

Maxwell Elliott

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Academic Appointments

Postdoctoral Fellow	Harvard University, Cambridge, MA Center for Brain Science, Dept. of Psychology Advisor: Randy Buckner	2022 – Present
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Education

Ph.D.	Duke University, Durham, NC Clinical Psychology Program, Dept. of Psychology and Neuroscience Advisors: Ahmad Hariri, Terrie Moffitt and Avshalom Caspi	2016 – 2022
	McLean Hospital & Harvard Medical School, Belmont, MA Clinical Internship	2021 – 2022
M.A.	Duke University, Durham, NC Clinical Psychology Program, Dept. of Psychology and Neuroscience	2016 – 2019
B.S.	University of Minnesota, Minneapolis, MN Psychology Major, Graduated with Honors Thesis Advisor: Angus MacDonald	2011 – 2014

Academic Summary

Areas of Interest Cognitive and Brain Aging | Dementia | Psychopathology

Summary I am a clinical psychologist studying cognitive and brain aging. Age-related cognitive decline is a central public health challenge of our time reflecting a rapidly aging population. However, cognitive decline and disability are not inevitable as many people maintain exceptional cognitive functioning into their 90s. My research is driven by a central question: How can we help more people maintain cognitive functioning as they age? I adopt a “go big to go small” methodological approach, leveraging large-scale datasets to generate population-level insights and deep phenotyping of smaller informative groups to test targeted hypotheses. Throughout my work, I seek translational opportunities by uncovering critical windows for prevention and treatment.

Bibliometrics ([Google Scholar](#)): h-index = 19, i10-index = 26, total citations = 2,656

Research Support

Ongoing

2022 - Present	NIA K00 Transition to Aging Research Postdoctoral Award
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Title: Rapid longitudinal MRI to detect hippocampal neurodegeneration in early-stage Alzheimer's
Role: Principal Investigator (Total Costs = \$317,224)
National Institute on Aging

2022 - Present

Shenoy Undergraduate Research Fellowship in Neuroscience

Title: Precision imaging biomarkers for measuring neurodegenerative changes
Role: Co-investigator/Mentor (w/Buckner, R. and Forson, E.; Total Costs = \$11,841)
Simons Foundation

Completed

2020 - 2022

NIA F99 Transition to Aging Research Predoctoral Award

Title: Training in lifespan behavioral, social, and neuroscience research connecting early-life cognitive decline to late-life AD/DRD
Role: Principal Investigator (Total Costs = \$77,854)
National Institute on Aging

2016 - 2020

NSF Graduate Research Fellowship Program

Title: Understanding the limits and potential of fMRI motion correction
Role: Principal Investigator (Total Costs = \$138,000)
National Science Foundation

Peer Reviewed Articles (33 articles, 12 as first author; *denotes equal contribution)

1. Whitman ET, Ryan CP, Abraham WC, Addae A, Corcoran DL, **Elliott ML**, ... & Caspi A. (In Press). A blood biomarker of the pace of aging is associated with brain structure: replication across three cohorts. *Neurobiology of Aging*.
2. Knodt AR, **Elliott ML**, Whitman ET, Winn A, Addae A, Ireland D, ... & Hariri AR. Test-retest reliability and predictive utility of a macroscale principal functional connectivity gradient (In Press). *Human Brain Mapping*. doi.org/10.1002/hbm.26517
3. **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*, 276. doi.org/10.1016/j.neuroimage.2023.120173
4. 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*, 33(13). doi.org/10.1093/cercor/bhad109
5. 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
6. 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

7. **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
8. 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
9. **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
10. 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
11. 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
12. **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
13. 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
14. Reuben A*, **Elliott ML***, 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.org/10.1001/jama.2020.19998.
15. 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
16. **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
17. **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
18. 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.org/10.1001/jamanetworkopen.2020.3221

19. 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
20. 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
21. **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
22. d'Arbeloff T.*, **Elliott ML***, 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
23. 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
24. Rasmussen LH, Caspi A, Ambler A, Broadbent JM, Cohen HJ, d'Arbeloff T, **Elliott ML**, ... & Moffitt TE (2019). Association of neurocognitive and physical function with gait speed in midlife. *JAMA Network Open*, 2(10):e1913123. doi.org/10.1001/jamanetworkopen.2019.13123
25. 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
26. Avinun R, Nevo A, Knodt AR, **Elliott ML**, & Hariri AR (2019). A genome-wide association study-derived polygenic score for interleukin-1 β is associated with hippocampal volume in two samples. *Human Brain Mapping*, 40(13). doi.org/10.1002/hbm.24639
27. **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
28. 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
29. **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
30. **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
31. 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

32. 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
33. 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

Conference Presentations (selected)

1. **Elliott ML**, Hanford LC, Hamadeh A, Hilbert T, Kober T, Dickerson BC, ... & Buckner RL (July 2023). Precision brain morphometry with cluster scanning. Organization for Human Brain Mapping. Montreal, Canada.
2. **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.
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 of Biological Psychiatry. Chicago, Illinois.
4. **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.
5. **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.
6. **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.
7. **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.
8. **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.
9. **Elliott ML**, Moodie C, MacDonald A. (March 2013). Monetary Incentives and the Risk and Reward N-back. Minnesota Undergraduate Psychology Conference. Saint Paul, MN.

Awards and Honors

2023 Sallie P. Asche Travel Award, Dallas Aging and Cognition Conference
2021 NIEHS [Paper](#) of the Month
2020 Biological Psychiatry Rising Star
2019 Biological Psychiatry Predoctoral Travel Award
2018 Genetics for Social Scientists Travel Award. University of Michigan
2018 Clare Hamilton Travel Award
2017 Pittsburgh Multimodal Neuroimaging Training Program Travel Award
2012 – 2014 Waller Scholarship
2012 – 2013 Mortenson Academic Scholarship
2011 – 2013 Iron Range Scholarship
2010 – 2014 Dean's List. University of Minnesota

Professional Affiliations

Association for Psychological Science
Society for Neuroscience
Society of Biological Psychiatry
Organization for Human Brain Mapping

Ad Hoc Reviewer ([Publons](#))

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 Human Behavior	Nature Medicine
Nature Neuroscience	Neuroendocrinology	Neuroimage
Neuroimage: Clinical	Neurobiology of Aging	Neuro and Biobehav Reviews
Psychological Science	Psychoneuroendocrinology	Schizophrenia Bulletin
Scientific Reports		

Invited Talks

2023 Laboratory of Lifespan Changes in Brain and Cognition, University of Oslo, Oslo, Norway
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

Research Positions

2014 – 2016 National Institute of Mental Health, Bethesda, MD
Post-baccalaureate Research Fellow, Section of Integrative Neuroimaging
Principal Investigator: Karen Berman, M.D.

- 2013 University of Minnesota, Minneapolis, MN
Summer Research Fellow, Auditory Perception and Cognition Laboratory
Principal Investigator: Magdalena Wojtczak. Ph.D.
- 2012 – 2014 University of Minnesota, Minneapolis, MN
Undergraduate Research Assistant, TRiCAM Laboratory
Principal Investigator: Angus MacDonald, Ph.D.

Teaching

- Fall 2018 Guest Lecturer, Introduction to Statistics
Undergraduate Level Introduction to Statistics in Psychology (PSYCH 117)
Duke University. 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 Mentorship and Service

- Maame Forson. Simons SURFiN Award. Mentored Research Project (Sept. 2023 – Present).
- Rachel Lemley. Research Assistant. Mentored Research Project (June 2023 – Present).
- Rim Rafeh. Clinical Fellow. Mentored Research Project (June 2023 – Present).
- Ethan Whitman. Ph.D. Student. Mentored Research. (June 2022 – Present).
- Harvard PPREP. Mentored 2 prospective Ph.D. Students (Sept. 2022 – Dec. 2022).
- Alex Winn. Senior Thesis Student (May 2020 – July 2021).
- Meriwether Morris. Senior Thesis Student (Jan. 2019 – Sept. 2020).
- Raahina Malik. Biocore Scholar (Jan. 2016 – May 2020).

Clinical Experience

- 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 of clients in the Adult Acute Unit, Community Transition Unit, and Forensic Services Unit in a state psychiatric inpatient hospital.
- Clients presented with Alzheimer's disorder, dementias, 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.