Jeesung Ahn

Psychologist | Neuroscientist | Researcher

Department of Psychology, University of Pennsylvania, Philadelphia, PA, USA

jeesung@sas.upenn.edu | jeesung-ahn.github.io | jeesung-ahn | jeesung-ahn

EDUCATION

Ph.D. Candidate in Psychology, University of Pennsylvania — *Aug. 2019 - Present*

Communication Neuroscience Lab (Advisor: Emily Falk, Ph.D.), Department of Psychology — *Philadelphia, PA, USA*

M.A. in Psychology, University of Pennsylvania — *Aug. 2019 - Aug. 2021*

Communication Neuroscience Lab (Advisor: Emily Falk, Ph.D.), Department of Psychology — *Philadelphia, PA, USA*

- Thesis: Effects of message framing on neural responses to persuasive message and health behavior change

M.S. in Cognitive Science and Engineering, Yonsei University — *Mar. 2016 - Feb. 2018*

Applied Brain Cognition Lab (Advisor: Sanghoon Han, Ph.D.), Interdepartmental Cognitive Science Program — *Seoul, South Korea*

- Thesis: Voxel-wise mapping of functional magnetic resonance imaging in impression formation (best thesis award)

B.A. in Psychology & B.S. in Brain and Cognitive Sciences, Korea University — *Mar. 2011 - Aug. 2015*

Department of Psychology, College of Information and Communications — *Seoul, South Korea*

Exchange Student Program, Macquarie University — *July 2013 - Dec. 2013*

Department of Psychology — *Sydney, Australia*

ACADEMIC POSITIONS

Doctoral Researcher — *Aug. 2019 – Present*

Communication Neuroscience Lab, Department of Psychology, University of Pennsylvania — *Philadelphia, PA, USA*

- Leading 8+ multidisciplinary research projects in the field of health psychology and neuroscience
- Analyzing brain and social network data to develop machine learning models that predict the effectiveness of health interventions in changing health behaviors (e.g., drinking, physical activity) and improving physical and mental well-being (e.g., loneliness)
- Collaborating closely with cross-functional teams of 70+ researchers from 10+ institutions, including program managers, funders, data scientists, and engineers; honing skills in effectively visualizing and communicating complex scientific findings to diverse audiences

Teaching Assistant — *Jan. 2021 – Dec. 2021*

Department of Psychology, University of Pennsylvania — *Philadelphia, PA, USA*

- Mentored a diverse group of 100+ students in creating effective study strategies during the challenging times of COVID-19
- Created evaluation tools, graded student essays, and provided constructive feedback
- Introduction to Experimental Psychology (Spring 2021, Rebecca Waller, Ph.D.; Fall 2021, Anna Jenkins, Ph.D.)

Research Associate — *April 2015 – Mar. 2019*

Applied Brain Cognition Lab, Yonsei University & Integrated Neurocognitive Functional Imaging Center, Yonsei University Severance Hospital — *Seoul, South Korea*

- Designed and directed 7+ end-to-end behavioral and neuroimaging projects, resulting in 3 first-author publications, an award-winning Master's thesis, and 6 international conference presentations
- Collaborated with cross-functional teams to develop a mobile application for treating social anxiety; conducted behavioral and neuroimaging experiments, in-depth interviews, and supervised machine learning analyses to evaluate user experience and clinical efficacy
- Mentored new researchers in project management, neuroimaging analyses, data quality control, and MATLAB scripting during the onboarding process

UX Research Consultant — *Mar. 2016 – Feb. 2018*

Team Quantumlabs — *Seoul, South Korea*

- Conducted UX research for a start-up's wearable neurostimulation technology, assessing its effectiveness in enhancing cognitive functions such as attention capacity
- Designed and conducted A/B tests and usability studies of the product, resulting in the successful acquisition of $100,000 in funding
- Led a cross-functional team in presenting findings to diverse stakeholders, including venture capital funders, designers, engineers, and clinicians, to inform and advocate for strategic product development

Research Coordinator — *Jun. 2017 – Feb. 2018*

Brain Korea 21+, National Research Foundation of Korea — *Seoul, South Korea*

- Managed research and travel funds for Yonsei Applied Brain Cognition Lab, ensuring the smooth operation of multiple ongoing projects
- Prepared and submitted the lab's annual review report, highlighting significant achievements and future directions

Research Coordinator *Mar. 2016 – Aug. 2016*

Institute of Human Behavior, Yonsei University *Seoul, South Korea*

- Managed the budget and organized various academic and social events, including guest speaker series, that fostered collaboration and community within the Yonsei University Psychology Department

Research Assistant *Nov. 2014 – April 2015*

Laboratory of Social Decision Neuroscience, Korea University (Advisor: Hackjin Kim, Ph.D.) *Seoul, South Korea*

- Assisted in collecting behavioral and neuroimaging data for an EEG hyperscanning experiment that investigated the neural mechanisms of social decision-making

PUBLICATIONS

Zhou, D., Kang, Y., Cosme, D., Jovanova, M., He, X., Mahadevan, A., **Ahn, J.**, Stanoi, O., Brynildsen, J. K., Cooper, N., Cornblath, E. J., Parkes, L., Mucha, P. J., Ochsner, K. N., Lydon-Staley, D. M., Falk, E. B., & Bassett, D. S. (2023). Mindful attention promotes control of brain network dynamics for self-regulation and discontinues the past from the present. *PNAS*, *120*(2). https://doi.org/10.1073/pnas.2201074119

Ahn, J., Nah, Y., Ko, I., & Han, S. (2022). Voxel-wise Mapping of Functional Magnetic Resonance Imaging in Impression Formation. *Korean Society for Emotion and Sensibility*, *25*(4), 77–94. https://doi.org/10.14695/KJSOS.2022.25.4.77

Kang, Y., Cosme, D., Lydon-Staley, D., **Ahn, J.**, Jovanova, M., Corbani, F., Lomax, S., Stanoi, O., Strecher, V., Mucha, P. J., Ochsner, K., Bassett, D. S., & Falk, E. B. (2022). Purpose in life, neural alcohol cue reactivity and daily alcohol use in social drinkers. *Addiction*, *117*(12), 3049–3057. https://doi.org/10.1111/add.16012

Cosme, D., Kang, Y., Tartak, J. C., **Ahn, J.**, Corbani, F. E., Cooper, N., Doré, B., He, X., Helion, C., Jovanova, M., Lomax, S., Mahadevan, A., McGowan, A. L., Paul, A., Pei, R., Resnick, A., Stanoi, O., Zhang, T., Zhang, Y., … Falk, E. B. (2022). *Study protocol: Social Health Impact of Network Effects (SHINE) Study* [Preprint]. PsyArXiv. https://doi.org/10.31234/osf.io/cj2nx

Ahn, J., Lee, J., Han, J. H., Kang, M. S., & Han, S. (2018). Group analysis data representing the effects of frontopolar transcranial direct current stimulation on the default mode network. *Data in Brief*, *20*, 1309–1313. https://doi.org/10.1016/j.dib.2018.08.164

Ahn, J., Kim, H., Park, J., & Han, S. (2018). Interactivity of Neural Representations for Perceiving Shared Social Memory. *Korean Society for Emotion and Sensibility*, *21*(3), 29–48. https://doi.org/10.14695/KJSOS.2018.21.3.29

WORKING PAPERS

Ahn, J., Cooper, N., Kang, Y., O'Donnell, M., Green, M., Samanez-Larkin, G., & Falk, E. B. (2023). Brain responses to gain- and loss-framed messages differ, and interact with baseline physical activity, to predict later behaviors. *In Prep*.

Ahn, J., Cosme, D., Kang, Y., Zachary, B., Ochsner, K., Mucha, P., Lydon-Staley, D., Bassett, D. S., & Falk, E. B. (2023). Segregation and integration of brain functional connectivity networks moderate craving-drinking relationships in daily life. *In Prep*.

Ahn, J., Falk, E. B., & Kang, Y. (2023). Relationships between physical activity and loneliness: A systematic review of intervention studies. *Under Review*.

Ahn, J., Kang, Y., Mwilambwe-Tshilobo, L., Cosme, D., Bassett, D. S., Zachary, B., Lydon-Staley, D., Mucha, P., Ochsner, K., & Falk, E. B. (2023). Neural responses to peer faces predict loneliness in college students. *In Prep*.

Ahn, J., Mwilambwe-Tshilobo, L., Kang, Y., Cosme, D., Bassett, D. S., Zachary, B., Lydon-Staley, D., Mucha, P., Ochsner, K., & Falk, E. B. (2023). Connectome-based predictive modeling of loneliness during COVID-19. *In Prep*.

Ahn, J., Mwilambwe-Tshilobo, L., Kang, Y., Cosme, D., Bassett, D. S., Zachary, B., Lydon-Staley, D., Mucha, P., Ochsner, K., & Falk, E. B. (2023). Inaccurate self-evaluation is associated with mental well-being and mentalizing activity in the brain. *In Prep*.

Ahn, J., Zhou, D., Falk, E. B., Bassett, D. S., & Ruscio, A. (2023). Brain network underpinnings of perseverance thought in clinical populations. *In Prep (Ahn & Zhou Co-First Authorship)*.

Cosme, D., Helion, C., Kang, Y., Lydon-Staley, D. M., Doré, B. P., Stanoi, O., **Ahn, J.**, Jovanova, M., McGowan, A. L., Kober, H., Mucha, P. J., Bassett, D. S., Ochsner, K. N., & Falk, E. B. (2023). Mindful attention to alcohol can reduce cravings in the moment and consumption in daily life. *In Prep*.

Kang, Y., **Ahn, J.**, Cosme, D., McGowan, A., Mwilambwe-Tshilobo, L., Zhou, D., Jovanova, M., Stanoi, O., Mucha, P., Ochsner, K., Bassett, D., Lydon-Staley, D., & Falk, E. (2023). Frontoparietal functional connectivity moderates the link between time spent on social media and subsequent negative affect. *In Prep*.

PRESENTATIONS

Invited Talks

Mwilambwe-Tshilobo, L., **Ahn, J.**, Kang, Y., Stanoi, O., Speer, S., Tamir, D., Boyd, Z., Bassett, D., Ochsner, K., Lydon-Staley, D., Mucha, P., & Falk, E. (2023, April). Loneliness and functional brain connectivity through the lens of social networks. *Symposium, Social and Affective Neuroscience Society 2023 Annual Conference, Santa Barbara, USA*.

Ahn, J., Cooper, N., Kang, Y., O'Donnell, M., Green, M., Samanez-Larkin, G., & Falk, E. B. (2022, May). Brain responses to gain- and loss-framed messages differ, and interact with baseline physical activity, to predict later behaviors. *Social and Affective Neuroscience Society 2022 Annual Conference, Virtual*.

Ahn, J., Richards, K., & Ortiz, T. (2021, April). Recommendations for an intelligent diet. *Wharton Data Science Live 2021, Virtual*.

Conference Poster Presentations

Ahn, J., Kang, Y., Mwilambwe-Tshilobo, L., Bassett, D., Boyd, Z., Lydon-Staley, D., Mucha, P., Ochsner, K., & Falk, E. (2023, May). Neural responses to peers' faces predict vulnerability to loneliness during COVID-19. *Annual International Communication Association Conference 2023, Toronto, Canada*.

Jovanova, M., Boyd, Z., Schwarze, A., Christensen, T., Cosme, D., Katch, K., **Ahn, J.**, Resnick, A., Cooper, N., Xie, H., Kang, Y., Lomax, S., McGowan, A., Mwilambwe-Tshilobo, L., Stanoi, O., Srivastava, P., Ochsner, K., Bassett, D., Lydon-Staley, D., … Mucha, P. (2023, May). Integrating multimodal data and machine learning to predict individual differences in health behavior change. *Annual International Communication Association Conference 2023, Toronto, Canada*.

Ahn, J., Kang, Y., Mwilambwe-Tshilobo, L., Cosme, D., Jovanova, M., Bassett, D., Boyd, Z., Lydon-Staley, D., Mucha, P., Ochsner, K., & Falk, E. (2023, April). Neural responses to peers' faces predict vulnerability to loneliness during COVID-19. *Social and Affective Neuroscience Society 2023 Annual Conference, Santa Barbara, USA*.

Kang, Y., **Ahn, J.**, Cosme, D., McGowan, A., Mwilambwe-Tshilobo, L., Zhou, D., Jovanova, M., Stanoi, O., Mucha, P., Ochsner, K., Bassett, D., Lydon-Staley, D., & Falk, E. (2023). Frontoparietal functional connectivity moderates the link between time spent on social media and subsequent negative affect. *In Prep*.

Ahn, J., Cooper, N., Kang, Y., O'Donnell, M., Green, M., Samanez-Larkin, G., & Falk, E. B. (2022, May). Brain responses to gain- and loss-framed messages differ, and interact with baseline physical activity, to predict later behaviors. *Social and Affective Neuroscience Society 2022 Annual Conference, Virtual*.

Ahn, J., Cooper, N., Kang, Y., O'Donnell, M., Green, M., Samanez-Larkin, G., & Falk, E. B. (2022, May). Brain responses to gain- and loss-framed messages differ, and interact with baseline physical activity, to predict later behaviors. *Annual International Communication Association Conference 2022, Paris, France*.

Chan, H.-Y., Scholz, C., Cosme, D., Martin, R., Benitez, C., Cooper, N., Paul, A., **Ahn, J.**, Doré, B., Resnick, A., Carreras-Tartak, J., & Falk, E. B. (2022, May). Brain-based prediction of information virality: Evidence of cross-cultural validity from a pre-registered neuroimaging study. *Annual International Communication Association Conference 2022, Paris, France*.

Cosme, D., Scholz, C., Chan, H.-Y., Martin, R., Cooper, N., Paul, A., **Ahn, J.**, Doré, B., Resnick, A., Carreras-Tartak, J., & Falk, E. B. (2022, May). Does focusing on self or social relevance during news article exposure increase motivation to share content? *Annual International Communication Association Conference 2022, Paris, France*.

Ahn, J., Jun, S., Lee, J., Min, S., Lee, S.-K., Park, S. H., & Han, S. (2018, November). Altered emotional attention and brain functional connectivity networks of emotional laborers. *Society for Neuroscience 2018 Annual Conference, San Diego, USA*.

Min, S., Jun, S., **Ahn, J.**, Lee, J., Lee, S.-K., Park, S. H., & Han, S. (2018, November). Intrinsic functional connectivity in emotion regulation network is altered in emotion laborers. *Society for Neuroscience 2018 Annual Conference, San Diego, USA*.

Lee, J., Lee, H. J., **Ahn, J.**, Lee, S.-K., & Han, S. (2018, June). Exploring the high-resolution EPI fMRI protocol to reduce susceptibility-related BOLD signal dropout. *The Organization for Human Brain Mapping 2018 Annual Meeting, Singapore*.

Ahn, J., Han, J. H., Kang, M. S., & Han, S. (2017, November). Frontopolar transcranial direct current stimulation changes intrinsic functional connectivity networks during resting-state fMRI. *Society for Neuroscience 2017 Annual Conference, Washington DC, USA*.

Ahn, J., Nah, Y., & Han, S. (2016, November). Voxel-wise Mapping of the Cingulate Cortex in Impression Formation. *Society for Neuroscience 2016 Annual Conference, San Diego, USA*.

Ahn, J., Nah, Y., & Han, S. (2016, April). Patterns of Functional Connectivity during Preparation Periods Can Predict the Tendency to Give Up in Following Decision-Making. *Cognitive Neuroscience Society 2016 Annual Conference, New York, USA*.

SCHOLARSHIPS

Penn Full-Ride Doctoral Fellowship ($400,000) *2019 - Present*

School of Arts and Sciences, University of Pennsylvania

Kwanjeong Full-Tuition Scholarship for Graduate Program ($22,000) *2016 - 2017*

Kwanjeong Educational Foundation *http://en.ikef.or.kr*

- One of the most competitive scholarships in Asia

Brain Korea 21+ Graduate Scholarship *2016 - 2017*

National Research Foundation of Korea

HONORS & AWARDS

Comcast Applied AI Award *2023*

Philly Codefest

- Solved an AR/AI technology problem that Comcast presented
- Managed a team of 2 software engineers
- Came first place among 50+ teams

Graduate Travel Award *2022*

University of Pennsylvania

Top Poster Award *2022*

Social Affective Neuroscience Society

- Presented findings at an invited talk titled ”Brain responses to gain- and loss-framed messages differ, and interact with baseline physical activity, to predict later behaviors”
- Awarded among 300+ attendees

Best Master’s Thesis Award *2018*

Yonsei University Graduate Group

- For the thesis titled ”Voxel-wise mapping of functional magnetic resonance imaging in impression formation”
- Awarded among 1,000+ theses across 91 departments

Interdisciplinary Research Initiative Award, Grand Prize *2017*

Institute of Convergence Science (ICONS)

- Collaborated with electrical engineers to enhance brain image resolution using deep learning
- Awarded $5,000 in research funding

Start-up Challenge Award *2016*

Yonsei Enterprise Support Foundation

- Presented A/B test findings for a novel neurostimulation device developed by startup Team Quantumlabs
- Led to $100,000 venture capital funding

Dean's Honors

2011, 2013, 2014

Department of Psychology, College of Information & Communication, Korea University

- 2014, Fall Semester (GPA 4.25/4.5); 2014, Spring Semester (GPA 4.25/4.5); 2013, Spring Semester (GPA 4.0/4.5); 2011, Fall Semester (GPA 4.11/4.5); 2011, Spring Semester (GPA 4.37/4.5)

VOLUNTEER ACTIVITIES & OUTREACH

Consultant

Sept. 2022 – Present

Penn Biotech Group Healthcare Consulting

Philadelphia, PA, USA

- Presented weekly deliverables to the senior leadership of a biotechnology company
- Spearheaded semi-structured interviews with 11 key opinion leaders in healthcare, synthesizing their insights into clear recommendations on clinical trial design, market sizing, and product pricing
- Evaluated 200+ clinical trial data sets and led competitive landscape analyses for a novel cancer therapy
- Executed agile and meticulous research, which was complemented by extensive literature reviews, to fulfill the client's needs and adhere to established timelines

Data Scientist

Mar. 2022 – Present

Diversity and Equity Initiative in Mind Sciences

Philadelphia, PA, USA

- Designed online surveys to assess the effectiveness of education outreach programs
- Visualized program outcomes using R (e.g., text-analyzed participant feedback) and delivered actionable insights to program organizers to enhance the overall participant experience

Data Scientist

Feb. 2022 – May 2022

Penn Data Science Group

Philadelphia, PA, USA

- Synthesized air pollution and health data procured from 6 sources (100,000+ data points) into an interactive heat map
- Delivered persuasive visualization materials to clients to support policy-making decisions at the local level

OTHER EXPERIENCE

Summer Intern

July 2014 – Aug. 2014

KB Kookmin Bank

Seoul, South Korea

- Received training in managing client data and enhancing client satisfaction through effective communication at South Korea's largest commercial bank

Student Intern

Sep. 2013 – Dec. 2013

Korean Cultural Center, Australia

Sydney, Australia

- Interfaced directly with clients visiting the center as a primary receptionist and provided spoken and written translation services between English and Korean
- Monitored Korea-related media content broadcast in Australia on a weekly basis
- Contributed to the organization of cultural events, including K-pop dance and Korean speech contests, in Sydney, Australia