

# Jeesung Ahn, Ph.D.

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## EDUCATION

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**Ph.D. in Psychology** | University of Pennsylvania Aug. 2019 – May 2024  
Communication Neuroscience Lab, Department of Psychology (Advisor: Dr. Emily Falk) Philadelphia, PA, USA

- Thesis: “Lonely mind, brain, and social networks: a holistic investigation into the correlates of loneliness”
- Thesis committee: Drs. Dani B. Bassett, Emily Falk, Anna Jenkins

**M.S. in Cognitive Science and Engineering** | Yonsei University Mar. 2016 – Feb. 2018  
Applied Brain Cognition Lab, Interdisciplinary Program in Cognitive Science Seoul, South Korea  
(Advisor: Dr. Sanghoon Han)

- Thesis: “Voxel-wise mapping of functional magnetic resonance imaging in impression formation”  
(Best Thesis Award winner)
- Thesis committee: Drs. Sanghoon Han, Hackjin Kim, Younghoon Kim

**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

## CURRENT POSITION

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**Postdoctoral Fellow** | University of Pennsylvania June 2024 – Present  
Annenberg School for Communication (Advisor: Dr. Emily Falk) Philadelphia, PA, USA

### Research Areas:

Social Connections, Loneliness, Mental Health, Health Persuasion, Behavioral Interventions,  
Behavior Change, Brain-as-Predictor, Brain-Behavior Relationships

## PUBLICATIONS

### PEER-REVIEWED ARTICLES

**Ahn, J.**, Falk, E. B., & Kang, Y. (2024). Relationships between physical activity and loneliness: A systematic review of intervention studies. *Current Research in Behavioral Sciences*, 6, 100141. <https://doi.org/10.1016/j.crbeha.2023.100141>.

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. *Scientific Reports*. <https://doi.org/10.1038/s41598-023-46040-z>.

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. *Proceedings of the National Academy of Sciences*, 120(2),

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>.

**Ahn, J.**, Nah, Y., Ko, I., & Han, S. (2022). Voxel-wise mapping of functional magnetic resonance imaging in impression formation. *Science of Emotion and Sensibility*, 25(4), 77–94. <https://doi.org/10.14695/KJSOS.2022.25.4.77>.

**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. *Science of Emotion and Sensibility*, 21(3), 29–48. <https://doi.org/10.14695/KJSOS.2018.21.3.29>.

## **PREPRINTS**

**Ahn, J.**, Cooper, N., Kang, Y., O'Donnell, M., Green, M., Samanez-Larkin, G., & Falk, E. B. (2024). Effects of framing on neural responses to persuasive messaging and physical activity. *Under review & preprinted at PsyArXiv*. <https://osf.io/preprints/psyarxiv/af68p/>.

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. *PsyArXiv*. <https://osf.io/preprints/psyarxiv/7j4ey/>.

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. *PsyArXiv*. <https://doi.org/10.31234/osf.io/cj2nx>.

## **WORKING PAPERS**

**Ahn, J.**, Kang, Y., Mwilambwe-Tshilobo, L., Cosme, D., Bassett, D. S., Zachary, B., Lydon-Staley, D., Mucha, P., Ochsner, K., & Falk, E. B. Task-evoked brain networks predict individual experiences of loneliness. *In preparation (manuscript writing)*.

**Ahn, J.**, Mwilambwe-Tshilobo, L., Kang, Y., Cosme, D., Bassett, D. S., Zachary, B., Lydon-Staley, D., Mucha, P., Ochsner, K., & Falk, E. B. Longitudinal analysis of loneliness through task-evoked brain networks in times of social isolation. *In preparation (manuscript writing)*.

**Ahn, J.**, Mwilambwe-Tshilobo, L., Kang, Y., Cosme, D., Bassett, D. S., Zachary, B., Lydon-Staley, D., Mucha, P., Ochsner, K., & Falk, E. B. The architecture of loneliness: How self-perception and social

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networks shape perceived social isolation. *In preparation (manuscript writing)*.

**Ahn, J.**, Cosme, D., Kang, Y., Zachary, B., Ochsner, K., Mucha, P., Lydon-Staley, D., Bassett, D. S., & Falk, E. B. Segregation and integration of brain functional connectivity networks moderate craving-drinking relationships in daily life. *In preparation (manuscript writing) & preregistered at <https://osf.io/qrg9x>*.

Zhou, D., **Ahn, J.**, Falk, E. B., Bassett, D. S., & Ruscio, A. Brain network dynamics predict perseverative thoughts in depression and anxiety. *In preparation (data analysis)*.

## PRESENTATIONS

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### 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. *Social and Affective Neuroscience Society 2023 Annual Conference, Santa Barbara, CA, 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 POSTERS

**Ahn, J.**, Mwilambwe-Tshilobo, L., Bassett, D., Boyd, Z., Lydon-Staley, D., Mucha, P., Ochsner, K., & Falk, E. (2024, April). Brain networks as individual-level predictors of longitudinal loneliness. *Social and Affective Neuroscience Society 2024 Annual Conference, Toronto, Ontario, Canada* (Travel Award winner).

**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, Ontario, 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 functional connectivity moderates the link between time spent on social media and subsequent negative affect. *Annual International Communication Association Conference 2023, Toronto, Ontario, Canada* (Promising Paper Award winner).

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, Ontario, Canada*.

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- 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, CA, 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 (Top Poster Award winner).*
- 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, CA, 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, CA, 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, CA, 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, NY, USA.*

## SCHOLARSHIPS

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<b>Penn Full-Ride Doctoral Fellowship (approx. \$400K)</b> <i>School of Arts and Sciences, University of Pennsylvania</i>	<i>Aug. 2019 – May 2024</i>
<b>Kwanjeong Full-Tuition Graduate Scholarship (approx. \$22K)</b> <i>Kwanjeong Educational Foundation</i>	<i>Mar. 2016 – Feb. 2018</i>
<b>Brain Korea 21+ Graduate Scholarship</b> <i>National Research Foundation of Korea</i>	<i>Mar. 2016 – Feb. 2018</i>

## HONORS & AWARDS

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<b>Travel Award</b> <i>Social Affective Neuroscience Society 2024</i> <ul style="list-style-type: none"><li>Awarded \$500 for a poster presentation titled “Brain networks as individual-level predictors of changes in loneliness”</li></ul>	<i>2024</i>
<b>Comcast Applied AI Award</b> <i>Philly CodeFest 2023</i> <ul style="list-style-type: none"><li>Managed a team of 2 software engineers to solve an AR/AI problem for Comcast, winning first place among 50+ teams, and presented the solution to Comcast’s CTO</li></ul>	<i>2023</i>
<b>Top Poster Award</b> <i>Social Affective Neuroscience Society 2022</i> <ul style="list-style-type: none"><li>Presented an invited talk titled “Brain responses to gain- and loss-framed messages differ, and interact with baseline physical activity, to predict later behaviors,” and received the award among over 300 attendees</li></ul>	<i>2022</i>
<b>Best Master’s Thesis Award</b> <i>Yonsei University Graduate Group</i> <ul style="list-style-type: none"><li>Awarded for the thesis titled “Voxel-wise mapping of functional magnetic resonance imaging in impression formation” among over 1,000 theses across 91 departments</li></ul>	<i>2018</i>
<b>Interdisciplinary Research Initiative Award, Grand Prize</b> <i>Institute of Convergence Science (ICONS)</i> <ul style="list-style-type: none"><li>Collaborated with 3 electrical engineers to enhance medical image resolution using deep learning algorithms, receiving \$5K in research funding</li></ul>	<i>2017</i>
<b>Start-up Challenge Award</b> <i>Yonsei Enterprise Support Foundation</i> <ul style="list-style-type: none"><li>Presented A/B test findings for a novel neurostimulation device developed by a start-up, awarded \$1K and office space, leading to \$100K in venture capital funding</li></ul>	<i>2016</i>
<b>Dean’s Honors</b> <i>Korea University</i> <ul style="list-style-type: none"><li>Achieved honors for 5 out of 7 semesters with notable GPAs: Fall 2014 (GPA 4.25/4.5), Spring 2014 (GPA 4.25/4.5), Spring 2013 (GPA 4.0/4.5), Fall 2011 (GPA 4.11/4.5), and Spring 2011 (GPA 4.37/4.5)</li></ul>	<i>2011, 2013, 2014</i>

## ACADEMIC POSITIONS

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**Doctoral Researcher** | University of Pennsylvania Aug. 2019 – Present  
*Communication Neuroscience Lab, Department of Psychology* Philadelphia, PA, USA

- Led 8+ multidisciplinary research projects to develop effective behavioral interventions to enhance physical and mental well-being, identify factors that increase the risk of loneliness, and understand the neurocognitive mechanisms underlying social connections and isolation
- Created comprehensive data processing pipelines for multimodal data analysis (survey, experience sampling, behavioral, neuroimaging; 61TB) that are now utilized by collaborators in 3+ countries, streamlining international research efforts

**Teaching Assistant** | University of Pennsylvania Jan. 2021 – Dec. 2021  
*Department of Psychology* Philadelphia, PA, USA

- Mentored over 100 undergraduates in developing effective study strategies during the challenging times of COVID-19
- Assisted in teaching "Introduction to Experimental Psychology" (Spring 2021 with Dr. Rebecca Waller; Fall 2021 with Dr. Anna Jenkins)

**Research Associate** | Yonsei University & Yonsei Severance Hospital April 2015 – Mar. 2019  
*Applied Brain Cognition Lab & Integrated Neurocognitive Functional Imaging Center* 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 junior researchers in project management, neuroimaging analyses, data quality control, and MATLAB scripting

*Department of Psychology & National Research Foundation of Korea*

- Managed research and travel funds for the Yonsei Psychology Department, ensuring the smooth operation of multiple ongoing projects; constructed the department's annual review reports, highlighting significant achievements and future directions
- Organized academic social events (e.g., guest speaker series), fostering collaboration within the Yonsei psychology department

**Research Assistant** | Korea University Nov. 2014 – April 2015  
*Laboratory of Social Decision Neuroscience* Seoul, South Korea

- Collaborated with 3 electrical engineers to enhance medical image resolution using deep learning algorithms, receiving \$5K in research funding

## VOLUNTEER ACTIVITIES & OUTREACH

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**Vice President of Consulting** May 2023 – Present  
*Penn Graduate Consulting Club* Philadelphia, PA, USA

- Directed 6 project managers and 30+ analysts in the successful execution of pro bono consulting projects
- Established strong relationships with 5+ industry clients within the first 2 months of joining the

board, doubling the number of secured pro bono projects compared to the previous term

- Revamped marketing strategies to recruit talented staff, increasing member applications by 300%
- Initiated structured training sessions for 50+ project managers and analysts on client expectations, high-quality deliverables, and effective presentations

## **Consultant**

Sept. 2022 – Jan. 2023

*Penn Biotech Group Healthcare Consulting*

Philadelphia, PA, USA

- Presented weekly deliverables to the CEOs of a biotechnology start-up as part of an 11-person graduate research team
- Evaluated 200+ company profiles and clinical trial data, identifying 4 partnership opportunities with the highest synergistic potential
- Interviewed 10 key opinion leaders in healthcare (e.g., physicians), synthesizing their insights into clear recommendations for clinical trial design.
- Recognized for exceptional contributions and subsequently recruited as Vice President of Consulting by the Penn Graduate Consulting Club.

## **Data Scientist**

Mar. 2022 – Mar. 2023

*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

*Penn Data Science Group*

Feb. 2022 – May 2022

- Synthesized air pollution and health outcome data from 6 public sources (100K+ data points) into an interactive heatmap, provided to inform climate policymakers.

## **UX Research Consultant**

Mar. 2016 – Feb. 2018

*Team QuantumLabs (Start-up)*

Seoul, South Korea

- Directed research projects (A/B testing, surveys, lab experiments, and interviews) to assess user behavior and guide strategic product decisions for a novel neurostimulation device
- Communicated award-winning scientific insights with cross-functional stakeholders (venture capital funders, designers, engineers, and clinicians), acquiring \$100K+ in funding

# **INTERNSHIPS**

## **Healthcare Data Strategy Intern | Samsung Life Insurance**

July 2023

*Healthcare Platform Team*

Seoul, South Korea

- Analyzed behavioral patterns and health conditions of Samsung healthcare app users (200K+ data points), leading to substantial changes in the UI/UX design to reduce cognitive load and improve usability; resulted in a full-time return offer
- Curated engaging wellbeing content to facilitate user acquisition and retention, which is now integrated into the app

## **Customer Journey Intern | KB Kookmin Bank**

July 2014 – Aug. 2014

*Seorin-Dong Branch, Jongno District*

Seoul, South Korea

- Received training in managing financial data and improving customer journeys at South Korea's largest commercial bank

## **Cultural Marketing Intern | Korean Cultural Centre Australia**

*Sep. 2013 – Dec. 2013*

*Korean Cultural Marketing Team*

*Sydney, Australia*

- Interfaced with customers visiting the center as a primary receptionist and provided translation services between English and Korean
- Monitored Korea-related media content broadcasted in Australia
- Organized cultural events, including K-pop dance and Korean speech contests