

# Jeesung Ahn

PSYCHOLOGIST | NEUROSCIENTIST | RESEARCHER

Department of Psychology, University of Pennsylvania, Philadelphia, PA

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## EDUCATION

### Ph.D. Candidate in Psychology, University of Pennsylvania

COMMUNICATION NEUROSCIENCE LAB (ADVISOR: EMILY FALK, PH.D.), DEPARTMENT OF PSYCHOLOGY

Aug. 2019 - Present

Philadelphia, PA

### M.A. in Psychology, University of Pennsylvania

COMMUNICATION NEUROSCIENCE LAB (ADVISOR: EMILY FALK, PH.D.), DEPARTMENT OF PSYCHOLOGY

Aug. 2019 - Aug. 2021

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

APPLIED BRAIN COGNITION LAB (ADVISOR: SANGHOON HAN, PH.D.), INTERDEPARTMENTAL COGNITIVE SCIENCE PROGRAM

Mar. 2016 - Feb. 2018

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

DEPARTMENT OF PSYCHOLOGY, COLLEGE OF INFORMATION AND COMMUNICATIONS

Mar. 2011 - Aug. 2015

Seoul, South Korea

### Exchange Student Program, Macquarie University

DEPARTMENT OF PSYCHOLOGY

July 2013 - Dec. 2013

Sydney, Australia

## ACADEMIC POSITIONS

### Doctoral Researcher

COMMUNICATION NEUROSCIENCE LAB, DEPARTMENT OF PSYCHOLOGY, UNIVERSITY OF PENNSYLVANIA

Aug. 2019 - Present

Philadelphia, 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

DEPARTMENT OF PSYCHOLOGY, UNIVERSITY OF PENNSYLVANIA

Jan. 2021 - Dec. 2021

Philadelphia, 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

APPLIED BRAIN COGNITION LAB, YONSEI UNIVERSITY (P.I.: SANGHOON HAN, PH.D.) & INTEGRATED NEUROCOGNITIVE

April. 2015 - Mar. 2019

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

TEAM QUANTUMLABS

Mar. 2016 - Feb. 2018

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

BRAIN KOREA 21+, NATIONAL RESEARCH FOUNDATION OF KOREA

Jun. 2017 - Feb. 2018

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

INSTITUTE OF HUMAN BEHAVIOR, YONSEI UNIVERSITY

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

Mar. 2016 – Aug. 2016

Seoul, South Korea

## Research Assistant

LABORATORY OF SOCIAL DECISION NEUROSCIENCE, KOREA UNIVERSITY (ADVISOR: HACKJIN KIM, PH.D.)

- Collected behavioral and neuroimaging data for an EEG hyperscanning experiment

Nov. 2014 – April 2015

Seoul, South Korea

## PUBLICATIONS

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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

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**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

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## 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.**, 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

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### **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](http://en.ikef.or.kr))

### **Brain Korea 21+ Graduate Scholarship**

2016 - 2017

NATIONAL RESEARCH FOUNDATION OF KOREA

## HONORS & AWARDS

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### **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

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### **Consultant**

Sept. 2022 – Present

PENN BIOTECH GROUP HEALTHCARE CONSULTING

Philadelphia, 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

Philadelphia, 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

PENN DATA SCIENCE GROUP

Feb. 2022 – May 2022

Philadelphia, 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

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### Summer Intern

KB KOOKMIN BANK

July 2014 – Aug. 2014

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

KOREAN CULTURAL CENTER, AUSTRALIA

Sep. 2013 – Dec. 2013

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