

Noa Ofen, Ph.D.

Wayne State University
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ACADEMIC APPOINTMENTS

Wayne State University (Detroit, MI)

2017- Associate Professor, Dept. of Psychology and Institute of Gerontology (IOG)
2015-2017 Assistant Professor, Dept. of Psychology and IOG
2011-2015 Assistant Professor, Dept. of Pediatrics and IOG
2011- Core Faculty, Translational Neuroscience Program
2011- Core Faculty, Merrill Palmer Skillman Institute for Child and Family Development

Weizmann Institute of Science (Rehovot, Israel)

2018-2019 Visiting Scientist, Neurobiology and Life Science Core Facilities

Massachusetts Institute of Technology (Cambridge, MA)

2005-2011 Postdoctoral Associate, Dept. of Brain and Cognitive Sciences

Northeastern University (Boston, MA)

2010 Lecturer, Dept. of Psychology

Harvard University (Cambridge, MA)

2008-2009 Teaching Fellow, Dept. of Neurobiology

Stanford University (Stanford, CA)

2004-2005 Postdoctoral Fellow, Dept. of Psychology

EDUCATION

1998-2004 **Weizmann Institute of Science** (Rehovot, Israel)
Ph.D. in Cognitive Neuroscience

1996-1998 **Weizmann Institute of Science** (Rehovot, Israel)
M.Sc. in Cognitive Neuroscience

1993-1996 **University of Haifa** (Haifa, Israel)
B.A. in Psychology, Magna Cum Laude, With Honors

HONORS, AWARDS, AND FELLOWSHIPS

2020-2021 Career Development Chair, Wayne State University
2020-2022 Postdoctoral Mentor Award (competitive), Wayne State University
2019-2020 Graduate Student Mentor Award (competitive), Wayne State University
2018 Visiting Scientist Fellowship, Weizmann Institute of Science
2017 Mentor Award for Junior Faculty, Wayne State University
2015-2016 Postdoctoral Mentor Award (competitive), Wayne State University
2014 Fellow, German-American Kavli Symposium National Academy of Science, Irvine, CA
2012-2013 Faculty Competition for Graduate Student Award, Wayne State University
2009 Science Spot appreciation award, MIT School of Science
2006 Travel Award, Organization of Human Brain Mapping, Annual Meeting, Florence, Italy
2004 Fellow, RIKEN Brain Science Institute, Summer Lecture Course, Saitama, Japan
2003 Fellow, Summer Institute in Cognitive Neuroscience, Lake Tahoe, CA
2001 Fellow, Summer Institute in Cognitive Neuroscience, Dartmouth College, NH

RESEARCH SUPPORT

Ongoing

NIH/NIMH R01 (MH-107512, Competing Renewal)

Title: *'Development of memory networks in children'*

Funding term: 08/22–05/27

Role: Principal Investigator

NIH/NICHHD F32 NRSA Award, Kelsey Canada

Title: *'Hippocampal subfield volumes across development: Multi-site integrated data analyses'*

Funding term: 08/22–07/25

Role: Sponsor

Completed (select, past 5 years)

Blue Cross Blue Shield of Michigan Foundation Student Award Program, Qin Yin

Title: *'Memory mapping in pediatric epilepsy patients with intracranial EEG analysis'*

Funding term: 10/21–09/22

Role: Principal Investigator / Faculty Mentor

Bridge Funding, Office of the Vice President for Research, WSU

'Renewal Development of memory Networks in Children'

Funding term: 11/21–10/22

Role: Principal Investigator

NIH/NIMH R01 (MH-107512)

Title: *'Development of memory networks in children'*

Funding term: 06/20/16–03/31/22

Role: Principal Investigator

WSU Faculty Competition Award for Postdoctoral Fellow

Title: *'Assessing memory in the developing brain using advanced functional neuroimaging'*

Funding term: 08/20–08/22

Role: Faculty Mentor

Blue Cross Blue Shield of Michigan Foundation Student Award Program, Roya Homayouni

Title: *'Effects of SES and KIBRA genotypes in memory and brain development'*

Funding term: 09/01/20–08/31/21

Role: Principal Investigator / Faculty Mentor

WSU Faculty Competition Award for Graduate Student

Title: *'Environmental and genetic modifiers of the neural substrates supporting cognitive development across the lifespan'*

Funding term: 08/15/19–05/15/20

Role: Faculty Mentor

Blue Cross Blue Shield of Michigan Foundation Student Award Program, Qijing Yu

Title: *'The Roles of Socioeconomic Status and Brain-Derived Neurotrophic Factor Genotype in Brain and Memory Development in Children'*

Funding term: 08/07/18–10/31/19

Role: Principal Investigator / Faculty Mentor

PUBLICATIONS

Papers Published in Peer-reviewed Journals

1. McCall, D., Homayouni, R, Yu, Q., Raz, S., **Ofen, N.** (accepted, 2022). Meta-analysis of hippocampal volume and episodic memory in preterm and term born individuals. *Neuropsychology Review*.
2. Sweatman, H., Lewis-de Los Angeles, C. P., Zhang, J., de Los Angeles, C., **Ofen, N.**, Gabrieli, J. D., & Chai, X. J. (in press, 2022). Development of the neural correlates of recollection. *Cerebral Cortex*.
3. Pruitt, P.J., Tang, L., Hayes, J.M., **Ofen, N.**, Damoiseaux, J.S. (in press, 2022). Lifespan differences in background functional connectivity of core cognitive large-scale brain networks. *Neuroscience Research*.
4. Johnson, E.L., Yin, Q., O'Hara, N.B., Tang, L., Jeong O., Asano, E., **Ofen, N.** (2022). Dissociable oscillatory theta signatures of memory formation in the developing brain. *Current Biology* 32, 1-13.
5. Tang, L., Yu, Q., Homayouni, R., Canada, K.L., Yin, Q., Damoiseaux, J.S., **Ofen, N.** (2021). Reliability of subsequent memory effects in children and adults: The good, the bad, and the hopeful. *Dev Cognitive Neuroscience* 52:101037.
6. Homayouni, R., Yu, Q., Ramesh, S., Tang, L., Daugherty, A.M., **Ofen, N.** (2021). Test-retest reliability of hippocampal subfield volumes in a developmental sample: Implications for longitudinal developmental studies. *Journal of Neuroscience Research* 99, 2327-2339.
7. Lewis, C. E., Thomas, K. G., **Ofen, N.**, Warton, C. M., Robertson, F., Lindinger, N. M., Molteno, C. D., Meintjes, E. M., Jacobson, J. L., Jacobson, S. W. (2021). An fMRI investigation of neural activation predicting memory formation in children with fetal alcohol spectrum disorders. *NeuroImage: Clinical*, 102532.
8. Lynn, J.D., Anand, C., Arshad, M., Homayouni, R., Rosenberg, D.R., **Ofen, N.**, Raz, N., Stanley, J.A. (2021). Microstructure of human corpus callosum across the lifespan: regional variations in axon caliber, density, and myelin content. *Cerebral Cortex* 31, 1032-1045.
9. Pruitt, P.J., Tang, L., Hayes, J.M., **Ofen, N.**, Damoiseaux, J.S. (2021). Age moderation of the association between negative subsequent memory effects and episodic memory performance. *Aging Brain* 1:100021.
10. Yin, Q., Johnson, E.L., Tang, L., Auguste K.I., Knight, R.T., Asano, E., **Ofen, N.** (2020). Direct brain recordings reveal occipital cortex involvement in memory development. *Neuropsychologia* 148, 107625.
11. Tang, L., Pruitt, P.J., Yu, Q., Homayouni, R., Daugherty, A.M., Damoiseaux, J., **Ofen, N.** (2020). Differential functional connectivity in anterior and posterior hippocampus supporting the development of memory formation. *Frontiers in Human Neuroscience* 14, 204.
12. Heitzer, A.M., Piercy, J.C., Peters, B.N., Mattes, A.M., Klarr, J.M., Batton, B., **Ofen, N.**, Raz, S. (2020). Cumulative antenatal risk and kindergarten readiness in preterm-born preschoolers. *Journal of Abnormal Child Psychology*, 48, 1-12.
13. Olsen, R.K., Carr, V.A., Daugherty, A.M., ... **Ofen, N.**, ... Wisse, L.E.M. on behalf of the Hippocampal Subfields Group (2019). Progress update from the hippocampal subfield group. *Alzheimer's & Dementia: Diagnosis, Assessment & Disease Monitoring* 11, 439-449.
14. **Ofen, N.**, Yu, Q., Tang, L., Johnson, E.L. (2019). Memory and the developing brain: From description to explanation with innovation in methods. *Dev Cognitive Neuroscience* 36, 100613.
15. Johnson, E.L., Tang, L., Yin, Q., Asano, E., **Ofen, N.** (2018). Direct brain recordings reveal prefrontal cortex dynamics of memory development. *Science Advances* 4, eaat3702.

16. Yu, Q., McCall, D.M., Homayouni, R., Tang, L., Chen, Z., Schoof, D., Nishimura, M., Raz, S., **Ofen, N.** (2018). Age-associated increase in mnemonic strategy use is linked to prefrontal cortex development. *NeuroImage* 181, 162-169.
17. Mohl, B., **Ofen, N.**, Jones, L.L., Robin, A.L., Rosenberg, D.R., Diwadkar, V.A., Casey, J.E., Stanley, J.A. (2018). Novel reading index for classifying single word reading tendencies in non-skilled readers. *Applied Neuropsychology: Child* 7(4), 287-297.
18. Tang, L., Shafer, A.T., **Ofen, N.** (2018). Prefrontal cortex contributions to episodic memory development. *Cerebral Cortex* 28(9), 3295-3308.
19. Yu Q., Daugherty, A.M., Anderson, D.M., Brush, D., Hardwick, A., Lacey, W., Nishimura, M., Raz, S., **Ofen N.** (2018). Socioeconomic status linked to differences in hippocampal volume in childhood. *Developmental Science* 21(3), e12561.
20. Progovac, L., Rakhlin, N., Angell, W., Liddane, R., Tang, L., **Ofen, N.** (2018). Neural correlates of syntax and proto-syntax: evolutionary dimension. *Frontiers in Psychology* 9, 2415.
21. Progovac, L., Rakhlin, N., Angell, W., Liddane, R., Tang, L., **Ofen, N.** (2018). Diversity of grammars and their diverging evolutionary and processing paths: Evidence from functional MRI study of Serbian. *Frontiers in Psychology* 9, Article 278.
22. Hayes, J.M., Tang, L., **Ofen, N.**, Damoiseaux, J.S. (2017). Subjective memory complaints associated with brain activation supporting successful memory encoding. *Neurobiol Aging* 60, 71-80.
23. Nishida, M., Korzeniewska, A., Crone, N., Toyoda, G., **Ofen, N.**, Brown, E.C., Asano, E. (2017). Brain network dynamics of the human articulatory loop. *Clinical Neurophysiology* 128, 1473-1487.
24. Daugherty, A.M., Flinn, R., **Ofen, N.** (2017). Hippocampal CA3-dentate gyrus volume uniquely linked to improvement in associative memory from childhood to adulthood. *NeuroImage* 153, 75-85.
25. Kambara, T., Brown, E.C., Jeong, J-W., **Ofen, N.**, Nakai, Y., Asano E. (2017). Spatio-temporal dynamics of short-term working memory maintenance and scanning of verbal information. *Clinical Neurophysiology* 128, 882-891.
26. Jones, L.L., Wurm, L.H., Calcaterra, R.D., **Ofen, N.** (2017). Integrative priming of compositional and locative relations. *Frontiers in Psychology* 8, Article 359.
27. Wisse, L., Daugherty, A.M., ... **Ofen, N.**, ..., la Joie, R. for the Hippocampal Subfields Group (2017). A harmonized segmentation protocol for hippocampal and parahippocampal subregions: why do we need one and what are the key goals? *Hippocampus* 27, 3-11.
28. **Ofen, N.**, Whitfield-Gabrieli, S., Chai, X.J., Schwarzlose, R.F., Gabrieli, J.D.E. (2017). Neural correlates of deception: lying about past events and personal beliefs. *Social Cognitive and Affective Neuroscience* 12, 116-127.
29. Raz, S., Piercy, J.C., Heitzer, A., Peters, B.N., Newman, J.B., DeBastos, A.K., **Ofen, N.**, Batton, B., Batton, G.G. (2016). Neuropsychological functioning in preterm-born twins and singletons at preschool age. *J International Neuropsychological Society* 22, 865-877.
30. **Ofen, N.**, Yu Q.J., Chen, Z. (2016). Memory and the Developing Brain: Are insights from cognitive neuroscience applicable to education? *Current Opinions in Behavioral Sciences* 10, 81-88.
31. Daugherty, A.M., Bender, A.R., Raz, N., **Ofen, N.** (2016). Age differences in hippocampal subfield volumes from childhood to late adulthood. *Hippocampus* 26, 220-228.
32. Mohl, B., **Ofen, N.**, Jones, L., Robin, A., Rosenberg, D., Diwadkar, V.A., Casey, J.E., Stanley, J. (2015). Neural dysfunction in ADHD with reading disability during a word rhyming continuous performance task. *Brain & Cognition* 99, 1-7.
33. Daugherty, A.M., **Ofen, N.** (2015). That's a good one! Belief in the efficacy of mnemonic strategies

contributes to age-related increase in associative memory. *J Exp Child Psychology* 136, 17-29.

34. Daugherty, A.M., Yu, Q.J., Flinn, R., **Ofen, N.** (2015). A Reliable and valid method for manual demarcation of hippocampal head, body and tail. *International Journal of Developmental Neuroscience* 41, 115-122.
35. Matsuzaki, N., Schwarzlose, R., Nishida, M., **Ofen, N.**, Asano, E. (2015). Upright face-preferential high-gamma responses in lower-order visual areas: evidence from intracranial recordings in children. *NeuroImage* 109, 249-259.
36. Chai, X.J., **Ofen, N.**, Gabrieli, J.D.E., Whitfield-Gabrieli, S. (2014). Selective development of anticorrelated networks in the intrinsic functional organization of the human brain. *Journal of Cognitive Neuroscience* 26, 501-513.
37. Chai, X.J., **Ofen, N.** (*CXJ NO equal contribution*), Gabrieli, J.D.E., Whitfield-Gabrieli, S. (2014). Development of deactivation of the default-mode network during episodic memory formation. *NeuroImage* 84, 932-938.
38. **Ofen, N.**, Shing, Y.L. (2013). From perception to memory: Changes in memory systems across the lifespan. *Neuroscience and Biobehavioral Reviews* 37, 2258-2267.
39. **Ofen, N.**, Chai, X.J., Schuil, K.D.I., Whitfield-Gabrieli, S. Gabrieli, J.D.E. (2012). The development of brain systems for successful memory retrieval of scenes. *Journal of Neuroscience* 32, 10012-10020.
40. **Ofen, N.** (2012). The development of neural correlates for memory formation. *Neuroscience and Biobehavioral Reviews* 36, 1708-1717.
41. Yoo, J.J., Hinds, O., **Ofen, N.**, Thompson, T.W., Whitfield-Gabrieli, S., Triantafyllou, C., Gabrieli J.D.E. (2012). When the brain is prepared to learn: Enhancing human learning using real-time fMRI. *NeuroImage* 59, 846-852.
42. Benjamin, C., Lieberman, D.A., Chang, M., **Ofen, N.**, Whitfield-Gabrieli, S., Gabrieli, J.D.E., Gaab, N. (2010). The influence of rest period instructions on the default mode network. *Frontiers in Human Neuroscience* 4, Article 218.
43. Chai, X.J., **Ofen, N.** (*CXJ NO equal contribution*), Jacobs, L.F., Gabrieli, J.D.E. (2010). Scene complexity: influence on perception, memory, and development in the medial temporal lobe. *Frontiers in Human Neuroscience* 4, Article 21.
44. **Ofen, N.**, Kao Y-C., Sokol-Hessner, P., Kim, H., Whitfield-Gabrieli, S., Gabrieli, J.D.E. (2007). Development of the declarative memory system in the human brain. *Nature Neuroscience* 10, 1198-1205.
45. **Ofen, N.**, Moran, A. & Sagi, D. (2007). Effects of trial repetition in texture discrimination. *Vision Research* 47, 1094-1102.
46. **Ofen-Noy, N.**, Dudai, Y. & Karni, A. (2003). Skill learning in mirror reading: How repetition determines acquisition. *Brain Research: Cognitive Brain Research* 17, 507-521.

Book Sections

47. Diwadkar, V.A., **Ofen, N.** (2013). Disordered brain network function in adolescence. *Brain evolution, language, and psychopathology in schizophrenia* pp. 73-95 (P. Brambilla, A. Marini, Eds.) Psychology Press, Taylor & Francis.
48. **Ofen, N.**, co-authored with Ljiljana Progovac (2015). Appendix: Testing Grounds: Neuroimaging. *Evolutionary Syntax* pp. 211-218. (Ljiljana Progovac) Oxford University Press.

TEACHING

- Wayne State University** 2011 – ongoing
PSY-1010: Introduction to Psychology (Undergraduate, up to 450 students)
PSY-8050: Cognitive Neuroscience (Graduate)
PYC-7140: Fundamentals of Neuroimaging (Graduate)
PYC-7515: Imaging, Neurodevelopment and Psychiatric Disorders (Graduate)
PSY-7991: Current Topics in Behavioral Neuroscience, Psychology (Graduate)
- Northeastern University**, Department of Psychology, Boston, MA Spring 2010
PSYC-4366: Cognition (Lecturer, Undergraduate, 75 students)
- Harvard University**, Faculty of Arts and Sciences, Cambridge, MA Fall 2008
Neurobiology130: Drugs and the Brain (Teaching Fellow, w/Steven Hyman, Undergraduate)
- Massachusetts Institute of Technology**, Brain and Cognitive Sciences Spring 2006, 2008
9.00: Introduction to Psychology (Guest Lectures, Undergraduate)
- Open University Israel**, Ascolot, Tel Aviv, Israel Fall, Spring 1999 – 2002
Introduction to Brain Research, Advances in Brain Research (Lecturer, Continued Education)
- Weizmann Institute of Science**, Rehovot, Israel
Neurobiology of Memory (Guest Lectures, Graduate) Spring 2002
Neurophysiology: Intact animal electrophysiology (Lab Instructor, Graduate) Summer 1998
- University of Haifa**, Psychology and Interdisciplinary Honors Program, Haifa, Israel 1994, 1995
Physiological Basis of Behavior (Peer Mentor, Undergraduate)
Philosophy of Science (Teaching Assistant, Undergraduate)

MENTORING

Thesis/Qualifying/Dissertation Chair:

- Samuel Kroening, Clinical, Psychology (Fall 2022-present)
Parisa Vahidi, Behavioral and Cognitive Neuroscience, Psychology (Fall 2021-present)
Da'Jonae Foster, Clinical, Psychology (Fall 2021-present)
Christina Lee, Clinical, Psychology, MA Thesis (Fall 2020-present)
Roya Homayouni, Behavioral and Cognitive Neuroscience, Psychology (Fall 2016-present)
Qin Yin, Behavioral and Cognitive Neuroscience, Psychology (Fall 2016-present)
Qijing Yu, Behavioral and Cognitive Neuroscience, Psychology (Fall 2013-2021, Graduated 2021)
Lingfei Tang, Cognitive-Developmental-Social, Psychology (Fall 2012-2019, Graduated 2019)
Dana McCall, Clinical, Psychology (Fall 2012-2018, Graduated 2019)
Jonatha Nathan, Translational Neuroscience Program, Basic Sciences MA (Graduated 2013)

Postdoctoral trainees:

- Kelsey Canada, PhD UMD College Park (Fall 2020-present)
Lingfei Tang, PhD Wayne State U (Winter 2020-Spring 2022)
Elizabeth Johnson, PhD UC Berkeley (Winter 2017-Winter 2020)
Andrea Shafer, PhD U Alberta (Winter 2015-Fall 2017)
Rebecca Schwarzlose, PhD MIT (2014-2015)
Mayu Nishimura, PhD McMaster (2013-2014)

Thesis/Qualifying/Dissertation or Mentoring Committee Member:

- Allison Moll, Psychology – Clinical (IOG Mentoring Committee)
Bradley Dixon, Psychology – Clinical (MA Committee)
John France, Translational Neuroscience Program (Qualifying and Dissertation Committee)

Jessica Katschke, Psychology – Clinical (Dissertation Committee)
 Youjin Jong, Psychology – Behavioral Cognitive Neuroscience (Mentoring Committee)
 Nolan O’Hara, Translational Neuroscience Program (Qualifying & Dissertation Committee) **
 Kylie Kadey, Psychology – Clinical (MA Committee)
 Jonathan Sober, Psychology – Clinical (IOG Mentoring Committee & Dissertation Committee)
 Allyssa Mattes, Psychology – Clinical (Dissertation Committee)
 Christina Dander, Psychology – Clinical (MA Committee)
 Raymond Vivano, Psychology – Behavioral Cognitive Neuroscience (Dissertation Committee)
 Jessica Hayes, Psychology – Behavioral Cognitive Neuroscience (MA Committee)
 Jonathan Lynn, Translational Neuroscience Program (Qualifying Committee)
 Brian Silverman, Translational Neuroscience Program (Qualifying & Dissertation Committee) *
 Chaitali Anand, Translational Neuroscience Program (Qualifying & Dissertation Committee) **
 Diane Sobecki-Ryniak, PhD Candidate, College of Nursing (Graduated 2019)
 Muzamil Arshad, MD/PhD, Translational Neuroscience Program (Graduated 2017) **
 Ana Daugherty, PhD, Psychology – Behavioral Cognitive Neuroscience (Graduated 2015) *
 Brianne Mohl, PhD, Translational Neuroscience Program (Graduated 2015) *
 Andrew Bender, PhD, Psychology – Behavioral Cognitive Neuroscience (Graduated 2014)
 Peng Yuan, PhD, Psychology – Behavioral Cognitive Neuroscience (Graduated 2013)
 Yiqin Yang, PhD, Psychology – Behavioral Cognitive Neuroscience (Graduated 2013)
*Submitted an NIH/NRSA **funded, *not funded; Submitted NSF GRFP, #non-funded*

Graduate Level Directed Studies and Semester/Rotation Sponsorship:

Morgan Glover (Fall 2020); Reyhaneh Jafari (Winter 2018); Chaitali Anand (Sp/Su 2015); Lingfei Tang (Fall 2014); Hilary Marusak (Fall 2013); Jonatha Nathan (Fall 2012)

Undergraduate Honors Thesis Mentor:

James Wairagu (NEU), *‘Experience-related change in resting brain networks’*, in progress.
 Natalia Gumma (PSY), *‘Linking spatial navigation and hippocampal development’*, 2020.
 Da’ Jonae Foster (U Detroit Mercy, BUILD Scholar), *‘Working memory development’*, 2019.
 Rabeya Ali (PSY), *‘Vocabulary mediates the development of associative memory’*, 2019.
 Sruthi Ramesh (BIO), *‘Schizophrenia related differences in hippocampal subfield volumes’*, 2019.
 Urvashi Gupta (CHEM), *‘KIBRA polymorphism and hippocampal volume in development’*, 2019.
 Salma Hassanieh, (CHEM) *‘Relevance of BDNF genotype in hippocampal subfield volumes and memory function in development’*, 2018.
 Sanaya Irani (PSY), *‘Linking spatial navigation and hippocampal development’*, 2017.
 Sydney Ann Howard (PSY), *‘Development of Spatial Navigation’*, 2016.
 Nikhil Adapa (BIO), *‘Neural correlates of the development of implicit memory’*, 2016.
 Priya Ann Sam (PSY), *‘Capacity and chunking in verbal memory’*, 2016.
 Sadia Ghazi (PSY), *‘Semantic representation of visual stimuli’*, 2015.

Undergraduate Research Opportunity Project (UROP) award Sponsorship:

James Wairagu, *‘Experience-related change in resting brain networks related to IQ across development’*, 2021.
 James Wairagu, *‘Assessing how hippocampal functional connectivity supports memory development’*, 2022.
 Gabrielle (Gigi) Gordon, *‘In search of a bridge between socioeconomic status and cognitive functioning’*, 2019-2020.
 Sruthi Ramesh, *‘Correlation between individual variability in false memory and variability in structural components of the hippocampus’*, 2017.
 Mohsyn Malik, *‘Electrocortigraphy (ECoG) study: theta-gamma coupling between MTL and PFC regions during memory encoding in children’*, 2017.
 Sanaya Irani, *‘Neurocognitive development of spatial navigation ability’*, 2016.

Mahnour Ahsan, 'How do children process information differently than adults in visual recognition of objects and scenes?' 2016.

Ryan Abbott, 'Visual memory in children and adults: effects of test and stimuli similarity, 2014.

Summer Undergraduate Research Opportunity Sponsorship:

Autumn Underwood (BUILD Scholar) 2021; Courtney Robertson (BUILD Scholar) 2021; Gabrielle Gordon (BUILD Scholar) 2018, 2019; Asiimwe Najjuma (BUILD Scholar), 2018, 2019, 2020; Mina Spryszak (BUILD Scholar), 2018, 2019, 2020; Da' Jonae Foster (BUILD Scholar), 2017, 2018, 2019; Tiara Perkins (BUILD Scholar), 2017; Sanaya Irani (SURE), 2016; Hager Al-Khafani (WSU-APA Scholar), 2016; Zachary Popovich (SURE), 2015; Abhinav Katti (SURP), 2014; Nikhil Adapa (SURE), 2013; Kirtan Dasai (SURE), 2013

PROFESSIONAL MEMBERSHIP

2017-present	Memory Disorders Research Society (MDRS)
2012-present	Flux: Developmental Cognitive Neuroscience [2016-2017 Program Committee]
2008-present	Society for Research in Child Development (SRCD)
2005-present	Organization of Human Brain Mapping (OHBM)
2004-present	Society for Neuroscience (SFN)
2002-present	Cognitive Neuroscience Society (CNS) [2016-2020 Diversity Training Outreach]
2011, 2013-2017	Cognitive Development Society (CDS)
2007, 2017-2019	Israeli Society for Neuroscience

SERVICE ACTIVITIES FOR PROFESSIONAL ASSOCIATIONS

Grant review

Ad Hoc Study Section member, Human Complex Mental Functions (NIH)

Advisor, US-Israel Binational Science Foundation (BSF)

Panelist, National Science Foundation (NSF)

Ad Hoc Grant Reviewer, National Science Foundation (NSF)

Special Emphasis Study Section member, Cognition Perception, Language Communication (NIH)

Ad Hoc Grant Reviewer, Natural Sciences and Engineering Research Council of Canada (NSERC)

Ad Hoc Grant Reviewer, UK Economic and Social Research Council (ESRC)

Ad Hoc Proposal Reviewer, Singapore Research Excellence Technological Enterprise (CREATE)

Ad Hoc Grant Reviewer, Netherlands Organisation for Scientific Research (NWO)

Ad Hoc Grant Reviewer, National Institute for Psychobiology in Israel

Manuscript review

Review Editor, *Frontiers in Cognitive Sciences*

Ad-hoc Journal Reviewer: *Aging, Neuropsychology and Cognition, Behavioral Neuroscience, Brain and Cognition, Cerebral, Cortex, Child Development, Cognitive, Affective, Behavioral Neuroscience, Cognitive Development, Current Opinion in Behavioral Sciences, Developmental Cognitive Neuroscience, Developmental Psychology, Developmental Science, eNeuro, Hippocampus, Frontiers in Psychology, Frontiers in Human Neuroscience, Human Brain Mapping, J Clinical and Experimental Neuropsychology, J Cognitive Neuroscience, J Experimental Child Development, J International Neuropsychological Society, J Neurological Sciences, J Neurodevelopmental Disorders, J Neuroscience, Memory, Nature Communications, NeuroImage, Neuron, Neuropsychologia, Neuroreport, Neuroscience and Biobehavioral Reviews, PLOS One, Proceedings of the National Academy of Sciences, Psychology and Aging, Science Advances, Social Cognitive and Affective Neuroscience, Social Neuroscience, Trends in Cognitive Sciences, Visual Cognition, Wiley Interdisciplinary Review: Cog Sci*

Professional Society Service

Reviewer, Society for Research in Child Development (SRCD) (2010, 2012, 2014, 2016, 2018, 2020)
Program Committee, Flux: Society for Developmental Cognitive Neuroscience (2016-2017)
Abstract Reviewer, Organization for Human Brain Mapping (OHBM) (2008-2015)
Program Reviewer, Cognitive Development Society (CDS) Biannual Meeting (2015, 2017)
Invited Chair, Learning and Memory Oral Session (OHBM) annual meeting (2014, 2019)
Invited Chair, Flux: Society for Developmental Cognitive Neuroscience (2017)
Invited Chair, Nano Symposium, Society for Neuroscience Annual Meeting (2019)

INVITED TALKS (selected list, past 10 years)

09/2022 Flux: Developmental Cognitive Neuroscience Meeting, Paris, France
08/2022 Department of Brain Sciences, Weizmann Institute of Science, Israel
05/2022 Center for Cognitive Science colloquium, University of Kaiserslautern. Virtual
05/2022 CUNY Neuroscience Collaborative (CNC), Spring 2022 Colloquium. Virtual
04/2022 NIH workshop, 'The Brain Across the Lifespan'. Virtual
04/2022: Wayne State University Emeritus Symposia, 'On Creativity'. Virtual
02/2022 Consortium iEEE Children, meeting series. Virtual.
09/2021 Leibniz Institute for Neurobiology, Magdeburg, Germany. Virtual
04/2021 Rotman Research Institute, Rotman Research Rounds, Toronto, Canada. Virtual
02/2021 Israeli Society for Neuroscience, Invited Symposium Speaker. Virtual
01/2021 Humanities Center Seminar Series, Wayne State University. Virtual
07/2020 Japanese Society for Neuroscience Neurosciences 2020. Virtual
10/2019 Memory Disorders Research Society Annual Meeting, New York, NY
07/2019 Cognitive Sciences Colloquium, Central European University, Budapest, Hungary
06/2019 ELSC Seminar, ELSC, Hebrew University in Jerusalem, Jerusalem, Israel
05/2019 Israeli Neuroimaging Inaugural Meeting, ELSC, Jerusalem, Israel
05/2019 Hebrew University in Jerusalem, Psychology Department Seminar, Jerusalem, Israel
05/2019 Basque Center on Cognition Brain and Language Seminar, BCBL, San Sebastian, Spain
04/2019 The Interdisciplinary Center, Department of Psychology, Herzliya, Israel
02/2019 Zlotowski Neuroscience Center Colloquium, Ben Gurion University, Beer Sheva, Israel
01/2019 Goethe University, Psychology Departmental Colloquium, Frankfurt, Germany
11/2018 Haifa University, Psychology Departmental Colloquium, Haifa, Israel
11/2018 Weizmann Institute of Science, Neurobiology Colloquium, Rehovot, Israel
10/2018 Hippocampal Subfield Segmentation Working Group, DZNE, Magdeburg, Germany
05/2018 Eastern Michigan University, Midwest Neuropsychology Group Meeting, Ypsilanti, MI
04/2018 UC Davis, Memory Development Meeting, Davis, CA
11/2017 Ebbinghaus Empire Lecture Series, University of Toronto, Toronto, Canada
11/2017 Psychology Colloquium, Wayne State University, Detroit, MI
10/2017 Interdisciplinary Conference on Memory, Wayne State University, Detroit, MI
10/2017 Neurology Grand Rounds, Wayne State University, Detroit, MI
09/2017 Flux: Developmental Cognitive Neuroscience Meeting, Portland, OR
09/2017 Memory Disorders Research Society Annual Meeting, Chicago, IL
06/2017 Epilepsy Conference, Wayne State University, Detroit, MI
07/2016 International Conference of Memory, Budapest, Hungary
03/2016 The Ohio State University, Developmental Colloquium, Columbus, OH
03/2016 University of Arizona, Cognitive Science Program Colloquium, Tucson, AZ
10/2015 Cognitive Development Society Preconference, Columbus, OH
09/2015 University of Michigan, Functional MRI Seminar, Ann Arbor, MI
04/2015 Stanford University, Cognitive & Systems Neuroscience Seminar, Stanford, CA
03/2015 Society for Research in Child Development, Symposium Speaker, Philadelphia, PA
02/2015 Perinatal Research Branch, Developmental Cognitive Neuroscience Seminar, Detroit, MI
07/2014 International Neuropsychological Society, Symposium Speaker, Jerusalem, Israel

06/2014 American Academy Clinical Neuropsychologists, Workshop leader, New York, NY
 12/2013 WSU, Grand Rounds - Department of Pediatrics, Detroit, MI
 10/2013 UT Dallas Vital Longevity Center, Colloquium Speaker, Dallas, TX
 05/2013 UC San Francisco, NeuroLens Seminar, San Francisco, CA
 05/2013 Society of Biological Psychiatry, Symposium Chair and Speaker, San Francisco, CA
 04/2013 Society for Research in Child Development, Chair, Discussant and Speaker, Seattle, WA
 02/2013 University of Michigan, fMRI special lecturer series, Ann Arbor, MI
 01/2013 WSU, Department of Engineering Seminar, Detroit, MI
 05/2012 Max Plank Institute for Human Development, Berlin, Germany
 04/2012 WSU, Institute of Environmental Health Sciences Seminar, Detroit, MI
 03/2012 WSU, Grand Rounds - Department of Pediatrics, Detroit, MI
 01/2012 University of Michigan, Center for Human Growth and Development, Ann Arbor, MI
 01/2012 Michigan State University, Psychology Department Colloquium, East Lansing, MI

CONFERENCE PRESENTATIONS (selected list, past 5 years)

[* indicates a student mentee; first = lead author, last = senior author]

Lu, R., Rivera, Y.M., *Yin, Q., Chang, W.K., Rau, E.M.B., *Vahidi, P., Gray, S.M., Kim McManus, O., Sattar, S., Lin, J.J., Chang, E.F., Knight, R.T., **Ofen, N.**, Johnson, E.L. (2022, Nov). Hippocampal theta oscillations support memory formation in children. *Society for Neuroscience Meeting*. San Diego, CA. Talk.

*Canada, K., *Homayouni, R., *Yu, Q., *Foster, D., Daugherty, A.M., **Ofen, N.** (2022, Sep). Hippocampal subfield volumes are differentially susceptible to household socioeconomic status during development. *Annual Flux Congress*. Paris, France.

Rau, E.M.B., Fellner, M.-C., Heinen, R., Zhang, H., Johnson, E.L., *Yin, Y., Asano, E., **Ofen, N.**, Axmacher, N. (2022, May). Memory reinstatement and transformation in children and adolescents. *International Cognitive Neuroscience*, Helsinki, Finland.

*Vahidi P., Johnson, E.L., *Yin, Q., *Tang, L., Asano, E., **Ofen, N.** (2022, Apr). Pediatric intracranial EEG recordings link encoding-retrieval pattern similarity to memory independent of age. *Cognitive Neuroscience Society Meeting*, San Francisco, CA.

*Yin, Q., Johnson, E.L., *Tang, L., Auguste, K.I., Knight, R.T., Asano, E., **Ofen, N.** (2022, Apr). Pediatric intracranial EEG recordings reveal age differences in occipital alpha oscillations and aperiodic activity. *Cognitive Neuroscience Society Meeting*, San Francisco, CA.

*Tang, L., *Canada, K., *Wairagu, J., *Homayouni, R., *Lee, C., **Ofen N.** (2022, Apr). Peri-encoding functional connectivity with IFG contributes to memory development. *Cognitive Neuroscience Society Meeting*, San Francisco, CA.

*Canada, K., *Homayouni, R., *Yu, Q., *Foster, D., Daugherty, A.M., **Ofen, N.** (2022, Apr). Hippocampal subfield volumes are differentially susceptible to household socioeconomic status during development. *Cognitive Neuroscience Society Meeting*, San Francisco, CA.

*Lee, C., *Canada, K.L., *Foster, D., *McCall, D., Piercy, J., Heitzer, A., *Tang, L., Raz, S., **Ofen, N.** (2022, Feb). Neural Correlates of Memory Formation in Young Children (5-6) in Preterm and Term Born Sample. *International Neuropsychological Society Meeting*. Virtual.

*Canada, K., *Tang, L., *Lee, C., *Homayouni, R., *Wairagu, J., **Ofen N.** (2021, Sep) Prefrontal contributions to successful memory formation in 5- to 7-year-old children. *Annual Flux Congress*. Virtual.

Rau, E.M.B., Fllener, M.-C., Heinen, R., HuiZhang, Johnson, E.L., *Yin, Q., Asano, E., Ofen, N., Axmacher, N. (2021, Apr). Transformation of visual memories in children and adolescents.

- Psychology and Brain meeting, German Society for Biological Psychology and Neuropsychology. Virtual.
- *Johnson, E.L., *Yin, Q., *Tang, L., Asano, E., **Ofen, N.** (2021, Mar). Age-related double dissociation of fast and slow theta oscillations in children and adolescents. *Society for Research in Child Development*. Virtual.
- *Tang, L., *Yu, Q., *Yin, Q., *Homayouni, R., Pruitt, P. J., Damoiseaux, J. S., **Ofen, N.** (2021, Apr). Test-retest reliability of subsequent memory effects in children and adults the good, the bad, and the hopeful. *Cognitive Neuroscience Society Meeting*. Virtual.
- *Homayouni, R., *Yu, Q., Daugherty, A.M., **Ofen, N.** (2021, Apr). Distal Cues, Proximal Cues, or Both? Young Children's Accurate Recall in a Virtual Morris Water Maze. *Cognitive Neuroscience Society Meeting*. Virtual.
- *Tang, L., *Yu, Q., Pruitt, P. J., *Yin, Q., *Homayouni, R., Damoiseaux, J. S., **Ofen, N.** (2021). Replicability of fMRI subsequent memory effects in children and adults. *Society for Neuroscience Global Connectome*. Virtual.
- *Johnson, E.L., *Yin, Q., *Tang, L., Asano, E., **Ofen, N.** (2021). Frontotemporal theta multiplexing underlies memory formation in the developing brain. *Society for Neuroscience Global Connectome*. Virtual.
- *Johnson, E. L., *Yin, Q., *Tang, L., Asano, E., **Ofen, N.** (2020). Age-related double dissociation of fast and slow theta oscillations in children and adolescents. *Neuromatch 3.0*. Virtual. Talk.
- *Yin, Q., *Johnson, E.L., *Tang, L., Auguste K.I., Knight, R.T., Asano, E., **Ofen, N.** (2020). Direct brain recordings reveal occipital cortex involvement in memory development. *Neuromatch 3.0*. Virtual. Talk.
- *Homayouni, R., *Yu, Q., *Ramesh, S., Daugherty, A.M., **Ofen, N.** (2020). Test re-test reliability of hippocampal subfield volume measures in a developmental sample: implications for longitudinal developmental studies. *Cognitive Neuroscience Society Meeting*. Virtual.
- Pruitt, P., *Tang, L., Hayes, J., **Ofen, N.**, Damoiseaux, J. (2020). Task-context functional connectivity differences across the lifespan. *Organization for Human Brain Mapping*. Virtual.
- *Yu Q., *Homayouni, R., *Ramesh, S., **Ofen, N.** (2019). Test re-test reliability of hippocampal subfield volume measures in developing sample: Implications for longitudinal developmental studies. *Society for Neuroscience Meeting*, Chicago, IL. Talk.
- *Johnson, E., *Yin, Q., *Tang, L., Asano, E., **Ofen, N.** (2019). Medial temporal and frontotemporal theta rhythms predict subsequent memory in the developing brain. *Society for Neuroscience Meeting*, Chicago, IL. Talk.
- *Tang, L., *Johnson, E.L., *Yin, Q., *McCall, D., *Ramesh, S., *Thompson, B., Agarwal, R., Luat, A., Asano E., **Ofen, N.** (2019). Correspondence between bold signal and iEEG high-frequency activity during memory encoding in a pediatric sample. *Society for Neuroscience Meeting*, Chicago, IL. Talk.
- *Yin, Q., *Johnson, E., *Tang, L., Auguste, K.L., Knight, R.T., Asano, E., **Ofen, N.** (2019). Direct brain recordings reveal the involvement of the occipital cortex in memory formation in children. *Society for Neuroscience Meeting*, Chicago, IL. Talk.
- Carr, V., Berron, D., Daugherty, A.M., Olsen, R.K., Wisse, L., Amunts, K.M., Augustinack, J.C., Bakker, A., Bender, R., Boccardi, M., Bocchetta, M., Chakravarty, M., Chetelat, G., De flores, R., Dekraker, J., Ding, S.-L., Insausti, R., Kedo, O., Mueller, S., **Ofen, N.**, Palombo, D.J., Raz, N., Stark, C.E., Wang, L., Yushkevich, P., *Yu, Q., La joie, R. (2019). Hippocampal subfields group progress update: harmonization of a protocol for segmenting human hippocampal subfields on MRI. *Society for Neuroscience Meeting*, Chicago, IL.

- Daugherty, A.M., *Yu, Q., R. Bender, R., *Tang, L., Dahle, C.L., **Ofen, N.**, Raz, N. (2019). Age-related shrinkage of medial temporal lobe subfields is differentially exacerbated by arterial hypertension: a six-year longitudinal study of healthy adults. *Society for Neuroscience Meeting*, Chicago, IL.
- Wisse, L., Berron, D., Olsen, R., Daugherty, A., Amunts, K., Augustinack, J., Bakker, A., Bender, A., Boccardi, M., Bocchetta, Mallar Chakravarty, M.M., Chetelat, G., Robin de Florès, DeKraker, J., Ding, S.L, Mueller, S., Ofen, N., Polombo, D., Raz, N., Stark, C., Wang, L., Yushkevich, P., *Yu, Q., Carr, V., La Joie, R. (2019). The development of a valid, reliable, harmonized segmentation protocol for hippocampal subfields. *Alzheimer Association International Conference (AAIC)*, Los Angeles, CA.
- Pruitt, P., Tang, L., Hayes, J., Ofen, N., Damoiseaux, J. (2019). Differential coupling between subsequent memory BOLD response and performance across the life-span. *Organization for Human Brain Mapping*, Rome, Italy.
- Olsen, R., Daugherty, A., La Joie, R., Wisse, L., Amunts, K., Augustinack, J., Bakker, A., Bender, A., Berron, D., Boccardi, M., Bocchetta, Chakravarty, M.M., Chetelat, G., Robin de Florès, DeKraker, J., Ding, S.L, Mueller, S., Ofen, N., Polombo, D., Raz, N., Stark, C., Wang, L., Yushkevich, P., Yu, Q., Carr, V. (2019). The development of a valid, reliable, harmonized segmentation protocol for the hippocampal subfields. *Organization for Human Brain Mapping*, Rome, Italy.
- *Tang, L., *France, J., *Yu, Q., *Yin, Q., *Homayouni, R., *Thompson, B., *Ramesh, S., **Ofen, N.** (2019). Assessing the reliability of fMRI measures in characterizing memory development. *Cognitive Neuroscience Society Meeting*, San Francisco, CA.
- *Yin, Q., Johnson, E.L.*, Tang, L.*, Asano, E., **Ofen, N.** (2019). Scene complexity visual alpha facilitate memory development. *Cognitive Neuroscience Society Meeting*, San Francisco, CA.
- *Schwarzlose, R.F., *Yu, Q., *Ramesh, S., *Homayouni, R., Chen, Z., **Ofen, N.** (2019). In the Blink of an eye: visual processing, hippocampal subfields, and memory function in children. *Society for Research on Child Development meeting*, Baltimore, MD.
- *Yu, Q., Ramesh, S.*, Thompson, B.*, Homayouni, R.*, Chen, Z., Nishimura, M., **Ofen, N.** (2019). Roles of the hippocampus and prefrontal cortex in young children. *Society for Research on Child Development meeting*, Baltimore, MD.
- *McCall, D.M., *Yu, Q., Piercy, P., Heitzer, A., Raz, S., **Ofen, N.** (2019). Hippocampal volumetry and episodic memory in preterm born children. *International Neuropsychological Society Meeting*, New York, NY.
- Carr, V., La Joie, R., Olsen, R., ... **Ofen, N.**, ...Daugherty, A., on behalf of the Hippocampal Subfield Group (2018). Preliminary results of the hippocampal subfields group harmonized protocol for segmenting hippocampal subfields on 3T MRI. *Society for Neuroscience Meeting*, San Diego, CA.
- Schwarzlose, R., *Ramesh, S., *Yu, Q., *Homayouni, R., Chen, Z., **Ofen, N.** (2018). Poor long-term memory in children: A case of mistaken identity? *6th Annual Flux Congress*, Berlin, Germany.
- Yu, Q.*, Homayouni, R.*, Ramesh, S.*, **Ofen, N.** (2018). Memory development: Complementary roles of the hippocampus and prefrontal cortex. *Annual Flux Congress*, Berlin, Germany. (Oral presentation, *Flux travel award*)
- *Tang, L., *Yu, Q., *Homayouni, R., *Ramesh, S., *Thompson, B., Chen, Z., **Ofen, N.** (2018). Development of associative memory: A latent change score model. *Flux: Little Brain Big Data Conference*, U North Carolina at Chapel Hill, NC.
- *Yu, Q.*, *Homayouni, R., *Ramesh, S., **Ofen, N.** (2018). Hippocampal DG/CA3 volume is linked to associative memory in young children. *International Conference on Learning and Memory*, Huntington Beach, CA.
- *Johnson, E.L., **Ofen, N.** (2018). Direct brain recordings from children and adolescents reveal dynamic PFC underpinnings of memory function. *International Conference on Learning and Memory*, Huntington Beach, CA.

- *Yu, Q., *Homayouni, R., *Ramesh, S., *Thompson, B., *Nishimura, M., **Ofen, N.** (2018). Functional specialization of hippocampal subfields in young children. *Cognitive Neuroscience Society Meeting*, Boston, MA.
- *Johnson, E.L., *Yin Q., *Tang L., Asano, E., **Ofen, N.** (2018). Direct brain recordings from children and adolescents reveal dynamic PFC underpinnings of memory function. To be presented at the *Cognitive Neuroscience Society Meeting*, Boston, MA.
- *Johnson, E.L., *Yin Q., *Tang L., *Malik, M., Asano, E., **Ofen, N.** (2017). Direct brain recordings from children and adolescents reveal diverse patterns of PFC involvement in memory formation. *Society for Neuroscience Meeting*, Washington, DC.
- *Tang, L., *Shafer, A.T., **Ofen, N.** (2017). Prefrontal cortex contributions to episodic memory development. Symposium, *Biennial Meeting of the Society for Research in Child Development*, Austin, TX.
- *Yin, Q., *Tang, L., *Malik, M., *Shafer, A.T., Chen, D., Asano E., **Ofen, N.** (2017). An electrocorticography (ECoG) study of memory formation in children. *Cognitive Neuroscience Society Meeting*, San Francisco, CA.
- *Yu, Q., *Homayouni, R., *Shafer, A.T., **Ofen, N.** (2017). Developmental difference in hippocampal segmentation using FreeSurfer compared with manual demarcation. *Cognitive Neuroscience Society Meeting*, San Francisco, CA.
- *Tang, L., *Shafer, A.T., *Liddane, R., *Alkhafaji, H., **Ofen, N.** (2017). Age-related differences in the functional connectivity of the medial temporal lobe support successful memory encoding. *Cognitive Neuroscience Society Meeting*, San Francisco, CA.
- *Anderson, D.M., *Yu, Q., Roberson, J., Piercy, J., Heitzer, A., Raz, S., **Ofen, N.** (2017). Systematic review of the relationship between hippocampal volume and memory performance in preterm-born individuals. *International Neuropsychological Society Meeting*, New Orleans, LA.

SELECT LIST OF OUTREACH ACTIVITIES

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| 2013- | Brain Day (held annually at the Michigan Science Center, Detroit, MI) |
| 2017 - | STEM Day (held annually, 1000 middle school children visit WSU, Detroit, MI) |
| 2019 - | Outreach activity delivering talks in local elementary and middle-schools |
| 2015, 2016 | Go-GIRL, WSU program, workshop organizer 'your brain on STEM' (sponsored by NIH) |
| 2013-2020 | Future Docs (held annually, organized by WSU School of Medicine, Detroit, MI) |
| 2008-2011 | Outreach Committee, MIT Department of Brain and cognitive Sciences |
| 2001-2003 | Lecturer, "Bashaar", Academic Community for the Israeli Society |
| 1998-2003 | Head, "Summer Camp for Science, Music and Art", Weizmann Institute of Science |
| 1999- 2003 | Lecturer, Youth Activity Section, Weizmann Institute of Science |

LIST OF SELECT MENTIONS IN POPULAR OR PROFESSIONAL MEDIA

<http://wis-wander.weizmann.ac.il/science-education-science-culture/mirrors-and-memory>

<http://www.economist.com/node/9616794>

<http://news.mit.edu/2007/memory-0805>

<https://psychcentral.com/news/2012/07/25/memory-connections-change-from-childhood-to-adulthood/42218.html>

<https://www.med.wayne.edu/news/2014/04/09/national-academy-of-sciences-selects-dr-noa-ofen-as-kavli-frontiers-fellow/>

<http://www.news-medical.net/news/20160713/Researcher-receives-2419-million-grant-to-study-development-of-memory-networks-in-children.aspx>

<https://sciencetrends.com/why-are-you-better-than-your-kids-in-remembering-the-grocery-list/>

https://www.eurekalert.org/pub_releases/2018-12/ws--nms121918.php

<https://www.fatherly.com/health-science/childhood-memory-crisis-pandemic-natural-disaster/>

<https://www.eurekalert.org/news-releases/943588>

<https://www.sciencedaily.com/releases/2022/02/220215113357.htm>