

## EDUCATION

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- 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.
- 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: A Behavioral Genetic Analysis of Substance Use and Risky Sexual  
Behavior in Adolescence  
Faculty Supervisor: Kathryn Paige Harden, Ph.D.

## PEER-REVIEWED JOURNAL ARTICLES

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- 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

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**Freis, S.M.**, Alexander, J.D., Corley, R.P., De La Vega, A.I., Gustavson, D.E., Vrieze, S.I., Friedman, N.P. (under review). Associations between executive functions assessed in different contexts in a genetically informative sample.

Rader, L., **Freis, S.M.**, Friedman, N.P. (under review) Genetic and environmental relationships between adolescent pain and psychopathology across time.

Paulich, K.N., **Freis, S.M.**, Dokuru, D.R., Stallings, M.C., Hewitt, J.K. (under review). Exploring relationships between internalizing problems and risky sexual behavior: A twin study.

Alexander, J. D., Brazel, D.M., **Freis, S. M.**,... Friedman, N. P., & Vrieze, S. I. (in preparation). Changes in parental monitoring do not predict changes in substance use in a multi-year, intensive longitudinal study of 670 adolescent twins.

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

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**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**

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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**

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July 2022; July 2021	National Institute of Mental Health T32 Training Grant - MH016880
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

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### **National Institutes of Mental Health**

Institute for Behavioral Genetics Training Grant (T32)  
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

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Physiological Genetics	Methods Proseminar in Behavioral Genetics
Biometrical Methods	Statistical Programming in R
Structural Equation Modeling	Behavioral Genetics
Graduate Statistics	Bioinformatics
Genetics of Psychopathology	Genetics of Substance Abuse Disorders
Bayesian Data Analysis	

## WORKSHOPS & TRAINING

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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

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- Proficient in R, R Markdown, tidyverse, and *MPlus*
- 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

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- 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

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### 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**

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### **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

- Designed, distributed, analyzed, and reported results of end of cycle surveys to evaluate mentorship in Project SHORT and identify steps for growth and improvement.

*Volunteer Mentor*

June 2020 – Present

- Provided free mentorship, personal statement feedback, mock interview preparation, and general advice to mentees navigating the psychology graduate school application process.

### **Institute for Behavioral Genetics Diversity, Equity, and Inclusion Committee**

*Graduate Student Committee Member*

August 2021 – Present

### **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**

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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.
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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