

EDUCATION

- Present **University of Colorado Boulder**, Boulder, CO
Behavioral, Psychiatric and Statistical Genetics
Department of Psychology and Neuroscience
Doctoral Candidate
Expected Graduation Spring 2024
- 2021 **University of Colorado Boulder**, Boulder, CO
Department of Psychology and Neuroscience
M.A.
- Thesis: Genetic and Environmental Influences on Executive Functions and Intelligence in Middle Childhood
- 2021 **University of Colorado Boulder**, Boulder, CO
School of Education
Graduate Certificate in Quantitative Methods for Behavioral Sciences
- 2017 **The University of Texas at Austin**, Austin, TX
Department of Psychology
B.S.
Biology Minor
Special Honors in Psychology
University High Honors
Honors Thesis Faculty Supervisor: Kathryn Paige Harden, Ph.D.

PEER-REVIEWED JOURNAL ARTICLES

- Freis, S.M.**, Alexander, J.D., Corley, R.P., De La Vega, A.I., Gustavson, D.E., Vrieze, S.I., Friedman, N.P. (in press). Associations between executive functions assessed in different contexts in a genetically informative sample. *Journal of Experimental Psychology: General*. <https://doi.org/10.1037/xge0001471>
- Dokuru, D.R., Horwitz, T., **Freis, S.M.**, Stallings, M.C., Ehringer, M.E. (in press). South Asia: The missing diverse in efforts toward diversity. *Behavior Genetics*.
- Paulich, K.P., **Freis, S.M.**, Villela, P.R., Horwitz, T.B., Aki, S., Ehringer, M.E., (in press). Student-driven progress: Reinvigoration of a Diversity, Equity, and Inclusion committee at the Institute for Behavior Genetics. *Behavior Genetics*.
- Paulich, K.N., **Freis, S.M.**, Dokuru, D.R., Stallings, M.C., Hewitt, J.K. (2023). Exploring relationships between internalizing problems and risky sexual behavior: A twin study. *Behavior Genetics*, 53, 331-347. doi.org/10.1007/s10519-023-10146-x

- Rader, L., **Freis, S.M.**, Friedman, N.P. (2023) Associations between adolescent pain and psychopathology in the Adolescent Brain Cognitive Development (ABCD) study. *Behavior Genetics*, 53, 232-248. doi.org/10.3389/fpsyt.2023.1149079
- Alexander, J. D., **Freis, S. M.**,... Friedman, N. P., & Vrieze, S. I. (2023). Evaluating longitudinal relationships between parental monitoring and substance use in a multi-year, intensive longitudinal study of 670 adolescent twins. *Frontiers in Psychiatry*, 14, 1149079. doi.org/10.3389/fpsyt.2023.1149079
- Alexander, J. D., Zhou, Y., **Freis, S. M.**, Friedman, N. P., & Vrieze, S. I. (2022). Individual differences in adolescent and young adult daily mobility patterns and their relationships to big five personality traits: A behavioral genetic analysis. *Journal of Research in Personality*, 100 104277. doi.org/10.1016/j.jrp.2022.104277
- Freis, S.M.**, Morrison, C.L., Smolker, H.R., Banich, M.T., Kaiser, R.H., Hewitt, J.K., Friedman, N.P. (2022). Executive functions and impulsivity as transdiagnostic correlates of psychopathology in childhood: A behavioral genetic analysis. *Frontiers in Human Neuroscience*, 16, 863235. doi.org/10.3389/fnhum.2022.863235
- Freis, S.M.**, Morrison, C.L., Lessem, J., Hewitt, J.K., Friedman, N.P. (2022). Genetic and environmental influences on executive functions and intelligence in middle childhood. *Developmental Science*, 25, e13150. doi.org/10.1111/desc.13150
- Malanchini, M., Engelhardt, L.E., Sabhlok, A., Grotzinger, A.D., Briley, D., Madole, J.W., **Freis, S.M.**, Patterson, M.W., Harden, K.P., & Tucker-Drob, E.M. (2021). Weak and uneven associations of home, neighborhood, and school environments with stress hormone output across multiple timescales. *Molecular Psychiatry*, 26, 4823–4838. doi.org/10.1038/s41380-020-0747-z
- Harden, K.P., Engelhardt, L.E., Mann, F.D., Patterson, M.W., Grotzinger, A.D., Savicki, S.L., Thibodeaux, M.L., **Freis, S.M.**, Tackett, J.L., Church, J.A., & Tucker-Drob, E.M. (2020). Genetic associations between executive functions and a general factor of psychopathology. *Journal of the American Academy of Child and Adolescent Psychiatry*, 59, 749-758. doi.org/10.1016/j.jaac.2019.05.006

MANUSCRIPTS IN PROGRESS

- Freis, S.M.**, Alexander, J.D., Duffy, K., Cho, Y.W., Li, Y., Anderson, J., Corley, R.P., Chow, S., Vrieze, S.I., Friedman, N.P. (in preparation). Assessing environmental similarity with GPS data: Tests of the equal environment assumption in adolescence across diverse psychological domains.
- Rea-Sandin, G., **Freis, S.M.**, Friedman, N.P., Luciana, M., Wilson, S. (in preparation). Examining the genetic and environmental links between executive functioning and psychopathology across middle childhood and early adolescence.

PRESENTATIONS

Freis, S.M., Alexander, J.D., Duffy, K., Cho, Y.W., Li, Y., Anderson, J., Corley, R.P., Chow, S., Vrieze, S.I., Friedman, N.P. (June 2023). Assessing environmental similarity with GPS data: Tests of the equal environment assumption in adolescence across diverse psychological domains. Symposium talk presented at the Behavior Genetic Association Annual Meeting, Murcia, Spain.

Freis, S.M., Corley, R.P., Vrieze, S.I., Friedman, N.P. (May 2022). Associations between executive functions assessed in different contexts in a genetically informative sample. Data blitz talk presented at the annual Control Processes meeting, Online.

Freis, S.M., Alexander, J.D., Corley, R.P., Vrieze, S.I., Friedman, N.P. (June 2021). A behavioral genetic analysis of relationships between executive functions, intelligence, and multiple reports of adolescent behavior problems. Poster presented at the Behavior Genetic Association Annual Meeting, Online.

Freis, S.M., Morrison, C.L., Lessem, J.M., Hewitt, J.K., Friedman, N.P. (June 2020). Genetic correlations between executive functions and intelligence in the Adolescent Brain Cognitive Development (ABCD) Study. Poster presented at the Behavior Genetic Association Annual Meeting, Online.

Freis, S.M., O'Quinn, J., Cavanagh, S., & Harden, K.P. (May 2018). Linguistic analysis as a tool for studying the development of sexual well-being. Presentation as a part of the symposium: Normative but controversial: Neural, cognitive, and behavioral aspects of adolescents' more-risky and less-risky sexual behavior presented at the 2018 Association for Psychological Science Annual Convention, San Francisco, CA.

Freis, S.M., O'Quinn, J., Cavanagh, S., & Harden, K.P. (April 2018). Identifying sexual self schemas in late adolescence through text analysis. Poster presented at the 2018 biennial meeting of the Society for Research on Adolescence, Minneapolis, MN.

Freis, S.M., Mann, F.D., Tackett, J., Tucker-Drob, E.M., & Harden, K.P. (April 2017). Correlations between substance use and sexual risk-taking in adolescence: A behavior genetic analysis. Poster presented at the biennial meeting of the Society for Research in Child Development, Austin, TX.

CO-AUTHORED PRESENTATIONS

Alexander, J.D., Duffy, K., **Freis, S.M.**, Friedman, N.P., Vrieze, S.I. (June 2023). Changes in youth affect and mobility following the COVID-19 pandemic in an intensive longitudinal study of adolescent twins. Poster presented by Jordan Alexander at the Behavior Genetic Association Annual Meeting, Murcia, Spain.

Friedman, N.P., **Freis, S.M.**, Vrieze, S.I. (June 2023). Evaluating the dual systems model for alcohol use in an intensive longitudinal twin study. Lighting talk presented by Naomi Friedman at the Behavior Genetic Association Annual Meeting, Murcia, Spain.

Rader, L., **Freis, S.M.**, Friedman, N.P. (June 2023). Associations between adolescent pain and psychopathology in the Adolescent Brain Cognitive Development (ABCD) study. Poster presented by Lydia Rader at the Behavior Genetic Association Annual Meeting, Murcia, Spain.

Alexander, J.D., **Freis, S.M.**, Friedman, N.P., Vrieze, S.I. (June 2022). Parental monitoring and adolescent substance use development in a smartphone- based intensive longitudinal twin sample. Symposium talk presented by Jordan Alexander at the Behavior Genetic Association Annual Meeting, Los Angeles, CA.

Paulich, K.N., **Freis, S.M.**, Dokuru, D.R., Stallings, M.C., Hewitt, J.K. (June 2022). Exploring relationships between internalizing problems and risky sexual behavior: A twin study. Poster presented by Katie Paulich at the Behavior Genetic Association Annual Meeting, Los Angeles, CA.

Alexander, J.D., Zhaou, Y., Friedman, N.P., **Freis, S.M.**, Vrieze, S.I. (June 2021). Individual differences in daily mobility patterns in a genetically informed youth sample. Poster presented by Jordan Alexander at the Behavior Genetic Association Annual Meeting, Online.

Raffington, L., Malanchini, M., Engelhardt, L.E., Grotzinger, A.D., Sabhlok, A., Briley, D., Madole, J.W., **Freis, S.M.**, Patton, N.W., Patterson, M.W., Harden, K.P., Tucker-Drob, E.M. (Accepted). Genes moderate children's and adolescents' cortisol responses to psychosocial stress and to the day. Society for Research on Adolescence, San Diego, California, conference canceled.

GRANTS, HONORS, & AWARDS

July 2023;	
July 2022;	National Institute of Mental Health T32 Training Grant - MH016880
July 2021	
June 2023	Behavior Genetics Association Student Travel Award
February 2022	Carol Becker Lynch Award for Excellence in Behavior Genetics Research
March 2021	National Science Foundation Graduate Research Fellowship Program Honorable Mention
May 2017	Dean's Distinguished Graduate Award Honorable Mention
May 2017	Liberal Arts College Scholar
October 2016	Liberal Arts Honors Undergraduate Research Stipend Awardee
May 2016	Cum laude on the Dean's Honor Roll

RESEARCH EXPERIENCE

National Institutes of Mental Health

Institute for Behavioral Genetics Training Grant (T32) - MH016880

The University of Colorado Boulder

Predoctoral Trainee

July 2021 – Present

CoTwins: Colorado Twin Study

Institute for Behavioral Genetics

The University of Colorado Boulder

PIs: Naomi Friedman, Ph.D. & Scott Vrieze, Ph.D.

Graduate Research Assistant

May 2020 – June 2021

The Texas Twin Project

Department of Psychology

Population Research Center

The University of Texas at Austin

PIs: Kathryn Paige Harden, Ph.D. & Elliot Tucker-Drob, Ph.D.

Research Coordinator / Project Manager

May 2017 – May 2019

Developmental Behavioral Genetics Lab

Department of Psychology

Population Research Center

The University of Texas at Austin

PI: Kathryn Paige Harden, Ph.D.

Undergraduate Research Assistant

August 2015 - May 2017

RELEVANT COURSEWORK

Physiological Genetics
Biometrical Methods
Structural Equation Modeling
Graduate Statistics
Genetics of Psychopathology
Bayesian Data Analysis

Methods Proseminar in Behavioral Genetics
Statistical Programming in R
Behavioral Genetics
Bioinformatics
Genetics of Substance Abuse Disorders

WORKSHOPS & TRAINING

March 2023, June

2022, June 2021,

March 2020

International Statistical Genetics
Workshop

Institute for Behavioral Genetics,
University of Colorado Boulder

October 2021,

October 2022

Integrating Genetics and the
Social Sciences

Institute of Behavioral Science,
University of Colorado Boulder

September 2021	Catalyzing Advocacy in Science and Engineering	American Association for the Advancement of Science
July 2021	GIS Workshop: Visualizing and Analyzing Health Data	Columbia University Mailman School of Public Health
March 2018	Simulations & Power Analysis Workshop	Hosted by Elliot Tucker-Drob Ph.D., The University of Texas at Austin
February 2018	Twin Modeling Workshop	Hosted by Elliot Tucker-Drob Ph.D., The University of Texas at Austin

PROGRAMMING & BIOINFORMATICS SKILLS

- Proficient in R, R Markdown, tidyverse, and *MPplus*
- Intermediate experience with Python, Unix/Linux command line, OpenMX, Tableau, and SPSS
- Intermediate experience with ArcGIS, QGIS, saTScan, and GeoDa for geographic data analysis and visualization
- Beginner experience with bash, emacs, plink, LDpred, LDHub, GCTA, Git, GitHub, and MATLAB

RESEARCH & DATA MANAGEMENT SKILLS

- Proficient in managing data, building reports, and creating projects in REDcap
- Proficient in designing surveys and collecting data in Qualtrics
- Proficient in Meaning Extraction Helper (MEH) for text mining

TEACHING EXPERIENCE

University of Colorado Boulder

Grader – Research Methods in Psychology; Advanced Cognitive Psychology

Fall 2021, Fall 2022, Spring 2023

Institute for Behavioral Genetics International Statistical Genetics Workshop

Workshop Tutor

Summer 2022

University of Colorado Boulder

Graduate Teaching Assistant – Research Methods in Psychology

Fall 2019 and Spring 2020

University of Texas at Austin

Guest Lecturer – Health Psychology

Spring 2019

SERVICE & MENTORSHIP

Journal Reviewing (ad hoc)

Frontiers in Psychology	Journal of Cognitive Psychology
Clinical Child and Family Psychology Review	Child Abuse and Neglect

Project SHORT (Students for Higher-Ed Opportunities and Representation in Training)

Co-Director of Evaluation and Development

May 2022 – Present

- Gathered and analyzed feedback from 1,000+ mentee and mentor surveys annually to measure the organization's success in providing mentorship and resources to prospective graduate students from traditionally underrepresented backgrounds.
- Identified areas of improvement based on survey insights and presented suggested solutions to the executive board resulting in increased resources for international students and increased mentor recruitment in high demand disciplines.

Volunteer Mentor

June 2020 – Present

- Individually mentored prospective students each application cycle by providing feedback on application materials, conducting mock interviews, and aiding in school selection.

Institute for Behavioral Genetics Diversity, Equity, and Inclusion Committee

Graduate Student Committee Member

August 2021 – Present

- Led the drafting of several DEI-focused statements and grants.
- Consulted on efforts and initiatives aimed to improve inclusiveness and culture at IBG.

CU Boulder Graduate Peer Mentoring Program

Peer Mentor

June 2020 – May 2022

- Provided mentorship and support to incoming graduate students at CU Boulder.

Texas Twin Project Research Assistant Professional Development Newsletter

Spring 2019

- Developed and implemented a bi-weekly research oriented professional development newsletter for research assistants on The Texas Twin Project.

Summer Undergraduate Research Experience – UT Austin

Co-mentor

Summer 2018

- Assisted in mentoring an undergraduate research project “Parental Bonding and Positive Risk Taking”. Presented as a part of the University of Texas Summer Undergraduate Research Experience program.

SCIENCE OUTREACH & COMMUNICATION

July 2021	Texas Twin Project Summer Seminar Series	Presented information on research opportunities and findings from my research on genetic and environmental influences on cognitive abilities to a group of undergraduate research assistants at UT Austin.
June 2020	Out in STEM, CU Boulder	Pathways in STEM conference interviewee on genetic research and LGBTQ+ identity
May 2020	The Logan School, Denver, CO	Guest lecturer for a unit on twin and family studies on behalf of the CoTwins Study
March 2019	Ridgeview Middle School, Round Rock, TX	Career day presenter on behalf of the Texas Twin Project
September 2019	Blackland Prairie Elementary, Round Rock, TX	Career day presenter on behalf of the Texas Twin Project

PROFESSIONAL AFFILIATIONS

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Behavior Genetics Association