

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

- 2010–present Professor, Department of Psychology, University of Michigan
- 2015–2016 Visiting Scholar, Graduate School of Education and Information Studies, UCLA
- 2004–present Arthur F. Thurnau Professor, University of Michigan
- 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 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 and 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

Academic Interests

Undergraduate Academic Success. I have developed a line of research and teaching focused on the academic success of first-year undergraduate students. In a new freshman class I created, called “Cognitive Science of Academic Success,” I teach the fundamental cognitive principles for effective undergraduate learning. I have taught classes in the Comprehensive Studies Program (CSP) Summer Bridge Program, and I continue to serve CSP students in my freshman class. I have made numerous presentations on the cognitive science of learning for professionals, high school students, and college students at the University of Michigan and elsewhere (see list below). My work combines teaching and research: from 2012-2016, I collected questionnaire data in the Introductory Psychology class (enrollment 450) on students’ study habits. I followed up with email nudges after each exam, informing students of the learning techniques that were associated with better exams. Most recently, the Chemistry Department has sought my expertise for developing a co-requisite class for organic chemistry students on effective learning practices.

Higher Education Research. My research on college success uses institutional administrative and survey data to understand the factors that contribute to undergraduate academic success, especially for underprepared students. I am interested in quasi-experimental quantitative methods focused on rigorous causal inference. My paper with economist Julian Hsu (now at the College Board) will be my first publication coming from this effort. Using regression discontinuity, Julian and I show that mathematics course-placement recommendations at the University of Michigan influence students to take Calculus or Pre-Calculus, as intended by the policy. However, the placement recommendations cause the least-prepared students to divert away from quantitative courses that serve as prerequisites for more advanced coursework. Instead, those students take classes that merely satisfy the quantitative requirement for graduation, serving no other purpose in the curriculum. The paper is in revision at *Education Finance and Policy*. We have presented these data at the Society for Research on Educational Effectiveness and the Association for Educational Finance and Policy.

Error Detection in the Brain. A central focus of my research for 30 years has been to understand how the human brain monitors itself and the outside world to detect performance errors. My primary methodological tool during that time has been event-related potentials, which are measures of brain electrical activity recorded from scalp electrodes. My specific interest is in the brain activity that occurs when individuals make errors. I was one of the researchers who originally discovered a particular event-related potential referred to as the error-related negativity (ERN). That original report has been cited over 2400 times and is one of the highest-cited articles ever in the journal *Psychological Science*. My laboratory made the initial discovery that individuals with OCD show hyperactive error processing compared to healthy controls, which has spawned a large research literature on anxiety and the ERN. Since then, I have focused on how the transition to school affects brain activity and executive function in preschool-aged children and on the use of the ERN to understand the development of pediatric psychopathology, including OCD, ADHD, and autism.

Courses Taught

Introduction to Cognitive Psychology (enrollment 350-450) (1995-present).
First-Year (Freshman) Seminar: Cognitive Science of Academic Success (2013-present).
Psychology Dept. Graduate Student Teaching Academy (instructor training) (2016-2018)
Freshman Seminar: Mind, Brain, and Evil (a.k.a. Mind, Brain, and Violence)
Freshman Seminar: Consciousness
Laboratories in Biopsychology
Methods in Cognitive Neuroscience
Graduate Seminar on Event-Related Brain Potentials
Cognition and Perception Graduate Preliminary Exam Preparation Seminar
Cutting-Edge Cognition (upper-level undergraduate seminar) (2012)
Mind, Brain and Spirituality (enrollment 300) (2013)
Comprehensive Studies Program/Summer Bridge Program: CSP 100 (2014)

Invited Talks on Undergraduate Academic Success

- 2019 *Setting the Table for Student Success—What Cognitive Scientists Know*. UM Bentley Historical Library Faculty Seminar, Feb. 25th, 2019.
- 2018 *Cognitive Science and the Keys to Success in School. Preparation Initiative Orientation Boot Camp*. UM Ross School of Business, Oct. 5th, 2018.
How to Study, Learn and Succeed in College. Campus Connections, Department of Psychology and Comprehensive Studies Program, August 8th, 2018.
Cognitive Science and Academic Success. Guest lectures for Chemistry 209, *Structure and Reactivity Seminar*, a co-requisite course for students in Organic Chemistry. February 1st and 6th, 2018.
How to Study, Learn and Succeed in College: Cognitive Science and Academic Success. UCLA Graduate School of Education and Information Sciences. Jan. 18th, 2018
- 2017 *Cognitive Science and the Keys to Success in School. Preparation Initiative Orientation Boot Camp*, UM Ross School of Business, Sept. 9.
Preparation Initiative is an academic preparation program for underrepresented and underprepared students applying for admission to Ross Business School (directed by Dr. Frank Yates).
How to Study, Learn, and Succeed in College. Shiawassee Scholars Program, June 12. (The Shiawassee Scholars Program is an academic support and scholarship program for promising students in a rural Michigan school district.)
- 2016 *Cognitive Psychology and School Learning*. Preparation Initiative Orientation Boot Camp, UM Ross School of Business, Sept. 10.
College for All? What Administrative Data and In-Class Analytics Can Tell Us About the Learning and Experiences of Underprepared Students. UCLA Center for Education Innovation and Learning in the Sciences, May 13.
College for all? What Student Data Can Tell Us About the Experiences, Choices, and Learning of Underprepared Students. UCLA Department of Psychology, Cognitive Forum, March 11.
How to Study, Learn, and Succeed in College: Findings from Cognitive Psychology. Guest lecture in Cognitive Development and Schooling course, UCLA, January 20.

- College for all? What student data can tell us about the experiences, choices, and learning of underprepared students.* UCLA CogFog: Robert & Elizabeth Bjork laboratory. January 15.
- 2015 *Using Student Data to Understand the Cognitive and Not-So-Cognitive Factors That Correlate with Academic Success.* Causal Inference in Education Research Seminar, June 24.
Cognitive Science and the Keys to Success in School. Shiawassee Scholars Program, June 15.
LSA Institute on Diversity and Campus Climate. Session 4: Building Skills and Social Capital. Presenter and Panelist, May 11.
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 Dept. of Psychology, March 27.
Institutional Challenges Dealing with the Underprepared/At-Risk Student Population. Chemical Sciences at the Interface of Education | University of Michigan (CSIE | UM) Program. Panelist, Jan. 30.
The Secret Science of Academic Success. Media Arts High School, Detroit, Jan. 27.
- 2014 *The Secret Science of Academic Success.* Ottawa Hills High School, Grand Rapids, MI, Oct. 22.
How to Study, Learn and Succeed at U of M: Findings from Cognitive Psychology. Athletic Department Academic Success Program, Freshman Transition Workshop for Student Athletes, Sept 21.
Studying, Learning and Succeeding at U of M. Preparation Initiative Orientation Boot Camp, Sept 6.
LSA Institute on Diversity and Campus Climate. Session 4: Building Skills and Social Capital, Presenter and Panelist, May 12.
Everything I Know about Teaching Large-Enrollment Classes I Learned from Someone Else. Enriching Scholarship Conference Session on Best Practices for Improving Introductory Courses, May 6.
Classroom Climate. U of M LSA Advisors Professional Development Series, March 26.
How Can We Improve Learner Success? Organizational Effectiveness and Diversity Seminar. University of Michigan Health System, Feb. 25
Study Skills, Study Groups, and Faculty Coaching. LSA Faculty Diversity Workshop, Feb. 6
- 2013 *How Students (and Others) Study, Learn and Succeed at the U of M.* Leadership Learning Coalition (UM administrative staff development program), Oct. 18.
How to Study, Learn and Succeed at U of M: Findings from U of M Students. Preparation Initiative Orientation Boot Camp, August 30.
How to Study, Learn and Succeed at U of M. Summer Bridge Program Friday Lecture, July 12.
- 2012 *Lessons Learned from Course-Level Analytics in Psychology and the Bridge Program.* Symposium on Learning Analytics at Michigan (SLAM), Nov 16.
How to Study and Learn. Graduate Student Instructor Fall Training, UM Psychology Department, Sept 1.
How to Study and Learn. Preparation Initiative Orientation Boot Camp, UM Ross School of Business, August 30.
How to Study and Learn at the University of Michigan. Summer Bridge Program, July 28.
Correlates of student success in Introductory Cognitive Psychology courses. Symposium on Learning Analytics at Michigan (SLAM), March 7

Professional Memberships

Association for Psychological Science
Heterodox Academy
Society for Psychophysiological Research
Society for Research in Educational Effectiveness

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 Service – Current

Admissions Chair, Cognition and Cognitive Neuroscience Area, Psychology (2018-2020)
Assistant Professor Third-year Review Committee, chair (2018-2020)
Psychology Lecturers' Employee Organization Lecturer review committee (2020)
NIH Data Safety Monitoring Board (2016-present)

University of Michigan Internal Service – Past

Department of Psychology Undergraduate Education Self-Study Committee (2018-2019)
Department of Psychology Executive Committee (2017-19)
Graduate Student Recruitment Committee Chair, Cognition and Cognitive Neuroscience Area, Psychology (2018)
Cognition and Cognitive Neuroscience Graduate Student Recruitment Committee (2017-18, chair 2018)
Grievance Hearing Board, University of Michigan (2017)
Promotion Review Panel (for Full Professor) (2017)
Graduate Admissions Chair, Cognition and Cognitive Neuroscience Area, Psychology (2017)
Comprehensive Studies Program Advisory Board (2014-2016)
Psychology Lecturers' Employee Organization Lecturer review committee (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)
Student Academic Affairs Committee, Department of Psychology (2014-2015)
Developing a Tools and Technology Innovation Pipeline Subcommittee (2014-2015)
Digital Program Pipeline Subcommittee (2014-2015)
U-M Teaching Evaluation Group (to reform methods for evaluating instruction) (2012)
Department of Psychology Augmented Executive Committee (2011-2014)
Ross Business School Preparation Initiative Advisory Committee (2014)
University of Michigan Learning Analytics Task Force (2012-2015)
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)
Advisory Board, University of Michigan Center for Culture, Mind and Brain (2010-2013)

Teaching Academy, LSA/Center for Research on Learning and Teaching (2012)
Curriculum Committee, College of Literature, Science, and the Arts (2012-2013)
Department of Psychology Student Academic Affairs Committee (2011-2012)
University of Michigan Google Faculty Learning Committee (2011-2012) (*a CRLT committee charged with developing instructional applications of Google tools*)
University of Michigan Cognition and Cognitive Neuroscience Admissions Committee, chair (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.
Provost's Council on Student Honors (Rhodes/Marshall Scholarship Nominations) (2006-2010).
Undergraduate Concentration Advisor: Brain, Behavior and Cognitive Sciences Concentration (2009-2010)
Arthur F. Thurnau Professorship Steering Committee (2009)
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)
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)
Advisory Board, University of Michigan Center for Research on Learning and Teaching (2004-2006)
Faculty Advisor, Psychology Department Information Systems (2005-2006)
College of Literature, Arts, and Sciences Information Technology Committee (2005-2006)
Pre-2005 Service: Faculty Search Committees: Cognition and Perception, 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

Interviews and Features in the Popular Press

Brown, K. (February 13, 1999). Oops....sorry. *New Scientist*.
National Public Radio Weekend Edition Sunday. (January 14, 2001). Interview. Audio file of interview available at <http://www.npr.org/ramfiles/wesun/20010114.wesun.05.ram>.
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

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	<i>Schooling and Growth of Executive Functioning: Steps to an Integrative Approach</i> , 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)

- Clayson, P.E., Kappenman, E.S., Gehring, W.J., Miller, G.A., & Larson, M.J. (Under review). A commentary on establishing norms for error-related brain activity during the arrow flanker task among young adults.
- Rapp, A., Grammer, J.K., Tan, P.Z., Gehring, W., Miller, G.A., & Chavira, D. *Collectivism is associated with enhanced neural response to errors occurring in a socially-salient context among diverse adolescents.*
- Hsu, J., & Gehring, W. J. *Math for all? Regression discontinuity in signals of preparation for college quantitative coursework.* (Revision under review at *Education Finance and Policy.*)

In press and published

- Hanna, G. L., Liu, Y., Rough, H. E., Suprapneni, B. B. A., Hanna, B. S., Arnold, P. D., Gehring, W. J. (in press). A diagnostic biomarker for pediatric Generalized Anxiety Disorder using the Error-Related Negativity. *Child Psychiatry & Human Development.*
- Rough, H. E., Hanna, B. S., Gillett, C. B., Rosenberg, D. R., Gehring, W. J., & Arnold, P. D., & Hanna, G. L. (in press). Screening for pediatric obsessive-compulsive disorder using the Obsessive-Compulsive Inventory - Child Version. *Child Psychiatry and Human Development.*
- Liu, Y., Hanna, G. L., Rough, H. E., Arnold, P. D., & Gehring, William J. (in press). Behavioral and electrophysiological correlates of performance monitoring and development in children and adolescents with attention deficit/hyperactivity disorder. *Brain Sciences.*

- Mathias, B., Gehring, W. J., & Palmer, C. (2019). Electrical Brain Responses Reveal Sequential Constraints on Planning during Music Performance. *Brain Sciences*, *9*(2), 25. <https://doi.org/10.3390/brainsci9020025>
- 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. <https://doi.org/10.1002/da.22767> PMID: 29734494
- 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. <https://doi.org/10.1111/psyp.13040>
- 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. PMID: 29592655.
- 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.
- 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. <https://doi.org/10.1007/s10802-016-0228-7>
- Mathias, B., Gehring, W. J., & Palmer, C. (2017). Auditory N1 reveals planning and monitoring processes during music performance. *Psychophysiology*, *54*(2), 235-247. <https://doi.org/10.1111/psyp.12781>
- 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.
- 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.
- Hanna, G. L., & Gehring, W. J. (2016). The NIMH Research Domain Criteria Initiative and error-related brain activity [commentary]. *Psychophysiology*, *53*(3), 386-388.
- 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: 10.1016/j.neuropsychologia.2016.01.007.
- 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: 10.1111/psyp.12216.
- 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.
- 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: 10.1002/hbm.22240. PMID: 23418104

- 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:10.1016/j.neulet.2013.02.01
- 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.
- 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:10.1523/JNEUROSCI.1410-12.2012.
- 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.
- 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: 10.3389/fpsy.2012.00041.
- 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.
- Hochman, E. Y., Orr, J. M., & Gehring, W. J. (2012). 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:10.1093/cercor/bhs32
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- Stern, E. R., Welsh, R. C., Fitzgerald, K. D., Gehring, W. J., Lister, J. J., Himle, J. A., Abelson, J. L., Taylor, S. F. (2011). Hyperactive error responses and altered connectivity in ventromedial and fronto-insular cortices in obsessive-compulsive disorder. *Biological Psychiatry*, *69*, 583-591. PMID: 21144497.
- Stern, E.R., Liu Y., Gehring, W.J, Lister, J.J., Yin, G., Zhang, J, Fitzgerald, K.D., Himle, J.A., Abelson, J.L., & Taylor, S.F. (2010). Chronic medication does not affect hyperactive error responses in obsessive-compulsive disorder. *Psychophysiology*, *47*(5), 913-20.
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- Anguera, J. A., Seidler, R. D., & Gehring, W. J. (2009). Changes in performance monitoring during sensorimotor adaptation. *Journal of Neurophysiology*, *102*, 1868-1879. PMID: 2746769
- Liu, Y., & Gehring, W. J. (2009). Loss feedback negativity elicited by single- vs. conjoined-feature stimuli. *Neuroreport*, *20*(6), 632-636.
- Liu, D., Sabbagh, M. A., Gehring, W. J., & Wellman, H. (2009). Neural correlates of children's theory of mind development. *Child Development*, *80*(2), 318-326.

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- Taylor, S. F., Stern, E. R., & Gehring, W. J. (2007). Neural systems for error monitoring: Recent findings and theoretical perspectives. *The Neuroscientist, 13*, 160-172.
- Gehring, W. J. (2006). Ordinary minds, extraordinary violence. *Science and Theology News, 6* (11/12), 36.
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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.

Morrison, F. J., Grammer, J. K., Bell-Weixler, L., Gehring, W. J. Growth in Self-Regulation in the Transition to School. To appear in K. Pugh, C. Perfetti, S. Nag, & L. Verhoaven (Eds.), *Global variation in literacy development*. Cambridge University Press.

Waters, N. E., Ahmed, S.F., Dennis, B., Davis-Kean, P., Gehring, W. J., Morrison, F. J. Relations between socioeconomic status and electrophysiological indices of children's error processing.

Invited Research 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

Recent (5 years) and Important Conference Presentations

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 of 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.
- Torgimson, 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).

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- 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).

References Available Upon Request