 50+ fish via larval brain fixation, cryostat sectioning, and through observation under a fluorescent microscope

POSTERS, PUBLICATIONS, and PRESENTATIONS:

Howard, A.K., Gustavson, D.E., Friedman, N.P. (in preparation). Polygenic scores for adult psychopathology relate to adolescent reward sensitivity and cognitive control constructs.

Howard, A.K., Kaiser, R., Friedman, N.P. (in review- revised and resubmitted). Reward-sensitivity and Cognitive Control: An Exploratory Structural Equation Modelling Approach to Predicting Psychopathology.

Howard, A. K., Gustavson, D. E., & Friedman, N. P. (June, 2024). Adolescent reward and cognitive control constructs independently relate to polygenic scores for adult psychopathology. Talk presented at the 54th annual meeting of the Behavior Genetics Association, London, England.

Howard, A.K., Jones, S.A., Mooney, M.A., Nagel, B.J., Nigg, J.T. (April, 2022). Polygenic Risk Score for Major Depressive Disorder Predicts Depression Symptomology During Adolescence. Talk presented at the *Society of Biological Psychiatry* annual meeting in New Orleans, LA, USA.

Kliamovich, D.R., Del Giacco, A.C., Jones, S.A, Gaillard, M., Lopes Flores, A., Espinoza, A., **Howard, A.K.**, Flaherty, R., Herting, M., Nagel, B.J. (in review). Age- and sex-related differences in susceptibility to peer influence among 11- and 12-year old children: Findings from the Adolescent Brain and Cognitive Development (ABCD) study.

PROFESSIONAL INVOLVEMNT AND MEMBERSHIPS:

Member of American Society for Human Genetics	2025-present
Associate Member of Behavioral Genetics Association	2024- present
Peer Mentor in the Graduate Peer Mentoring Program	2023-present
Psychology and Neuroscience Diversity, Equity, and Inclusion Committee	2023-present
Institute of Behavioral Genetics Diversity, Equity and Inclusion Committee	2023- present
International Scholar and Cultural Exchange Program Liaison	2023-2024
ABCD Study Genetics Workgroup	2021-present

TRAINING:

International Statistical Genetics Workshop Hosted by the Institute for Behavioral Genetics	2024 and 2025
ABCD Reproducible Neuroimaging Course Hosted by Florida International University	2021
Epigenetics Symposium Oregon Health and Sciences University	2020
Short Course on the Genetics of Addiction Jackson Laboratories	2019

HONORS AND AWARDS:

Public and Community Engaged Scholarship Grant- CU Boulder	2025
Travel award for 54th annual Behavioral Genetics Association Conference	2024
CUB Travel Grant	2024

CUB Diversity Fellowship	2022
Travel award for Short Course in Genetics of Addiction	2019
PS Faculty Scholarship for academic achievement	2011- 2016
UEC grant for undergraduate research	2014

RELEVANT SKILLS AND LABORATORY TECHNIQUES:

- Programming and Bioinformatics Skills:
 - Experience in: R, Mplus, OpenMx, PRS-CS, Python, SPSS, Git, Docker, Linux Operating System, EPIC medical records system, AFNI, and E-prime
- Statistical analysis
 - Experience in: Structural equation modeling, linear mixed effects models, general additive mixed effects models, factor analysis, principal component analysis
- Neuroscience-related techniques:
 - Experience in: Histochemical staining, backfilling neurons, fluorescence microscopy, immunohistochemical staining, brain dissection and cryostat sectioning, T1 and T2-weighted, DTI, and BOLD sequence fMRI image acquisition
- Biology-related techniques
 - Experience in: PCR, western blot, SDS-PAGE, bright, dark, and phase contrast microscopy, gel electrophoresis, centrifugation, sterile cell culture, mutagenesis of yeast cultures, and plasmid purification