

# Maxwell Elliott

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## Education

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- 2022 - Postdoctoral Fellow  
Harvard University and Massachusetts General Hospital  
Advisor: Randy Buckner, Ph.D.
- 2021 – 2022 Predoctoral Internship  
McLean Hospital & Harvard Medical School
- 2016 – 2022 Doctor of Philosophy in Clinical Psychology  
Duke University, Durham, NC  
Dissertation: “Midlife as a Window onto the Aging Brain”  
Advisors: Terrie Moffitt, Ph.D., and Ahmad Hariri, Ph.D.
- 2011 – 2014 Bachelor of Science in Psychology, Neuroscience Minor, Honors Program  
University of Minnesota, Minneapolis, MN  
Honors Thesis: “An fMRI Investigation of the Dot Pattern Expectancy Task”  
Advisor: Angus MacDonald, Ph.D.  
3.9 GPA, 3.93 GPA within major, *summa cum laude*

## Research Positions

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- 06/2014 – 06/2016 National Institute of Mental Health, Bethesda, MD  
Post-baccalaureate Research Fellow, Section of Integrative Neuroimaging  
Principal Investigator: Karen Berman, M.D.
- 01/2012 – 05/2014 University of Minnesota, Minneapolis, MN  
Undergraduate Research Assistant, TRiCAM Laboratory  
Principal Investigator: Angus MacDonald, Ph.D.

## Grants

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- 2020 - NIA/NIH [F99/K00](#)  
Title: Training in lifespan behavioral, social and neuroscience research connecting early-life cognitive decline to late-life AD/DRD  
Description: Individual fellowship award supporting the transition to aging research. Provides up to 2 years of predoctoral funding at Duke and up to 4 years of postdoctoral funding at another research institution of my choice.  
Role: PI
- 2016 - 2020 NSF [GRFP](#)  
Description: Individual fellowship award supporting 3 years of predoctoral research in science, technology, engineering and technology  
Role: PI

1. **Elliott ML**, Hanford LC, Hamadeh A, Hilbert T, Kober T, Dickerson BC, ... & Buckner RL. Brain morphometry in older adults with and without dementia using extremely rapid structural scans (2023). *Neuroimage* (under review).
2. Whitman ET, Knodt AR, **Elliott ML**, Abraham WC, Cheyne K, Hogan S, ... & Hariri AR. Functional topography of the neocortex predicts covariation in complex cognitive and basic motor abilities (2023). *Cerebral Cortex* (in press).
3. Reuben A, Moffitt TE, Abraham CW, Ambler A, **Elliott ML**, Hariri AR, ... & Caspi A. Risk indices for Alzheimer's disease and related dementias are informative about brain health in midlife (2022). *Brain Communications*, 4(5). [doi.org/10.1093/braincomms/fcac223](https://doi.org/10.1093/braincomms/fcac223)
4. Sugden K, Caspi A, **Elliott ML**, Bourassa KJ, Chamati K, Corcoran DL, ... & Moffitt TE on behalf of the Alzheimer's Disease Neuroimaging Initiative. Association of Pace of Aging measured by blood-based DNA methylation with age-related cognitive impairment and dementia (2022). *Neurology*, 99(13), e1402-e1413. [doi.org/10.1212/WNL.0000000000200898](https://doi.org/10.1212/WNL.0000000000200898)
5. **Elliott ML**, Knodt AR & Hariri AR (2021). Striving toward translation: Strategies for reliable fMRI measurement. *Trends in Cognitive Science*, 25(9), 776–787. [doi.org/10.1016/j.tics.2021.05.008](https://doi.org/10.1016/j.tics.2021.05.008)
6. Kim MJ, **Elliott ML**, Knodt AR, & Hariri AR (2021). A connectome-wide functional signature of trait anger. *Clinical Psychological Science* 10(3), 584-592. [doi.org/10.1177/21677026211030240](https://doi.org/10.1177/21677026211030240)
7. **Elliott ML**, Caspi A, Houts RM, Ambler A, Broadbent JM, Hancox RJ, ... & Moffitt TE (2021). Disparities in the pace of biological aging among midlife adults of the same chronological age have implications for future frailty risk and policy. *Nature Aging*, 1(3), 295-308. [doi.org/10.1038/s43587-021-00044-4](https://doi.org/10.1038/s43587-021-00044-4)
8. Gehred MZ, Knodt AR, Ambler A, Bourassa KJ, Danese A, **Elliott ML**, ... & Caspi A (2021). Long-term neural embedding of adverse childhood experiences in a population-representative birth cohort followed for five decades. *Biological Psychiatry*, 90(3), 182-193. [doi.org/10.1016/j.biopsych.2021.02.971](https://doi.org/10.1016/j.biopsych.2021.02.971)
9. D'Arbeloff TC, **Elliott ML**, Knodt AR, Sison Maria, Melzer TR, Ireland D, Ramrakha S, ... Hariri AR (2021). Midlife cardiovascular fitness is reflected in the brain's white matter. *Frontiers in Aging Neuroscience*, 13, 138. [doi.org/10.3389/fnagi.2021.652575](https://doi.org/10.3389/fnagi.2021.652575)
10. **Elliott ML**, Knodt AR, Caspi A, Moffitt TE and Hariri AR (2021). Need for psychometric theory in neuroscience research and training. *Psychological Science*, 32(4) 627-629. [doi.org/10.1177/0956797621996665](https://doi.org/10.1177/0956797621996665)
11. Richmond-Rakerd LS, Caspi A, Ambler A, D'Arbeloff T, de Bruine M, **Elliott ML**, ... & Moffitt TE (2021). Childhood self-control forecasts the pace of midlife aging and preparedness for old age. *Proceedings of the National Academy of Sciences*, 118(3). [doi.org/10.1073/pnas.2010211118](https://doi.org/10.1073/pnas.2010211118)
12. **Elliott ML\***, Reuben A\*, Abraham C, Broadbent J, Houts RM, Ireland D, ... & Moffitt TE (2020). Association of childhood lead exposure with MRI measurements of structural brain integrity in midlife. *JAMA*, 324(19), 1970–1979. [doi:10.1001/jama.2020.19998](https://doi.org/10.1001/jama.2020.19998).

13. Rasmussen LH, Caspi A, Ambler A, Danese A, **Elliott ML**, Eugen-Olson J, ... & Moffitt TE (2020). Association between elevated suPAR, a new biomarker of inflammation, and accelerated aging. *Journal of Gerontology: Medical Sciences*, 76(2), 318-327. [doi.org/10.1093/gerona/glaa178](https://doi.org/10.1093/gerona/glaa178)
14. **Elliott ML** (2020) MRI-based biomarkers of accelerated aging and dementia risk in midlife: How close are we? *Ageing Research Reviews*, 61. [doi.org/10.1016/j.arr.2020.101075](https://doi.org/10.1016/j.arr.2020.101075)
15. **Elliott ML\***, Knodt AR\*, Ireland D, Morris ML, Poulton R, Ramrakha S, ... & Hariri AR (2020). What is the test-retest reliability of common task-fMRI measures? New empirical evidence and a meta-analysis. *Psychological Science*, 31(7), 792–806. [doi.org/10.1177/0956797620916786](https://doi.org/10.1177/0956797620916786)
16. Caspi A, Ambler A, Danese A, **Elliott ML**, Hariri AR, Harrington H, ... & Moffitt TE (2020). Longitudinal assessment of mental health disorders and comorbidities across 4 decades among participants in the Dunedin birth cohort study. *JAMA Network Open*, 3(4):e203221. [doi:10.1001/jamanetworkopen.2020.3221](https://doi.org/10.1001/jamanetworkopen.2020.3221)
17. Romer AL, **Elliott ML**, Knodt AR, Sison ML, Ireland D, Houts R, ... & Hariri AR (2020). A pervasively thinner neocortex is a transdiagnostic feature of general psychopathology. *American Journal of Psychiatry*, 178(2), 174-182. [doi.org/10.1176/appi.ajp.2020.19090934](https://doi.org/10.1176/appi.ajp.2020.19090934)
18. Reuben A, **Elliott ML** & Caspi A. (2020). Implications of legacy lead for children's brain development. *Nature Medicine*, 26, 23–25. [doi.org/10.1038/s41591-019-0731-9](https://doi.org/10.1038/s41591-019-0731-9)
19. **Elliott ML**, Belsky DW, Knodt AR, Ireland D, Melzer TR, Poulton R, ... & Hariri AR (2019). Brain-age in midlife is associated with accelerated biological aging and cognitive decline in a longitudinal birth-cohort. *Molecular Psychiatry*, 26, 3829-3838. [doi.org/10.1038/s41380-019-0626-7](https://doi.org/10.1038/s41380-019-0626-7)
20. **Elliott ML\***, d'Arbeloff T.\*, Knodt AR, Melzer TR, Keenan R, Ireland D, ... & Moffitt TE (2019). White matter hyperintensities are common in midlife and already associated with cognitive decline. *Brain Communications*, 1(1). [doi.org/10.1093/braincomms/fcz041](https://doi.org/10.1093/braincomms/fcz041)
21. Burr DA\*, d'Arbeloff T.\*, **Elliott ML**, Knodt AR Brigidi BD, & Hariri AR (2019). Functional connectivity predicts the dispositional use of expressive suppression but not cognitive reappraisal. *Brain and Behavior*, 10(2). [doi.org/10.1002/brb3.1493](https://doi.org/10.1002/brb3.1493)
22. Rasmussen LH, Caspi A, Ambler A, Broadbent JM, Cohen HJ, d'Arbeloff T, **Elliott ML**, ... & Moffitt TE Association of neurocognitive and physical function with gait speed in midlife. *JAMA Network Open*, 2(10):e1913123. [doi.org/10.1001/jamanetworkopen.2019.13123](https://doi.org/10.1001/jamanetworkopen.2019.13123)
23. Gregory M, Mervis C, **Elliott ML**, Kippenhan JS, Nash T, Czarapata J, ... & Berman K. (2019). Williams syndrome hemideletion and LIMK1 variation both affect dorsal stream functional connectivity. *Brain*, 142(12) 3963-3974. [doi.org/10.1093/brain/awz323](https://doi.org/10.1093/brain/awz323)
24. Avinun R, Nevo A, Knodt AR, **Elliott ML**, & Hariri AR (2019). A genome-wide association study-derived polygenic score for interleukin-1 $\beta$  is associated with hippocampal volume in two samples. *Human Brain Mapping*, 40(13). [doi.org/10.1002/hbm.24639](https://doi.org/10.1002/hbm.24639)
25. **Elliott ML**, Knodt AR, Kim MJ, Melzer TR, Keenan R, Ireland D, ... & Hariri AR (2019). General Functional Connectivity: shared features of resting-state and task fMRI drive reliable individual differences in functional brain networks. *NeuroImage*, 189, 516-532. [doi.org/10.1016/j.neuroimage.2019.01.068](https://doi.org/10.1016/j.neuroimage.2019.01.068)

26. Kim MJ, **Elliott ML**, d'Arbeloff TC, Knodt AR, Radtke SR, Brigidi BD, & Hariri AR (2019). Microstructural integrity of white matter moderates an association between childhood adversity and adult trait anger. *Aggressive Behavior*, 45, 310–318. [doi.org/10.1002/ab.21820](https://doi.org/10.1002/ab.21820)
27. **Elliott ML\***, Belsky DW\*, Anderson K, Corcoran DL, Ge T, Knodt A, ... & Hariri AR (2018). A polygenic score for educational attainment is associated with larger brain size. *Cerebral Cortex*, 29(8), 3496-3504. [doi.org/10.1093/cercor/bhy219](https://doi.org/10.1093/cercor/bhy219)
28. **Elliott ML**, Romer A, Knodt AR, & Hariri AR (2018). A connectome-wide functional signature of transdiagnostic risk for mental illness. *Biological Psychiatry*, 84(6), 452-459. [doi.org/10.1016/j.biopsych.2018.03.012](https://doi.org/10.1016/j.biopsych.2018.03.012)
29. Avinun R, Nevo A, Knodt AR, **Elliott ML**, & Hariri AR (2018). Replication in imaging genetics: The case of threat-related amygdala reactivity. *Biological Psychiatry*, 84(2), 148-159. [doi.org/10.1016/j.biopsych.2017.11.010](https://doi.org/10.1016/j.biopsych.2017.11.010)
30. Avinun R, Nevo A, Knodt AR, **Elliott ML**, Radtke SR, Brigidi BD, & Hariri AR (2017). Reward-related ventral striatum activity buffers against the experience of depressive symptoms associated with sleep disturbances. *Journal of Neuroscience*, 37(40), 9724-9729. [doi.org/10.1523/JNEUROSCI.1734-17.2017](https://doi.org/10.1523/JNEUROSCI.1734-17.2017)
31. Beim JA, **Elliott ML**, Oxenham AJ, & Wojtczak M. (2015). Stimulus frequency otoacoustic emissions provide no evidence for the role of efferents in the enhancement effect. *Journal of the Association for Research in Otolaryngology*, 16(5), 613-629. [doi.org/10.1007/s10162-015-0534-8](https://doi.org/10.1007/s10162-015-0534-8)

### **Conference Presentations** (selected)

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1. **Elliott ML**, Hanford LC, Hamadeh A, Hilbert T, Kober T, Dickerson BC, ... & Buckner RL (February 2023). Brain morphometry in older adults with and without dementia using extremely rapid structural scans. Dallas Aging and Cognition Conference. Dallas, Texas.
2. **Elliott ML**, Knodt, AR, Kim, MJ, Melzer, TR, Keenan, R, Ireland, D, ... & Hariri, AR (October 2018). General Functional Connectivity: shared features of resting-state and task fMRI drive reliable individual differences in functional brain networks. Society of Biological Psychiatry. Chicago, Illinois.
3. **Elliott ML**, Knodt, AR, Kim, MJ, Melzer, TR, Keenan, R, Ireland, D, ... & Hariri, AR (October 2018). General Functional Connectivity: shared features of resting-state and task fMRI drive reliable individual differences in functional brain networks. Society for Research in Psychophysiology. Quebec City, Canada.
4. **Elliott ML**, Knodt, A, Farber, M, Hariri, A (May 2017). Common Genetic Risk for Obesity Is Associated with Exaggerated Differential Brain Activity in Response to Positive and Negative Feedback. Association for Psychological Science. Boston, Massachusetts.
5. **Elliott ML**, Gregory M, Kippenhan J, Nash T, Prabhakaran R, Eisenberg D, ... & Berman, K (May 2016). A Data-Driven Exploration of the Functional Connectome in Williams Syndrome. Society of Biological Psychiatry. Atlanta, GA.

6. **Elliott ML**, Gregory M, Kippenhan J, Turner N, Hershkowitz D, Berman K (May 2015). Functional Parcellation of the Lateral Frontal Cortex Corresponds to Underlying Cytoarchitectural Features. Society of Biological Psychiatry. Toronto, ON.
7. **Elliott, ML**, Beim J, Wojtczak M. (August 2013). Examining the Role of the Medial Olivocochlear Reflex in Perceptual Enhancement Research Experience for Undergraduates Poster Symposium. Minneapolis, MN.
8. **Elliott ML**, Moodie C, MacDonald A. (March 2013). Monetary Incentives and the Risk and Reward Network. Minnesota Undergraduate Psychology Conference. Saint Paul, MN.

## **Awards and Honors**

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2023	Sallie P. Asche Travel Award, Dallas Aging and Cognition Conference
2021	NIEHS <a href="#">Paper</a> of the Month
2020	Biological Psychiatry Rising Star
2019	Biological Psychiatry Predoctoral Travel Award
2018	Genetics for Social Scientists Travel Award. University of Michigan
2017	Pittsburgh Multimodal Neuroimaging Training Program Travel Award
2016 – 2020	National Science Foundation Graduate Research Fellowship
2012 – 2014	Waller Scholarship
2012 – 2013	Mortenson Academic Scholarship
2011 – 2013	Iron Range Scholarship
2010 – 2014	Dean's List. University of Minnesota

## **Professional Memberships**

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Association for Psychological Science  
 Society for Neuroscience  
 Society of Biological Psychiatry

## **Peer Review ([Publons](#))**

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American Journal of Psychiatry	Appetite	Biological Psychiatry
Cerebral Cortex	Frontiers in Neuroscience	Human Brain Mapping
JAACAP	JAMA Neurology	Journal of Alz Disease
Journal of Cog Neuroscience	Lancet Healthy Aging	Molecular Psychiatry
Nature Communications	Nature Medicine	Nature Neuroscience
Neuroendocrinology	Neuroimage	Neuroimage: Clinical
Neurobiology of Aging	Neuro and Biobehav Reviews	Psychological Science
Psychoneuroendocrinology	Schizophrenia Bulletin	Scientific Reports

## **Invited Talks**

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2022	Human Neuroimaging Group, University of North Carolina, Chapel Hill, NC
2021	Oxford Neuroimaging Reading Group, Oxford University, United Kingdom
2021	Child Mind Institute, Works-In-Progress Talk, New York University
2020	Brain Imaging Analysis Center, Duke University, Durham, NC
2020	Society of Biological Psychiatry, Rising Star Presentation, New York, NY
2019	Anxiety Lab, University College London, London, United Kingdom
2018	Developmental Social Neuroscience Lab, University of North Carolina, Carrboro, NC

## **Predoctoral Clinical Experience**

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- 07/2020 – 07/2021     **Duke Behavioral Sleep Medicine Clinic**  
**Duke University Medical Center, Durham, NC**  
*Supervisor: Meg Danforth, Ph.D.*  
*Role: Individual Therapist*
- Evaluated and treated diverse sleep disorders in adult patients, including chronic insomnia, circadian-rhythm disorders, nightmares, and sleep apnea with CPAP/oral device nonadherence.
  - Focused on addressing behavioral, psychological, and physiological factors that interfere with sleep, with reliance on a case-formulation approach to CBT for insomnia.
  - Develop case formulations and treatment plans that address interactions between sleep disorders and co-morbid conditions, such as depression, anxiety, chronic pain, and PTSD.
  - *Measures administered/scored:* Consensus Sleep Diary-M, the Insomnia Severity Index (ISI), Epworth Sleepiness Scale (ESS), Fatigue Severity Scale, and Dysfunctional Beliefs and Attitudes about Sleep Scale.
- 07/2019 – 03/2020  
(COVID shortened)     **Inpatient Neuropsychological Assessment**  
**Central Regional Hospital, Butner, NC**  
*Supervisor: Eric Elbogen*  
*Role: Neuropsychological Assessment*
- Conducted individual assessments to clients on the Adult Acute Unit, Community Transition Unit, and Forensic Services Unit in a state psychiatric inpatient hospital.
  - Clients presented with Alzheimer's disorder, dementia disorders, mild cognitive impairment, schizophrenia and other psychotic disorders, bipolar disorder, major depressive disorder, borderline personality disorder, antisocial personality disorder, substance use disorders, suicidality, and post-traumatic stress disorder.
  - Conducted comprehensive assessments in areas that included cognitive functioning (Montreal Cognitive Assessment, Repeatable Battery for the Assessment of Neuropsychological Status, Wechsler Abbreviated Scale of Intelligence), effort/malingering (Rey-15 Item Memory Test, Dot Counting Test, Test of Memory Malingering); personality testing (Personality Assessment Inventory), diagnosis, behavioral observation, and record extraction.
  - Participated in weekly individual supervision and consultation with interdisciplinary team
- 07/2019 – 04/2020  
(COVID shortened)     **Dialectical Behavioral Therapy Skills Group**  
**Duke University Medical Center, Durham, NC**  
*Supervisor: Andrada Neacsu Ph.D.*  
*Role: Group Skills Leader*
- Co-led a weekly 2-hour DBT skills group. Taught all 4 modules (mindfulness, distress tolerance, emotion regulation and interpersonal effectiveness).
  - Clients presented with bipolar disorder, major depressive disorder, borderline personality disorder, substance use disorders, suicidality, and post-traumatic stress disorder.
- 07/2018 – 07/2019     **Duke Cognitive Behavioral Research and Treatment Program**  
**Duke University Medical Center, Durham, NC**  
*Supervisor: Andrada Neacsu Ph.D.*  
*Role: Individual Therapist*
- Delivered evidence-based, individual psychotherapy in an outpatient setting to adult patients aged 21 to 64 with diverse diagnoses including major depression, generalized anxiety, ADHD, PTSD, BPD, panic disorder, social anxiety disorder and other disturbances in mood and emotion.

- Wrote intake reports as well as weekly progress notes. Attended quarterly didactic seminars.
- *Measures administered/scored:* BAI, BSI, BDI-II, DSM-V, SCID, DERS, SRI.

07/2018 – 07/2019     **Neurosurgeon Burnout Counseling Program**  
**Duke University Medical Center, Durham, NC**

*Supervisor: Laura Weisberg*

*Role: Individual Therapist*

- Shadowed and provided burnout support bi-monthly with 2 neurosurgeon residents

09/2017 – 07/2018     **Duke Community Mental Health Clinic**  
**Duke University Department of Psychology & Neuroscience, Durham, NC**

*Supervisor: Ronald Batson M.D.*

*Role: Individual Therapist*

- Delivered weekly psychotherapy to adults from Duke University and the broader Durham community aged 19 to 55 with histories of trauma, mood and anxiety disorders, suicidal ideation, and self-harm.
- Conducted semi-structured intake interviews; collected measures of emotional and psychosocial functioning; wrote intake reports, transfer/termination summaries, and weekly progress notes / bi-weekly case presentations.
- *Measures administered/scored:* BDI-II, MMPI, SCL-90, Thematic Apperception Test.

## **Teaching**

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Fall 2018     Guest Lecturer, Introduction to Statistics  
 Undergraduate Level Introduction to Statistics in Psychology (PSYCH 117)  
 Lectured on dependent samples t-tests and correlation.

Fall 2018     Teaching Assistant, Introduction to Statistics  
 Undergraduate Level Introduction to Statistics in Psychology (PSYCH 117)  
 Duke University. Taught by Tim Strauman, Ph.D.

Spring 2018     Teaching Assistant, Forensic Psychology  
 Undergraduate Level Introduction to Forensic Psychology (PSYCH 212)  
 Duke University. Taught by John Blackshear, Ph.D.

Fall 2017     Teaching Assistant, Inside the Disordered Brain  
 Undergraduate Level course in clinical neuroscience (PSYCH 277)  
 Duke University. Taught by Ahmad Hariri, Ph.D.

## **Selected Mentoring and Service**

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- Harvard PPREP. Mentored 2 prospective Ph.D. Students (September 2022 – December 2022).
- Alex Winn. Senior Thesis Student (May 2020 – July 2021).
- Meriwether Morris. Senior Thesis Student (January 2019 – September 2020).
- Raahina Malik. Biocore Scholar (January 2016 – May 2020).