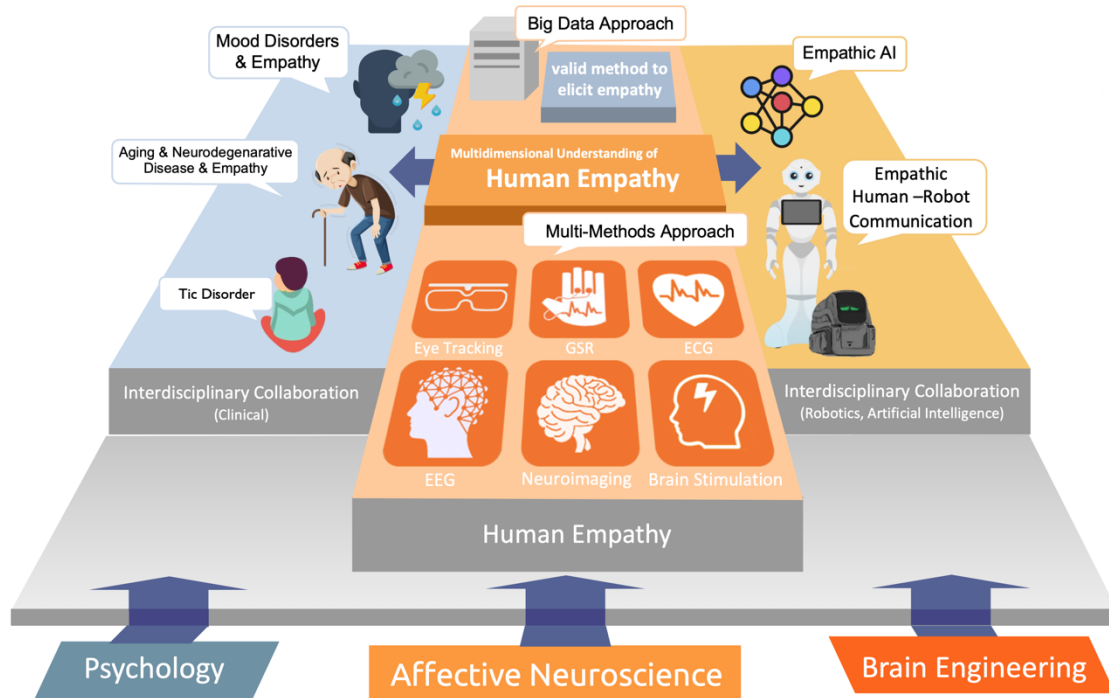


June Kang

Affective Neuroscientist

Summary



Interdisciplinary Background : Psychology, Philosophy, Biomedical Science, Cognitive Brain Engineering

Explore human empathy using various methods including neuroimaging, autonomic response, eye-tracking, EEG and psychophysics. Based on the interdisciplinary background, conduct various collaboration studies with clinical and engineering field.

Personal Information

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Research Topic

- Empathy
- Automatic Emotion Processing
- Mood Disorder
- Empathic Human-Robot Interaction

Research Area

- Multimodal Neuroimaging
- Psychophysiology
- Emotion Elicitation & Assessment
- Non-Invasive Brain Stimulation
- Psychophysics

Experience

Research Professor 03.2018 – Current
Department of Brain and Cognitive Engineering, Korea University

Lecturer 03.2022 – 02.2023
Department of Psychology, Yonsei University

Lecturer 03.2017 – 02.2018
Department of Biomedical Science, Korea University

Education

Ph.D. Biomedical Science, Korea University 03.2013 – 02.2018
Dissertation Title : Altered brain connectivity and structures in bipolar disorders and their effect on trait empathy

M.A. Clinical Psychology, Korea University 03.2010 – 02.2013
Dissertation Title : A study on the individual differences in empathy : using emotional priming

B.A. Psychology, Korea University 03.2006 – 02.2010

Publications (first & corresponding)

- **Kang, J.**, Park, Y. E., Yoon, H. K. (2022). Feeling Blue and Getting Red: An exploratory study on the Effect of Color in the Processing of Emotion Information. *Frontiers in Psychology*, 13:515215, 1-9.
- **Kang, J.**, Kim, A., Kang, Y., Han, K. M., & Ham, B. J. (2022). The Indirect Effect of Prefrontal Gray Matter Volume on Suicide Attempts among Individuals with Major Depressive Disorder. *Experimental neurobiology*, 31(2), 97-104.
- Chae, B., **Kang, J.**, Shin, C., Ko, Y. H., & Yoon, H. K. (2021). Insomnia in Emotional Labor: Its Role in Autonomic Nervous System Regulation. *Psychiatry Investigation*, 18(9), 889.
- Hyung, W. S. W., **Kang, J.**, Kim, J., Lee, S., Youn, H., Ham, B. J., ... & Jeong, H. G. (2021). Cerebral amyloid accumulation is associated with distinct structural and functional alterations in the brain of depressed elders with mild cognitive impairment. *Journal of Affective Disorders*, 281, 459-466.
- Park, Y. E., Yoon, H. K., Kim, S. Y., Williamson, J., Wallraven, C., & **Kang, J.** (2019). A Preliminary Study for Translation and Validation of the Korean Version of The Cognitive, Affective, and Somatic Empathy Scale in Young Adults. *Psychiatry investigation*, 16(9), 671-678.
- **Kang, J.**, Derva, D., Kwon, D. Y., & Wallraven, C. (2019). Voluntary and spontaneous facial mimicry toward other's emotional expression in patients with Parkinson's disease. *PloS one*, 14(4), e0214957.
- **Kang, J.**, Ham, B. J., & Wallraven, C. (2017). Cannot avert the eyes: reduced attentional blink toward others' emotional expressions in empathic people. *Psychonomic Bulletin & Review*, 24(3), 810-820.
- Won, E., **Kang, J.**, Kim, A., Choi, S., Han, K. M., Tae, W. S., ... & Lee, M. S. (2016). Influence of Bcll C/G (rs41423247) on hippocampal shape and white matter integrity of the parahippocampal cingulum in major depressive disorder. *Psychoneuroendocrinology*, 72, 147-155.

Publications (co-authored)

- Roh, H., **Kang, J.**, Koh, S. B., & Kim, J. H. (2021). Hippocampal volume is related to olfactory impairment in Parkinson's disease. *Journal of Neuroimaging*, 31(6), 1176-1183.
- Roh, H., **Kang, J.**, Hwang, S. Y., Koh, S. B., & Kim, J. H. (2021). Regional Cerebral Cortical Atrophy is Related to Urinary Tract Symptoms in Parkinson's Disease. *Journal of Neuroimaging*. 31(2), 363-371.
- Kang, W., Shin, J. H., Han, K. M., Kim, A., Kang, Y., **Kang, J.**, ... & Ham, B. J. (2020). Local shape volume alterations in subcortical structures of suicide attempters with major depressive disorder. *Human brain mapping*, 41(17), 4925-4934.
- Han, K. M., Tae, W. S., Kim, A., Kang, Y., Kang, W., **Kang, J.**, ... & Ham, B. J. (2020). Serum FAM19A5 levels: A novel biomarker for neuroinflammation and neurodegeneration in major depressive disorder. *Brain, Behavior, and Immunity*, 87, 852-859.
- Lee, J., Han, C., Ko, Y. H., **Kang, J.**, Byun, Y., Son, Y., & Yoon, H. K. (2020). Emotional Changes and Protective Factors of Emotional Workers in the Public and Private Sector. *Psychiatry investigation*, 17(7), 645-653.
- Han, K. M., Han, M. R., Kim, A., Kang, W., Kang, Y., **Kang, J.**, ... & Ham, B. J. (2020). A study combining whole-exome sequencing and structural neuroimaging analysis for major depressive disorder. *Journal of affective disorders*, 262, 31- 39.
- Ju, U., **Kang, J.**, & Wallraven, C. (2019). To brake or not to brake? Personality traits predict decision-making in an accident situation. *Frontiers in Psychology*, 10, 134.
- Han, K. M., Kim, A., Kang, W., Kang, Y., **Kang, J.**, Won, E., ... & Ham, B. J. (2019). Hippocampal subfield volumes in major depressive disorder and bipolar disorder. *European Psychiatry*, 57, 70-77.
- Ju, U., **Kang, J.**, & Wallraven, C. (2019). You or me? Personality traits predict sacrificial decisions in an accident situation. *IEEE transactions on visualization and computer graphics*, 25(5), 1898-1907.
- Han, M. R., Han, K. M., Kim, A., Kang, W., Kang, Y., Kang, J., ... & Ham, B. J. (2019). Whole-exome sequencing identifies variants associated with structural MRI markers in patients with bipolar disorders. *Journal of affective disorders*, 249, 159-168.

- Derya, D., **Kang, J.**, Kwon, D. Y., & Wallraven, C. (2019). Facial Expression Processing Is Not Affected by Parkinson's Disease, but by Age-Related Factors. *Frontiers in Psychology*, 10, 2458.
- Na, K. S., Won, E., **Kang, J.**, Kim, A., Choi, S., Tae, W. S., ... & Ham, B. J. (2018). Differential effect of COMT gene methylation on the prefrontal connectivity in subjects with depression versus healthy subjects. *Neuropharmacology*, 137, 59- 70.
- Han, K. M., Won, E., **Kang, J.**, Choi, S., Kim, A., Lee, M. S., ... & Ham, B. J. (2017). TESC gene-regulating genetic variant (rs7294919) affects hippocampal subfield volumes and parahippocampal cingulum white matter integrity in major depressive disorder. *Journal of Psychiatric Research*, 93, 20-29.
- Won, E., Han, K. M., **Kang, J.**, Kim, A., Yoon, H. K., Chang, H. S., ... & Ham, B. J. (2017). Vesicular monoamine transporter 1 gene polymorphism and white matter integrity in major depressive disorder. *Progress in Neuro- Psychopharmacology and Biological Psychiatry*, 77, 138-145.
- Han, K. M., Won, E., **Kang, J.**, Kim, A., Yoon, H. K., Chang, H. S., ... & Ham, B. J. (2017). Local gyrification index in patients with major depressive disorder and its association with tryptophan hydroxylase-2 (TPH2) polymorphism. *Human brain mapping*, 38(3), 1299-1310.
- Han, K. M., Won, E., Sim, Y., **Kang, J.**, Han, C., Kim, Y. K., ... & Ham, B. J. (2017). Influence of FKBP5 polymorphism and DNA methylation on structural changes of the brain in major depressive disorder. *Scientific Reports*, 7(1), 1-12.
- Han, K. M., Kim, D., Sim, Y., **Kang, J.**, Kim, A., Won, E., ... & Ham, B. J. (2017). Alterations in the brainstem volume of patients with major depressive disorder and their relationship with antidepressant treatment. *Journal of affective disorders*, 208, 68-75.
- Kang, S. G., Yoon, H. K., Cho, C. H., Kwon, S., **Kang, J.**, ... & Lee, H. J. (2016). Decrease in fMRI brain activation during working memory performed after sleeping under 10 lux light. *Scientific reports*, 6, 36731.
- Won, E., Choi, S., **Kang, J.**, Lee, M. S., & Ham, B. J. (2016). Regional cortical thinning of the orbitofrontal cortex in medication-naïve female patients with major depressive disorder is not associated with MAOA-uVNTR polymorphism. *Annals of general psychiatry*, 15(1), 1-8.
- Choi, S., Han, K. M., **Kang, J.**, Won, E., Chang, H. S., Tae, W. S., ... & Ham, B. J. (2016). Effects of a polymorphism of the neuronal amino acid transporter SLC6A15 gene on structural integrity of white matter tracts in major depressive disorder. *PloS one*, 11(10), e0164301.
- Won, E., Choi, S., **Kang, J.**, Kim, A., Han, K. M., Chang, H. S., ... & Ham, B. J. (2016). Association between reduced white matter integrity in the corpus callosum and serotonin transporter gene DNA methylation in medication-naïve patients with major depressive disorder. *Translational psychiatry*, 6(8), e866.
- Kwon, D., Ham, B., **Kang, J.**, Yoon, H., (2016). Frontoparietal cortical thinning in respiratory-type panic disorder: a preliminary report. *Psychiatric Investigation*, 13(1), 146-151.
- Chang, H. J., **Kang, J.**, Ham, B. J., & Lee, Y. M. (2016). A functional neuroimaging study of the clinical reasoning of medical students. *Advances in Health Sciences Education*, 1-14.
- Na, K. S., Won, E., **Kang, J.**, Chang, H. S., Yoon, H. K., Tae, W. S., ... & Ham, B. J. (2016). Brain-derived neurotrophic factor promoter methylation and cortical thickness in recurrent major depressive disorder. *Scientific reports*, 6(1), 1-10.
- Jung, J., **Kang, J.**, Won, E., Nam, K., Lee, M. S., Tae, W. S., & Ham, B. J. (2014). Impact of lingual gyrus volume on antidepressant response and neurocognitive functions in Major Depressive Disorder: A voxel-based morphometry study. *Journal of affective disorders*, 169, 179-187.
- 고선규, **강준**, 고영건. (2012). 우울한 사람의 시간은 느리게 가는가?. *한국심리학회지: 사회 및 성격*, 26(1), 1-22.

Conference Proceedings

- **Kang, J.**, & Park, Y. E. (2021, August). A preliminary study on Reading the Mind in the Eyes of the Robot. In *2021 30th IEEE International Conference on Robot & Human Interactive Communication (RO-MAN)* (pp. 839-843). IEEE.
- **Kang, J.**, Park, Y., Lim, H., & Wallraven, C. (2019). Modulating emotional empathy using individualized tACS protocol. *Brain Stimulation: Basic, Translational, and Clinical Research in Neuromodulation*, 12(2), 399.

- **Kang, J.**, Ham, B., Kang, J. W., Kang, W. Y., Kim, A., Shim, G.J., Ham, H., Functional Characteristics of Brain Reward Circuitry in the Altruistic and Self- Oriented Reward Processing. *2018 American Psychiatric Association Annual Meeting*.
- Lim, H., Park, Y., Wallraven, C., & **Kang, J.** (2018). 합성 사진을 이용한 감정 인식에 중요한 얼굴 부위 연구. *한국감성과학회 춘계학술대회*, 2018, 79-80.
- Park, Y. E., Lim, H., **Kang, J.**, & Wallraven, C. (2018). 작업기억과제에서 정서정보의 영향. *한국감성과학회 춘계학술대회*, 2018, 83-84.
- Park, Y. E., **Kang, J.**, Lim, H., & Wallraven, C. (2018). Smile, the world smiles toward you or your smile? The effect of emotions and facial identity on working memory process. *21th Annual Meeting of the Korean Society for Brain and Neural Science*.
- Derya, D., Kwon D. Y., **Kang, J.**, & Wallraven, C. (2018). Let's face it: which factor impacts communicative and emotional facial expressions? Parkinson's disease or age. *21th Annual Meeting of the Korean Society for Brain and Neural Science*.
- Lim, H., Won, E., Park, Y. E., **Kang, J.** (2018). Current genetic understanding of individual variance in emotional intelligence. *21th Annual Meeting of the Korean Society for Brain and Neural Science*.
- **Kang, J.**, Ham, B., (2016). Empathic readiness- Resting-state functional connectivity reflects individual difference in trait empathy. *British Association for Cognitive Neuroscience Annual Conference*.
- **Kang, J.**, Jung, J. Ham, B., (2015). Trait empathy and facial mimicry toward goal- irrelevant presentation of others' emotional expressions. *Society for Social Neuroscience Annual Conference*.
- **Kang, J.**, Ham, B., (2015). Development and Validation of East-Asian Dynamic Facial Expression Stimulus. *Current Trends in Biomedical Science*.
- **Kang, J.**, Won, E., Ham, B., (2015). Validation of Korean Version of Questionnaire of Affective and Cognitive Empathy. *Current Trends in Biomedical Science*.
- **Kang, J.**, Shin, A., Wallraven, C., (2015). Cross-Validation of EADFES using automatic FACS coding system. *Current Trends in Biomedical Science*.

Awards

- 제 2 회 한국인 감정 인식 경진대회 동상 (한국 스마트미디어 학회, 전남대학교)
- 우수논문발표상 (2018 년 한국감성과학회 춘계학술대회 '작업기억과제에서 정서정보의 영향')
- 우수논문발표상 (2018 년 한국감성과학회 춘계학술대회 '합성 사진을 이용한 감정 인식에 중요한 얼굴 부위 연구')

Services

- Committee of Inclusion at 30th IEEE International Conference on Robot and Human Interactive Communication, 2021, Canada (Virtual)
- Philips Neuro (EGI) Workshop 2020, Seoul, Korea
- SuperLab 을 이용한 코딩 없는 행동실험 : Behavior Experiment without coding, 한국임상심리학회 2018 추계학술대회

Teaching Experiences

- 인지신경과학입문 (Introduction to the Cognitive Neuroscience, (PSY3146), Department of Psychology, Yonsei University, March 2022 – June 2022
- 사회적 뇌와 인간행동 (팀 티칭) (Social Brain and Human Behavior, PMED230), College of Medicine, Korea University, September 2021 – December 2021
- 사회적 뇌와 인간행동 (팀 티칭) (Social Brain and Human Behavior, PMED230), College of Medicine, Korea University, September 2020 – December 2020
- 백색질 연결 분석 입문 (Introduction to White Matter Analysis, BMS536), Department of Biomedical Science, Korea University, September 2018 – December 2018
- 뇌영상 연구 입문 (Introduction to Neuroimaging Research, BMS691), Department of Biomedical Science, Korea University, March 2017 – August 2017
- 정신질환연구를 위한 구조적 뇌영상분석 (Structural Neuroimaging Analysis for Mental Disorder Research, BMS712), Department of Biomedical Science, Korea University, September 2016 – December 2016

Open Lecture

- ‘공감의 자동성’, 2019 년 금요일에 과학터치 (24 회), 정독도서관, October 11. 2019

Research Grants

- 2021~현재 (연구책임자) | 뇌신경영상 및 뇌파를 이용한 틱장애의 장기예후 예측 기술 개발 (보건복지부 질병중심 중개연구)
- 2018~현재 (연구책임자) | 공감의 자동적 측면에 대한 다층적 연구: 개인차 기전 및 증진 가능성을 중심으로 (NRF-2018R1D1A1B07048820)
- 2017~현재 (참여연구원) | 멀티모달 데이터베이스를 활용한 감성지능 신경회로 규명 및 인공지능 기술 개발 연구 (NRF-2017M3C7A1041817)
- 2018~2019 (연구책임자) | 외집단 구성원에 대한 공감 편향의 측정 및 비침습적 뇌자극을 이용한 공감 편향의 감소 방안 연구 -다문화 사회와 약자협회의 맥락에서 (NRF-6/6 2018R1E1A2A02086661)
- 2017-2018 (연구책임자) | 고해상도 뇌파 및 개인맞춤형 비침습적 뇌 자극술을 이용한 정서적 공감 뇌 활성 패턴의 저장과 이에 기반한 공감반응 유발 연구 (NRF-2017R1E1A2A01079266)