

## Alexander S. Hatoum

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### Education

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**University of Texas at Austin**  
Fall 2010-May 2013

B.A. Government, liberal arts honors;  
minor in psychology

**University of Colorado Boulder**  
Fall 2013-May 2019

Behavioral, Statistical, and Psychiatric Genetics  
M.A. May 2017  
Ph.D May 2019  
Supervised by Professor Naomi Friedman

### Honors and Award

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- Predoctoral T32 NIMH training grant awardee, MH016880      Fall 2016-May 2019
- Independent Honors Thesis, University of Texas at Austin      Spring 2013
- Liberal Arts Honors Undergraduate Research Award and Grant      Fall 2012

### Peer-Reviewed Publications and Manuscripts

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#### Journal Publications

1. **Hatoum, A.S.**, Rhee, S.H., Corley, R.P., Hewitt, J.K., & Friedman, N.P. (2017). Do Executive Functions Explain the Covariance Between Internalizing and Externalizing Behaviors? *Development and psychopathology*, 30(3), 1371-1387.  
<https://doi.org/10.1017/S0954579417001602>
2. **Hatoum, A.S.**, Rhee, S.H., Corley, R.P., Hewitt, J.K., & Friedman, N.P. (2018). Decomposing the Etiology of the Growth and Stability of Internalizing and Externalizing Behavior Problems in Childhood and Adolescence. *Behavior Genetics*, 48(4), 298-314. <https://doi.org/10.1007/s10519-018-9900-8>
3. **Hatoum, A.S.**, Reineberg, A.E., Smolker, H.R., Hewitt, J.K., & Friedman, N.P. (2019). Whole-Cortex Mapping of the Genetic vulnerability to Unfeeling vulnerabilities in Depression. *Translational Psychiatry*, 9(1), 1-10.
4. Gustavson, D.E., du Pont, A., **Hatoum, A.S.**, Rhee, S.H., Kremen, W.S., Hewitt, J.K., & Friedman, N. P. (2017). Genetic and Environmental Associations Between Procrastination and Internalizing/Externalizing Psychopathology. *Clinical Psychological Science*, 5(5), 798–815. <https://doi.org/10.1177/2167702617706084>
5. Huggett S.B., **Hatoum A.S.**, Hewitt J.K. & Stallings M.C. (2018). The Speed of Progression to Tobacco and Alcohol Dependence: A Twin Study. *Behavior Genetics*, 48(2), 109-124. <https://doi.org/10.1007/s10519-018-9888-0>
6. Woodward, K.E, Corley, R.C, Friedman, N.P., **Hatoum, A.S.**, Hewitt, J.K., Huibregtse, B.M., Stallings, M., & Rhee, S. (2019). Child Language Development and Later Alcohol Use Behaviors. *Drug and alcohol dependence* 198, 95-99.  
[10.1016/j.drugalcdep.2019.01.040](https://doi.org/10.1016/j.drugalcdep.2019.01.040)

7. Reineberg, A.E., Hatoum, A.S., Hewitt, J.K., Banich, M.T. and Friedman, N.P., 2020. Genetic and environmental influence on the human functional connectome. *Cerebral Cortex*, 30(4), pp.2099-2113. <https://doi.org/10.1093/cercor/bhz225>
8. Winiger, E.A., Huggett, S.B., **Hatoum, A.S.**, Stallings, M.C., & Hewitt, J.K. (2019) The Relationship Between Early Regular Cannabis Use and Adult Sleep Duration: Genetic Variation and the implications of a Predictive Relationship. *Drug and alcohol dependence* 204, 107517. <https://doi.org/10.1016/j.drugalcdep.2019.06.019>
9. Pezzoli, P., Antfolk, J., **Hatoum, A.S.**, Santilla, P. (2019). Genetic Vulnerability to Experiencing Childhood Maltreatment. *Frontiers in Genetics* 10, 852. [10.3389/fgene.2019.00852](https://doi.org/10.3389/fgene.2019.00852)
10. Friedman, N.P., **Hatoum, A.S.**, Gustavson, D.E., Corley, R.P., Hewitt, J.K., & Young, S.E. (2020) Executive Functions and Impulsivity are Genetically Distinct and Independently Predict Psychopathology: Results from Two Adult Twin Studies. *Clinical Psychological Science* 5(5), 798-815.
11. Winiger, E.A., Huggett, S.B., **Hatoum, A.S.**, Friedman, N.P., Drake, C.L., Wright, K.P., & Hewitt, J.K. (*Accepted at Sleep*). Onset of Regular Cannabis Use & Young Adult Insomnia: An Analysis of Genetic Variation Using a Twin Study
12. Johnson, E.C., Demontis, D., Thorgeirsson, T.E., Walters, R.K., Poimanti, R., **Hatoum, A.S.**, et al. (*Accepted at Lancet Psychiatry*). A Large-Scale Genome-Wide Association study Meta-Analysis of Cannabis Use Disorder
13. Huibregtse, B.M., **Hatoum, A.S.**, Corley, R.P., Rhea, S.A., Hewitt, J.K., & Stallings, M.C. (*Accepted at Behavior Genetics*). Etiology of Risky Sexual Behavior and the Association with Drug Use During Sexual Decision Making.
14. Paul S.E.\*, **Hatoum A.S.\***, Fine J.D., Johnson E.C., Hansen I., Karcher N.R., Moreau A.L., Bondy E., Qu L., Carter E.B., Rogers C.E., Agrawal A., Barch D.M., Bogdan R. (*Accepted at JAMA Psychiatry*). Prenatal cannabis exposure and childhood outcomes: Results from the ABCD study.

### Manuscripts Submitted for Publication

1. **Hatoum, A.S.**, Mitchell, E.C., Morrison, C.L., Evans, L.E., Keller, M.C., Friedman, N.P. (*Under review*). Executive Functioning GWAS of over 427,000 Individuals Establishes Molecular Pathways and Pharmacological Agents for Cognitive-Based Psychiatric Intervention
2. **Hatoum, A.S.**, Johnson, E.C., Agrawal, A., Bogdan, R. (Under Revision at Brain Imaging and Behavior). Brain Structure and Problematic Alcohol Use: A Genetic Quasi-Experimental Test of Plausible Causation.

3. **Hatoum, A.S.**, Reineberg, A.E., Keller, M.C., Wager, T., Hewitt, J.K., & Friedman, N.P. (*Under review*). Inferring the Genetic influences on Psychological Traits Using Whole-Brain Models: Application with Functional MRI Connectivity.
4. **Hatoum, A.S.**, Johnson, E.C., Baranger, D.A.A., Paul, S.E., Agrawal, A., Bogdan, R. (Under Review) Polygenic Risk Scores for Alcohol Involvement Relate to Brain Structure in Substance-Naïve Children: Results from the ABCD Study.  
<https://www.medrxiv.org/content/medrxiv/early/2020/07/28/2020.07.25.20162032.full.pdf>
5. **Hatoum, A.S.**, Wendt F., Galimberti, M., Polimanti, R., Neale, B., Kranzler, H., Gelernter, J., Edenberg, H., Agrawal, A. Genetic Data Can Lead to Medical Discrimination: Cautionary Tale of Opioid Use Disorder (Under review).  
<https://www.medrxiv.org/content/10.1101/2020.09.12.20193342v1>
6. Karcher, N.R., Paul, S.E., Johnson, E.C., **Hatoum, A.S.**, Baranger, D.A., Agrawal, A., Thompson, W.K., Barch, D.M. and Bogdan, R., (under review). Psychotic-like experiences and polygenic liability in the ABCD Study. *medRxiv*.
7. Marek, S., Tervo-Clemmens, B., Calabro, F.J., Montez, D.F., Kay, B.P., **Hatoum, A.S.**, et al. (*Under review*). Towards Reproducible Brain-Wide Association Studies.  
<https://www.biorxiv.org/content/10.1101/2020.08.21.257758v1.abstract>
8. Johnson, E.C., Kapoor, M., **Hatoum, A.S.**, et al. (*under review*) Evidence of shared genetic influences underlying schizophrenia and alcohol use disorder, but not alcohol consumption.

\* = equal contribution.

#### **Conference Presentations**

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1. **Hatoum, A.S.**, Reineberg, A.E., Keller, M.C., Wager, T., Hewitt, J.K., & Friedman, N.P. (June, 2018). Inferring the Genetic influences on Psychological Traits Using Whole-Brain Models: Application with Functional MRI Connectivity. Talk presented at the 48<sup>th</sup> Annual Behavioral Genetic Association meeting in Boston, Massachusetts.
2. **Hatoum, A.S.**, Reineberg, A.E., Smolker, H.R., Hewitt, J., & Friedman N.P. (June, 2017). A Whole Brain Atlas of Genetic Effects on Psychiatric Symptoms. Talk presented at the 47<sup>th</sup> annual Behavior Genetics Association meeting in Oslo, Norway.
3. **Hatoum, A.S.**, Gustavson, D.E., Rhee, S.H, Corley, R.P., Hewitt, J.K, & Friedman, N.P. (June, 2016). Do Executive Functioning and Impulsivity Predict Overlapping Variation in Problem Behaviors? Poster presented at the 46<sup>th</sup> annual Behavior Genetics Association meeting in Brisbane, Australia.
4. **Hatoum, A.S.**, Rhee, S. H., Corley, R. P., Hewitt, J. K., & Friedman, N.P. (October, 2015). Testing the Hypothesis of Internalizing and Externalizing Causality with

Longitudinal Behavioral Genetic Data. Poster presented at the 29<sup>th</sup> annual meeting of the Society for Research in Psychopathology, New Orleans, LA.

5. **Hatoum, A.S.**, Rhee, S.H, Corley, R.P., Hewitt, J.K, Friedman, N.P. (October, 2015). Genetic and Environmental Etiologies of Internalizing and Externalizing Behavior Problem Trajectories. Poster presented at the 6<sup>th</sup> annual conference for Integrating Genetics and The Social Sciences, Boulder, CO.
6. **Hatoum, A.S.**, Rhee, S.H, Corley, R.P., Hewitt, J.K, Friedman, N.P. (June, 2015). Accounting for the Genetic Covariance in Internalizing and Externalizing Behavior with Multiple Executive Functioning Abilities. Talk presented at the 45<sup>th</sup> annual Behavior Genetic Association Meeting, San Diego, CA.
7. Reineberg, A.E., **Hatoum, A.S.**, Hewitt, J.K., Banich, M.T., & Friedman N.P. (June, 2018). Genetic and Environmental Influence on the Human Functional Connectome. Talk presented by Andrew Reineberg at the 48<sup>th</sup> Annual Behavioral Genetic Association meeting, Boston, Massachusetts.
8. Woodward, K., Corley, R., Friedman, N., **Hatoum, A.S.**, Hewitt, J., Huibregtse, B., Stallings, M., Rhee, S. (June, 2015). Talk presented by Kerri Woodward at the 45<sup>th</sup> Annual Behavioral Genetics Association Annual Meeting, San Diego, CA.

## **Awards and Honors**

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2020 Poster Award Runner-Up at the Pacific Rim Imaging Meeting

2019 Dosier/Muenzinger Award for Outstanding Contribution to Basic Research

2014-2019 Recipient of Behavior Genetics Association Training Award

## **Other Skills**

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### **Computer Skills:**

- Developed an open source software toolbox for neuroimaging genetics, <https://github.com/AlexHatoum/Wild-Card-Toolbox>
- Training in R, OpenMx, MPlus, SPSS, Python, Microsoft Office, some analyses in Freesurfer, Some Matlab

### **Specialty Courses**

2015 Statistical Genetics Workshop for Complex Traits

2016 Twin and Family methods workshop

2017 Research Computing Parallelization workshop

## **Teaching Experience**

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### **Teaching Assistant– *University of Colorado Boulder***

Fall 2014-Spring 2015

- Three semesters of Biological Psychology and one semester of Research Methods
- Assisted students in learning R environment through lab work

- Graded and organized tests for special accommodations students
- Taught lectures on neurological processes

### **Undergraduate Honor's Thesis Mentor– *University of Colorado Boulder***

Fall 2017-Fall 2018 (expected)

- Mentored Evann Mitchell, an undergraduate honor's student in the neuroscience program, along with Advisor Professor Naomi Friedman. Her thesis focused on drawing conclusions from summary statistics of a genome-wide association study of executive functioning. She was instructed in gene-based, enrichment, pathway analysis and LD Score regression techniques.

### **Professional Memberships**

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| • Behavior Genetics Association (BGA)           | Spring 2015-Present |
| • Society for Research in Psychopathology (SRP) | Fall 2016-Present   |

### **Service**

#### **Ad Hoc Journal Reviews**

- *Biological Psychiatry* (2016)
- *Genes, Brain, and Behavior* (2017, 2018)
- *Development and Psychopathology* (2017)

#### **Departmental Service**

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| • IBG Mini-conference planning committee | Spring 2017-Spring 2019 |
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