

Kyoung Whan CHOE

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ACADEMIC APPOINTMENTS

- 2018/09 – current Institute Postdoctoral Fellow, Mansueto Institute for Urban Innovation
- 2015/12 – current Postdoctoral Scholar (PI: Dr. Marc G. Berman)
- 2015/12 – 2017/08 Postdoctoral Scholar (PIs: Drs. Sian L. Beilock & Marc G. Berman)
Department of Psychology, The University of Chicago
- 2015/09 – 2015/11 Postdoctoral Scholar (PI: Dr. Sang-Hun Lee)
Dept. of Brain & Cognitive Sciences, Seoul National University

EDUCATION

- Ph.D. Seoul National University, 2010 – 2015, Department of Brain & Cognitive Sciences
Thesis: Neuroimaging studies on the role of Human primary visual cortex during perceptual decision-making (Advisor: Dr. Sang-Hun Lee)
- MS Seoul National University, 2008 – 2010, Cognitive Science
- BS Korea Advanced Institute of Science and Technology, 1998 - 2005

PEER-REVIEWED PUBLICATIONS

- 2019 **Choe KW**, Jenifer JB, Rozek CS, Berman MG, & Beilock SL. Calculated avoidance: Math anxiety predicts math avoidance in effort-based decision-making. *Science Advances* (in press). Preprint: <https://psyarxiv.com/afj37>
- 2019 Scrivner C, **Choe KW**, Henry J, Lyu M, Maestriperi D, & Berman MG. Violence reduces attention to faces and draws attention to points of contact. *Scientific Reports* (in press). Preprint: <https://psyarxiv.com/3y4w9>
- 2017 **Choe KW**, Kardan O, Kotabe HP, Henderson JM, & Berman MG. To search or to like: Mapping fixations to differentiate two forms of incidental scene memory. *Journal of Vision* 17(12):8, 1-22
- 2016 **Choe KW**, Blake R, & Lee SH. Pupil size dynamics during fixation impact the accuracy and precision of video-based gaze estimation. *Vision Research* 118:48-59
- 2015 Suh JE, **Choe KW**, & Kim CD. The trends and issues in neuroimaging studies of counseling and psychotherapy (1992-2014). *Korean Journal of Counseling* 16(2): 27-51
- 2014 **Choe KW**, Blake R, & Lee SH. Dissociation between neural signatures of stimulus and choice in population activity of Human V1 during perceptual decision-making. *The Journal of Neuroscience* 34(7):2725-2743

MANUSCRIPTS IN PREPARATION

Lyu M, **Choe KW**, Kardan O, Kotabe HP, Henderson JM, & Berman MG. Scenes that produce more consistent fixation maps are more memorable (in revision). Preprint:

<https://psyarxiv.com/3e8qm>

Lee HS, Lee HJ, **Choe KW**, & Lee SH. A new formalism for perceptual classification with normative inference of internal criteria (in revision). Preprint:

<https://www.biorxiv.org/content/10.1101/787424v1>

HONORS, AWARDS, AND GRANTS

2018 Project: Understanding meaning-making of violence: Bridging perception, cognition, and cultural schema (PIs: Berman MG, Maestripieri D, & Shweder RA; \$35K), The Neubauer Collegium for Culture and Society of the University of Chicago

2017 Project: Effort-reward decision-making in math anxious individuals (PI: Beilock SL; \$10k), The University of Chicago Neuroscience Institute Pilot MRI Funding

2014 Young Investigator Award, Korean Society of Human Brain Mapping

2013 Student Travel Award, Vision Sciences Society

SCIENTIFIC AND TECHNICAL SKILLS

- Design, implement, and execute rigorous behavioral, eye-tracking, and fMRI experiments using MATLAB and web browsers (Amazon Mturk/JavaScript)
- Analyze fMRI, eye-tracking, behavioral, and text data using MATLAB and python

CONFERENCE PRESENTATIONS (* indicate mentee students)

2019 Jenifer JB, Choe KW, Rozek CS, Berman MG, & Beilock SL. A gender gap in math-specific effort avoidance. Annual Meeting of the Psychonomic Society, Montreal, Canada

2019 Jenifer JB, Choe KW, Rozek CS, Berman MG, & Beilock SL. Calculated avoidance: Math anxiety leads to math avoidance in effort-based decision-making. Mathematical Cognition and Learning Society, Ottawa, Canada

2018 Zhang S*, Lyu M*, Choe KW, & Berman MG. Evaluating advertisements using mobile eye-tracking. Neubauer Collegium Conference on the Allure of Violence, Chicago, IL

2018 Young J*, Meidenbauer KL, Choe KW, & Berman MG. Functional near-infrared spectroscopy imaging of auditory and visual cortex. The University of Chicago Neuroscience Retreat

2018 Lyu M*, Zhang Y*, Choe KW, & Berman MG. Mapping psychological sciences through PubMed text mining. The University of Chicago Research Computing Center MindBytes Conference

2018 Lyu M,* Schertz KE, Choe KW, Qin X, Meitner M, Chamberlain BC, & Berman MG. Low-level and semantic visual features predict preference in virtual environments. Association for Psychological Science's Annual Convention, San Francisco, CA

- 2018 Braxton J, Rozek CS, Choe KW, Beilock SL, & Levine SC. Math anxiety and exam preparation: Exploring student use of practice testing. Association for Psychological Science's Annual Convention, San Francisco, CA
- 2017 Choe KW, Rozek CS, Braxton J, Berman MG, & Beilock SL. Effort-reward decision-making in math anxious individuals. Society for Neuroscience's Annual Meeting, Washington, DC
- 2016 Choe KW, Mattarella-Micke A, Berman MG, & Beilock SL. A neural correlate of math anxiety in the ventromedial prefrontal cortex. Society for Neuroscience's Annual Meeting, San Diego, CA
- 2016 Choe KW, Kardan O, Kotabe HP, Henderson JM, & Berman MG. Images that produce more consistent fixation maps are more memorable. Association for Psychological Science's Annual Convention, Chicago, IL
- 2015 Choe KW, Lee WY, & Lee SH. The dynamics of line motion illusion is constrained by the collinearity of its cues and line parts. Korean Society for Brain and Neural Sciences' Annual Meeting, Daegu, Korea
- 2014 Choe KW, Blake R, & Lee SH. Correcting video-based eye-tracking signals for pupil-size artifacts. Vision Sciences Society's Annual Meeting, St. Pete Beach, FL
- 2013 Choe KW, Blake R, & Lee SH. Decomposition of stimulus representations and decision-bias signatures in population activity of human primary visual cortex. Vision Sciences Society's Annual Meeting, Naples, FL (Talk)
- 2012 Choe KW, Blake R, & Lee SH. Decomposition of BOLD activity into tuned and untuned components reveals cohabitation of stimulus and choice information in V1. Asia-Pacific Conference on Vision, Incheon, Korea (Talk)
- 2010 Choe KW, Kim MJ, Suh YM, & Lee SH. Trial-to-trial prediction of choice behavior from the stimulus-classification pattern of fMRI activity in human V1. Society for Neuroscience's Annual Meeting, San Diego, CA
- 2009 Choe KW, & Lee SH. Prediction of perceptual choices from noise fluctuations of fMRI activity in human visual cortex. Society for Neuroscience's Annual Meeting, Chicago, IL

WORK EXPERIENCE

- 2005/07 – 2008/02 Data analyst, Daum Communications (Korean internet company)
- 2003/04 – 2005/01 Software developer, Softwise (search engine company)
- 2002/01 – 2003/04 Software developer, FistGlobal (financial software company)