

## SARAH COLBERT

PhD Student

Icahn School of Medicine at Mount Sinai

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<https://github.com/sarahcolbert>

## EDUCATION

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2022-present	<b>Icahn School of Medicine at Mount Sinai</b> (New York, New York) PhD Student in Biomedical Sciences Training area: Genetics and Genomic Sciences
2016-2020	<b>University of Colorado Boulder</b> (Boulder, CO) B.A., Ecology and Evolutionary Biology B.A., Environmental Studies

## GRANTS & FELLOWSHIPS

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2022-2027	<b>The National Science Foundation Graduate Research Fellowship</b>
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## AWARDS & HONORS

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2020	<b>WCPG Early-Career Investigator Travel Award</b>
2016-2020	<b>University of Colorado's Presidential Scholarship</b> - awarded to nonresident freshman in the top 1-3% of the admitted freshman class.
2016	<b>Shredwell Scholarship</b> – awarded by the OISA

## PUBLICATIONS

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**Colbert, S.M.C.** & Johnson, E.C. (In press at *Addiction*). The continued value of within-family designs in addiction and psychiatric research.

**Colbert, S.M.C.**, Keller, M.C., Agrawal, A. & Johnson, E.C. (In press at *Behavior Genetics*). Exploring the relationships between autozygosity, educational attainment, and cognitive ability in a contemporary, trans-ancestral American sample. *Behavior Genetics*. doi:10.1101/2021.11.24.469902

Baranger, D.A.A., Paul, S.E., **Colbert, S.M.C.**, Karcher, N.R., Johnson, E.C., Hatoum, A. S., & Bogdan, R. (In press at *JAMA Pediatrics*). Increased mental health burden associated with prenatal cannabis exposure persists from childhood to early adolescence: Longitudinal results from the Adolescent Brain Cognitive Development (ABCD) Study.

Lai, D., Johnson, E. C., **Colbert, S. M. C.**, Pandey, G., Chan, G., Bauer, L., Francis, M., Hesselbrock, V., Kamarajan, C., Kramer, J., Kuang, W., Kuo, S., Kuperman, S., Liu, Y., McCutcheon, V., Pang, Z., Plawecki, M., Schuckit, M., Tischfield, J., Wetherill, L., Zang, Y., Edenberg, H., Porjesz, B., Agrawal, A. & Foroud, T. (2021). Evaluating risk for alcohol use disorder: comparing polygenic risk scores and family history. *Alcoholism: Clinical and Experimental Research*. doi:10.1111/acer.14772

**Colbert, S.M.C.**, Hatoum, A.S., Shabalin, A., Li, Q., Coon, H., Nelson, E., Agrawal, A., Docherty, A.R. & Johnson, E.C. (2021). Exploring the genetic overlap of suicide-related behaviors and substance use disorders. *American Journal of Medical Genetics Part B: Neuropsychiatric Genetics*. doi:10.1002/ajmg.b.32880

Hatoum, A. S., Johnson, E. C., **Colbert, S. M. C.**, Polimanti, R., Zhou, H., Walters, R., Substance Use Disorders Working Group of the Psychiatric Genomics Consortium, Gelernter, J., Edenberg, H.J., Bogdan, R. & Agrawal, A. (2021). The Addiction Risk Factor: A Unitary Genetic Vulnerability Characterizes Substance Use Disorders and Their Associations with Common Correlates. *Neuropsychopharmacology*. doi:10.1038/s41386-021-01209-w

**Colbert, S. M. C.**, Funkhouser, S. A., Johnson, E. C., Morrison, C.L., Hoeffler, C. A., Friedman, N., Ehringer, M. A., & Evans, L. M. (2021). Novel characterization of the multivariate genetic architecture of internalizing psychopathology and alcohol use. *American Journal of Medical Genetics Part B: Neuropsychiatric Genetics*. doi:10.1002/ajmg.b.32874

Hatoum, A. S., Morrison, C. L., **Colbert, S. M. C.**, Winiger, E. A., Johnson, E. C., Agrawal, A., & Bogdan, R. (2021). Genetic Liability to Cannabis Use Disorder and COVID-19 Hospitalization. *Biological Psychiatry Global Open Science*. doi:10.1016/j.bpsgos.2021.06.005

## PRE-PRINTS AND IN-PREP

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**Colbert, S.M.C.**, Wendt, F.R., Pathak, G.A., Helmer, D.A., Hauser, E.R., Keller, M.C., Polimanti, R. & Johnson, E.C. (In preparation). Declining autozygosity over time: an exploration in over 1 million individuals from three large and diverse cohorts.

**Colbert, S.M.C.**, Mullins, N., Chan, G., Meyers, J., Schulman, J., Kuperman, S., Lai, D., Nurnberger, J., Plawecki, M.H., Kamarajan, C., Anokhin, A., Bucholz, K., Hesselbrock, V., Edenberg, H.J., Kramer, J., Dick, D.M., Porjesz, B., Agrawal, A. & Johnson, E.C. (Pre-print; under review at *Complex Psychiatry*). Polygenic contributions to suicidal thoughts and behaviors in a sample ascertained for alcohol use disorders. doi:10.1101/2022.08.18.22278943

Johnson, E.C., **Colbert, S.M.C.**, Jeffries, P.W., Tillman, R., Bigdeli, T., Karcher, N.R., Chan, G., Kuperman, S., Meyers, J.L., Nurnberger, J.I., Plawecki, M.H., Degenhardt, L., Martin, N.G., Kamarajan, C., Schuckit, M., Murray, M.M., Dick, D.M., Edenberg, H.J., Cyril D'Souza, D., Di Forti, M., Porjesz, B., Nelson, E.C. & Agrawal, A. (Under revision at *Schizophrenia Bulletin*). Associations between cannabis use, polygenic liability for schizophrenia, and unusual cannabis-related experiences.

Hatoum, A.S., **Colbert, S.M.C.**, Johnson, E.C., Huggett, S.B., Deak, J., Pathak, G., Jennings, M., Paul, S.E., Karcher, N.R., Hansen, I., Edwards, A., Grotzinger, A., Substance Use Disorders Working Group of the Psychiatric Genomics Consortium, Tucker-Drob, E., Kranzler, H., Sanchez-Roige, S., Davis, L., Polimanti, R., Gelernter, J., Edenberg, H.J., Bogdan, R. & Agrawal, A. (Under review at *Nature Neuroscience*). Multivariate Genome-Wide Association Meta-analysis of over 1 million subjects identifies loci underlying multiple substance use disorders. doi:10.1101/2022.01.06.22268753

Paul, S.E., Elsayed, N., Bogdan, R., **Colbert, S.M.C.**, Hatoum, A.S., & Barch, D. (Preprint). Childhood Socioeconomic Status and Polygenic Scores for Cognition Have Independent Associations with Cognitive Performance in Childhood. doi:10.1101/2021.08.26.21262684

## BOOK CHAPTERS

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**Colbert, S. M. C.** & Johnson, E. C. (In press). Genetic explanations for the association between cannabis and schizophrenia. In D'Souza D., Castle D., and Murray R. (Eds.), *Marijuana and Madness*, 3<sup>rd</sup> Ed. Cambridge, England: Cambridge University Press.

## CONFERENCE PRESENTATIONS

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**Colbert, S.M.C.**, Agrawal, A. & Johnson, E.C. (2022, June). Cross-disorder genome wide analyses of problematic alcohol use, suicide attempt and depression reveal shared risk loci. Symposium talk presented at the Research Society on Alcoholism Scientific Meeting.

**Colbert, S.M.C.**, Hatoum, A.S., Shabalin, A., Coon, H., Nelson, E., Agrawal, A., Docherty, A.R. & Johnson, E.C. (2021, June). Exploring the genetic overlap of suicide-related behaviors and substance use disorders. Poster presentation presented at the Annual Behavioral Genetics Association Meeting.

**Colbert, S. M. C.**, Funkhouser, S. A., Johnson, E. C., Hoeffler, C. A., Ehringer, M. A., & Evans, L. M. (2020, October). Differential shared genetic influences on anxiety with problematic alcohol use compared to alcohol consumption. Poster presentation presented at the Annual World Congress of Psychiatric Genetics.

**Colbert, S. M. C.**, Funkhouser, S. A., Johnson, E. C., Hoeffler, C. A., Ehringer, M. A., & Evans, L. M. (2020, June). Differential shared genetic influences on anxiety with problematic alcohol use compared to alcohol consumption. Oral presentation presented at the 50th Annual Behavioral Genetics Association Meeting.

## RESEARCH POSITIONS

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Fall 2022      **Icahn School of Medicine at Mount Sinai**, Department of Psychiatry  
Rotating PhD student  
Supervisor: Niamh Mullins, Ph.D.

2021-2022      **Washington University School of Medicine**, Department of Psychiatry  
Statistical Data Analyst  
Supervisors: Arpana Agrawal, Ph.D., Emma Johnson, Ph.D

2020-2021      **Institute for Behavioral Genetics**, University of Colorado Boulder  
Professional Research Associate  
Supervisor: Luke Evans, Ph.D.

2020      **Department of Ecology and Evolutionary Biology**, University of Colorado Boulder  
Undergraduate Research Project, "*Differential shared genetic influences on anxiety with problematic alcohol use compared to alcohol consumption*"  
Supervisor: Luke Evans, Ph.D.

2019- 2020      **Rocky Mountain Wild**, Colorado Pika Project  
100 Women for the Wild Research Intern

## TEACHING POSITIONS

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2019              **EBIO 2070: Genetics: Molecules to Populations**, University of Colorado Boulder  
Learning Assistant | Instructor: Cheryl Pinzone

## AD-HOC REVIEW ACTIVITIES

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*Addiction, European Psychiatry*

## SKILLS

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**Relevant coursework:** molecular & population genetics, computational biology, biological statistics, quantitative genetics, genomics, developmental biology, biomedical science

**Computational skills:**

- R/Rstudio
- UNIX Shell, bash, awk
- Python
- Human genetics analysis tools/methods: PLINK, SAIGE, BOLT, LDSC, PRS-CS, genomic SEM, LAVA, GNOVA, LCV, CAUSE, 2SMR, RICOPILI
- Cluster computing/Supercomputing
- Github
- Data Management