Yu Sun Chung, PhD

Curriculum Vitae

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Director of **Teen Experiences, Emotions & Neuroendocrinology (TEEN)** Laboratory and

Brain-Computer Interaction (BCI) Laboratory

Education

Ph.D., Cognitive Psychology, Washington University in St Louis	2014
Cognitive, Computational & Systems Neuroscience Trainee	
Advisor: Drs. Deanna Barch & Todd Braver	
M.A., Clinical Psychology, Korea University	2005
B.A., Psychology, Korea University	2003

Professional Appointments

Associate Editor, *Frontiers in Human Neuroscience* (Brain Imaging and Stimulation)	2026 - Present
Assistant Professor of Psychology, Kean University, NJ	2024 - Present
Affiliated Faculty, Integrative Science and Technology	2025 - Present
Visiting Professor of Psychology, St Mary's College of Maryland, MD	2022 - 2024
Postdoctoral associate, Duke University, NC (Advisors: Marty Woldorff, Michael Gaffrey)	2019 - 2022
Postdoctoral fellow, Olin Neuropsychiatry Research Center, CT	2015 - 2018
Clinical Researcher, Clinical Cognitive Neuroscience Center	2007 - 2008
Seoul National University College of Medicine	

Research Experience and Interest

- Adolescent brain development implicated in cognitive control and probabilistic reward learning
- Multimodal neuroimaging (e.g., fMRI, EEG/ERP), salivary hormone, and behavior methods
- Data science approaches and pedagogy using Adolescent Brain Cognitive Development Study®
- Biomarkers for adolescent depression using wearable technology (e.g., mobile EEG, portable fNIRS, VR)

Publications

Peer-Reviewed Journal Articles: **12 first-authored publications** (see Pubmed link here)

Google Scholar: 1145 citations

1. **Chung, YS,** Bagdasarov, A. and Gaffrey MS (2026) Reward positivity and affective functioning in early childhood: Evidence from temporospatial principal component analysis. *Front. Hum. Neurosci*, 20, https://doi.org/10.3389/fnhum.2026.1839910.
2. **Chung, YS**, van den Berg B, Roberts, KC, Bagdasarov, A, Woldorff MG, and Gaffrey MS (2025). Electrical brain activations during a probabilistic reward learning task are associated with behavior strategies in preadolescents. *Front. Hum. Neurosci*, 19, https://doi.org/10.3389/fnhum.2025.1460584
3. Sullivan, AJ, **Chung, YS**, Novotny S, Epperson CN, Kober H, Blumberg, HP, Gross JJ, Pearlson G, Stevens MC (2024). Estradiol Effects on an Emotional Interference Task in Adolescents with Current and Remitted Depression. *Hormones and Behavior*, *157,* 1-9. https://doi.org/10.1016/j.yhbeh.2023.105450

4. Gertler, J, Novotny S, Poppe A, **Chung YS**, Gross JJ, Pearlson G, Stevens MC (2020). Neural correlates of non-specific skin conductance responses during resting state fMRI. *NeuroImage*, 214:116721
5. **Chung, YS**, Calhoun VD, and Stevens, MC (2020). Adolescent Sex Differences in Cortico-Subcortical Functional Connectivity During Response Inhibition. *Cognitive, Affective, & Behavioral Neuroscience,* 20(1), 1-18.
6. **Chung, YS**, Poppe, AB, Novotny, S, Epperson, CN, Kober, H, Granger, D.A., Blumberg H, Ochsner K, Gross J, Pearlson GD, and Stevens MC (2019). A Preliminary Study of Association between Adolescent Estradiol Level and Dorsolateral Prefrontal Cortex Activity during Emotion Regulation. *Psychoneuroendocrionology*, 109, 104398.
7. **Chung, YS,** Hyatt, CJ, and Stevens, MC (2017). Adolescent Maturation of the Relationship Between Cortical Gyrification and Cognitive Ability. *NeuroImage*, 158, 31931.
8. **Chung, YS** and Barch, DM (2016). Frontal-Striatum Dysfunction During Reward Processing: Relationships to Amotivation in Schizophrenia. *Journal of Abnormal Psychology*,125(3), 453-69.
9. **Chung, YS** and Barch, DM (2015). Anhedonia is Associated with Reduced Incentive Cue Related Activation in the Basal Ganglia. *Cognitive, Affective, & Behavioral Neuroscience*, 15(4), 749-67.
10. **Chung, YS**, Barch, DM, and Strube M. (2014). A Meta-Analysis of Mentalizing Impairments in Adults with Schizophrenia and Autism Spectrum Disorder. *Schizophrenia Bulletin*, 40(3), 602-16.
11. Mann, CL, Footer O, **Chung YS**, Driscoll LL, and Barch DM (2013). Spared and Impaired Aspects of Motivated Cognitive Control in Schizophrenia. *Journal of Abnormal Psychology*, 122(3), 745-55.
12. **Chung, YS** and Barch DM. (2011). The Effect of Emotional Context on Facial Ratings In Schizophrenia. *Schizophrenia Research*, 131(1-3), 235-41.
13. **Chung, YS**, Mathews J, and Barch DM. (2011) The Effect of Context Processing on Different Aspects of Social Cognition in Schizophrenia. *Schizophrenia Bulletin*, 37(5), 104856.
14. Shim, KG, Kang, DH, **Chung, YS**, Yoo, SY, Shin, NY and Kwon, JS. (2008). Social Functioning Deficits In Young People At Risk For Schizophrenia. *Australian and New Zealand Journal of Psychiatry*, 42(8), 678-85.
15. **Chung, YS,** Kang, DH, Shin, NY, Yoo, SY and Kwon, JS. (2008). Deficit of Theory of Mind In Individuals at Ultra-High-Risk for Schizophrenia. *Schizophrenia Research*, 99(1-3), 111118.
16. **Chung, YS** and Kwon, JH. (2008). The Efficacy of Bibliotherapy for Social Phobia. *Brief Treatment and Crisis Intervention*, 8(4), 390.

Conference Papers: * Student-authored publications

1. Yang G*, Li D*, Jumar Y, Kruger D, Li J, Abdalla H, and **Chung YS** (accepted). Optimization of stability- aware self-organizing maps for interdisciplinary applications. IEEE International Conference on Intelligent Systems and Interdisciplinary Applications

Preprint

1. Sørensen, L, **Chung, YS**, Khadka, S and Stevens, MC (Preprint). Moment-to- moment fluctuations of hemodynamic responses in posterior default mode networks differentially predict level of attentional lapses in adolescents with Attention-Deficit/Hyperactivity Disorder (medRxiv preprint doi: https://doi.org/10.1101/2022.01.31.22270169).

In Preparation (Data collection completed): *Kean undergraduate students

1. Yang G*, Li D*, Ku B, Kwak D, **Chung, YS.** Urban Environmental Exposure and Externalizing Psychopathology in Youth: The Mediating Role of the Cingulo-Opercular Network in the ABCD Study.

Working Projects (Estimated duration for data collection: March - December 2026: ** Kean graduate students

1. Jewett M**, Rivera H**, **Chung, YS (PI)**, Joiner, D (co-PI) (Status: data collection in progress). Validation of a Virtual Reality–Adapted Trier Social Stress Task with Integrated Social Feedback: Implications for Probabilistic Reward Learning Behavior.
2. **Chung, YS** & Joiner, D (Status: data collection in progress). Stress-Induced Pro-Inflammatory Responses and Brain Activity Measured via Wearable Technology: Effects of Social Feedback during a Virtual Reality Trier Social Stress Task.

Funding Awards & Applications

Internal Funding

Student Partnering with Faculty — 2025, 2026
Role: **Principal Investigator,** co-PI: Dr. David Joiner, Integrative Science & Technology
(Total amount received: $24,000)

President Research Fund — 2025 - 2026
Role: **Principal Investigator**
Status: In Progress
(Amount: $10,000)

President's Global-Local Anchor Institution Research Grant — 2025 – 2027
Role: Collaborator
From campus to global citizenship: Dynamic identity development, holistic wellness, and sustainable psychosocial mechanisms in emerging adulthood
Status: In Progress
(Amount: $25,000)

External Funding

NIGMS Instrumentation Grant Program for Resource-Limited Institutions — 04/27 – 03/28
(1S10GM170936-01)
Role: **Principal Investigator**
Co-PIs: Cecil Saunders Ph.D. & David Joiner Ph. D.
Collaborator: Michael Cole Ph.D. Rutgers University (Center for Molecular and Behavioral Neuroscience)
Title: *Acquisition of a shared 128-channel high-density EEG, electrode digitization, and multimodal physiological recording system for biomedical research and education.*
Status: Pending Scientific Review
(Amount: $242,167.50)

NIH The Biomedical Research Environment & Sponsored Programs Administration Development 12/26 – 11/30
Role: **Researcher in the Thematic Affinity Research Groups**
Status: Under Scientific Review (impact score: 21 in the second application)
(Amount: $90,000)

NIH Support for Research Excellence-first Program (R16) (1R16GM159728-01A1) 07/27-06/31
Role: **Principal Investigator**
Title: *Beyond Reward Sensitivity: Neural Mechanisms Linking Pubertal Estradiol Dynamics to Reinforcement Learning in Adolescent Girls*
Status: Pending Review
(Amount: $500,000)

Graduate Grant Award sponsored by the Charles Lafitte Foundation Program 2021
Role: Project Lead
Title*: Effects of Pubertal Development on Feedback-based Reward Learning*
Status: Completed

R01 MH102854-02 / PA-14-077 2016-2018
Role: Co-Author/Postdoctoral Fellow
Title *Neural Architecture of Emotion Regulation, Adolescent Development and Depression*
Status: Completed

Awards & Honors

Early Career Research Award, Kean University 2026
Graduate Research Assistantships | Six hours of Released Time for Research 2024- 2026
National Science Foundation's Build and Broaden Program 2024- 2026
Role: Faculty Fellow
Title: *The Adolescent Neural Urbanome and Pubertal Development in the ABCD Study®*
(Faculty Stipend: $15,000)
Dissertation Fellowship, Washington University in St. Louis 2013-2014
Travel Award, Society for Research in Psychopathology 2012
Travel Award, Conference on Executive Function at the NIMH Behavioral Science Center 2012
McDonnell International Scholarship, Washington University in St. Louis 2008-2013
Cognitive, Computational & Systems Neuroscience Trainee
McDonnell Centre for Systems Neuroscience, Washington University in St. Louis 2008-2010
Honors Scholarship, Korea University, Seoul, South Korea 2002, 2004

Invited & Symposium Talk:

1. Chung, YS (September, 2025). International Society of Psychoneuroendocrinology, New Oreleans, Lousiana.
2. Chung, YS (May, 2025). Third Annual Kean University End-of-Year Faculty Research Conference
3. Chung, YS (April, 2025) Kean Research Days

4. Chung, YS (October, 2021). 2021 Virtual Annual Meeting of the Society for Psychophysiological Research.
5. Chung, YS (April, 2019). Bowdoin College, Brunswick, Maine.
6. Chung, YS (April, 2019). Anxiety and Traumatic Stress Disorders Laboratory, McLean Hospital, Harvard Medical School, Belmont, MA.
7. Chung, YS (January, 2019). Psychological and Brain Sciences, University of Massachusetts, Amherst, MA.
8. Chung, YS (November, 2018). Shriver Academic Seminar, University of Massachusetts, Medical School, Worcester, MA.
9. Chung, YS (September, 2018). Developmental Biopsychiatry Research Program, McLean Hospital, Harvard Medical School, Belmont, MA.
10. Chung, YS (June, 2018). Clinical Neuroscience Laboratory, Martinos Center, Harvard Medical School, Boston, MA.
11. Chung, YS (May, 2015). Olin Neuropsychiatry Research Center, Hartford, CT.
12. Chung, YS (April, 2014). Laboratory of Neurocognitive Development, University of Pittsburgh Medical Center, Pittsburgh, PA.

Selected Conference Posters: * Kean Students

1. **Chung, YS**, Bagdasarov A, and Gaffrey S (April, 2026). Temporospatial Principal Components Analysis reveals the association between Trait Positive Affect and Reward Positivity ERP in Young Children. Poster presented at Biological Psychiatry, New York, USA.
2. Marchena, J* & **Chung, YS** (April 2026). Concurrent associations between salivary hormones, brain network organization, and psychopathology in adolescence. *e*-poster presented at Biological Psychiatry, New York, USA.
3. **Chung, YS,** Ali S*, Li D*, Yang G*, Kwak D. (September, 2025). *Urban Stress, Frontal-Limbic Brain Connectivity, and Psychotic-Like Experiences in Preadolescents*. Poster presented at International Society of Psychoneuroendocrinology, New Orleans, Louisiana, USA.

4. **Chung, YS.** (2024, September). *The Association Between Adrenarche Timing and Emotional Brain Function in Preadolescents from the Adolescent Brain Cognitive Development Study®* Poster presented at the FLUX Congress, Baltimore, USA.
5. Sullivan, A, **Chung, YS**, Novotny S, Epperson, CN, Kober, H, Gross J, Phillips, M, Blumberg, HP, Pearlson G, Stevens M (2022, April). *Estradiol Effects on an Emotional Interference Task in Adolescents With Current and Remitted Major Depression*. Poster presented at the Society of Biological Psychiatry, New Orleans, Louisiana, USA.
6. Barratt, SM, Novonty S, **Chung, YS**, Kober H, Epperson CN, Phillips M, Oscher K, Gross J, Blumberg H, Pearlson G, Stevens MC (2022, April) *Estradiol effects of amygdala activity during emotion regulation in adolescent girls*. Poster presented at the Society of Biological Psychiatry, New Orleans, Louisiana, USA.
7. Camacho, NL, Bagdasarov, A, Caress, A, **Chung, YS**, and Gaffrey, MS. (2021, September). Concurrent and longitudinal associations between early childhood reward responsivity and irritability. Poster presented at the FLUX Virtual Congress.
8. **Chung, YS**, Poppe, AB, Novotny, S, Epperson, CN, Kober, H, Gross JJ, Pearlson GD, and Stevens MC (2018, May). *Estradiol modulation of female adolescent emotion regulation*. Poster presented at the Society of Biological Psychiatry, New York, USA.

9. Poppe, AB, Novotny, S, **Chung, YS**, Pearlson GD, Kober, H, Phillips M, Ochsner K, Gross J, Stevens MC (2018, May). *Evidence for common and unique brain structures underlying emotion regulation with different strategies and valence: A developmental study*. Poster presented at the Society of Biological Psychiatry, New York, USA.
10. Novotny, S, **Chung, YS**, Poppe, AB, Pearlson GD, Kober, H, Phillips M, Ochsner K, Gross J, Stevens MC (2018, May). *Individual differences in executive functioning, emotion regulation traits, and their neural correlates during successful cognitive reappraisal* (2018, May). Poster presented at the Society of Biological Psychiatry, New York, USA.
11. **Chung, YS** and Stevens, MC (2017, June). *Inhibitory control-related network functional connectivity associations with dimensional symptom severity in adolescents with Attention Deficit Hyperactivity Disorde*r. Poster presented at the Organization for Human Brain Mapping, Vancouver, Canada.
12. **Chung, YS** and Stevens, MC (2017, June). *Adolescent sex differences in cortico- subcortical functional connectivity during inhibitory control.* Poster presented at the Organization for Human Brain Mapping, Vancouver, Canada.
13. **Chung, YS**, Hyatt, CJ and Stevens, MC (2016, September). *Cortical Folding Individual Differences Associated with Cognitive Ability in Adolescence*. Poster presented at the Annual Flux Congress, St. Louis, USA.
14. **Chung, YS** and Barch, DM (2015, March). *Sustained and Transient Reward Effect on Cognitive Control in Schizophrenia: The Relevance of Negative Symptoms*. Poster presented at the Cognitive Neuroscience Society, San Franciso, USA.
15. **Chung, YS** and Barch, DM (2014, April). *The Temporal Dynamics of Motivated Cognitive Control: Relationships to Social Anhedonia*. Poster presented at the Cognitive Neuroscience Society, Boston, USA.
16. **Chung, YS** and Barch, DM (2013, Sep). *Sustained and Transient Reward Effects on Cognitive Control in Schizophrenia: a Mixed State-item fMRI study.* Poster presented at the Society for Research in Psychopathology, Oakland, California, USA.
17. **Chung, YS** and Barch, DM (2012, Oct). *Reward Context-Dependent and Cue- Driven Effects on Cognitive Control function In Schizophrenia*. Society for Research in Psychopathology, Ann Arbor, Michigan, USA.
18. **Chung, YS** and Barch, DM. (2012, Jan) *Mentalizing Impairments Between Schizophrenia and Autism Spectrum Disorders: A Meta-Analytic Review*. Poster presented at the NIMH Behavioral Science Center: Determinants of Executive Function & Dysfunction conference, Boulder, Colorado, USA.
19. **Chung, YS** and Barch, DM. (2011, April). *The Effect of Emotional Context and Attention on the Dimensional Rating of Faces.* Poster presented at the International Congress on Schizophrenia Research, Colorado Springs, Colorado, USA.
20. **Chung, YS** and Barch, DM. (2010, October). *The Effect of Strategic Manipulation on Facial Emotion Perception in Schizophrenia.* Poster presented at the Society for Research in Psychopathology, Seattle, USA.

Teaching Experience

- *Experimental Psychology:* focuses on the systematic methods used in conducting and evaluating psychological research, primarily through the Adolescent Brain Cognitive Development Study (i.e., the largest long-term child development study in the USA)
- *Lifespan Development Psychology*: covers how biological, sociological, and historical changes influence psychological development, along with reviewing and applying various developmental concepts and theories by discussing scientific journal articles

- *Physiological Psychology*: explores the biological basis of behavior and mental processes
- *Functional Neuropsychology*: covers review of neurological variation and disorders associated with behavioral dysfunction or a typical development by discussing EEG vs. fMRI methods
- *Developmental Cognitive Neuroscience* (starting 2026): **A project-based learning course** that covers basic concepts of ERP data preprocessing, along with class discussions centered on ERP studies.
- *Psychoneuroendocrinology and Virtual Reality* (across Psychology and Integrative Science and Technology) via Research First Initiative (starting 2026): **A project-based learning course**, which covers how to develop Virtual Reality scenes using Unity game engine and measure physiological responses and saliva-based stress and immune markers.

Course Development: Cognitive Neuroscience Minor Program (In Progress)
Pending Approval:
PSY 2500 Introduction to Cognitive Science
PSY 2903 Developmental Cognitive Neuroscience
PSY 3705 Lab Course in Cognitive Science
PSY3904 Psychoneuroendocrinology & Virtual Reality
PSY4600 Data Science in Psychology

Mentoring Experience

National Science Foundation Improving Undergraduate STEM Education (IUSE) Mentor — Summer 2026
Student: Madeline Jewett (Computer Science with a concentration in Data Science)

Independent Research — Spring 2026
Student: Jaslene De Jesus (Molecular Biology)

Master Thesis Committee — May 2026
Student: Harsh Hirpara (Science & Tech Computational Sci & Engineering Opt, MS/BS)
Title: Applications of Virtual Reality in Life Sciences

McNair Program — 2025
Student: Aamillya Joseph

NSF Build & Broad Undergraduate Student Fellow — 2024 – 2026
Advisees: Dan Li, Shazab Ali, Guohao Yang, Jose Marchena, Aamillya Joseph

Undergraduate Senior Thesis Mentoring, St Mary's College of Maryland — 2023- 2024
Advisees: Anna Eaton, Lily Mellendick, Macyn Poag, Kia'ra Ruffin, Catherine Triebwasser

Undergraduate Student Research Mentoring, St Mary's College of Maryland — 2022
Fall Advisees: Angelica Hernandez, Christina Rutherford, Elise Kinyanjui

Undergraduate Student Research Mentoring, Duke University, NC — 2019-2020
Advisees: Athena Tsai, Ainsley Buck, Jasalyn Bennekin, Kyle Shutkind, Michael Greenstein, Sonia He, Sydney Albert

Professional Activities & Services

Six Tenure-Track Search Committee 2026

University and Community Service

Academic Standards & Policy Committee, College of Liberal Arts, Kean University 2025 -2028
Scientists Promoting Equity and Knowledge, Duke University, Member 2019-2021

Science Community Outreach:

Liberty Science Center's Mini Med Extravaganza 2026 06,10/2026
Sustainability in Blook, Kean Skylands Community Day: STEM demonstration with students 04/2026
Roselle Park High School: STEM demonstration with students 04/2026
Union High School: STEAM Fair 03/2026
Duke University Brain Awareness Week 2019-2020
BrainDance Awards Celebration, Olin Neuropsychiatry Research Center, Tour guide 2017-2018
SciFest/Amazing Brain Carnival Volunteer, St. Louis Science Center, Volunteer 2009-2013

Ad hoc Journal Reviewer for Eleven Peer-Reviewed Journals

Australian and New Zealand Journal of Psychiatry | *Brain Connectivity* | *Brain Imaging and Behavior* | *Cognition and Emotion* | *Developmental Cognitive Neuroscience* | *Journal of Psychiatric Research* | *Neuroscience and Biobehavioral Reviews* | *Psychoneuroendocrinology* | *Peer Journal* | *Schizophrenia Bulletin* | *Schizophrenia Research*

Professional Memberships:

Cognitive Neuroscience Society | Flux: Society for Developmental Cognitive Neurosci | Human Brain Mapping | Society of Biological Psychiatry | Society for Research in Psychopathology | Society for Psychophysiological Research | International Society of Psychoneuroendocrinology

Additional Professional Training

Brain Electrical Source Analysis Workshop 2019
Brain Vision Analyzer Workshop at Florida State 2019
HCP Course 2016: Exploring the Human Connectome 2016
The Mind Research Network: fMRI Image Acquisition and Analyses 2014