

Chloe Alexa McGhee

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EDUCATION

University of Colorado, Boulder

Boulder, CO

Predoctoral Student

August 2024 - Present

Doctor of Philosophy in Behavioral, Psychiatric & Statistical Genetics

Northwestern University

Evanston, IL

Bachelor of Arts: Neuroscience (Human Behavior and Cognition) | Minor: Legal Studies Sept. 2018-March 2022

- *Introduction to Psychology, Research Methods in Psychology, Developmental Psychology, Cognitive Psychology, Cellular, and Molecular Neuroscience, Systems and Behavioral Neuroscience, Genetics of Human Behavior, Chemistry, Physics, Physiology, Introduction to Computer Science (Python), Statistics (R-Studio), Neurobiology of Biological Clocks and Sleep, Emotional Brain, Research Topics: Infant Cognition, Functional Brain Networks, Lifespan and Personality*

RESEARCH EXPERIENCE

Clinical Research Coordinator Associate, Brain Imaging, Development, and Genetics Lab, Stanford University

July 2022 - August 2024

P.I.: Dr. Tamar Green

- Conduct in-person and remote studies assessing children with genetic syndromes (Noonan syndrome and Neurofibromatosis type 1) aged 5 to 18 years old
- Pilot the MRI scans
- Edit participant MRI images using Freesurfer and manage imaging data through Flywheel
- Run data analysis on neuroanatomical measures using R
- Administer behavioral and cognitive assessments with parents and children
- Create behavioral reports that consolidate the assessment results
- Manage reimbursements, consent forms, and honorarium forms for participating families

Research Assistant, Infant Child Development Center, Northwestern University

March 2021 - June 2022

P.I.: Dr. Sandra Waxman

- Conduct in-person and virtual studies assessing language development, socio-behavioral measures (e.g. temperament), and parenting behaviors
- Recruit, schedule, and manage participants and families
- Perform administrative tasks including scoring and entering behavioral questionnaires and intake forms
- Code eye-tracking behavior to better understand whether infants are able to object categorize when paired with different stimuli
- Transcribe online studies to understand language development and parenting behaviors in preschoolers
- Assist in data collection for a longitudinal study observing resting-state EEG rhythms
- Perform data analysis using R software

Research Assistant, Gratton Lab, Northwestern University

August 2021 - March 2022

P.I.: Dr. Caterina Gratton

- Assist in running fMRI scans on participants for the *Precision Imaging of Human Behavior Brain Networks and their Links to Individual Differences in Behavior* project
- Run quality control on the data and examine the image quality
- Conduct literature searches to understand the clinical cut-off scores for Beck's Depression Inventory (BDI), Mood and Anxiety Symptom Questionnaire (MASQ), and Adult ADHD Self-Report Scale (ASRS)
- Examine different behavioral questionnaires and compare our subject's scores to the clinical cut-off scores
- Present on different functional brain networks publications in journal club

Research Assistant, Lifespan Personality and Health Lab, Northwestern University

December 2020 - July 2022

P.I.: Dr. Daniel Mroczek

- Conduct extensive literature reviews and searches for the Loneliness and Risky Behavior project
- Build the theoretical significance of studying the effects of loneliness and social isolation on cognitive aging outcomes within the context of the COVID-19 pandemic
- Edit RO1 grants, proposals, data dictionaries, and publications

MANUSCRIPTS AND PUBLICATIONS

- Willroth, E. C., Pfund, G. N., **McGhee, C.**, & Rule, P. (2023). Well-being as a protective factor against cognitive decline and dementia: A review of the literature and directions for future research. *The Journals of Gerontology: Series B*, 78(5), 765-776. <https://doi.org/10.1093/geronb/gbad020>
- Graham, E. K., Beck, E. D., Jackson, K., Yoneda, T., **McGhee, C.**, Pieramici, L., Atherton, O. E., Luo, J., Willroth, E. C., Steptoe, A., Mroczek, D. K., & Ong, A. D. (2024). Do We Become More Lonely With Age? A Coordinated Data Analysis of Nine Longitudinal Studies. *Psychological Science*, 35(6), 579-596. <https://doi.org/10.1177/09567976241242037>
- Graham, E. K., Atherton, O. E., Mroczek, D. K., **McGhee, C.**, Pieramici, L., Lewis-Thames, M., Curtis, L., Cella, D., Opsasnick, L., Lovett, R., O'Connor, R., & Wolf, M. S. (2024). Longitudinal Associations Between Multimorbidities and Patient-Reported Quality of Life. *The Journal of Gerontology, Series B: Psychological Sciences and Social Sciences*, 79(2), gbad173. <https://doi.org/10.1093/geronb/gbad173>
- McGhee, C. A.**, Honari, H., Siqueiros-Sanchez, M., Serur, Y., van Staalduinen, E. K., Stevenson, D., Bruno, J. L., Raman, M. M., & Green, T. (2024). Influences of RASopathies on Neuroanatomical Variation in Children. *Biological psychiatry: Cognitive Neuroscience and Neuroimaging*, 9(9), 858–870. <https://doi.org/10.1016/j.bpsc.2024.04.003>
- Siqueiros-Sanchez, M., Dai, E., **McGhee, C. A.**, McNab, J. A., Raman, M. M., & Green, T. (2024). Impact of Pathogenic Variants of the Ras-MAPK Pathway on Major White Matter Tracts in the Human Brain. *bioRxiv*, 2024-04, <https://doi.org/10.1101/2024.04.17.590011>
- Siqueiros-Sanchez, M., Serur, Y., **McGhee, C. A.**, Smith, T. F., & Green, T. (2024). Social Communication in Ras Pathway Disorders: A Comprehensive Review From Genetics to Behavior in Neurofibromatosis Type 1 and Noonan Syndrome. *Biological Psychiatry*, S0006-3223(24)01624-X. Advance online publication. <https://doi.org/10.1016/j.biopsych.2024.09.019>
- Plank, J. R., Gozdas, E., Dai, E., **McGhee, C. A.**, Raman, M. M., & Green, T. (2024). Elucidating Microstructural Alterations in Neurodevelopmental Disorders: Application of Advanced Diffusion-Weighted Imaging in Children With Rasopathies. *Human Brain Mapping*, 45(17), e70087. <https://doi.org/10.1002/hbm.70087>
- Plank, J., Gozdas, E., Bruno, J., **McGhee, C.A.**, Raman, M., Green, T. (2025) Quantitative T1 mapping indicates elevated white matter myelin in children with RASopathies. *Biological Psychiatry*. <https://doi.org/10.1016/j.biopsych.2025.04.014>
- Serur, Y., Russo, O., **McGhee, C. A.**, & Green, T. (2025). Increased Prevalence of Psychiatric Disorders in Children with RASopathies: Comparing NF1, Noonan Syndrome Spectrum Disorder, and the General Population. *Genes*, 16(7), 843. <https://doi.org/10.3390/genes16070843>
- Serur, Y., **McGhee, C. A.**, Avital, N., Russo, O., Raman, M. M., & Green, T. (2025). Subcortical shape alterations in children with Noonan syndrome spectrum: insights into genotype–phenotype associations. *Cerebral Cortex*, 35(8), bhaf217. *Psychiatry*. <https://doi.org/10.1093/cercor/bhaf217>

McGhee, C. A., Plank, J., Fuhrmann, N., Russo, O., Tartaglia, M., Green, T. (accepted) Genotype-Phenotype Differences in Cognitive Functioning and Behavioral Profiles in Noonan Syndrome. *Molecular Autism*.

McGhee, C. A., Friedman, N. (in preparation). Developmental Trajectories of Attention Problems from Childhood to Adulthood Predict Poorer Executive Function.

McGhee, C. A., Gustavson, D., Reynolds, C., Friedman, N. (in preparation) Genetic and Environmental Contributions to Attention Problems Across Development and Relations to Adult Impulsivity.

McGhee, C. A., Plank, J., Russo, O., Green, T. (preparation) An Allometric Approach to Fine-Mapping Subcortical Volume Alterations in RASopathies.

POSTER PRESENTATIONS

McGhee, C., Siqueiros-Sanchez, M., Serur, Y., Raman, M., Green, T. (2023, April). Children with Rasopathies (Noonan and NF-1) Present Contrasting Effects on Cortical Thickness across the Cortex. Poster presented at *Society of Biological Psychiatry* (SOBP), San Diego, CA.

McGhee, C., Siqueiros-Sanchez, M., Serur, Y., Raman, M., Green, T. (2023, July). Children with Rasopathies (Noonan and NF-1) Present Contrasting Neuroanatomical Effects on the Developing Brain. Honorable Mention and Poster presented at *2023 International RASopathies Symposium* (RasNet) Denver, CO.

Siqueiros-Sanchez, M., Dai, E., **McGhee, C.**, Raman, M., Green, T. (2023, April). Reduced White-Matter Connectivity in Neurofibromatosis type-1 (NF-1) and Noonan Syndrome (NS). Poster presented at *Society of Biological Psychiatry* (SOBP), San Diego, CA.

Serur, Y., Raman, M., **McGhee, C.**, Green, T. (2023, April). Mapping Subcortical Brain Alterations in Noonan Syndrome, Does Shape Matter? Poster presented at *Society of Biological Psychiatry* (SOBP), San Diego, CA.

McGhee, C., Gustavson, D., Reynolds, C., Friedman, N. (2025, June). Genetic and Environmental Contributions to Attention Problems Across Development and Relations to Adult Impulsivity. Poster presented at the 2025 Behavioral Genetics Association (BGA), Atlanta, GA.

ADDITIONAL PROFESSIONAL EXPERIENCE

Clinical Shadow, **Zinnanti Institute of Neuroscience**, Santa Cruz, CA January 2020

- Shadowed Dr. Zinnanti to understand the medical application of neuroscience and patient diagnoses

Data Analyst, **Fox, Wang & Morgan Law Firm**, Los Gatos, CA July 2016 - December 2018

- Managed the collection of respondents' confidential background data to be used for case evidence

ADDITIONAL SKILLS

Technical Skills:

- Image editing and analyses in FreeSurfer
- Perform data analysis with Rstudio, FreedSurfer, Python, WorkBench, PICCOLO, and SALT
- Conduct studies using MATLAB
- Manage participant information using REDcap
- Code videos with Supercoder and Datavyu
- Manage and organize participant data with Microsoft Excel, Qualtrics, Filemaker, and Microsoft Word

Test Administration:

- Wide Range Achievement Test, Fifth Edition (WRAT-5)
- Wechsler Abbreviated Scale Intelligence (WASI-II)

- NIH Toolbox

Licenses:

- CITI Program: Human Research, Social Science, and Behavioral Science Research
- CITI Program: Human Subjects Research Protections
- CITI Program: Group 7: IRB BioMed/GCP Research (All Medical Investigators and Staff)

Language:

- Native English, conversational in Spanish

SELECTED FELLOWSHIPS, GRANTS, AND AWARDS

- 2022 Dean’s List for Winter Quarter
- Awarded to students whose grade-point averages (GPAs) during the previous quarter were 3.70 or above based on no fewer than three courses taken for a regular letter grade.
- 2021 Weinberg College Baker Program Research Grant 7/6/2021-9/6/2021
Project Title: HUM
- Awarded \$3500 to work on a 10-week clinical research project, including participant recruitment, conducting the study, data collection, coding, and data analysis
 - Trained how to properly run the in-person study through MATLAB
 - Mastered eye-tracking coding with SuperCoder
- 2021 Co-author on Well-being and Cognitive Resilience Non-Systematic Review Paper
- 2020 BIG Ten Academic Scholar - Northwestern Women’s Soccer

ATHLETIC AND SERVICE EXPERIENCE

- Division I Student-Athlete, Northwestern Women’s Soccer, Evanston, IL* July 2018 - November 2021
- Provided leadership and guidance to incoming student-athletes

REFERENCES

- Naomi Friedman, Ph.D.,** *Institute of Behavioral Genetics,* naomi.friedman@colorado.edu
Tamar Green, M.D., Ph.D., *Brain Imaging, Development, and Genetics Lab,* tgreen2@stanford.edu
Leanne Williams, Ph.D., *Williams PanLab,* leawilliams@stanford.edu
Sandra Waxman, Ph.D., *Infant and Child Development Lab,* s-waxman@northwestern.edu
Caterina Gratton, Ph.D., *Gratton Lab,* cgratton@northwestern.edu
Dan Mroczek, Ph.D., *Lifespan Personality and Health Lab,* daniel.mroczek@northwestern.edu
William Zinnanti, M.D., Ph.D., *Zinnanti Institute of Neuroscience,* wzinnanti@gmail.com
Michael Moynihan, *Head Coach of Northwestern Women’s Soccer,* michael.moynihan@northwestern.edu