Jeesung Ahn

Psychologist | Neuroscientist | Researcher

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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*

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

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

- 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 — *Phildelphia,PA*

- Leading 8+ multidisciplinary research projects in the domain of experimental psychology and social/health neuroscience
- Utilizing brain and social network data to develop machine learning models that make data-driven predictions on the effectiveness of health interventions in changing health behaviors (e.g., drinking, physical activity) and improving physical and mental well-being (e.g., loneliness)
- Closely collaborating with cross-functional teams from 10+ institutions and 80+ researchers, 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 — *Phildelphia,PA*

- Introduction to Experimental Psychology (Spring 2021, Rebecca Waller, Ph.D.; Fall 2021, Anna Jenkins, Ph.D.)
- Provided one-on-one mentorship to 50+ students to assist with the development of their study plans
- Developed evaluation tools for students and provided thorough grading and qualitative feedback on their essays

Research Associate — *April. 2015 – Mar. 2019*

Applied Brain Cognition Lab, Yonsei University (P.I.: Sanghoon Han, Ph.D.) & Integrated Neurocognitive Functional Imaging Center, Yonsei University Severance Hospital (P.I.: Seung-Koo Lee, M.D., Ph.D.) — *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 the clinical efficacy of the application
- Provided extensive technical support and mentorship to onboarding researchers regarding research project management, neuroimaging analyses, data quality control, and MATLAB scripting

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

Team Quantumlabs — *Seoul, South Korea*

- Provided UX consulting services to a start-up company on the efficacy of their novel neurostimulation technology in enhancing cognitive functions, such as attention capacity
- Designed and conducted A/B tests and usability studies of their product, which led to the successful acquisition of $100K in funding
- Led a team that presented findings to cross-functional stakeholders, including venture capital funders, designers, engineers, and clinicians, to inform and advocate the direction of product development

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

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

- Managed research funding and travel funds for Yonsei Applied Brain Cognition Lab
- Prepared and submitted the annual review report for the lab

Research Coordinator *Mar. 2016 – Aug. 2016*

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

- Managed funding for academic and social events within the Department of Psychology at Yonsei University, including coordinating guest speaker series

Research Assistant *Nov. 2014 – April 2015*

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

- Collected behavioral and neuroimaging data for an EEG hyperscanning experiment

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. (2022). 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. (2022). Segregation and integration of brain functional connectivity networks moderate craving-drinking relationships in daily life. *In Prep*.

Ahn, J., Falk, E. B., & Kang, Y. (2022). Relationships between physical activity and loneliness: A systematic review of intervention studies. *In Prep*.

Ahn, J., Kang, Y., Mwilambwe-Tshilobo, L., Cosme, D., Bassett, D. S., Zachary, B., Lydon-Staley, D., Mucha, P., Ochsner, K., & Falk, E. B. (2022). 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. (2022). 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. (2022). 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. (2022). Brain network underpinnings of perseverance thought in clinical populations. *In Prep (Ahn & Zhou Co-First Authorship)*.

PRESENTATIONS

Invited Talks

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*.

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, May). Frontoparietal system functional connectivity moderates the within-day associations between increases in time spent on social media and subsequent negative affect. *Annual International Communication Association Conference 2023, Toronto, Canada*.

Ahn, J., Kang, Y., Mwilambwe-Tshilobo, L., 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.*

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 ($400K) *2019 - Present*

School of Arts and Sciences, University of Pennsylvania

Kwanjeong Full-Tuition Scholarship for Master's Program ($22K) *2016 - 2017*

Kwanjeong Educational Foundation (http://en.ikef.or.kr)

Brain Korea 21+ Graduate Scholarship *2016 - 2017*

National Research Foundation of Korea

HONORS & AWARDS

Comcast Applied AI Award *2023*

Philly Codefest 2023

- Built an AR application that will enable customers to easily troubleshoot internet issues

Graduate Travel Award *2022*

University of Pennsylvania, International Communication Association Conference 2022

Top Poster Award *2022*

Social Affective Neuroscience Society 2022

- 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"

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"

Interdisciplinary Research Initiative Award, Grand Prize *2017*

Institute of Convergence Science (ICONS), Yonsei University

- Collaborated with electrical engineers to enhance brain image resolution using deep learning; awarded $5K research funding

Yonsei Start-up Challenge Award *2016*

Yonsei Enterprise Support Foundation

- Presented A/B test findings for a novel neurostimulation device developed by a start-up company, Team Quantumlabs; led to $100K in funding

Dean's Honors *2011, 2013, 2014*

Department of Psychology, Korea University

- For 5 semesters; 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 *Phildelphia,PA*

- Presented weekly deliverables to a biotherapeutic start-up company by analyzing the market landscape for a novel cancer therapy that has the potential to significantly impact 1M+ tumor patients
- Led in-depth interviews with healthcare stakeholders and qualitatively evaluated 200+ clinical trials and company profiles, which helped the client to make informed decisions regarding partnership opportunities, market sizing, and product pricing
- Executed agile and meticulous research, complemented by extensive literature reviews, in order to fulfill the client's needs and adhere to the established timeline

Data Scientist

Mar. 2022 – Present

Penn Mind Sciences Diversity and Equity Initiative — *Phildelphia,PA*

- Designed and administered online surveys (using Qualtrics) to assess participants' experience with an outreach program that provides mentorship to underrepresented minority students in their careers in science
- Wrangled and analyzed pre- vs. post- event data, including qualitatively reviewing participants' written feedback
- Visualized event outcomes using ggplot2, wordcloud, and R Markdown and presented actionable insights and recommendations to the program organizers to improve the program

Data Scientist

Feb. 2022 – May 2022

Penn Data Science Group — *Phildelphia,PA*

- Organized and processed publicly available air quality data and related health outcomes
- Created interactive maps that visualize the information, thereby enabling the client to communicate their message effectively to climate policymakers

OTHER EXPERIENCE

Summer Intern

July 2014 – Aug. 2014

KB Kookmin Bank — *Seoul, South Korea*

- Received training at the largest commercial bank in South Korea in 1) managing client data and 2) communicating with clients to better understand and meet their needs, making their experience with the bank more pleasant

Student Intern

Sep. 2013 – Dec. 2013

Korean Cultural Center, Australia — *Seoul, South Korea*

- Directly interfaced with clients visiting the center as a primary receptionist and provided spoken and written translation services between English and Korean
- Performed weekly monitoring of Korean-related media content broadcast in Australia
- Actively participated in the organization of Korean cultural events, such as K-pop dance contests and Korean speech contests, in Sydney, Australia