

**The Faculty of Medicine of Harvard University  
Curriculum Vitae**

**Date Prepared:** June 23<sup>rd</sup>, 2022  
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**Place of Birth:** Binghamton, NY, United States

**Education:**

|         |                              |   |  |
|---------|------------------------------|---|--|
| 05/2013 | B.A.<br>(Magna Cum<br>Laude) | Psychology  | Ithaca College                         |
| 07/2018 | Ph.D.                        | Behavioral Neuroscience<br>(PI: David C. Knight, Ph.D.) | University of Alabama at<br>Birmingham |

**Postdoctoral Training:**

|                     |                        |  |                        |
|---------------------|------------------------|--|------------------------|
| 08/2018-<br>05/2020 | Research Fellow        | Neurobiology of Fear<br>Laboratory, Division of<br>Depression and Anxiety<br>(PI: Kerry J. Ressler M.D.,<br>Ph.D.) | McLean Hospital        |
| 08/2018-<br>05/2020 | Postdoctoral<br>Fellow | Department of Psychiatry (PI:<br>Kerry J. Ressler, M.D., Ph.D.)  | Harvard Medical School |

**Faculty Academic Appointments:**

|             |            |                          |                        |
|-------------|------------|--------------------------|------------------------|
| 06/01/2020- | Instructor | Department of Psychiatry | Harvard Medical School |
|-------------|------------|--------------------------|------------------------|

**Appointments at Hospitals/Affiliated Institutions:**

|             |                             |   |                 |
|-------------|-----------------------------|---|-----------------|
| 06/01/2020- | Assistant<br>Neuroscientist | Division of Depression and<br>Anxiety Disorders | McLean Hospital |
|-------------|-----------------------------|---|-----------------|

**Major Administrative Leadership Positions:**

**Local**

|      |   |                 |
|------|---|-----------------|
| 2021 | Course Co-Director, 1 <sup>st</sup> Annual Symposium<br>on Racism and Mental Health | McLean Hospital |
|------|---|-----------------|

**Committee Service:****Local**

|       |   |   |
|-------|---|---|
| 2021  | McLean Mental Health Summer Research Program<br>2021  | McLean Hospital<br>Application Reviewer |
| 2021- | Diversity, Equity, and Inclusion Steering Committee for the Institutional Review Board<br>2021- | Mass General Brigham<br>Member          |
| 2022- |   | Data Analytics Working Group Lead       |

**National**

|       |  |  |
|-------|--|--|
| 2018- | Advancing Understanding of RecOvery after traumA (AURORA) Study<br>2018- | University of North Carolina – Chapel Hill/Institute of Trauma Recovery<br>McLean Hospital Study Site Lead |
| 2018- |  | Magnetic Resonance Imaging working group member  |
| 2018  |  | Ethnic Differences working group leader  |

**Professional Societies:**

|                  |   |   |
|------------------|---|---|
| 2008-<br>Present | Psi Chi International Honor Society in Psychology | Member  |
| 2014-<br>Present | Society for Neuroscience                          |   |
|                  | 2014-2018   | Student Member  |
|                  | 2018-2021   | Postdoctoral Member   |
|                  | 2021-Present                                      | Faculty Member  |
| 2019-<br>Present | Society for Biological Psychiatry                 |   |
|                  | 2019-2021   | Postdoctoral Member   |
|                  | 2021-Present                                      | Faculty Member  |
| 2019-<br>Present | Anxiety and Depression Association of America     |   |
|                  | 2019-2021   | Postdoctoral Member   |
|                  | 2021-Present                                      | Faculty Member  |
|                  | 2021-2022   | Alies Muskin Career Development Leadership Program Selection Committee Member |
| 2020-<br>Present | International Society of Trauma Stress Studies    |   |
|                  | 2020-2021   | Postdoctoral Member   |

2021-Present

Faculty Member

2022

Scientific Abstract Reviewer

### Editorial Activities:

- **Grant Review Activities**

2021 Reviewer, Stress Peptide Advanced Research, Education, & Dissemination (SPARED)  
Conte Center at McLean Hospital Seed Grant

- **Ad hoc Reviewer**

*American Journal of Psychiatry*

*American Psychological Association*

*Biological Psychiatry*

*Biological Psychiatry: Cognitive Neuroscience and NeuroImaging*

*Biological Psychiatry: Global Open Science*

*Brain Connectivity*

*Brain Imaging and Behavior*

*Cognitive Affective and Behavioral Neuroscience*

*Depression and Anxiety*

*European Journal of Psychotraumatology*

*Human Brain Mapping*

*Molecular Psychiatry*

*Nature Communications Biology*

*Neurobiology of Stress*

*Neuroimage*

*Neuroimage: Clinical*

*Neuropsychopharmacology*

*Psychological Medicine*

*Psychoneuroendocrinology*

*Schizophrenia Research*

*Social Cognitive and Affective Neuroscience*

*Translational Psychiatry*

- **Other Editorial Roles**

2021- Editorial Board Member

*Frontiers in Psychiatry*

2022- Co-Editor (Neuroscience) with A. Muele  
and G. Rhee

*Mental Health Sciences*

### Honors and Prizes:

2009 - 2013 John Harcourt Ithaca College Scholarship

2010 Asian, Latino, African Ithaca College Scholarship  
and Native American  
Outstanding Academic  
Achievement Award

2011 Asian, Latino, African Ithaca College Scholarship  
and Native American

|                  |   |   |             |
|------------------|---|---|-------------|
| 2012             | Exceptional Academic Achievement Award<br>Asian, Latino, African and Native American Superior Senior Gold Award | Ithaca College                                | Scholarship |
| 2014, 2015, 2016 | Psychology Department Travel Award  | University of Alabama at Birmingham           | Research    |
| 2014, 2016       | Graduate Student Travel Award   | University of Alabama at Birmingham           | Research    |
| 2015             | National Science Foundation Graduate Research Fellowship Honorable Mention                                      | University of Alabama at Birmingham           | Research    |
| 2015             | Howard Hughes Medical Institute Gilliam Fellowship for Advanced Study Nomination                                | University of Alabama at Birmingham           | Research    |
| 2016             | Roadmap Scholars Travel Award   | University of Alabama at Birmingham           | Research    |
| 2017             | Three Minute Thesis (3MT®) Finalist   | University of Alabama at Birmingham           | Research    |
| 2018             | Gregg Steele Outstanding Graduate Student in Behavioral Neuroscience  | University of Alabama at Birmingham           | Research    |
| 2018             | Outstanding Graduate Student in the Department of Psychology  | University of Alabama at Birmingham           | Research    |
| 2019             | American College of Neuropsychopharmacology Trainee Travel Award  | American College of Neuropsychopharmacology   | Research    |
| 2019             | Alies Muskin Career Development Leadership Program  | Anxiety and Depression Association of America | Research    |
| 2020             | Chair's Choice 2020 Society of Biological Psychiatry Travel Fellowship Award                                    | Society of Biological Psychiatry              | Research    |
| 2020             | American College of Neuropsychopharmacology Trainee Travel Award – Underrepresented Minority Supplemental Award | American College of Neuropsychopharmacology   | Research    |

|      |   |   |          |
|------|---|---|----------|
| 2021 | Alfred Pope Award                               | McLean Hospital                                       | Research |
| 2021 | Underrepresented<br>Scholar Membership<br>Award | International Society for<br>Traumatic Stress Studies | Research |

**Report of Funded and Unfunded Projects**

**Past**

- 2013-2016    Comprehensive Minority Faculty and Student Development Program Predoctoral Fellowship  
University of Alabama at Birmingham  
Role: PI, Direct Costs: \$69,000  
The major goal of this project is to investigate the neural substrates of individual variability in conditioned diminution of the unconditioned response to threat.
- 2016-2017    Ford Foundation Predoctoral Fellowship  
Ford Foundation, National Academies of Science, Engineering, and Medicine  
Role: PI, Direct Costs: \$24,000  
The objective of this study was to investigate race-related differences in the neural and behavioral response to threat during Pavlovian conditioning.
- 2017-2018    A Multidimensional Neuroimaging Investigation of Posttraumatic Stress in Humans  
National Institute of Neurological Disorders and Stroke F99NS105171  
Role: PI, Direct Costs: \$38,644  
The purpose of this project was to investigate brain function, structure, and biochemistry in recently trauma-exposed individuals compared to non-trauma exposed individuals.

**Current**

- 2018-2022    A Multidimensional Neuroimaging Investigation of Posttraumatic Stress in Humans  
National Institute of Mental Health K00MH119603  
Role: PI, Direct Costs: \$286,716  
The purpose of this project is to leverage multimodal data fusion approaches on brain function and structure in recently traumatized individuals to identify neurophenotypes of PTSD susceptibility.
- 2020-2022    Integrating neuroimaging and brain gene expression for functional characterization of psychiatric GWAS  
National Institute of Mental Health R21MH121909  
Role: Key personnel (PI: Nikolaos Daskalakis)  
The goal of this project is to integrate neuroimaging data and imputed transcriptomic data to improve genetic profiling of psychiatric disease heritability most notably for PTSD.
- 2022-2024    Multimodal fusion of structural and biochemical neuroimaging profiles to elucidate PTSD susceptibility in recent trauma victims.  
Brain and Behavior Research Foundation, Young Investigator Grant  
Role: PI, Direct Costs: \$70,000  
The goal of this project is to investigate data fusion approaches for whole brain spectroscopy and anatomical imaging data in recently traumatized individuals.
- 2022-2024    The Impacts of Structural Racism on Threat Neurobiology  
Harvard Catalyst, DICP  
Role: PI, Direct Costs: \$100,000

- The goal of this project is to investigate longitudinal patterns of brain maturation that is impacted by structural racism.
- 2022-2026 Discovering DIagnostics, SubtypEs, and NaTurAl history of traumatic brain iNjury (TBI) vs. non-TBI Recovery to Gain MiLitary advantagE – the D2ISENTANGLE Focused Program Award  
Department of Defense  
Role: Site PI, Direct Costs (McLean): \$468,564  
The goal of this project is to investigate TBI and TBI+PTSD specific neurobiological markers using combined neuroimaging and novel peripheral biomarker expression.
- 2022-2027 Combining computational methods, RDoC, and Big Neuroimaging Data to Understand Mechanisms of Neuropsychiatry Symptoms in Alzheimer’s  
National Institute of Aging R01AG078304  
Role: Co-I  
The goal of this project is to investigate leverage normative age-modeling and large-scale neuroimaging data to understand comorbid presentations of psychiatric symptoms in individuals with Alzheimer’s.

**Unfunded Current Projects**

- 2018- Neuroanatomical consequences of racial disparities in trauma and stress during early development  
Role: PI  
Goal: The goal of this project is to understand the impact of racial disparities in environmental risk factors for psychiatric disorders (e.g., trauma and stress) on brain gray and white matter.

**Report of Local Teaching and Training**

**Teaching of Students in Courses:**

**Formal Teaching of Residents, Clinical Fellows and Research Fellows (post-docs):**

- |                     |   |  |
|---------------------|---|--|
| 2019, 2020,<br>2021 | Neurophysiology of PTSD<br>MGH/McLean PGY3 psychiatry residents   | McLean Hospital<br>One 2-hour lecture per year                                       |
| 2022                | Exploring the Neural Mechanisms that Medical Susceptibility to Trauma and Stress-Related Disorders like Racism<br>McLean Hospital/International webinar attendees | McLean Hospital Institute for Trauma Informed Systems Change<br>Four 1-hour lectures |

**Research Supervisory and Training Responsibilities:**

- |       |   |  |
|-------|---|--|
| 2018- | Supervision/mentorship of undergraduates/research assistants<br>Research assistants, undergraduate volunteers, summer students (average of 2 students per year) | McLean Hospital<br>2 one-hour lab meetings per week; one hour 1:1 per student per week |
|-------|---|--|

|           |  |  |
|-----------|--|--|
| 2019-2020 | Supervision of 1 Harvard Medical School medical student      | McLean Hospital<br>2 one-hour lab meetings per week; 2 one hour 1:1 per week |
| 2021-     | Supervision of 1 Harvard College undergraduate honors thesis | McLean Hospital<br>One-hour 1:1 meeting per week                             |
| 2022-     | Supervision of 1 post-doctoral research fellow               | McLean Hospital<br>2 one-hour lab meetings per week; one hour 1:1 per week   |

**Formally Mentored Harvard Medical, Dental and Graduate Students:**

2019-2020 Elizabeth Steuber, HMS Class of 2020  
Currently a resident in The Johns Hopkins Hospital General Residency Program in Psychiatry and Behavioral Sciences. Presented one research poster at the 2019 Harvard Psychiatry Research Day Poster Session and published a research manuscript, “Thalamic volume and fear extinction interact to predict acute posttraumatic stress severity.”

**Other Mentored Trainees and Faculty:**

- 2018-2021 Nathalie Dumornay B. A. / Graduate Research Fellow, University of Minnesota  
Career stage: Clinical research assistant. Mentoring role: supervisor/research mentor.  
Accomplishments: 3 research abstracts, 2 co-authored manuscripts, 1 first-author manuscript.
- 2019-2021 Kathryn Finegold M.Ed. / Graduate Research Fellow, University of Toronto  
Career stage: Research assistant. Mentoring role: supervisor/research mentor.  
Accomplishments: 3 research abstracts, 1 manuscript to be submitted.
- 2020 Maya Delity B.A. / Research Assistant, National Institute of Mental Health  
Career stage: Undergraduate student. Mentoring role: Research mentor.  
Accomplishments: 1 research abstract, 1 co-authored manuscript
- 2021-2022 Nidhi Patel / Honors Student, Harvard College  
Career stage: Undergraduate. Mentoring role: supervisor/research mentor.
- 2021-2022 Samantha Wong, B.A. / Research Assistant, McLean Hospital  
Career stage: Clinical research assistant. Mentoring role: supervisor/research mentor.  
Accomplishments: 2 research abstracts, 1 manuscript to be submitted.
- 2021- Grace Rowland, B. A. / Research Assistant, McLean Hospital  
Career stage: Clinical research assistant. Mentoring role: supervisor/research mentor.  
Accomplishments: 2 research abstracts, 1 manuscript to be submitted.
- 2022- Elisabeth Kate Webb, Ph.D. / Postdoctoral Research Fellow, McLean Hospital  
Career stage: Postdoctoral researcher. Mentoring role: supervisor/research mentor.  
Accomplishments: 1 NIH T32 Award, 1 Harvard Catalyst DSI Grant
- 2022- Sophia Liang / Honors Student, Harvard College

Career stage: Undergraduate. Mentoring role: supervisor/research mentor.

**Local Invited Presentations:**

- No presentations below were sponsored by 3<sup>rd</sup> parties/outside entities*  
 *Those presentations below sponsored by outside entities are so noted and the sponsor(s) is (are) identified.*

- |      |   |
|------|---|
| 2019 | Race, negative life experiences, and the neural substrates of threat processing/ Research Seminar Series<br>Center for Depression Stress and Anxiety Research, McLean Hospital      |
| 2020 | Utilizing multimodal human neuroimaging to understand the neurobiology of susceptibility to posttraumatic stress/ Neuro-WIP Seminar Series<br>McLean Hospital                       |
| 2020 | Imaging trauma in the brain: Using MRI to understand fear/ Summer Student Seminar Series<br>McLean Hospital   |
| 2021 | Neurobiological consequences of racial disparities and environmental risks/<br>1 <sup>st</sup> Annual Symposium on Racism and Mental Health (Course Co-Director)<br>McLean Hospital |
| 2021 | Biological effects of racism/ Behavioral Health Integration Symposium<br>Mass General Brigham   |
| 2021 | Multimodal MRI signatures of PTSD in the early aftermath of trauma/ Grand Rounds<br>Lecture<br>McLean Hospital  |

**Report of Regional, National and International Invited Teaching and Presentations**

- No presentations below were sponsored by 3<sup>rd</sup> parties/outside entities*  
 *Those presentations below sponsored by outside entities are so noted and the sponsor(s) is (are) identified.*

**Regional**

- |      |  |
|------|--|
| 2017 | Using multiple MRI modalities to understand acute post-traumatic stress/ Symposium.<br>Alabama Advanced Imaging Consortium Imaging Retreat, UAB/Auburn.<br>Cheaha State Park, AL   |
| 2020 | More than skin deep: The impact of racial disparities in environmental adversity on PTSD-related neural circuitry/ Behavioral Sciences Division Seminar Series<br>National Center for PTSD, Boston Veterans Affairs.<br>Jamaica Plain, MA. |
| 2021 | Structural racism and its impact on the neural circuitry of PTSD susceptibility/Psychiatry<br>Grand Rounds.<br>Dartmouth-Hitchcock Medical Center.<br>Lebanon, NH.   |

**National**



- 2018 NIH Blueprint Diversity Specialized Predoctoral to Postdoctoral Advancement in Neuroscience Scholar Experience / Webinar.  
National Institutes of Neurological Disorders and Stroke.  
Bethesda, MD.
- 2019 Multimodal structural brain imaging of recently traumatized individuals/ Invited Talk.  
National Enhancement of Underrepresented Academic Leaders (NEURAL) conference,  
University of Alabama at Birmingham.  
Birmingham, AL.
- 2020 NIH Blueprint Diversity Specialized Predoctoral to Postdoctoral Advancement in Neuroscience Scholar Experience / NIH F99/K00 Webinar.  
National Institutes of Neurological Disorders and Stroke.  
Bethesda, MD.
- 2020 Racial disparities in environmental adversity and their impact on threat-related neural circuitry / Evening Journal Club.  
Race, Equity, and Social Justice Journal Club, Washington University in St. Louis.  
St. Louis, MO/Virtual.
- 2021 Prospective assessment of human white matter microstructure and the relation to posttraumatic outcomes / Symposium.  
Anxiety and Depression Association of American.  
Boston, MA/Virtual.
- 2021 Imaging human neural circuitry of PTSD susceptibility in the early aftermath of trauma / Symposium.  
Philadelphia Symposium for Postdoctoral Initiatives in Neuroscience Excellence.  
Philadelphia, PA/Virtual.
- 2021 Leveraging multimodal neuroimaging to identify generalizable markers of PTSD vulnerability / Colloquium.  
Milwaukee Trauma Outcomes Project, University of Wisconsin – Milwaukee.  
Milwaukee, WI/Virtual.
- 2021 The neurobiological impact of trauma and mechanisms of PTSD susceptibility / Colloquium.  
University of Maryland College Park.  
College Park, MD.
- 2021 Racial disparities in neighborhood disadvantage and white matter microstructure in late childhood / Symposium.  
American College of Neuropsychopharmacology.  
San Juan, Puerto Rico.
- 2022 Towards generalizable neurobiological markers of PTSD/ Colloquium.  
Weill Cornell Medical School Frontiers in Neuropsychiatry Seminar Series  
New York, NY.
- 2022 Progress and pitfalls in multimodal neuroimaging signatures of PTSD susceptibility/ Colloquium.  
Laureate Institute for Brain Research.  
Tulsa, OK.
- 2022 Multimodal MRI signatures of PTSD in the early aftermath of trauma / Colloquium.  
Emory University Frontiers in Neuroscience Seminar Series  
Atlanta, Georgia.
- 2022 Neurobiological Mechanisms of Individual and Structural Racism: Novel Pathways for Race-Related Health Disparities / Symposium.  
Society for Biological Psychiatry.  
New Orleans, LA.

- 2022 The consequences of trauma for the mind, brain, and behavior. / Symposium.  
Baltimore Trauma Summit.  
Baltimore, MD.
- 2022 Neurobiological mechanisms of susceptibility to posttraumatic dysfunction. /  
Symposium.  
Baltimore Trauma Summit.  
Baltimore, MD.
- 2022 Imaging racial trauma in the brain. / Colloquium.  
Albert Einstein College of Medicine.  
New York, NY.

### **International**

- 2020 Racial disparities in environmental adversity contribute to race-related differences in the  
neuroanatomy of PTSD / Symposium.  
International Society for Traumatic Stress Studies.  
Atlanta, GA.
- 2020 Resting state connectivity assessed in the acute aftermath of trauma predicts future  
posttraumatic and depressive symptoms / Symposium.  
International Society for Traumatic Stress Studies.  
Atlanta, GA.
- 2021 Human threat circuitry in the aftermath of trauma / Invited talk.  
Gordon Research Conference: Amygdala Function in Emotion, Cognition and Disease.  
Barcelona, Spain **\*\*Postponed to 2023 due to COVID-19**
- 2022 Multivariate structural covariance of the ventral visual stream is associated with acute and  
future posttraumatic dysfunction in humans / Symposium.  
Society for Neuroscience.  
San Diego, CA.

### **Report of Education of Patients and Service to the Community**

- No presentations below were sponsored by 3<sup>rd</sup> parties/outside entities*
- Those presentations below sponsored by outside entities are so noted and the sponsor(s) is (are) identified.*

### **Recognition:**

- |      |   |   |
|------|---|---|
| 2018 | Leading the Way to Neuroscience<br>Diversity (Publicity on F99/K00 Award) | University of Alabama at Birmingham<br>(UAB) News |
| 2020 | 1,000 Inspiring Black Scientists in<br>America                            | Cell Mentor (Cell Press)                          |

### **Report of Scholarship**

**\*\*Indicates mentee author, +Indicates joint-authorship**

### **Peer-Reviewed Scholarship in print or other media:**

## Research Investigations

1. **Harnett NG**, Wheelock MD, Wood KH, \*\*Ladnier JC, Mrug S, Knight DC. Affective state and locus of control modulate the neural response to threat. *Neuroimage*. 2015 Nov 1;121:217-26. doi: 10.1016/j.neuroimage.2015.07.034. Epub 2015 Jul 18. PMID: 26196669; PMCID: PMC4604035.
2. **Harnett NG**, Shumen JR, Wagle PA, Wood KH, Wheelock MD, Baños JH, Knight DC. Neural mechanisms of human temporal fear conditioning. *Neurobiol Learn Mem*. 2016 Dec;136:97-104. doi: 10.1016/j.nlm.2016.09.019. Epub 2016 Sep 28. PMID: 27693343; PMCID: PMC5124389.
3. Goodman AM, Wheelock MD, **Harnett NG**, Mrug S, Granger DA, Knight DC. The hippocampal response to psychosocial stress varies with salivary uric acid level. *Neuroscience*. 2016 Dec 17;339:396-401. doi: 10.1016/j.neuroscience.2016.10.002. Epub 2016 Oct 8. PMID: 27725214; PMCID: PMC5118067.
4. Wheelock MD, **Harnett NG**, Wood KH, Orem TR, Granger DA, Mrug S, Knight DC. Prefrontal cortex activity is associated with biobehavioral components of the stress response. *Front Hum Neurosci*. 2016 Nov 17;10:583. doi: 10.3389/fnhum.2016.00583. PMID: 27909404; PMCID: PMC5112266.
5. **Harnett NG**, Wood KH, \*\*FERENCE EW 3rd, Reid MA, Lahti AC, Knight AJ, Knight DC. Glutamate/glutamine concentrations in the dorsal anterior cingulate vary with Post-Traumatic Stress Disorder symptoms. *J Psychiatr Res*. 2017 Aug;91:169-176. doi: 10.1016/j.jpsychires.2017.04.010. Epub 2017 Apr 28. PMID: 28478230.
6. Gossett EW, Wheelock MD, Goodman AM, Orem TR, **Harnett NG**, Wood KH, Mrug S, Granger DA, Knight DC. Anticipatory stress associated with functional magnetic resonance imaging: Implications for psychosocial stress research. *Int J Psychophysiol*. 2018 Mar;125:35-41. doi: 10.1016/j.ijpsycho.2018.02.005. Epub 2018 Feb 14. PMID: 29454000; PMCID: PMC5842805..
7. Goodman AM, **Harnett NG**, Wheelock MD, Hurst DR, Orem TR, Gossett EW, Dunaway CA, Mrug S, Knight DC. Anticipatory prefrontal cortex activity underlies stress-induced changes in Pavlovian fear conditioning. *Neuroimage*. 2018 Jul 1;174:237-247. doi: 10.1016/j.neuroimage.2018.03.030. Epub 2018 Mar 16. PMID: 29555429; PMCID: PMC5949265.
8. **Harnett NG**, \*\*FERENCE EW 3rd, Wood KH, Wheelock MD, Knight AJ, Knight DC. Trauma exposure acutely alters neural function during Pavlovian fear conditioning. *Cortex*. 2018 Dec;109:1-13. doi: 10.1016/j.cortex.2018.08.015. Epub 2018 Sep 1. PMID: 30265859; PMCID: PMC6261786.
9. Wheelock MD, Rangaprakash D, **Harnett NG**, Wood KH, Orem TR, Mrug S, Granger DA, Deshpande G, Knight DC. Psychosocial stress reactivity is associated with decreased whole-brain network efficiency and increased amygdala centrality. *Behav Neurosci*. 2018 Dec;132(6):561-572. doi: 10.1037/bne0000276. Epub 2018 Oct 25. PMID: 30359065; PMCID: PMC6242743.
10. Orem TR, Wheelock MD, Goodman AM, **Harnett NG**, Wood KH, Gossett EW, Granger DA, Mrug S, Knight DC. Amygdala and prefrontal cortex activity varies with individual differences in the emotional response to psychosocial stress. *Behav Neurosci*. 2019 Apr;133(2):203-211. doi: 10.1037/bne0000305. PMID: 30907618; PMCID: PMC6435298.
11. **Harnett NG**, Wheelock MD, Wood KH, Goodman AM, Mrug S, Elliott MN, Schuster MA, Tortolero S, Knight DC. Negative life experiences contribute to racial differences in the neural response to threat. *Neuroimage*. 2019 Nov 15;202:116086. doi: 10.1016/j.neuroimage.2019.116086.

Epub 2019 Aug 8. PMID: 31401241; PMCID: PMC6819267.

12. Dark HE, **Harnett NG**, Goodman AM, Wheelock MD, Mrug S, Schuster MA, Elliott MN, Emery ST, Knight DC. Violence exposure, affective style, and stress-induced changes in resting state functional connectivity. *Cogn Affect Behav Neurosci*. 2020 Dec;20(6):1261-1277. doi: 10.3758/s13415-020-00833-1. Epub 2020 Sep 30. PMID: 33000367; PMCID: PMC7718383.
13. **Harnett NG**, \*\*FERENCE EW 3rd, Knight AJ, Knight DC. White matter microstructure varies with post-traumatic stress severity following medical trauma. *Brain Imaging Behav*. 2020 Aug;14(4):1012-1024. doi: 10.1007/s11682-018-9995-9. PMID: 30519996; PMCID: PMC6551328.
14. **Harnett NG**, Stevens JS, Fani N, van Rooij SJH, Ely TD, Michopoulos V, Hudak L, Rothbaum AO, Hinrichs R, Winters SJ, Jovanovic T, Rothbaum BO, Nickerson LD, Ressler KJ. Acute posttraumatic symptoms are associated with multimodal neuroimaging structural covariance patterns: a possible role for the neural substrates of visual processing in Posttraumatic Stress Disorder. *Biol Psychiatry Cogn Neurosci Neuroimaging*. 2020 Aug 7:S2451-9022(20)30210-X. doi: 10.1016/j.bpsc.2020.07.019. Epub ahead of print. PMID: 33012681; PMCID: PMC7954466.
15. **Harnett NG**, Stevens JS, van Rooij SJH, Ely TD, Michopoulos V, Hudak L, Jovanovic T, Rothbaum BO, Ressler KJ, Fani N. Multimodal structural neuroimaging markers of risk and recovery from posttrauma anhedonia: a prospective investigation. *Depress Anxiety*. 2021 Jan;38(1):79-88. doi: 10.1002/da.23104. Epub 2020 Nov 10. PMID: 33169525; PMCID: PMC7785637.
16. Purcell JB, Goodman AM, **Harnett NG**, Davis ES, Wheelock MD, Mrug S, Elliott MN, Emery ST, Schuster MA, Knight DC. Stress-elicited neural activity in young adults varies with childhood sexual abuse. *Cortex*. 2021 Apr;137:108-123. doi: 10.1016/j.cortex.2020.12.020. Epub 2021 Jan 25. PMID: 33609897; PMCID: PMC8044018.
17. Wheelock MD, Goodman AM, **Harnett NG**, Wood KH, Mrug S, Granger DA, Knight DC. Sex-related differences in stress reactivity and cingulum white matter. *Neuroscience*. 2021 Apr 1;459:118-128. doi: 10.1016/j.neuroscience.2021.02.014. Epub 2021 Feb 13. PMID: 33588003; PMCID: PMC7965343.
18. Dark HE, **Harnett NG**, Knight AJ, Knight DC. Hippocampal volume varies with acute posttraumatic stress symptoms following medical trauma. *Behav Neurosci*. 2021 Feb;135(1):71-78. doi: 10.1037/bne0000419. PMID: 33856844.
19. Kessler RC, Ressler KJ, House SL, Beaudoin FL, An X, Stevens JS, Zeng D, Neylan TC, Linnstaedt SD, Germine LT, Musey PI Jr, Hendry PL, Sheikh S, Storrow AB, Jones CW, Punches BE, Datner EM, Mohiuddin K, Gentile NT, McGrath ME, van Rooij SJ, Hudak LA, Haran JP, Peak DA, Domeier RM, Pearson C, Sanchez LD, Rathlev NK, Peacock WF, Bruce SE, Miller MW, Joormann J, Barch DM, Pizzagalli DA, Sheridan JF, Smoller JW, Pace TWW, Harte SE, Elliott JM, **Harnett NG**, Lebois LAM, Hwang I, Sampson NA, Koenen KC, McLean SA. Socio-demographic and trauma-related predictors of PTSD within 8 weeks of a motor vehicle collision in the AURORA study. *Mol Psychiatry*. 2020 Oct 19:10.1038/s41380-020-00911-3. doi: 10.1038/s41380-020-00911-3. Epub ahead of print. PMID: 33077855; PMCID: PMC8053721.
20. **Harnett NG**, van Rooij SJH, Ely TD, Lebois LAM, Murty VP, Jovanovic T, Hill SB, \*\*DUMORNAY NM, Merker JB, Bruce SE, House SL, Beaudoin FL, An X, Zeng D, Neylan TC, Clifford GD, Linnstaedt SD, Germine LT, Bollen KA, Rauch SL, Lewandowski C, Hendry PL, Sheikh S, Storrow AB, Musey PI Jr, Haran JP, Jones CW, Punches BE, Swor RA, McGrath ME, Pascual JL, Seamon

- MJ, Mohiuddin K, Chang AM, Pearson C, Peak DA, Domeier RM, Rathlev NK, Sanchez LD, Pietrzak RH, Joormann J, Barch DM, Pizzagalli DA, Sheridan JF, Harte SE, Elliott JM, Kessler RC, Koenen KC, Mclean S, Ressler KJ, Stevens JS. Prognostic neuroimaging biomarkers of trauma-related psychopathology: resting-state fMRI shortly after trauma predicts future PTSD and depression symptoms in the AURORA study. *Neuropsychopharmacology*. 2021 Jun;46(7):1263-1271. doi: 10.1038/s41386-020-00946-8. Epub 2021 Jan 21. PMID: 33479509; PMCID: PMC8134491.
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  24. Stevens JS, **Harnett NG**, Lebois LAM, van Rooij SJH, Ely TD, Roeckner A, Vincent N, Beaudoin FL, An X, Zeng D, Neylan TC, Clifford GD, Linnstaedt SD, Germine LT, Rauch SL, Lewandowski C, Storrow AB, Hendry PL, Sheikh S, Musey PI Jr, Haran JP, Jones CW, Punches BE, Lyons MS, Kurz MC, McGrath ME, Pascual JL, Datner EM, Chang AM, Pearson C, Peak DA, Domeier RM, O'Neil BJ, Rathlev NK, Sanchez LD, Pietrzak RH, Joormann J, Barch DM, Pizzagalli DA, Sheridan JF, Luna B, Harte SE, Elliott JM, Murty VP, Jovanovic T, Bruce SE, House SL, Kessler RC, Koenen KC, McLean SA, Ressler KJ. Brain-Based Biotypes of Psychiatric Vulnerability in the Acute Aftermath of Trauma. *Am J Psychiatry*. 2021 Nov;178(11):1037-1049. doi: 10.1176/appi.ajp.2021.20101526. Epub 2021 Oct 14. PMID: 34645277.
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28. Fani N, **Harnett NG**, Bradley B, Mekawi Y, Powers A, Stevens JS, Ressler KJ, Carter SE. Racial Discrimination and White Matter Microstructure in Trauma-Exposed Black Women. *Biol Psychiatry*. 2022 Feb 1;91(3):254-261. doi: 10.1016/j.biopsych.2021.08.011. Epub 2021 Aug 24. PMID: 34776124; PMCID: PMC8714668.
29. Lebois LAM, **Harnett NG**, van Rooij SJH, Ely TD, Jovanovic T, Bruce SE, House SL, Ravichandran C, Dumornay NM, Finegold KE, Hill SB, Merker JB, Phillips KA, Beaudoin FL, An X, Neylan TC, Clifford GD, Linnstaedt SD, Germine LT, Rauch SL, Haran JP, Storrow AB, Lewandowski C, Musey PI Jr, Hendry PL, Sheikh S, Jones CW, Punches BE, Swor RA, McGrath ME, Hudak LA, Pascual JL, Seamon MJ, Datner EM, Chang AM, Pearson C, Domeier RM, Rathlev NK, O'Neil BJ, Sergot P, Sanchez LD, Miller MW, Pietrzak RH, Joormann J, Barch DM, Pizzagalli DA, Sheridan JF, Smoller JW, Luna B, Harte SE, Elliott JM, Kessler RC, Koenen KC, McLean SA, Stevens JS, Ressler KJ. Persistent Dissociation and Its Neural Correlates in Predicting Outcomes After Trauma Exposure. *Am J Psychiatry*. 2022 Jun 22:appiajp21090911. doi: 10.1176/appi.ajp.21090911. Epub ahead of print. PMID: 35730162.
30. Tanriverdi B, Gregory DF, Olino TM, Ely TD, **Harnett NG**, van Rooij SJH, Lebois L, Seligowski AV, Jovanovic T, Ressler KJ, House SL, Beaudoin F, An X, Neylan TC, Clifford GD, Linnstaedt SD, Germine LT, Bollen K, Rauch SL, Haran JP, Storrow AB, Lewandowski C, Musey PIJ, Hendry PL, Sheikh S, Jones CW, Punches BE, Kurz MC, McGrath ME, Hudak LA, Pascual JL, Seamon MS, Datner EM, Pearson C, Domeier RM, Rathlev NK, O'Neil BJ, Sánchez LD, Bruce SE, Miller MW, Pietrzak RH, Joormann J, Barch D, Pizzagalli DA, Sheridan JF, Smoller JW, Harte SE, Elliott JM, McLean SA, Kessler RC, Koenen KC, Stevens JS, Murty VP. Hippocampal Threat Reactivity Interacts with Physiological Arousal to Predict PTSD Symptoms. *Journal of Neuroscience*. In Press.
31. \*\*Dumornay NM, Lebois LAM, Ressler KJ, **Harnett NG**. Racial disparities in adversity during childhood contribute to the false appearance of race-related differences in brain structure. *American Journal of Psychiatry*. In Press.

#### **Other peer-reviewed scholarship**

1. Goodman AM, **Harnett NG**, Knight DC. Pavlovian conditioned diminution of the neurobehavioral response to threat. *Neurosci Biobehav Rev*. 2018 Jan;84:218-224. doi: 10.1016/j.neubiorev.2017.11.021. Epub 2017 Dec 2. PMID: 29203422; PMCID: PMC5744889.
2. Seligowski AV, **Harnett NG**, Merker JB, Ressler KJ. Nervous and endocrine system dysfunction in Posttraumatic Stress Disorder: an overview and consideration of sex as a biological variable. *Biol Psychiatry Cogn Neurosci Neuroimaging*. 2020 Apr;5(4):381-391. doi: 10.1016/j.bpsc.2019.12.006. Epub 2019 Dec 19. PMID: 32033924; PMCID: PMC7150641.
3. **Harnett NG**. Neurobiological consequences of racial disparities and environmental risks: a critical gap in understanding psychiatric disorders. *Neuropsychopharmacology*. 2020 Jul;45(8):1247-1250.

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4. **Harnett NG**, Goodman AM, Knight DC. PTSD-related neuroimaging abnormalities in brain function, structure, and biochemistry. *Exp Neurol*. 2020 Aug;330:113331. doi: 10.1016/j.expneurol.2020.113331. Epub 2020 Apr 25. PMID: 32343956.
5. **+Harnett NG**, +Lebois LAM. Leveraging resting-state neurophenotypes to identify susceptibility to and heterogeneity of posttraumatic stress disorder. *Neuropsychopharmacology*. 2021 Aug 13. doi: 10.1038/s41386-021-01134-y. Epub ahead of print. PMID: 34389809.
6. +Carter SE, +Mekawi Y, **Harnett NG**. It's about racism, not race: A call to purge oppressive practices from neuropsychiatry and scientific discovery. *Neuropsychopharmacology*. In Press.

#### **Non-peer reviewed scholarship in print or other media:**

##### **Reviews, chapters, monographs and editorials**

1. **Harnett NG**, Wood KH, Wheelock MD, Knight AJ, Knight DC. Anticipation and the neural response to threat. In: Nadin M, editor. *Anticipation and medicine*. Cham, Switzerland: Springer International Publishing; 2017, p. 219-228.
2. **Harnett NG**, Seligowski AV, Pine D, Ressler KJ. Translational neurobiological approaches to precision medicine for fear and PTSD. In: Williams LM, Hack L, editors. *Precision Psychiatry: using neuroscience insights to inform personally tailored, measurement-based care*. Washington, DC: American Psychiatric Association Publishing; In Press 2021.
3. **Harnett NG**, Ressler KJ. Structural Racism as a Proximal Cause for Race-Related Differences in Psychiatric Disorders. *Am J Psychiatry*. 2021 Jul;178(7):579-581. doi: 10.1176/appi.ajp.2021.21050486. PMID: 34270341.

#### **Thesis:**

**Harnett NG**. Human neurobiology following trauma: Assessing brain function, structure, and biochemistry [thesis]. [Birmingham (AL)]: University of Alabama at Birmingham; 2018. 186 p.

#### **Abstracts, Poster Presentations and Exhibits Presented at Professional Meetings (past 3 years):**

1. **Harnett N.**, DeRidder T., Auer, K., Stagg, C., Scott, P., Phillips, J. & Bessette-Symons, B. Ph.D. (2012). Did you see that? The influence of valence and arousal on memory. Poster presented at the 66th Eastern College Science Conference.
2. **Harnett N.**, Wheelock, M., Wood., K & Knight, D. C., Ph.D. (January, 2014). Individual Differences in the Emotional Response to Threat Talk presented at the 7th Annual Bridge to the Doctorate 2014 Winter Conference.
3. **Harnett N.**, Wheelock, M., Wood., K & Knight, D. C., Ph.D. (February, 2014). Emotional State Influences the Neural Response to Threat. Poster presented at the 2014 aPGAS Mid-Winter

Conference.\*2nd Place

4. \*\*FERENCE, E, **HARNETT, N**, Bishop, J, Setliff, M, Melton, S, Knight, D & Knight, A (October, 2014). Barriers to recruitment of patients with acute traumatic injury for neuroimaging studies. Poster presented at 2014 Dale J. Benos Medical Student Research Day.
5. Knight, A, **HARNETT, N**, Wood, K, Wheelock, M, Bishop, J, \*\*FERENCE, E, Setliff, M, Melton, S, Novack, T, Pitts, A, & Knight, D. (October, 2014). Neurobiological Stress Response in Acute Medical Trauma. Poster presented at 2014 Faculty Development Grant Program (FDGP) Poster Session.
6. **HARNETT, N.G.**, Wheelock. M. D., Wood, K. H., Knight, D. C. (November, 2014). Affective state is associated with changes in the neural response to threat. Poster presented at the 2014 SfN Annual Meeting.
7. Wheelock. M. D., **HARNETT, N.G.**, Wood, K. H., Knight, D. C. (November, 2014). Neuroendocrine response to psychosocial stress. Talk presented at the 2014 SfN Annual Meeting.
8. **HARNETT N. G.**, Wood, K. H., Wheelock, M. D., \*\*LADNIER, J. C., MRUG, S., & Knight, D. C. (January, 2014). Conditioned diminution of the unconditioned fear response is modulated by locus of control and affective state. Talk presented at the 8th Annual Bridge to the Doctorate 2015 Winter Conference.
9. \*\*FERENCE, E, **HARNETT, N**, Bishop, J, Setliff, M, Melton, S, Knight, D & Knight, A (April, 2015). Contribution of demographics and psychological risk factors to the expression of acute stress reactivity following acute medical trauma. Poster presented at 2015 American College of Physicians Internal Medicine Meeting.
10. Wheelock, M. D., Orem, T. R., **HARNETT, N. G.**, Wood, K. H., Mrug, S., Knight, D. C. (June, 2015). Individual variability in the neuroendocrine response to acute stress. Poster presented at 2015 Organization for Human Brain Mapping Annual Meeting.
11. \*\*THETFORD, P. C., **HARNETT, N. G.**, Wood, K. H., Wheelock, M. D., Mrug, S., FERENCE, E. W., and Knight, D. C. (2015, July). Racial Differences in Conditioned Fear Vary with Anxiety and Stress. Poster presented at the UAB Summer EXPO 2015, Birmingham, AL.
12. **HARNETT, N. G.**, Ladnier, J. C., Wheelock, M. D., Wood, K. H., Schuster, M. A., Elliot, M. N., Tortolero, S., Mrug, S., & Knight, D. C. (October, 2015). Racial Differences in the Emotional Response to Aversive Threat. Poster presented at 2015 SfN Annual Meeting.
13. Wheelock, M. D., Rangaprakash, D., Orem, T. R., **HARNETT, N. G.**, Wood, K. H., Deshpande, G., Mrug, S., & Knight, D. C. (October, 2015). Structural and functional connectivity associated with the neuroendocrine response to acute psychosocial stress. Poster presented at 2015 SfN Annual Meeting.
14. \*\*FERENCE, E. W., **HARNETT, N. G.**, Wheelock, M. D., Wood, K. H., \*\*THETFORD, P. C., Setliff, M. R., Knight, D. C., & Knight, A. J. (2016, February). Learning-Related Changes in the Functional MRI Response to Fear Conditioning after Acute Medical Trauma. Poster presented at 2016 Association of Academic Psychiatrists Annual Meeting, Sacramento, CA.
15. \*\*FERENCE, E. W., **HARNETT, N. G.**, Wheelock, M. D., Wood, K. H., \*\*THETFORD, P. C., Setliff, M. R., Knight, D. C., & Knight, A. J. (2015, September). Learning-Related Changes in the Functional MRI



Response to Fear Conditioning after Acute Medical Trauma. Poster presented at 2015 Southeastern Medical Student Symposium, Nashville, TN.

16. Orem, T. R., Wheelock, M. D., **Harnett, N. G.**, Wood, K. H., Goodman, A. M., Mrug, S., & Knight, D. C. (April, 2016). Neural Correlates of the Physiological Response to Acute Psychosocial Stress. Poster presented at 2016 National Conference on Undergraduate Research.
17. **Harnett, N. G.**, Hurst, D. R., Wheelock, M. D., Wood, K. H., Mrug, S., Knight, D. C. (2016, July). Sex Differences in the Emotional Response to Warning and Safety Cues. Poster presented at the University of Alabama at Birmingham Summer Undergraduate Research Expo, Birmingham, AL.
18. Goodman, A.M., **Harnett, N.G.**, Wheelock M. D., Orem, T.R., Mrug, S., Granger, D.A., & Knight, D.C. (2016, November). Neural substrates underlying alterations in fear conditioning following acute stress. Poster presented at the 46th Annual Meeting of the Society for Neuroscience.
19. H.E. Dark, **N.G. Harnett**, A. Goodman, M. Wheelock, S. Mrug, M.A. Schuster, M.N. Elliott, S. Tortolero, D.C. Knight. (2016, November). Stress-induced changes in resting state functional connectivity vary with history of violence exposure. Poster presented at the annual meeting of the Society for Neuroscience.
20. **Harnett, N. G.**, Shumen, J. R., Wagle, P. A., Wood, K. H., Wheelock, M. D., Banos, J. H., & Knight, D. C. (2016, November). Neural mechanisms of human temporal fear conditioning. Poster presented at the annual meeting of the Society for Neuroscience.
21. Davis, E. S., Goodman, A. M., Orem, T. R., Wheelock, M. D., **Harnett, N. G.**, Mrug, S., & Knight, D.C. (2016). Cumulative violence exposure and the psychosocial stress response. Poster presented at the UAB Undergraduate Research Fall Expo 2016.
22. Wood, K., Memon, R., Reid, M.A., Joop, A., Pilkington J., **Harnett, N. G.**, DeRamus, T.P., Gerstenecker, A., Triebel, K., Bamman, M., & Amara, A. W. (June, 2017). Hippocampal neurochemistry is associated with cognitive performance in patients with Parkinson's disease. Poster presented at the 2017 Neuroimaging in Parkinson's Disease and Related Disorders Symposium.
23. Davis, E. S., Goodman, A. M., Orem, T. R., Wheelock, M. D., **Harnett, N. G.**, Mrug, S., Knight, D. C. (July, 2017). Adolescent violence and its effects on emotional reactivity. Poster presented at the UAB Undergraduate Research Summer Expo 2017. Birmingham, A.L.
24. Dark, H. E., **Harnett, N. G.**, Goodman, A. M., Wheelock, M. D., Mrug, S., Schuster, M. A., Elliott, M. N., Tortolero, S., & Knight, D. C. (November, 2017). Affective style modulates the relationship between cumulative violence exposure and change in functional connectivity after stress-induction. Poster presented at the 47th Annual Meeting of the Society for Neuroscience. Washington, D.C.
25. Davis, E. S., Goodman, A. M., Orem, T. R., Wheelock, M. D., **Harnett, N. G.**, Mrug, S., Knight, D. C. (November, 2017). Self-reported stress, violence exposure, and neural activity. Poster presented at Society for Neuroscience Annual Conference, Washington, D.C.
26. Purcell, J. B., Goodman, A. M., **Harnett, N. G.**, Mrug, S., Elliott, M. N., Tortolero, S., Schuster, M. A., & Knight, D. C. (November, 2017). Investigating the effects of violence exposure, physical abuse, and sexual abuse on brain activity following exposure to psychosocial stress. Poster presented at the 47th Annual Meeting of the Society for Neuroscience. Washington, D.C.

27. Bell, K., **Harnett, N. G.**, Goodman, A. M., Mrug, S., Schuster, M. A., Elliott, M. N., Tortolero, S. R., & Knight, D. C. (November, 2017). The influence of environment during adolescence on white matter structure. Poster presented at the 47th Annual Meeting of the Society for Neuroscience. Washington, D.C.
28. Goodman, A. M., Wheelock M. D., **Harnett, N. G.**, Hurst, D. R., Orem, T. R., Deshpande, G., Mrug, S., & Knight, D. C. (November, 2017) Stress-induced changes in effective connectivity during the emotional response to threat. Poster presented at the 47th Annual Meeting of the Society for Neuroscience.
29. **Harnett, N. G.**, Ference, E. W., Wood, K. H., Reid, M. A., Wheelock, M. D., Lahti, A. C., Knight, A. J., & Knight, D. C. (November, 2017). Human Functional, Structural, and Biochemical Neuroimaging of Acute Post-Traumatic Stress. Poster presented at the 47th Annual Meeting of the Society for Neuroscience. Washington, D.C.
30. Purcell, J. B., **Harnett, N. G.**, Mrug, S., Elliott, M. N., Tortolero-Emery, S., Schuster, M. A., & Knight, D. C. (November, 2018). Alterations in gray matter volume of the prefrontal cortex, hippocampus, and amygdala persist into adulthood following alcohol, tobacco, and cannabis use during adolescence. Poster presented at the 48th Annual Meeting of the Society for Neuroscience. San Diego, C.A.
31. Bell, K., **Harnett, N. G.**, Mrug, S., Elliott, M. N. , Tortolero-Emery, S., Schuster M. A., & Knight D. C. (November, 2018). The influence of neighborhood disadvantage during adolescence on volume of the adult amygdala, hippocampus, and thalamus. Poster presented at the 48th Annual Meeting of the Society for Neuroscience. San Diego, C.A.
32. Davis, E., Goodman, A. M., Orem, T. R., **Harnett, N. G.**, Wheelock, M. D., Mrug, S., Schuster, M.A., Elliott, M. N., Tortolero, S. R., & Knight D. C. (November, 2018). Race, violence exposure, and the psychosocial stress response. Poster presented at the 48th Annual Meeting of the Society for Neuroscience. San Diego, C.A.
33. **Harnett, N. G.**, Wheelock, M. D., Wood, K. H., Goodman, A. M., Mrug, S., Elliott, M., Schuster, M., Tortolero-Emery, S., & Knight, D. C. (November, 2018). Negative life experiences contribute to racial differences in the neural response to threat. Poster presented at the 48th Annual Meeting of the Society for Neuroscience. San Diego, C.A.
34. Dark, H. E., **Harnett N. G.**, Goodman, A. M., Mrug, S., Schuster, M. A., Elliott, M. N., Tortolero, S., & Knight, D. C. (November, 2018). Functional connectivity influences stress-induced changes in autonomic arousal. Poster presented at the 48th Annual Meeting of the Society for Neuroscience. San Diego, C.A.
35. McGill L, Hill M, Marginean V, Stevens J, Lebois L, Van Rooij S, **Harnett N**, Jovanovic T, Murty V, Price R, Stanek J, Mintz A, An XM, McLean SA, Ressler K. Developing methods to achieve large-scale neuroimaging of trauma survivors: lessons from the AURORA Study. Poster session presented at: The 2019 Society for Biological Psychiatry Meeting; 2019 May; Chicago, IL.
36. Nickerson LD, **Harnett NG**, Li H, Waters AB, Silveri MM. Multi-modal MRI data fusion reveals interactions between sex and alcohol use disorder in brain structure related to social processing. Poster session presented at: The 4th International Conference on Applications of Neuroimaging to Alcoholism; 2019 July; New Haven, CT.

37. **Harnett NG**, Stevens JS, Fani N, Jovanovic T, van Rooij SJH, Ely T, Nickerson LD, Ressler KJ. Multimodal structural brain imaging of recently traumatized individuals. Poster session presented at: The 49th Annual Meeting of the Society for Neuroscience; 2019 Oct; Chicago, IL.
38. Dark HE, **Harnett NG** Knight AJ, Knight DC. Cortical and subcortical brain volume vary with acute posttraumatic stress symptoms after a medical trauma. Poster session presented at: The 49th Annual Meeting of the Society for Neuroscience; 2019 Oct; Chicago, IL.
39. Lipari NR, Dark HE, **Harnett NG**, Knight AJ, Knight DC. Relationships between white matter microstructure, neurochemistry, and conditioned fear responses in posttraumatic stress. Poster session presentation at: The Annual Biomedical Research Conference for Minority Students (ABRCMS); 2019 Nov; Anaheim, CA.
40. **Harnett NG**, Stevens JS, Fani N, Jovanovic T, van Rooij SJH, Ely T, Nickerson LD, Rothbaum BO, Ressler KJ. Neuroanatomical correlates of acute traumatic stress reactivity revealed by multimodal magnetic resonance imaging. Poster session presented at: The 58th Annual Meeting of the American College of Neuropsychopharmacology; 2019 Dec; Orlando, FL.
41. Chatzinakos C, **Harnett NG**, Bowlby BC, Nickerson LD, Ressler KJ, Bacanu SA, Daskalakis NP. Transcriptomic-LD-score regression (tLDSC). Talk presented at: The American Society of Human Genetics 69th Annual Meeting; 2019; Rockville, MD.
42. \*\*Dumornay NM, Lebois LAM, Ressler KJ, **Harnett NG**. Racial differences in childhood adversity and brain structure. Poster session presented at: The 11th annual McLean Research Day; 2020 Jan; Belmont, MA.
43. **Harnett N**, Stevens J, Fani N, Lebois L, van Rooij S, Murty V, Jovanovic T, Mclean S, Ressler K. Prospective assessment of human white matter microstructure and the relation to posttraumatic outcomes. Poster session presented at: The 2020 Annual Meeting of the Anxiety and Depression association of American; 2020 Mar; San Antonio, TX.
44. Roeckner AR, Hinrichs R, Ely T, Datta S, van Rooij S, **Harnett N**, Lebois L, Murty V, Jovanovic T, House S, Mclean S, Koenen K, Kessler R, Ressler K, Stevens J. Association between skin conductance following trauma and fMRI measures of amygdala reactivity. Poster Abstract for The Annual Anxiety and Depression Association of America Conference; 2020 Mar; San Antonio, TX.
45. \*\*Steuber E, **Harnett N**, Seligowski A, Roeckner A, Jovanovic T, Winters S, Lebois L, van Rooij S, McLean S, Murty V, Ressler K, Stevens J. Thalamic volume and physiologic reactivity to threat cues during extinction interact to predict acute posttraumatic stress severity. Poster session presented at: The 2020 Harvard Psychiatry Research Day; 2020 Apr; Boston, MA.
46. \*\*Dumornay NM, Lebois LAM, Ressler KJ, **Harnett NG**. Disparities in adversity during childhood contribute to racial differences in brain structure. Poster session presented at: The 75th Society of Biological Psychiatry meeting; 2020 May; New York City, NY.
47. Roeckner AR, Hinrichs R, Ely T, Datta S, van Rooij S, **Harnett N**, Lebois L, Murty V, Jovanovic T, House S, Mclean S, Koenen K, Kessler R, Ressler K, Stevens J. Sympathetic hyper-reactivity measures following trauma as predictors of stress vulnerability and resilience. Poster session presented at: The Annual Cognitive Neuroscience Society Meeting; 2020 May; Online.

48. **Harnett NG**, van Rooij SJH, Ely T, Lebois LAM, Jovanovic T, Murty V, Nickerson L, Ressler K, Stevens J. Multimodal functional and structural neuroimaging captures variability in posttraumatic outcomes. Symposium presented at: The 2020 Annual Meeting of the Society for Biological Psychiatry; 2020 May; New York City, NY.
49. Stevens J, **Harnett NG**, Lebois L, van Rooij SJH, Ely T, Murty V, Jovanovic T, McLean S, Ressler KJ. fMRI-based neural correlates of post-trauma psychiatric symptom trajectories. Symposium presented at: The 2020 Annual Meeting of the Society for Biological Psychiatry; 2020 May; New York City, NY.
50. \*\*Finegold KE, \*\*Dumornay NM, Lebois LAM, Ressler KJ, **Harnett NG**. The effects of childhood adversity on executive function and cognitive performance. Poster session presented at: The 75th Society of Biological Psychiatry meeting; 2020 May; New York City, NY.
51. **Harnett NG**, Ely TD, van Rooij SJH, Finegold K, Lebois LAM, Murty VP, Jovanovic T, Ressler KJ, Stevens JS. Structural covariance network stability over time after trauma exposure: Preliminary assessment of longitudinal multimodal MRI data from the AURORA study. Poster session presented at: The 59th Annual Meeting of the American College of Neuropsychopharmacology; 2020 Dec; Online.
52. \*\*Joshi Delity M, **Harnett N**, An X, Pierce J, Ji Y, Harte S, Beaudoin F, Short N, Koenen K, Kessler R, Mclean S, Ressler K. Cognitions of pain in the peritraumatic period as a predictor of later posttraumatic dysfunction. Poster session presented at: The 2021 Annual Meeting of the Anxiety and Depression Association of America; 2021 Mar; Boston, MA.
53. \*\*Finegold KE, \*\*Dumornay NM, Lebois LAM, Ressler KJ, **Harnett NG**. Family conflict affects brain white matter and cognitive function in childhood: findings from the Adolescent Brain Cognitive Development (ABCD) Study. Poster session presented at: The 2021 Annual Meeting of the Anxiety and Depression Association of America; 2021 Mar; Boston, MA.
54. **Harnett NG**, van Rooij SJH, Ely TD, Stevens JS, Seligowski AV, Jovanovic T, Ressler KJ, Fani N. Decrease gray-to-white matter contrast within the ventromedial prefrontal cortex of individuals with posttraumatic stress disorder. Poster session presented at: The 2021 Annual Meeting of the Society for Biological Psychiatry; 2021 Apr; Online.
55. Fani N, **Harnett NG**, Carter SE, Bradley B, Ressler KJ. Effects of racial discrimination on white matter microstructure in trauma-exposed Black American women. Poster session presented at: The 2021 Annual Meeting of the Society for Biological Psychiatry; 2021 Apr; Online.
56. Purcell JB, **Harnett NG**, Mrug S, Elliott MN, Tortolero ES, Schuster M, Knight DC. Subcortical gray matter volume varies with the trajectory of adolescent substance use. Poster session presented at: The 2021 Annual Meeting of the Organization for Human Brain Mapping; 2021 Jun; Online.
57. van Rooij S, Murty V, **Harnett N**, LeBois L, Ely T, Jovanovic T, Germine L, McLean S, Ressler K, Stevens J. Response Inhibition Deficit-a Transdiagnostic Risk Factor for Post-Trauma Psychopathology? Poster session presented at The 2021 Annual Meeting of the American College of Neuropsychopharmacology; 2021 Dec; San Juan, PR.
58. \*\*Wong SA, Lebois LAM, Ely TD, van Rooij SJH, Bruce SE, Murty V, Jovanovic T, House S, McLean S, Ressler K J, +Stevens JS, +**Harnett NG**. Internal capsule integrity following recent trauma exposure mediates the relationship between childhood maltreatment and future PTSD

symptoms. Poster session presented at: The 2022 Annual Meeting of the Society for Biological Psychiatry; 2022; New Orleans, LA.

59. \*\*Rowland GM, Roeckner A, Ely TD, Lebois LAM, van Rooij SJH, Bruce SE, Murty V, Jovanovic T, House S, McLean S, Ressler K J, +Stevens JS, +**Harnett NG**. Prior sexual trauma exposure impacts posttraumatic dysfunction and neural circuitry following a recent traumatic event in the AURORA study. Poster session presented at: The 2022 Annual Meeting of the Society for Biological Psychiatry; 2022; New Orleans, LA.
60. Hinojosa CA, van Rooij SJH, **Harnett NG**, Lebois LAM, Murty V, Jovanovic T, House S, McLean S, Ressler KJ, Stevens JS. Understanding the co-emergence of PTSD and alcohol use: exploring time since trauma and the role of the vmPFC. Poster session presented at: The 2022 Annual Meeting of the Society for Biological Psychiatry; 2022; New Orleans, LA.
61. Fani N, **Harnett N**, Carter S, van Rooij S, Bradley B, Ressler K. Racial discrimination is linked to variation in brain structure and function in trauma-exposed black women. Talk presented at: The 2022 Annual Meeting of the Society for Biological Psychiatry; 2022; New Orleans, LA.
62. Okeke O, Elbasheir A, **Harnett N**, Carter S, Ressler K, Bradley B, Fani N. Prefrontal cortical white matter integrity mediates associations between racial discrimination and health outcomes. Talk presented at: The 2022 Annual Meeting of the Society for Biological Psychiatry; 2022; New Orleans, LA.
63. van Rooij S, Murty V, **Harnett N**, Lebois L, Ely T, Jovanovic T, Ressler K, Mclean S, Stevens J. Response inhibition deficit as a transdiagnostic risk factor for posttraumatic neuropsychiatric sequelae. Talk presented at: The 2022 Annual Meeting of the Society for Biological Psychiatry; 2022; New Orleans, LA.

## **Narrative Report**

### **Introduction:**

I am a cognitive-affective neuroscientist who uses a multidimensional approach to characterize the pathophysiology of posttraumatic stress disorder (PTSD) susceptibility. My research primarily uses multimodal magnetic resonance imaging (MRI) techniques with individuals recently exposed to trauma and those diagnosed with PTSD. I actively seek extramural funding to support my research (six grants submitted in the last 12 months). I currently spend 85% of my time on research and 15% of my time on teaching, mentoring, and administrative duties.

### **Area of Excellence - Investigation:**

My first line of research investigates PTSD susceptibility in recently traumatized individuals using functional/structural MRI and magnetic resonance spectroscopy. My research demonstrates glutamatergic levels, functional connectivity, and structural connectivity of this circuitry is related to future expression of PTSD symptoms. More recent work using multivariate data fusion approaches also highlight a role for structural covariance networks of the ventral visual stream in the development of PTSD symptoms. These data highlight promising new avenues of investigation in understanding the potential neurobiology involved in PTSD susceptibility.

A second line of research investigates an underappreciated factor in trauma and stress related disorders and that is the modifying effects of racialized experiences. Our data show that both structural and individual

racism impact the structure and function of threat neurocircuitry starting in early childhood and persisting through older adulthood. These findings suggest threat neurocircuitry of signatures of PTSD may be potentially impacted by racism in the United States.

**Teaching:**

I have actively maintained teaching and mentorship responsibilities for my entire academic record. From predoctoral training to junior faculty, I have mentored ~2 trainees per year in research activities, resulting in numerous trainee first author research abstracts and several trainee co-author manuscripts. Further, I have mentored one Harvard Honors Thesis student, one Medical Student, and currently co-mentor two HMS postdoctoral fellows. My trainees have continued education in both top residency and graduate school placements.

**Significant Support Activities – Diversity Equity and Inclusion:**

In addition to my research on the neurobiological impact of racism, I have led several DEI initiative. At McLean Hospital, I am co-director of the Symposium on Racism and Mental Health and a application reviewer for the McLean Mental Health Summer Research Program fir BIPOC undergraduates in Massachusetts. At MGB, I lead the data analytics working group of the Institutional Review Board Diversity Equity and Inclusion Task Force. I also lead the Ethnic Differences Working Group for the AURORA Study focused on further exploring racial/ethnicity-related stress in psychiatric research. These supporting activities have led to well-recognized expertise on the neurobiological consequences of racism as evidenced through national and regional speaking invitations.

**Summary:**

It is my hope that leveraging multidimensional approaches to the study of trauma will lead to the identification of robust and generalizable markers of PTSD that can be translated into early intervention and prevention efforts that will ultimately reduce the burden of those susceptible to trauma and stress-related disorders. Ultimately, my goal is to inspire others to continue this line of research and reduce the suffering of this debilitating disorder.