

Educational History

- 1992 Ph.D. in Psychology, University of Illinois at Urbana-Champaign
 Major: Cognitive and Experimental Psychology; Minors: Biological
 Psychology, Philosophy; Dissertation: *The Error-Related Negativity: Evidence for a
 Neural Mechanism for Error-Related Processing*; Advisors: Michael G. H. Coles and
 Emanuel Donchin
- 1985 A.B. in Psychology, *summa cum laude*, Phi Beta Kappa.
 Augustana College, Rock Island, IL; Advisor: Tyler S. Lorig

Professional Experience

- 2023-present Professor Emeritus, Department of Psychology, University of Michigan
- 2023-present Arthur F. Thurnau Professor Emeritus, University of Michigan
- 2010–2022 Professor, Department of Psychology, University of Michigan
- 2004–2022 Arthur F. Thurnau Professor, University of Michigan
- 2015–2016 Visiting Scholar, Graduate School of Education and Information Studies, UCLA
- 2003–2012 Associate Research Professor, Center for Human Growth and Development,
 University of Michigan
- 2002–2010 Associate Professor, Department of Psychology, University of Michigan
 (*Cognition and Perception Area Chair, 2006–2008*)
- 1995–2002 Assistant Professor, Department of Psychology, University of Michigan
- 1992–1994 Postdoctoral Fellow, Center for Neuroscience, University of California, Davis

Honors

- 2019, 2020 University Housing Honored Instructor, University of Michigan
- 2011 Fellow, Association for Psychological Science
- 2010 John Dewey Teaching Award, University of Michigan, College of LS&A
- 2009 University of Michigan Greek Community Outstanding Teaching Award
- 2004 Arthur F. Thurnau Professorship, “the University’s highest award for excellence in
 undergraduate education”
- 1999 University of Michigan, College of Literature, Science, and the Arts, Excellence in Education
 Award
- 1994 National Institute of Neurological Disorders & Stroke Postdoctoral Fellowship (Individual
 Award)
- 1992–1993 McDonnell-Pew Postdoctoral Fellowship, UC Davis, Center for Neuroscience
- 1986–1989 National Science Foundation Graduate Fellowship, UIUC
- 1985–1986 Dallenbach Fellowship, UIUC
- 1985 Ralph Waldo Hansen Award for Excellence in Psychology, Augustana College
- 1985 John Lang Writing Excellence Award, Augustana College

Academic Interests

For over three decades, I have investigated how the brain processes errors and how error processing affects anxiety disorders and executive function. I was a co-discoverer of the error-related negativity (ERN), an event-related potential that occurs when people make errors. That original report has been cited over 3600 times and is the third highest cited article ever in the journal *Psychological Science*. My laboratory made the initial discovery that individuals with OCD show exaggerated ERN activity compared to healthy controls, which has spawned a large research literature on anxiety and the ERN. Since then, I have collaborated with colleagues in Psychiatry on a major research program using the ERN to understand the development of pediatric psychopathology, including OCD, ADHD, and autism. In a second major line of my research, I have collaborated with developmental psychologists, using rigorous causal inference techniques to understand how elementary school affects brain activity and executive function in children transitioning from pre-school to kindergarten.

Just as important to my scholarly identity is my interest in higher education and student success: teaching first-year college students cognitive science principles for academic success, developing new approaches to instruction, and exploring institutional factors that shape academic success. One of my most rewarding experiences has been creating and teaching a first-year seminar called “Cognitive Science of Academic Success,” which distills evidence-based principles governing memory, attention, motivation, and anxiety into practical strategies that help students become self-directed learners. I taught a similar course in Michigan’s Comprehensive Studies Program (CSP) Summer Bridge Program, Michigan’s renowned program for students from underserved communities. I have always reserved half of my seats in the academic success class for CSP students. I have made numerous presentations on the cognitive science of learning for other audience, including professionals, high school students, and college students at the University of Michigan and elsewhere (see list below).

Most recently, I have focused on developing generative artificial intelligence tools that help undergraduates learn more effectively, using the same principles I teach in my courses. In my smaller online classes I combine generative AI with oral exams, an approach I describe in this video: <https://ggl.link/gehring1>. In larger classes I have developed AI tutoring tools to help students learn course materials. I have presented my approach to the university’s Information Technology Teaching and Learning Group, who are responsible for classroom applications of generative AI at Michigan.

My interest in academic success extends to improving instruction. For three years I co-taught my department’s graduate student instructor training course. My expertise in instructional practices led to roles on university committees, including chairing the search for the new director of Michigan’s Center for Research on Learning and Teaching and chairing a provost’s advisory team for engaged education and digital learning. I have developed a line of research uses institutional administrative data to understand the factors that contribute to undergraduate academic success, especially for students from under-resourced academic backgrounds. In a paper under revision with economist Julian Hsu, I use quasi-experimental methods and large-scale institutional data to uncover factors that promote or hinder student success. For example, we used a regression discontinuity design to show that university placement recommendations for Pre-Calculus vs. Calculus impact students’ eventual likelihood of earning a STEM degree. Intriguingly, we also identified gender differences in how students respond to placement advice, underscoring the importance of tailoring interventions to specific student populations. Engaging with these institutional data sets has required me to develop new analytical skills, including merging and cleaning administrative records and applying rigorous causal inference techniques.

Courses Taught

Introduction to Cognitive Psychology (online, enrollment 30): Spring and Summer Terms, 2024, Spring and Summer Terms 2025.
Introduction to Cognitive Psychology (online, enrollment 330): Fall Term, 2024
Introduction to Cognitive Psychology (enrollment 350-450) (1995-2019, average instructor rating 4.9/5.0)
First-Year (Freshman) Seminar: Cognitive Science of Academic Success (enrl. 18; 2013-2020, average instructor rating 5.0/5.0)
Psychology Dept. Graduate Student Teaching Academy (instructor training) (2016-2018)
Comprehensive Studies Program/Summer Bridge Program: CSP 100 (2014)
Mind, Brain, and Spirituality (enrollment 300) (2013)
Cutting-Edge Cognition (upper-level undergraduate seminar) (2012)
First-Year (Freshman) Seminar: Mind, Brain, and Evil (a.k.a. Mind, Brain, and Violence)
First-Year (Freshman) Seminar: Consciousness
Group Section for Laboratories in Biopsychology
Methods in Cognitive Neuroscience
Graduate Seminar on Event-Related Brain Potentials
Cognition and Perception Graduate Preliminary Exam Preparation Seminar

Invited Talks on Improving Undergraduate Academic Success

UM Information and Technology Services Teaching and Learning Summit (2024) (on AI tutoring)
UM Information and Technology Services Teaching and Learning Group (2024) (on AI tutoring)
UM Bentley Historical Library Faculty Seminar (2019)
UM Ross School of Business Preparation Initiative Boot Camp (2012-2014, 2016-2018)
Chemistry 209, *Structure and Reactivity Co-Requisite Seminar* (2018)
Shiawassee Scholars Program (2015, 2017)
UCLA Graduate School of Education and Information Sciences (2018)
Campus Connections, UM Comprehensive Studies Program (2018)
UCLA Center for Education Innovation and Learning in the Sciences (2016)
UCLA Department of Psychology, Cognitive Forum (2016)
Guest lecture, Cognitive Development and Schooling course, UCLA (2016)
UCLA Robert and Elizabeth Bjork Lab Meeting, CogFog (2016)
University of Michigan Causal Inference in Education Research Seminar (2015)
University of Michigan *LSA Institute on Diversity and Campus Climate. Session 4: Building Skills and Social Capital.* (2014, 2015)
Bill McKeachie's Teaching Tips and "Learning to Learn": Lessons for Learning Analytics. Talk presented at the dedication of the Wilbert J. (Bill) McKeachie Auditorium, UM Psychology. (Marcy 27, 2015)
Institutional Challenges Dealing with the Underprepared/At-Risk Student Population. Chemical Sciences at the Interface of Education|University of Michigan (CSIE|UM) Program (2015)
Media Arts High School, Detroit (Jan. 27, 2015)
Ottawa Hills High School, Grand Rapid, MI (Oct. 22, 2014)
Athletic Department Academic Success Program, Freshman Transition Workshop for Student Athletes (Sept 21, 2014)
Symposium on Learning Analytics at Michigan (SLAM) (March 7, 2012; Nov 16, 2013)

UM Enriching Scholarship Conference Session on Best Practices for Improving Introductory Courses (May 6, 2014)

Classroom Climate. U of M LSA Advisors Professional Development Series. (March 26, 2014)

How Can We Improve Learner Success? Organizational Effectiveness and Diversity Seminar. University of Michigan Health System (Feb. 25, 2014)

Study Skills, Study Groups, and Faculty Coaching. UM LSA Faculty Diversity Workshop (Feb. 6, 2014)

Leadership Learning Coalition (UM administrative staff development program). (Oct. 18, 2014)

Summer Bridge Program Friday Lecture (July 28, 2012; July 12, 2013)

Leadership Learning Coalition (UM administrative staff development program) (Oct. 18, 2013)

Graduate Student Instructor Fall Training, UM Psychology Department (Sept 1, 2012)

Professional Memberships

Society for Research on Educational Effectiveness

Association for Psychological Science

Professional Service

Editorial Positions

Editorial Board, *Cognitive, Affective, and Behavioral Neuroscience* (2007-2014)

Editorial Board, *Psychological Science* (2008-2012)

Associate Editor, *International Journal of Psychophysiology* (2009-2011)

Associate Editor, *Cognitive, Affective, and Behavioral Neuroscience* (2005-2007)

Associate Editor, *Psychophysiology* (2002-2005)

University of Michigan: College and University

NIH Data Safety Monitoring Board (2016-2019)

Grievance Hearing Board, University of Michigan (2017)

Comprehensive Studies Program Advisory Board (2014-2016)

Provost's Digital Innovation Advisory Group (2014-2015)

Chair, search committee for Director of the Center for Research on Learning and Teaching (CRLT) (2014-2015)

Developing a Tools and Technology Innovation Pipeline Subcommittee (2014-2015)]

Digital Program Pipeline Subcommittee (2014-2015)

University of Michigan Learning Analytics Task Force (2012-2015)

Ross Business School Preparation Initiative Advisory Committee (2014)

Comprehensive Studies Program Futures Task Force (2013-2014)

Provost's Task Force on Engaged Learning and Digital Instruction (2014)

Provost's Online Course (MOOC) Selection Committee (2012-13)

Curriculum Committee, College of Literature, Science, and the Arts (2012-2013)

Advisory Board, University of Michigan Center for Culture, Mind and Brain (2010-2013)

Teaching Academy, LSA/Center for Research on Learning and Teaching (2012)

U-M Teaching Evaluation Group (to reform methods for evaluating instruction) (2012)

University of Michigan Google Tools Faculty Learning Committee (2011-2012)

Selection Committee for Provost's Teaching Innovation Prize (2011-2012)

Faculty Panel, Workshop on Music and the Brain, UM Department of Musicology, April 15-16, 2011.

Faculty Panel, Workshop on Music and the Brain, UM Department of Musicology, March 26-27, 2010.

Arthur F. Thurnau Professorship Steering Committee (2009)

Provost's Council on Student Honors (Rhodes/Marshall Scholarship Nominations) (2006-2010)
New Student Summer Orientation Faculty Presenter (2005-2007)
Carnegie Academy on the Scholarship of Teaching and Learning Large Lecture Initiative, University of Michigan Center for Research on Learning and Teaching (2007)
U of M/Carnegie Academy on the Scholarship of Teaching and Learning Leadership program advisory committee (2006-2007)
University of Michigan Provost's Seminar on Teaching and Learning, session leader, "Enhancing Student Learning in Introductory Courses" (2007)
Faculty Advisor, Psychology Department Information Systems (2005-2006)
College of Literature, Arts, and Sciences Information Technology Committee (2005-2006)
Advisory Board, University of Michigan Center for Research on Learning and Teaching (2004-2006)

University of Michigan: Psychology Department

Student Academic Affairs Committee (2019-2020)
Admissions Chair, Cognition and Cognitive Neuroscience Area (2017-18, 2018-19, 2019-2020)
Assistant Professor Third-year Review Committee, chair (2018-2020)
Lecturers' Employee Organization Lecturer review committee (2020)
Undergraduate Education Self-Study Committee (2018-2019)
Executive Committee (2017-19)
Cognition and Cognitive Neuroscience Graduate Student Recruitment Committee (2017-18, chair 2018)
Promotion Review Panel (for Full Professor) (2017)
Graduate Admissions Chair, Cognition and Cognitive Neuroscience Area (2017)
Psychology Lecturers' Employee Organization Lecturer review committee (2016)
Student Academic Affairs Committee, Department of Psychology (2014-2015)
Department of Psychology Augmented Executive Committee (2011-2014)
Department of Psychology Student Academic Affairs Committee (2011-2012)
University of Michigan Cognition and Cognitive Neuroscience Admissions Committee, chair (2011-2012)
Undergraduate Concentration Advisor: Brain, Behavior and Cognitive Sciences Concentration (2009-2010)
Developmental Psychology Area Faculty Search Committee (2008-2009)
Cognition and Perception Area Graduate Recruitment Committee (2008-2009)
Chair, Cognition and Perception Area, Department of Psychology (2006-2008)
Pre-2005 Service: Faculty Search Committees for Cognition and Perception and Developmental Psychology; Psychology Department Augmented Executive Committee (merit review and promotions); Psychology Department Executive Committee; Office of the Vice President for Research, Advisory Panel for Functional Magnetic Resonance Imaging Instrumentation Expansion; Psychology Department Computing Committee; Information Technology Search Committee; Psychology Department Graduate Committee; Cognition and Perception Admissions and Recruitment Committees; Cognition and Perception Faculty Search Committees

Reviewer – Grants

National Institute of Mental Health: Cognition and Perception (BBBP-4) Study Section (ad hoc member), 2003, 2005; Special Emphasis Panel for Interdisciplinary Centers on Mental Health, 2004; B/START program ad hoc reviewer; NIMH Special Emphasis Panel on Cognitive Neuroscience, 2005, 2006, 2007; NIH Challenge Grants Panel BBBP L 58, 2009.
National Science Foundation ad hoc reviewer
University of Michigan Substance Abuse Research Center
University of Michigan Medical School Biomedical Research Council

Biotechnology and Biological Sciences Research Council (UK)
Binational (Israel-US) Science Foundation

Ad Hoc Reviewer – Journals

Aggressive Behavior; Archives of General Psychiatry; Behavioral Neuroscience; Behavioural Brain Research; Biological Psychiatry; Biological Psychology; Brain; Brain and Language; Brain Research; Cognitive, Affective and Behavioral Neuroscience; Cognitive Brain Research, Developmental Psychobiology; Electroencephalography and Clinical Neurophysiology; European Journal of Neuroscience; Neurophysiology; Human Brain Mapping; JAMA Psychiatry; Journal of Behavioral Decision Making; Journal of Cognitive Neuroscience; Journal of Experimental Psychology: General; Journal of Experimental Psychology: Human Perception and Performance; Journal of Experimental Psychology: Learning, Memory and Cognition; Journal of Forensic Sciences; Journal of Gerontology: Psychological Sciences; Journal of Neurophysiology; Journal of Neuroscience; Learning and Motivation; Nature; Nature Neuroscience; Neuroimage; Neuron; Neuropsychologia; Neuroreport; Neuroscience and Biobehavioral Reviews; Perspectives on Psychological Science; Proceedings of the National Academy of Sciences; Psychological Bulletin; Psychological Review; Psychological Science; Psychophysiology; Quarterly Journal Experimental Psychology; Science; Scientific Data; Studies in Educational Evaluation

Interviews and Features

Brown, K. (February 13, 1999). Oops.....sorry. *New Scientist*.
National Public Radio Weekend Edition Sunday. (January 14, 2001). Interview. Audio: bit.ly/Gehring_NPR
Todd Mundt Show, National Public Radio (June 24, 2002). Interview.
New York Times (April 27, 2004). Quoted in “Passengers Feel the Driver’s Anxiety, Too.” Available at <http://tinyurl.com/36fn6>.
The University Record, University of Michigan (October 11, 2004). “U-M researchers study humor, starting with New Yorker cartoons.” Available at http://www.umich.edu/~urecord/0405/Oct11_04/02.shtml
[Creating an Identity-Safe Classroom](#). University of Michigan blog post summarizing my February 2014 talk.

Grants

2020	<i>DevEEG: A Robust Repository for Developmental Electroencephalogram Data</i> . Role: Co-PI. PI Amy Pienta. Direct Costs: \$89,653.
2014-2019	<i>Neurodevelopmental Pathways in Adolescent Health Risk Behavior</i> , NIH. Role: Co-I. PI Daniel Keating. Direct Costs: \$2,743,864.
2014-2017	<i>Exploring the Effects of Schooling on Changes in Behavioral and Neurological Indices of Children’s Executive Functioning</i> . National Science Foundation. Role: Co-PI. Direct Costs: \$496,032.
2013-2017	<i>Action Monitoring and Exomic Variants in Obsessive-Compulsive Disorder</i> , NIMH. Role: Co-PI. Direct Costs: \$1,557,254.
2013	<i>Emotion Regulation in the Brain</i> , M-Cubed Initiative Grant, University of Michigan, Role: Co-PI with Twila Tardif and Kate Fitzgerald, \$60,000.
2011-2015	<i>LSA-Instructional Technology Committee: New Infrastructure/New Initiatives Award for Teaching with Technology Project</i> (\$59,506).
2011-2015	<i>Electrical Neuroimaging of Brain Processes During Human Gait</i> , National Institutes of Health R01, Role: Co-I; Daniel Ferris, PI (\$1,501,560).

- 2010-2012 *Schooling and Growth of Executive Functioning: Steps to an Integrative Approach*, National Institute of Child Health and Human Development, R21, Co-PI with Fred Morrison (\$275,000).
- 2009-2011 *Mechanisms for Error Detection and the Error-Related Negativity*. University of Michigan Office of the Vice President for Research, Role: PI (\$14,822).
- 2008-2010 *Error-Related Negativity in Unaffected Siblings of Youth with Obsessive-Compulsive Disorder*, Obsessive-Compulsive Foundation, Role: Co-PI with Gregory Hanna (\$18,211).
- 2005-2010 *Functional Neuroanatomy of Obsessive -Compulsive Disorder*, National Institute of Mental Health R01. Role: Co-I; Stephan Taylor, PI (\$1,250,000).
- 2002-2004 The Medial Frontal Cortex and the Processing of Probability and Value, Role. University of Michigan Office of the Vice President for Research, PI (\$17,000)
- 1999-2001 *Task Switching in Parkinson's Disease*, Role: Co-I; Roger Albin, PI. University of Michigan Medical School (\$100,000)
- 1999-2001 *Functional Magnetic Resonance Imaging of the Anterior Cingulate Cortex*, Role: Co-I; Stephan Taylor, PI. University of Michigan Medical School (\$12,000)
- 1999-2000 *Neural Correlates of Theory of Mind Reasoning in Preschoolers*, Role: Co-I; Henry Wellman, PI. University of Michigan Office of the Vice President for Research (\$11,430)
- 1996-1997 *The Neurocognitive Basis of Obsessive-Compulsive Disorder*, Role: PI. University of Michigan Horace H. Rackham School of Graduate Studies Faculty Grant (\$15,000)
- 1995-1996 *Brain Mechanisms for the Inhibition of Action*, Role: PI. University of Michigan Office of the Vice President for Research (\$12,500)
- 1994-1996 *Brain Mechanisms for the Inhibition of Action*, Role: PI. National Institute of Mental Health B/START Grant (\$25,000)

Publications

Under review and in revision (drafts upon request)

Hsu, J., & Gehring, W. J. *Math for all? Regression discontinuity in signals of preparation for college quantitative coursework*. (In revision at *Education Finance and Policy*.)

In press and published

- Brown, T., Kim, K., Gehring, W. J., Lustig, C., & Bohnen, N. I. (2024). Sensitivity to and Control of Distraction: Distractor-Entrained Oscillation and Frontoparietal EEG Gamma Synchronization. *Brain Sciences*, 14(6), 609. <https://doi.org/10.3390/brainsci14060609>
- Hanna, G. L., Liu, Y., Rentschler, L., Hanna, B. S., Arnold, P. D., Gehring, W. J. (2024). Error monitoring and decreased flanker task accuracy in obsessive-compulsive disorder. *Child Psychiatry & Human Development*, 1-14. <https://doi.org/10.1007/s10578-024-01711-4>
- Liu, Y., Hampton Wray, A., Hall, M., Lescht, E. R., Gehring, W. J., Fitzgerald, K. D., Chang, S-E. Brain response to errors in children who stutter. (2024). *Journal of Fluency Disorders*, 79, 106035. [\[doi\]](#)
- Morrison, F. J., Grammer, J., Gehring, W. J., Weixler, L. B., Kim, M. H. (2024). Role of Self-Regulation in the Transition to School. In L. Verhoeven, S. Nag, C. Perfetti, & Pugh K. (eds.), *Global Variation in Literacy Development* (pp. 316-332). Cambridge: Cambridge University Press.
- Suzuki, T., Gu, P., Grove, T. B., Hammond, T., Collins, K. M., Pamidighantam, P., Arnold, P. D., Taylor, S. F., Liu, Y., Gehring, W. J., Hanna, G. L., & Tso, I. F. (2023). Abnormally enhanced midfrontal theta-band

- activity during response monitoring in youth with obsessive-compulsive disorder. *Biological Psychiatry* (93)11, 1031-1040. [\[doi\]](#)
- Rapp, A. M., Tan, P. Z., Grammer, J. K., Gehring, W. J., Miller, G. A., & Chavira, D. A. (2021). Cultural values influence relations between parent emotion socialization and adolescents' neural responses to peer rejection. *Research on Child and Adolescent Psychopathology*, 50, 255–267. [\[doi\]](#) [\[PDF\]](#)
- Rapp, A. M., Tan, P. Z., Grammer, J. K., Gehring, W. J., Miller, G. A., & Chavira, D. A. (2021). Cultural group differences in the association of neural sensitivity to social feedback and social anxiety among diverse adolescents. *Journal of Psychiatric Research*, 143, 400-408. [\[doi\]](#) [\[PDF\]](#)
- Ellis, A., Ahmed, S. F., Zeytinoglu, S., Isbell, E., Calkins, S. D., Leerkes, E. M., Grammer, J. K., Gehring, W. J., Morrison, F. J., & Davis-Kean, P. E. (2021). Reciprocal associations between executive function and academic achievement: A conceptual replication of Schmitt et al. (2017). *Journal of Numerical Cognition*, 7(3), 453-472. [\[doi\]](#) [\[PDF\]](#)
- Clayson, P. E., Kappenman, E. S., Gehring, W. J., Miller, G. A., & Larson, M. J. (2021). A commentary on establishing norms for error-related brain activity during the arrow flanker task among young adults. *NeuroImage*, 234, 117932. [\[doi\]](#) [\[PDF\]](#)
- Rapp, A. M., Grammer, J. K., Tan, P. Z., Gehring, W. J., Chavira, D. A., & Miller, G. A. (2021). Collectivism is associated with enhanced neural response to socially salient errors among adolescents. *Social Cognitive and Affective Neuroscience*, 16(11), 1150-1159. [\[doi\]](#) [\[PDF\]](#)
- Hanna, G. L., Liu, Y., Rough, H. E., Suprapeneni, B. B. A., Hanna, B. S., Arnold, P. D., Gehring, W. J. (2020). A diagnostic biomarker for pediatric Generalized Anxiety Disorder using the Error-Related Negativity. *Child Psychiatry & Human Development*, 51(5), 827-838. [\[doi\]](#) [\[PDF\]](#)
- Rough, H. E., Hanna, B. S., Gillett, C. B., Rosenberg, D. R., Gehring, W. J., & Arnold, P. D., & Hanna, G. L. (2020). Screening for pediatric obsessive-compulsive disorder using the Obsessive-Compulsive Inventory - Child Version. *Child Psychiatry and Human Development*, 51, 888-899. [\[doi\]](#) [\[PDF\]](#)
- Liu, Y., Hanna, G. L., Rough, H. E., Arnold, P. D., & Gehring, William J. (2020). Behavioral and electrophysiological correlates of performance monitoring and development in children and adolescents with attention deficit/hyperactivity disorder. *Brain Sciences*, 10, 79. [\[doi\]](#) [\[PDF\]](#)
- Mathias, B., Gehring, W. J., & Palmer, C. (2019). Electrical Brain Responses Reveal Sequential Constraints on Planning during Music Performance. *Brain Sciences*, 9(2), 25. [\[doi\]](#) [\[PDF\]](#)
- Hanna, G. L., Liu, Y., Isaacs, Y. E., Ayoub, A. M., Brosius, A., Salander, Z., Arnold, P.D., & Gehring, W. J. (2018). Error-related brain activity in adolescents with obsessive-compulsive disorder and major depressive disorder. *Depression and Anxiety*, 35, 752-760. [\[doi\]](#) [\[PDF\]](#)
- Grammer, J. K., Gehring, W. J., & Morrison, F. J. (2018). Associations between developmental changes in error-related brain activity and executive functions in early childhood. *Psychophysiology*, 55(3), e13040. [\[doi\]](#) [\[PDF\]](#)
- Gehring, W. J., Goss, B., Coles, M. G. H., Meyer, D. E., & Donchin, E. (2018). The error-related negativity. *Perspectives on Psychological Science*, 13(2), 200-204. [\[doi\]](#) [\[PDF\]](#)
- Kim, M. H., Marulis, L. M., Grammer, J. K., Morrison, F. J., & Gehring, W. J. (2017). Motivational processes from expectancy–value theory are associated with variability in the error positivity in young children. *Journal of Experimental Child Psychology*, 155, 32–47. [\[doi\]](#) [\[PDF\]](#)

- Grabell, A. S., Olson, S. L., Tardif, T., Thompson, M. C., & Gehring, W. J. (2017). Comparing self-regulation-associated event related potentials in preschool children with and without high levels of disruptive behavior. *Journal of Abnormal Child Psychology*, 45(6), 1119-1132. [\[doi\]](#) [\[PDF\]](#)
- Mathias, B., Gehring, W. J., & Palmer, C. (2017). Auditory N1 reveals planning and monitoring processes during music performance. *Psychophysiology*, 54(2), 235-247. [\[doi\]](#) [\[PDF\]](#)
- Kim, M. H., Grammer, J. K., Marulis, L. M., Carrasco, M., Morrison, F. J., & Gehring, W. J. (2016). Early math and reading achievement are associated with the error positivity. *Developmental Cognitive Neuroscience*, 22, 18–26. [\[doi\]](#) [\[PDF\]](#)
- Hanna, G. L., Liu, Y., Isaacs, Y. E., Ayoub, A. M., Torres, J. J., O'Hara, N. B., & Gehring, W. J. (2016). Withdrawn/depressed behaviors and error-related brain activity in youth with obsessive-compulsive disorder. *Journal of the American Academy of Child and Adolescent Psychiatry*, 55(10), 906–913.e2. [\[doi\]](#) [\[PDF\]](#)
- Hanna, G. L., & Gehring, W. J. (2016). The NIMH Research Domain Criteria Initiative and error-related brain activity [commentary]. *Psychophysiology*, 53(3), 386-388. [\[doi\]](#) [\[PDF\]](#)
- Ferdinand, N.K., Becker, A.M.W., Kray, J., & Gehring, W.J. (2016). Feedback processing in children and adolescents: Is there a sensitivity for processing rewarding feedback? *Neuropsychologia*, 82, 31-38. [\[doi\]](#) [\[PDF\]](#)
- Liu, Y., Nelson, L. D., Bernat, E. M., & Gehring, W. J. (2014). Perceptual properties of feedback stimuli influence the feedback-related negativity in the flanker gambling task. *Psychophysiology*, 51(8), 7828-788. [\[doi\]](#) [\[PDF\]](#)
- Grammer, J. K., Carrasco, M., Gehring, W. J., & Morrison, F. J. (2014). Age-related changes in error processing in young children: A school-based investigation. *Developmental Cognitive Neuroscience*, 9, 93-105. [\[doi\]](#) [\[PDF\]](#)
- Hochman, E. Y., Orr, J. M., & Gehring, W. J. (2014). Toward a more sophisticated response representation in theories of medial frontal performance monitoring: The effects of motor similarity and motor asymmetries. *Cerebral Cortex*, 24(2), 414-425. [\[doi\]](#) [\[PDF\]](#)
- Liu, Y., Hanna, G. L., Carrasco, M., Gehring, W. J., & Fitzgerald, K. D. (2013). Altered relationship between electrophysiological response to errors and gray matter volumes in an extended network for error-processing in pediatric obsessive-compulsive disorder. *Human Brain Mapping*. [\[doi\]](#) [\[PDF\]](#)
- Carrasco, M., Hong C., C., Nienhuis, J. K., Harbin, S. M., Fitzgerald, K. D., Gehring, W. J., & Hanna, G. L. (2013). Increased error-related brain activity in youth with obsessive-compulsive disorder and other anxiety disorders. *Neuroscience Letters*, 541, 214-218. [\[doi\]](#) [\[PDF\]](#)
- Carrasco, M., Harbin, S. M., Nienhuis, J. K., Fitzgerald, K. D., Gehring, W. J., & Hanna, G. L. (2013). Increased error-related brain activity in youth with obsessive-compulsive disorder and unaffected siblings. *Depression and Anxiety*, 30(1), 39-46. [\[doi\]](#) [\[PDF\]](#)
- Ferdinand, N. K., Mecklinger, A., Kray, J., & Gehring, W. J. (2012). The processing of unexpected positive response outcomes in the mediofrontal cortex. *Journal of Neuroscience*, 32(35), 12087-12092. [\[doi\]](#) [\[PDF\]](#)
- Hanna, G. L., Carrasco, M., Harbin, S. M., Nienhuis, J. K., LaRosa, C. E., Chen, P., Fitzgerald, K. D., & Gehring, W. J. (2012). Error-related negativity and tic history in pediatric obsessive-compulsive disorder. *Journal of the American Academy of Child and Adolescent Psychiatry*, 51(9), 902-910. [\[doi\]](#) [\[PDF\]](#)

- Liu, Y., Gehring, W. J., Weissman, D. H., Taylor, S. F., Fitzgerald, K. D. (2012). Trial-by-trial adjustments of cognitive control following errors and response conflict are altered in pediatric obsessive-compulsive disorder. *Frontiers in Psychiatry*, 3(41), 1-8. [\[doi\]](#) [\[PDF\]](#)
- Gehring, W. J., Liu, Y., Orr, J. M., & Carp, J. (2012). The error-related negativity (ERN/Ne). In S. J. Luck, & E. Kappenman (eds.), *Oxford handbook of event-related potential components* (pp. 231-291). New York: Oxford University Press. [\[PDF\]](#)
- Bernat, E.M., Nelson, L.D., Steele, V.R., Gehring, W.J., & Patrick, C. J. (2011). Externalizing psychopathology and gain/loss feedback in a simulated gambling task: Dissociable components of brain response revealed by time-frequency analysis. *Journal of Abnormal Psychology*, 120(2), 352-364. [\[doi\]](#) [\[PDF\]](#)
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Manuscripts in Preparation

Grammer, J. K., Gehring, W. J., Hazlett, C., Kim, M., & Morrison, F. J. Schooling effects on error-related brain activity.

Invited Talks

University of Chicago, 5/23/2002
McGill University, Killam Lecture Series, 4/1/2003
Chinese University, Hong Kong, 11/22/2003
Kanazawa Institute of Technology, Kanazawa, Japan, 12/11/2003
Institute for Psychology, Chinese Academy of Sciences, Beijing, China, 11/25/2003
Capital Normal University, Beijing, China, 11/28/2003
Waseda University, Tokorozawa, Japan, 5/25/2003
Max Planck Institute for Cognitive Neuroscience, Leipzig, Germany, 4/2/2004
Center for Forensic Psychiatry, Milan, Michigan, 11/05/2004
University of Minnesota, 12/14/2004
Rice University, 4/1/2005
NSF and Stonybrook Conference on Undergraduate Education, Washington, DC 11/9/2006
Vanderbilt University, 12/6/2006
Johns Hopkins University, 2/21/2007
University of Minnesota, 4/3/2008
McGill University, Killam Lecture Series, 5/10/2009
Annual Conference on Psychiatry and Behavioral Sciences, Keynote Address, University of Toledo and Bowling Green State University, 4/19/2012.
Beckman Institute, University of Illinois Urbana-Champaign, 10/29/2012.
11th Dutch Endo-Neuro-Psycho Meeting (ENP 2013), Keynote Address, Lunteren, The Netherlands, 5/31/2013
UCLA Department of Education and Information Sciences, 1/11/2016
UCLA Department of Psychology Cognitive Forum, 3/11/2016.
UCLA Center for Education, Innovation, and Learning in the Sciences, 5/13/2016.
UCLA Department of Education and Information Sciences, 1/8/2018
Drexel University Department of Psychology Graduate Seminar on EEG/ERP, 11/3/2021

Recent (since 2013) and Important Conference Presentations

Suzuki, T., Gu, P., Liu, Y., Taylor, S., Arnold, P., Gehring, W., Hanna, G., Tso, I. (2023). Psychometric Analyses of Response and Conflict Monitoring Midfrontal Theta-Band Oscillatory Activities. Poster presented at the Annual Meeting of the Society of Biological, April 27 – 29, 2023 in San Diego, CA. Appears as *Biological Psychiatry*, 93(9), S300. <https://doi.org/10.1016/j.biopsych.2023.02.750>.

Suzuki, T., Gu, P., Arnold, P. D., Taylor, S., Liu, Y., Gehring, W., Hanna, G., Tso, I. (2022). Midfrontal Theta-Band Activity During Response Monitoring in Pediatric Patients With Attention-Deficit/Hyperactivity Disorder and Other Psychiatric Conditions. Poster presented at the 61st Annual Meeting of the American College of Neuropsychopharmacology, December 4-7, 2022, Phoenix, Arizona. Appears as *Neuropsychopharmacology*, 47, 501.

Gu, P., Tso, I., Taylor, S., Arnold, P., Liu, Y., Gehring, W., Hanna, G., Suzuki, T. (2022). Midfrontal Theta-Band Activities During Response Monitoring in Non-Obsessive-Compulsive Anxiety Disorders. Poster presented at the 35th Annual Meeting of the Society for Research in Psychopathology, September 8-11, 2022, Philadelphia, Pennsylvania.

- Collins, K., Hanna, B. S., Gehring, W. J., Rosenberg, D., Arnold, D., Hanna, G. (2021). Planning deficits in pediatric cases with current or past obsessive-compulsive disorder. Poster presented at the 68th Annual Meeting of the American Academy of Child and Adolescent Psychiatry, October 18-30, 2021. Appears as *Journal of the American Academy of Child & Adolescent Psychiatry* 60(10), S203
- Suzuki, T., Gu, P., Grove, T. B., Hammond, T., Collins, K. M., Pamidighantam, P., Arnold, P. D., Taylor, S. F., Liu, Y., Gehring, W. J., & Hanna, G. L., & Tso, I. F. (2021). Abnormal midfrontal theta-band activity during response monitoring in children with obsessive-compulsive disorder. Poster presented at the 60th Annual Meeting of the American College of Neuropsychopharmacology, December 5-8, 2021, San Juan, Puerto Rico. *Neuropsychopharmacology*, 46 (Suppl 1), 308.
- Grammer, J., Isbell, E., Kim, M., Gehring, W., Hazlett, C., & Morrison, F. (2021, April). The impact of school experience on cognitive control processes. Society for Research in Child Development Biennial Meeting.
- Ellis, E., Ahmed, s., Zeytinoglu, S., Isbell, E., Leerkes, E., Grammer, J., Gehring, W., Morrison, F., & Davis-Kean, P. (2021, April). Executive function and academic achievement: bidirectional or unidirectional? A conceptual replication of Schmitt et al. (2017). Society for Research in Child Development Biennial Meeting.
- Rapp, A. M., Grammer, J. K., Tan, P. Z., Gehring, W., Miller, G. A., & Chavira, D. A. (2020, March). Attentional shifting mediates the association of neural sensitivity to social context and social anxiety. Symposium talk to be presented at the 2020 Anxiety and Depression Association of America (ADAA) Annual Conference, San Antonio, TX.
- Rapp, A., Chavira, D., Gehring, W., Grammer, J., Miller, G. A., & Tan, P. (2019, March). Neural response to peer feedback is associated with social anxiety severity in adolescents. Symposium talk to be presented at the Society for Research in Child Development (SRCD) Biennial Meeting, Baltimore, MD.
- Gehring, W. J. (2019). ERN!...ERN? Talk presented at the Emanuel Donchin Memorial Symposium, Fifty-Ninth Annual Meeting of the Society for Psychophysiological Research, Washington, DC, September 25-29th 2019.
- Rough, H.E., Hanna, B. S., Gehring, W. J., Arnold, P. D., Rosenberg, D. R., Hanna, G. L. (2019). Screening for pediatric OCD using the Obsessive-Compulsive Inventory=Child Version (OCI-CV). *Journal of the American Academy of Child & Adolescent Psychiatry*, 58 (10), S260. Talk presented at the annual meeting or the American Academy of Child and Adolescent Psychiatry.
- Hanna, G., Liu, Y., Isaacs, Y., Rough, H., Hanna, B., Arnold, P., Gehring, W. (2019). Increased error-related brain activity in pediatric anxiety disorders. *Biological Psychiatry*, 85(10). S220-S221. Talk presented at the annual meeting of the Society for Biological Psychiatry.
- Hanna, G. L., Liu, Y., Isaacs, Y. E., Ayoub, A. M., Arnold, P. D., Gehring, W. J. Increased error-related brain activity in youth with anxiety disorders. Poster presented at the 65th annual meeting of the American Academy of Child and Adolescent Psychiatry. Seattle, WA., October 22-27, 2018.
- Grammer, J., Xu, K., Kim, M., Hazlett, C., Morrison, F., Gehring, W. Examining the neural and behavioral correlates of young children's response inhibition. Paper presented at DEVSEC: Conference on the Use of Secondary and Open Source Data in Developmental Science. Phoenix, Arizona, Oct. 4-6, 2018.
- Hsu, J., & Gehring, W. J. (2018, March). Machine Learning Guided Evaluation of a College Program for Under-Prepared Students. Paper to be presented at the annual meeting of the Society for Research on Educational Effectiveness, Washington D. C.

- Torgirson, S. J., Grammer, J., Kim, M. H., Morrison, F., & Gehring, W. J. (2017, April). *Executive functions and academic success: Neural indices of response inhibition relate to children's literacy and math achievement*. Presented at the biennial meeting of the Society for Research in Child Development, Austin, TX.
- Ahmed, S. F., Salander, Z., Waters, N. E., Grammer, J. K., Gehring, W. J., & Morrison, F. J. (2017, April). Self-regulation during the early school transition: An ERP exploration. Poster presented at the biennial meeting of the Society for Research in Child Development (SRCD), Austin, TX
- Hsu, J., & Gehring W. J. (2016, March). Math for all? Evidence from regression discontinuities in college math recommendations. Paper presented at the annual meeting of the Association for Education Finance and Policy, Denver, CO.
- Hsu, J., & Gehring W. J. (2016, March). Math for all? Evidence from regression discontinuities in college math recommendations. Paper presented at the annual meeting of the Society for Research on Educational Effectiveness, Washington, D.C.
- Cho, L. I., Karabenick, S. A., Gehring, W. J. (2016, April). Incremental analysis of “noncognitive” predictors of achievement: determining contributions over measures of cognitive ability. Poster presented at the annual meeting of the American Educational Research Association, Washington, D.C.
- Grammer, J. G., Kim, M., Gehring, W., & Morrison, F. (2015, April). Associations between non-task behavior and error monitoring in children undergoing ERP testing. In K. Fitzgerald & J. Moser (Chairs). Error Monitoring Brain Activity in Child and Adolescent Anxiety. Paper presented at the annual meeting of the Anxiety and Depression Association of America, Miami, FL.
- Salander, Z. B., Grammer, J.K., O'Hara, N., Carrasco, M., Gehring, W.J., & Morrison, F. J., (2015, October). Examining the electrophysiological correlates of response inhibition in young children. Poster presented at the Seventh Biennial Meeting of the Cognitive Development Society, Columbus, OH.
- Marulis, L. M., Kim, M. H., Grammer, J. K., Carrasco, M., Morrison, F. J., & Gehring, W. J. (2015). The association between young children's metacognitive knowledge, error-related brain activity, and reading and math skills. Poster presented at the Biennial meeting of the Society for Research in Child Development, Philadelphia, PA
- Aguilar, S., Karabenick, S., Gehring, W.J, Lonn, S. (2015). Better than Predicted? Modeling College Math Students' Predictions of Future Exam Performance. Paper presented at the Annual Meeting of the American Educational Research Association. Chicago, IL.
- Grammer, J., Kim, M., Carrasco, M., Gehring, W., & Morrison, F. (2014). Literacy and executive functions: An electrophysiological perspective. Paper presented at the annual meeting of the Society for the Scientific Study of Reading, Santa Fe, NM.
- Grammer, J., Kim, M., Gehring, W., & Morrison, F. (2014). Examining neurophysiological correlates of executive function in elementary schools. Poster presented at the SRCD Special Topic Meeting: Strengthening connections among child and family research, policy, and practice, Alexandria, VA.
- Kim, M. H., Marulis, L. M., Grammer, J. K., Gehring, W. J., & Morrison, F. J. (2014). Motivational beliefs and achievement-related emotions are associated with error monitoring processes: Linking brain and behavioral perspectives. Paper presented at the annual meeting of the Society for the Scientific Study of Reading, Santa Fe, NM.

- Marulis, L. M., Kim, M. H., Grammer, J. K., Carrasco, M., Morrison, F. J., & Gehring, W. J. (2013). How does young children's metacognitive knowledge relate to their error-related brain activity and academic achievement? Paper presented at the European Association for Research on Learning and Instruction Biennial Conference, Munich, Germany.
- Torres, J.J., Habhab, S. N., Eckles, L. M., Sareini, M. A., Gehring, W. J. (2013, April). Error-related negativity elicited by a correct response within an erroneous movement sequence. Poster presented at the annual meeting of the Cognitive Neuroscience Society, San Francisco, CA.
- Marulis, L. M., Kim, M. H., Grammer, J. K., Carrasco, M., Morrison, F. J., & Gehring, W. J. (2013, April). Young children's inhibitory control skills are associated with error-related brain activity. Poster presented at the annual meeting of the Cognitive Neuroscience Society, San Francisco, CA.
- Kim, M. H., Marulis, L. M., Grammer, J. K., Carrasco, M., Morrison, F. J., & Gehring, W. J. (2013, April). Motivational characteristics of young children are associated with error-related brain activity. Poster presented at the annual meeting of the Cognitive Neuroscience Society, San Francisco, CA.
- Gehring, W. J., Himle, J., & Nisenson, L. G. (1998). Action monitoring deficits in obsessive-compulsive disorder. Talk presented at the Annual Meeting of the Society for Psychophysiological Research, Atlanta, September 23-27, 1998.
- Gehring, W. J. (1994). Electrophysiological studies of executive control in humans with frontal lobe lesions. *Psychophysiology*, 31, S13 (abstract). Paper presented for a symposium *Converging Perspectives on Frontal Lobe Function* (symposium chair: W. Gehring), at the Thirty-fourth Annual Meeting of the Society for Psychophysiological Research, Atlanta, October 5-9, 1994.
- Gehring, W. J., & Knight, R. T. (1994). An electrophysiological study of prefrontal executive control. Poster presented at the inaugural meeting of the Cognitive Neuroscience Society, San Francisco, March 27-29, 1994.
- Gehring, W. J., & Coles, M. G. H. (1992). An event-related potential accompanying errors in choice reaction-time tasks. Invited paper presented at the Tenth International Conference on Evoked Potentials (EPIC X), Eger, Hungary, May 29 - June 5, 1992.
- Gehring, W. J., Coles, M. G. H., Meyer, D. E., & Donchin, E. (1990). The error-related negativity: An event-related brain potential accompanying errors. *Psychophysiology*, 27, S34 (abstract).
- Gehring, W. J., & Kramer, A. (1989). Event-related brain potentials and delayed pitch recognition. *Psychophysiology*, 26, S28 (abstract).
- Gehring, W., Gratton, G., Coles, M. G. H., & Donchin, E. (1988). Feature analysis and the N2b component of the event-related brain potential. *Psychophysiology*, 25, 449 (abstract).
- Gehring, W. J., Strayer, D. L., Kramer, A. F., Donchin, E., & Miller, G. A. (1987). An evaluation of age differences in the development of automaticity. *Proceedings of the 4th International Conference of Cognitive Neuroscience*, Paris-Dourdan, France (abstract).
- Gehring, W. J., Gratton, G., Coles, M. G. H., & Donchin, E. (1986). Response priming and components of the event-related brain potential. *Psychophysiology*, 23, 437-438 (abstract).