Yoonho Chung

Yale University, Department of Psychology
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Education

2019 Ph.D. in Clinical Psychology (Expected)
Yale University, New Haven
Advisor: Tyrone D. Cannon, Ph.D.
Dissertation: Machine learning of a biologically-informed model to predict psychosis and functional outcomes in youth at clinical high risk.
Core Dissertation Committee: Tyrone D. Cannon, Ph.D., Todd Constable, Ph.D., Avram Holmes, Ph.D.

2016 M.Phil. in Psychology
Yale University, New Haven

2015 M.S. in Psychology
Yale University, New Haven

2009 B.S. in Cognitive Science *with Honors Distinction*
University of California–San Diego, La Jolla
Minor: Biology
Honor Thesis: Mirroring and EEG mu rhythm involvement in acquisition of semantics.
Thesis Advisor: Jamie Pineda, Ph.D.

Honors and Awards

- 2014 ~ 2017 Recipient of Yale Psychology Department's Travel Award
- 2009 UCSD Cognitive Science Department Honors

Publications

1. Zheutlin, A. B., Jeffries, C. D., Perkins, D. O., **Chung, Y.**, Chekroud, A. M., Addington, J. M., J., Bearden, C. E., Cadenhead, K., Cornblatt, B., Mathalon, D. H., McGlashan, Seidman, L. J., Tsuang, M., Walker, E., Woods, S. W., Cannon, T. D & North American Prodrome Longitudinal Study Consortium. *(In Press)* The role of microRNA expression in cortical development during conversion to psychosis. *Neuropsychopharmacology.*

2. Allswede, D. M., Zheutlin, A. B., **Chung, Y.**, Anderson, K., Hultman, C. M., Ingvar, M., & Cannon, T. D. *(In Press).* Complement gene expression correlates with superior frontal cortical thickness in humans. *Neuropsychopharmacology.*

3. **Chung, Y.**, Haut, K. M., He, G., van Erp, T. G., McEwen, S., Addington, J., Bearden, C. E., Cadenhead, K., Cornblatt, B., Mathalon, D. H., McGlashan, T., Perkins, D., Jeffries, C., Seidman, L. J., Tsuang, M., Walker, E., Woods, S. W., Cannon, T. D & North American Prodrome Longitudinal Study Consortium. *(In Press)* Ventricular enlargement and progressive reduction of cortical gray matter are linked in prodromal youth who develop psychosis. *Schizophrenia Research.*

4. Walter, A., Suenderhauf, C., Harrisberger, F., Lenz, C., Smieskova, R., **Chung, Y.**, Bearden, C. E., Rapp, C., Bendfeldt, K., Borgwardt, S., Vogel, T. (2016). Hippocampal volume in subjects at clinical high-risk

for psychosis: A systematic review and meta-analysis. *Neuroscience and Biobehavioral Reviews*, 71, 680–690

5. Jernigan, T. L., Brown, T. T., Hagler, D. J., Akshoomoff, N., Bartsch, H., Newman, E., Thompson, W. K., Bloss, C. S., Murray, S. S., Schork, N. J., Kennedy, D. N., Kuperman, J. M., McCabe, C., **Chung, Y.**, Libiger, O., Maddox, M., Casey, B. J., Chang, L., Ernst, T. M., Frazier, J., Gruen, J. R., Sowell., E. R., Kenet, T., Kaufman, W. E., Mostofsky, S., Amral, D. G., Dale, A. M. (2016). The Pediatric Imaging, Neurocognition, and Genetics (PING) Data Repository. *NeuroImage*, *124*, 1149–1154.

6. **Chung, Y.**, & Cannon, T. D. (2015). Brain imaging during the transition from psychosis prodrome to schizophrenia. *The Journal of Nervous and Mental Disease*, *203*(5), 336-341.

7. **Chung, Y.**, Jacobson, A., He, G., van Erp, T. G., McEwen, S., Addington, J., Bearden, C. E., Cadenhead, K., Cornblatt, B., Mathalon, D. H., McGlashan, T., Perkins, D., Jeffries, C., Seidman, L. J., Tsuang, M., Walker, E., Woods, S. W., Heinssen, R., Cannon, T. D & North American Prodrome Longitudinal Study Consortium. (*2015*). Prodromal symptom severity predicts accelerated gray matter reduction and third ventricle expansion among clinically high-risk youth developing psychotic disorders. *Molecular Neuropsychiatry*, *1*(1), 13-22.

8. Newman, E., Thompson, W. K., Bartsch, H., Hagler, D. J., Chen, C., Brown, T. T., Kuperman, J. M., McCabe, C., **Chung, Y.**, Libiger, O., Akshoomoff, N., Bloss, C. S., Casey, B. J., Chang, L., Ernst, T. M., Frazier, J., Gruen, J. R., Kennedy, D. N., Murray, S. S., Sowell., E. R., Schork, N. J., Kenet, T., Kaufman, W. E., Mostofsky, S., Amral, D. G., Dale, A. M., & T. L., Dale. (2015). Anxiety is related to indices of cortical maturation in typically developing children and adolescents. *Brain Structure and Function*, 1-13.

9. Cannon, T. D., **Chung, Y.**, He, G., Sun, D., Jacobson, A., van Erp, T. G., McEwen, S., Addington, J., Bearden, C. E., Cadenhead, K., Cornblatt, B., Mathalon, D. H., McGlashan, T., Perkins, D., Jeffries, C., Seidman, L. J., Tsuang, M., Walker, E., Woods, S. W., Heinssen, R., & North American Prodrome Longitudinal Study Consortium. (2015). Progressive reduction in cortical thickness as psychosis develops: A multisite longitudinal neuroimaging study of youth at elevated clinical risk. *Biological Psychiatry*, *77*(2), 147-157.

10. Squeglia, L. M., Rinker, D. A., Bartsch, H., Castro, N., **Chung, Y.**, Dale, A. M., Jernigan, T. L., & Tapert, S. F. (2014). Brain volume reductions in adolescent heavy drinkers. *Developmental Cognitive Neuroscience*, *9*, 117-125.

11. Walhovd, K. B., Fjell, A. M., Brown, T. T., Kuperman, J. M., **Chung, Y.**, Hagler, D. J., Venkatraman, V., Roddey, J. C., Erhart, M., McCabe, C., Akshoomoff, N., Amral, D. G., Bloss, C. S., Libiger, O., Darst, B., Schork, N. J., Casey, B. J., Chang, L., Ernst, T. M., Gruen, J. R., Kaufman, W. E., Kenet, T., Frazier, J., Murray. S. S., Zijl, P., Mostofsky, S., Dale, A. M. (2012). Long-term influence of normal variation in neonatal characteristics on human brain development. *Proceedings of the National Academy of Sciences*, *109*(49), 20089-20094.

12. Brown, T. T., Kuperman, J. M., **Chung, Y.**, Erhart, M, McCabe, C., Hagler JR., Venkatraman, V., Akshoomoff, N., Amral, D. G., Bloss, C. S., Casey, B. J., Chang, L., Ernst, T. M., Gruen, J. R., Kaufmann, W.E., Kenet, T., Kennedy, D. N., Murray, S. S., Sowell., E. R., Jernigan, T. L., Dale., A. M. (2012). Neuroanatomical assessment of biological maturity. *Current Biology*, *22*(18), 1693-1698.

13. Fjell, A. M., Walhovd, K. B., Brown, T. T., Kuperman, J. M., **Chung, Y.**, Hagler, D. J., Venkatraman, V., Roddey, J. C., Erhart, M., McCabe, C., Akshoomoff, N., Amral, D. G., Bloss, C. S., Libiger, O., Darst, B., Schork, N. J., Casey, B. J., Chang, L., Ernst, T.M., Gruen, J. R., Kaufman, W. E., Kenet, T., Frazier, J., Murray. S. S., Sowell, E. R., Zijl, P., Mostofsky, S., Jernigan, T. L., Dale. A. M. (2012). Multimodal imaging of the self-regulating developing brain. *Proceedings of the National Academy of Sciences*, *109*(48), 19620-19625.

Manuscripts Under Review

1. **Chung, Y**, Addington, J., Bearden, C. E., Cadenhead, K., Cornblatt, B., Mathalon, D. H., McGlashan, T., Perkins, D., Jeffries, C., Seidman, L. J., Tsuang, M., Walker, E., Woods, S. W., S. McEwen., van Erp, T. G., Cannon, T. D & North American Prodrome Longitudinal Study Consortium. *Machine learning reveals deviance in neuroanatomical maturity predictive of future psychosis in youth at clinical high risk.*

2. Cao, H., **Chung, Y.**, Addington, J., Bearden, C. E., Cadenhead, K., Cornblatt, B., Mathalon, D. H., McGlashan, T., Perkins, D., Jeffries, C., Seidman, L. J., Tsuang, M., Walker, E., Woods, S. W., S. McEwen., van Erp, T. G., Cannon, T. D & North American Prodrome Longitudinal Study Consortium. *Progressive reconfiguration of resting-state brain networks as psychosis develops*

Manuscripts in Preparation

1. **Chung, Y**., Cannon, T. D & North American Prodrome Longitudinal Study Consortium. *Tentative title: Neuroanatomical abnormalities in early-onset forms of psychosis.*

2. **Chung, Y**., Cannon, T. D & North American Prodrome Longitudinal Study Consortium. *Tentative title: Biologically-informed multivariate model for predicting psychosis and functional outcomes in youth at clinical high risk*

3. Cao, H., McEwen, Sarah. C., **Chung, Y.**, Cannon, T. D & North American Prodrome Longitudinal Study Consortium. *Altered brain activation during memory retrieval precede and implicate conversion to psychosis in individuals at clinical high risk* (ready for submission).

4. Zwarte, S., Brouwer, R., Agartz, I., van Haren, N. et al., & for the ENIGMA Relatives Group., *ENIGMA-Relatives – Global and Subcortical Brain Volumes in First-Degree Relatives of Schizophrenia and Bipolar Patients.*

Professional Talks

1. **Chung, Y**., Cannon, T. D & North American Prodrome Longitudinal Study Consortium. (March, 2017). *Ventricular enlargement and progressive reduction of cortical gray matter are linked in prodromal youth who develop psychosis.* Presented at International Congress on Schizophrenia Research, San Diego, CT.

2. **Chung, Y**., Cannon, T. D & North American Prodrome Longitudinal Study Consortium. (March, *2016).* *Ventricular enlargement and progressive reduction of cortical gray matter are linked in prodromal youth who develop psychosis*. Talk presented at Current Works in Clinical Psychology, Psychology Department, Yale University, New Haven, CT.

3. **Chung, Y**., Cannon, T. D & North American Prodrome Longitudinal Study Consortium. (April, *2015).* *Measuring deviation in brain maturity to predict psychosis onset in youth at clinical high risk.* Talk presented at Current Works in Clinical Psychology, Psychology Department, Yale University, New Haven, CT.

4. **Chung, Y**., Cannon, T. D & North American Prodrome Longitudinal Study Consortium. (May, *2015).* *Prodromal symptom severity predicts accelerated gray matter reduction and third ventricle expansion among clinically high-risk youth developing psychotic disorders.* Talk presented at Current Works in Clinical Psychology, Psychology Department, Yale University, New Haven, CT.

Conference Posters

1. Zwarte, S., Brouwer, R., Agartz, I., van Haren, N. et al., for the ENIGMA Relatives Group., *ENIGMA-Relatives – Global and subcortical brain volumes in first-degree relatives of schizophrenia and bipolar patients.* Presented at Cognomics, 2017

2. Allswede, D. M., Zheutlin, A. B., **Chung, Y.**, Anderson, K., Hultman, C. M., Ingvar, M., & Cannon, T. D. *(In Press). Complement gene expression correlates with superior frontal cortical thickness in humans.* Poster presented at International Congress on Schizophrenia Research, 2017.

3. Zheutlin, A. B., Jeffries, C. D., Perkins, D. O., **Chung, Y.**, Chekroud, A. M., Addington, J. M., J., Bearden, C. E., Cadenhead, K., Cornblatt, B., Mathalon, D. H., McGlashan, Seidman, L. J., Tsuang, M., Walker, E., Woods, S. W., Cannon, T. D & North American Prodrome Longitudinal Study Consortium (2017). *The role of microRNA expression in cortical development during conversion to psychosis.* Poster presented at International Congress on Schizophrenia Research, 2017.

4. **Chung, Y.**, Haut, K. M., He, G., van Erp, T. G., McEwen, S., Addington, J., Bearden, C. E., Cadenhead, K., Cornblatt, B., Mathalon, D. H., McGlashan, T., Perkins, D., Jeffries, C., Seidman, L. J., Tsuang, M., Walker, E., Woods, S. W., Cannon, T. D & North American Prodrome Longitudinal Study Consortium. *Ventricular enlargement and progressive reduction of cortical gray matter are linked in prodromal youth who develop psychosis*. Poster presented at FLUX: The Society for Developmental Cognitive Neuroscience, 2016.

5. **Chung, Y.**, Jacobson, A., He, G., van Erp, T. G., McEwen, S., Addington, J., Bearden, C. E., Cadenhead, K., Cornblatt, B., Mathalon, D. H., McGlashan, T., Perkins, D., Jeffries, C., Seidman, L. J., Tsuang, M., Walker, E., Woods, S. W., Heinssen, R., Cannon, T. D & North American Prodrome Longitudinal Study Consortium. *Prodromal symptom severity predicts accelerated gray matter reduction and third ventricle expansion among clinically high-risk youth developing psychotic disorders.* Poster presented at International Congress on Schizophrenia Research, 2015.

6. **Chung, Y.**, Brown, T. T., Erhart, M., Dale., A. M., Jernigan, T. L., Evans., J. L., *Predictions from the implicit procedural deficit impairment in SLI:A case study of neuroanatomical correlates of implicit learning deficits in a child with SLI and two biological siblings*. Poster presented at the Society for the Neurobiology of Language, 2012.

7. Erhart, M., Brown, T. T., **Chung, Y.**, Dale. A. M., Jernigan, T. L., Evans, J. L., *A case study of the functional organization of semantic representations in child with SLI and one biological siblings.* Poster presented at the Society for the Neurobiology of Language, 2012

8. Newman, E., Akshoomoff, N., McCabe, C. J., Kuperman, J. M, **Chung, Y.**, Erhart, M., Dale, A. M., & Jernigan, T. L., *Neuroanatomical correlates of behavioral inhibition in typically developing children and adolescents*. Poster presented at the UCSD Dept. of Psychiatry Research Symposium, San Diego, 2012.

9. **Chung, Y.**, Schork, A. J., Roddey., J, C., Newman, E., Kuperman, J. M., Brown, T. T., McCabe, C., Bloss, C. S., Murray. S. S., Schork, N. J., Dale, A. M., Jernigan, T. L. *Association of ADHD susceptibility gene, a variant of Latrophilin 3, with morphometry of frontal-striatal neural circuit in pediatric population*. Poster presented at the Society for Neuroscience., 2012.

10. Newman, E., McCabe, C., Roddey, J. C., Kuperman, J. M., **Chung, Y.**, Dale, A. M., Jernigan, T. L. *Surface area in the left ventromedial prefrontal cortex predicts self-reported anxiety in typically developing children and adolescents*. Poster presented at the Society for Neuroscience., 2012.

11. **Chung, Y.**, Venkatraman, V., Hagler JR, D. J., Pung, C., Jernigan, T. L., Dale, A. M., *Comparison of an atlas-based method with results from manual-assisted tractography for detecting age effects on fiber tract FA in a pediatric population*. Poster presented at the Society for Neuroscience., 2011.

Research Experience

2013 ~ Present **Graduate Student**
Clinical Neuroscience Lab, Department of Psychology, Yale University
Advisor: Tyrone Cannon, Ph.D.

2010 ~ 2013 **Staff Research Associate**
Multi-Modal Imaging Lab, UCSD
PI: Anders Dale, Ph.D.

2011 ~ 2012 **Research Assistant**
Adolescence Brain Imaging Lab, UCSD
PI: Susan Tapert, Ph.D.

2009 ~ 2010 **Research Assistant**
Laboratory of Cognitive Imaging, UCSD
PI: Terry Jernigan, Ph.D.

2008 ~ 2009 **Research Assistant**
Cognitive Neuroscience Lab, Department of Cognitive Science, UCSD
PI: Jaime Pineda, Ph.D.

2006 **Summer Intern**
Hemopoietic Stem Cell Transplantation Center, Seoul, South Korea
PI: Kim, Ph.D.

Teaching Experience

Fall, 2015 **Psychology 160: The Human Brain**
Yale University, Instructor: Gregory McCarthy, Ph.D.
Teaching Fellow

Spring, 2015 **Psychology 161: Drugs, Brain, and Behavior**
Yale University, Instructor: Hedy Kober, Ph.D.
Teaching Fellow

Fall, 2014 **Psychology 190: Intro. Clinical Neuroscience**
Yale University, Instructor: Tyrone Cannon, Ph.D.
Teaching Fellow

Spring, 2009 **Cognitive Science 107: Cognitive Neuroscience**
UCSD, Instructor: Terry Jernigan, Ph.D.
Teaching Assistant

Fall, 2009 **Cognitive Science 107: Neuroanatomy and Physiology**
UCSD, Instructor: Jamie Pineda, Ph.D.
Teaching Assistant

Clinical Training

07/2017 – Present **Neuropsychology, VA Medical Center-Newington, CT**
Clinical Practicum Student
Supervisor: Annie Chang, Ph.D.
- Administered full neuropsychological test batteries, including chart review, scoring/norming and report writing.

09/2016 – 07/2017 **Neuropsychology, Department of Neurology, Yale-New Haven Hospital**
Clinical Practicum Student
Supervisors: Franklin Brown, Ph.D., ABPP-CN.
Christopher Benjamin, Ph.D.
Emily Sharp, Ph.D., ABPP-CN.

- Administered full neuropsychological test batteries, including chart review, clinical interview, scoring/norming, and report writing.

01/2016 – 7/2017 **Psychosis Prodrome Research (PRIME) Clinic**
Clinical Practicum Student
Supervisors: Charlie Davidson, Ph.D.
Sarah Tarbox-Berry, Ph.D.
Barbara Walsh, Ph.D.
Scott W. Woods, M.D.

- Provided cognitive behavioral therapy to clients experiencing prodromal symptoms of psychosis.
- Administered intake assessment using Structured Interviews for Psychosis-Risk Syndromes (SIPS), Structured Clinical Interview for DSM-IV (SCID), and selected neuropsychological subtests from the WAIS-IV, WASI, MATRICS etc.
- Co-led Social Cognition and Interaction Training.

09/2015 – 05/2016 **Specialized Treatment Early in Psychosis (STEP), Connecticut Mental Health Center**
Clinical Practicum Student
Supervisor: Jessica Pollard, Ph.D.

- Provided therapy to clients experiencing a first-episode of psychosis using primarily cognitive behavioral, dialectical behavioral and mindfulness approaches.

09/2014 – 05/2016 **Yale Psychology Department Clinic (YPDC), Department of Psychology**
Clinical Practicum Student
Supervisors: David Klemanski, Psy.D.
Marney White, Ph.D.

- Provided therapy to clients experiencing primary mood and/or anxiety disorders using primarily a cognitive behavioral approach (CBT).
- Co-led a ten-week mindfulness skills training group.
- Conducted clinical assessments with the Structured Clinical Interview for DSM-IV Axis I (SCID-1) and Structured Clinical Interview for DSM-IV Axis II (SCID-II)
- Developed case conceptualizations and wrote psychological history reports.

Peer Reviewer

Neuroimage: Clinical

Additional Training

December, 2015 **Computational Psychiatry Course**
University of Zurich, Zurich, Switzerland
Organizer: Klass Enno Stephan, Ph.D.

November, 2014 **PRONIA Machine Learning Summer Bootcamp**
Ludwig Maximilian University, Munich, Germany
Organizer: Nikolaos Koutsouleris, M.D.

February, 2016 **Skills Training in Dialectical Behavioral Therapy: The Essentials**
New Haven, CT
Organizers: Seth R. Axelrod, Ph.D. & Emily Cooney, Ph.D. (Behavioral Tech, LLC)

November, 2014 **FreeSurfer Workshop**
Massachusetts General Hospital, Boston, MA
Organizers: Bruce Fischl, Ph.D. & Doug Greve, Ph.D.

Languages

English (Native or bilingual proficiency)

Korean (Native or bilingual proficiency)

References

Tyrone D. Cannon, Ph.D., Professor of Psychology, Psychiatry, Yale University
Director, Clinical Neuroscience Lab, tyrone.cannon@yale.edu, (203) 436-1545

Avram H. Holmes, Ph.D., Assistant Professor of Psychology, Yale University
Director, Holmes Lab, avram.holmes@yale.edu, (203)436-9240

Terry L. Jernigan, Ph.D., Professor of Cognitive Science, Psychiatry and Radiology, UCSD
Director, Center for Human Development, tjernigan@ucsd.edu, (858) 534-1548

Mary O'Brien, Ph.D., Director of Clinical Training, Yale University
Director, Yale Psychology Department Clinic, m.obrien@yale.edu, (203)432-3047