

Corinne N. Cannavale, B.S.

Ph.D. Student

Neuroscience Program | University of Illinois at Urbana-Champaign
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Education

- Expected 2022 **Ph.D., Neuroscience**
University of Illinois at Urbana-Champaign, Urbana, IL
Advisor: Dr. Naiman Khan, Ph.D., R.D.
Committee: Neal J. Cohen, Ph.D., Aron Barbey, Ph.D. & Rodney Johnson, Ph.D.
Tentative Thesis Title: *Effects of Nutrition on Memory and Learning*
- 2017 **B.S., Molecular and Cellular Biology, Chemistry (Minor)**
University of Illinois at Urbana-Champaign, Urbana, IL
High Distinction for Excellence in Research

Research Experience

- 2017-current **Graduate Research Assistant**, Body Composition and Nutritional Neuroscience Laboratory, PI: Dr. Naiman Khan, Ph.D., R.D.
University of Illinois at Urbana-Champaign
- Design tasks, collect and analyze data relating to hippocampal dependent functions in children and adults
 - Collect and analyze electro-physiological and cognitive data in children and adults
 - Supervising data analysis for three active studies within the lab
 - Effects of Probiotics and Prebiotics on Cognition and Health (EPOCH)
 - Behavioral Associations with Thinking in kids (BATKids)
 - Body Composition Relationships with Intelligence, Gut Health, and Thinking in kids (BRIGHTkids – a STRONGKids longitudinal study subproject)
- 2017 **Undergraduate Research Assistant**, Memory Systems Lab, PI: Neal Cohen, Ph.D.
University of Illinois at Urbana-Champaign
- 2015-2017 **Undergraduate Research Assistant**, Roy Lab, PI: Dr. Edward Roy, Ph.D.
University of Illinois at Urbana-Champaign
Senior Thesis Title: *Peptide vaccination strategies against gliomas*

Publications

Manuscripts (published)

Edwards, C.G., Walk, A.M., **Cannavale, C.N.**, Thompson, S.V., Reeser, G.E., Holscher, H.D., & Khan, N.A. (2019). Macular Xanthophylls and Event-Related Brain Potentials among Adults with Overweight and Obesity. *Molecular Nutrition and Food Research*, 1801059.

Khan, N. A., Walk, A. M., Edwards, C. G., Jones, A. R., **Cannavale, C. N.**, Thompson, S. V., Reeser, G.E., & Holscher, H. D. (2018). Macular Xanthophylls Are Related to Intellectual Ability among Adults with Overweight and Obesity. *Nutrients*, 10(4), 396.

Cannavale, C.N., Hassevoort, K.M., Edwards, C.G., Thompson, S.V., Erdman, J.W., Holscher, H.D., Burd, N.A., Cohen, N.J., & Khan, N.A. *Serum lutein is related to relational memory performance*. *Nutrients*, 11 (4), 768.

Edwards, C.G., Walk, A.M., **Cannavale, C.N.**, Flemming, I.R., Thompson, S.V., Reeser, G.R., Holscher, H.D., & Khan, N.A. *Dietary choline is related to neural efficiency during a selective attention task among middle-aged adults with overweight and obesity*. *Nutritional Neuroscience* 1-10.

Manuscripts (in progress)

Cannavale, C.N., Bailey, M.A., Edwards, C.G., Walk, A.D.M., Thompson, S.V., Burd, N.A., Holscher, H.D., & Khan, N.A. *Systemic inflammation mediates the negative relationship between visceral adiposity and selective attention*. (under review).

Khan, N.A., **Cannavale, C.N.**, Iwinski, S.J., Liu, R., McLoughlin, G.M., Steinberg, L.G., & Walk, A.D.M. *Visceral adiposity and diet quality differentially influence cognitive abilities and early academic skills among preschool-age children*.

Hassevoort, K.M., Golden, R.K., **Cannavale, C.N.**, Baumgartner, N., Cohen, N.J., & Khan, N.A. *Contributions of lean mass to mnemonic discrimination in adults*.

Walk, A.M., Chojnacki, M.R., Edwards, C.G., Jones, A.R., **Cannavale, C.N.**, Thompson, S.V., Reeser, G.E., Holscher, H.D., & Khan, N.A. *Intraindividual variability mediates the influence of adiposity on attentional inhibition*. (under review).

Conference Presentations

Cannavale, C.N., Bailey, M.A., Edwards, C.G., Walk, A.D.M., Thompson, S.V., Burd, N.A., Holscher, H.D., & Khan, N.A. Interplay between systemic inflammation, visceral fat, and cognitive control in people with excess fat mass. Presented at: Nutrition 2019. 2nd Annual Conference of the American Society of Nutrition; 2019 Jun 8-11. Baltimore, MD.

Edwards, C.G., **Cannavale, C.N.**, Flemming, I.R., Iwinski, S.J., Walk, A.D.M., Renzi-Hammond, L., & Khan, N.A. Skin and macular carotenoids and their implications for cognitive control and achievement in children. Presented at: Nutrition 2019. 2nd Annual Conference of the American Society of Nutrition; 2019 Jun 8-11. Baltimore, MD.

Poster Presentations

Cannavale, C.N., Walk, A.M., Liu, R., Iwinski, S.J., McLoughlin, G.M., Gholson, L.M., & Khan, N.A. The relationship between adiposity and cognitive function in early childhood. Poster session presented at: Nutrition 2018. 1st Annual Conference of the American Society of Nutrition; 2018 Jun 9-12. Boston, MA.

Cannavale, C.N., Walk, A.M., Liu, R., Iwinski, S.J., McLoughlin, G.M., Gholson, L.M., & Khan, N.A. Birth weight for gestational age attenuates the relationship between adiposity and early academic skills in a sexually dimorphic manner. Poster session presented at: First 1000 Days Symposium. 2018 Sept 4-5. Urbana, IL.

Cannavale, C.N., Hassevoort, K.M., Horecka, K.M., Edwards, C.G., Thompson, S.V., Holscher, H.D., Cohen, N.J., & Khan, N.A. Associations between dietary carotenoids and hippocampal-dependent relational memory. Poster session presented at: Neuroscience 2018. Society for Neuroscience. 2018 Nov 3-7. San Diego, CA.

Cannavale, C.N., Niemi, G.M., Walk, A.M., Skinner, S., Edwards, C.G., De Lisio, M., Holscher, H.D., Burd, N.A., & Khan, N.A. Relationships between lean mass and myokine cathepsin B and neural efficiency among early to middle-aged adults. Poster session presented at: Obesity Week 2018. The Obesity Society. 2018 Nov 11-15. Nashville, TN.

Golden, R.K., Hassevoort, K.M., **Cannavale, C.N.**, Edwards, C.G., Thompson, S.V., Burd, N.A., Holscher, H.D., Cohen, N.J., & Khan, N.A. Lean mass, but not fat mass, is associated with hippocampal memory performance. Poster session presented at: Nutrition 2019. 2nd Annual Conference of the American Society of Nutrition; 2019 Jun 8-11. Baltimore, MD.

Willis, N.B., Krug, A.R., **Cannavale, C.N.**, Holscher, H.D., & Khan, N.A. Relationship between urine hydration indices and 24-hour urinary cortisol concentrations. Poster session presented at: Nutrition 2019. 2nd Annual Conference of the American Society of Nutrition; 2019 Jun 8-11. Baltimore, MD.

Krug, A.R., **Cannavale, C.N.**, Khan, N.A., & Holscher, H.D. The effect of prebiotic consumption on the gastrointestinal microbiota of healthy adults: a randomized, controlled, crossover trial. Poster session presented at: Nutrition 2019. 2nd Annual Conference of the American Society of Nutrition; 2019 Jun 8-11. Baltimore, MD.

Professional Experience

Vice President Committee Member, Neuroscience Student Organization, University of Illinois at Urbana-Champaign

Co-chair, Neuroscience Open House, University of Illinois at Urbana-Champaign

Awards and Honors

Most Prepared to Present, Neuroscience Program SfN Poster Night, University of Illinois at Urbana-Champaign

Neuroscience Program Fellowship, Neuroscience Program, University of Illinois at Urbana-Champaign

Skills & Techniques

- **Electroencephalography (EEG)**
 - Collected cognitive data on over 300 young children and adults
- **Behavioral Task Design and Administration**
 - Designed and implemented tasks using STIM2 EEG Software
 - Designed, adjusted, and administered tasks using Presentation Software
 - Administered over 100 participants on Woodcock-Johnson, Kaufman Brief Intelligence Test, and Kaufman Test of Educational Achievement tests
- **MATLab**
 - Proficient in writing and interpreting MATLab scripts
 - Reduced over 200 subjects' ERP data using *eeglab/erplab* software
- **Phlebotomy**
 - Collected blood from over 50 adult participants
- **Optical Coherence Tomography**
 - Acquired over 100 retinal and fundus images of child and adult participants
 - Analysis and segmentation of images
- **Enzyme-linked immunosorbent assay**
 - Analyzed over 400 plasma and urine samples for biomarkers such as cortisol, interleukin-6, C-reactive protein, and cathepsin B
- **Immunohistochemistry**
 - Performed and imaged over 100 stains of murine brain, spleen, and lymphatic tissue
- **Flow Cytometry**
 - Analyzed over 200 murine lymph node and spleen samples
- **Cell Culture**
 - Experience culturing GL261/GL261-NS and Bone Marrow derived Dendritic Cells (BMDCs)
- **Polymerase Chain Reaction**
 - Performed and analyzed over 300 DNA samples extracted from both mice and bacteria