HOYOUNG DOH

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RESEARCH INTERESTS

Judgement and Decision-Making, Learning, Computational Modeling

EDUCATION

Seoul National University   2020 - 2022
M.A. in Psychology
Advisor: Dr. Woo-Young Ahn
Thesis: Revealing the mechanism of Pavlovian influence on instrumental learning with mouse-tracking and computational modeling

Seoul National University   2014 - 2020
B.A. in Psychology, Minor in Brain-Mind-Behavior
Thesis: Revealing the interaction between Pavlovian and instrumental systems: A simulation study with novel computational models and behavioral tasks

RESEARCH EXPERIENCE

Seoul National University   2020 - present
Graduate Student, Research Assistant
Advisor: Dr. Woo-Young Ahn

- Within-trial dynamics of the interaction between Pavlovian and instrumental systems, investigated with mouse-tracking and drift-diffusion modeling

- Effect of working-memory load on the interaction between Pavlovian and instrumental systems, investigated with computational modeling and fMRI

- Moderating effect of distress tolerance on the relationship between daily stress level and smoking behaviors during a smoking cessation clinic

- Prediction of fMRI markers of cognitive functions using fNIRS data and machine learning

Seoul National University   2019 - 2020
Undergraduate Research Assistant
Advisor: Dr. Woo-Young Ahn

- Relationship among Pavlovian, model-free instrumental, and model-based instrumental systems investigated with reinforcement learning tasks and computational modeling

PUBLICATIONS

Doh, H.*, Jeong, Y.*, Park, H., Lee., D. & Ahn, W.-Y. (in preparation). Revealing the time-course of Pavlovian-instrumental conflict using mouse-tracking and drift diffusion modeling.

Park, H., **Doh, H.**, Park, H., & Ahn, W.-Y. (in preparation). The neurocognitive role of working memory load when Pavlovian motivational control affects instrumental learning.

Chang, R. S.*, **Doh, H.***, & Ahn, W.-Y. (in preparation). Daily stress, laboratory stress reactivity, and smoking behaviors following a quit attempt.

Hur, J., Yang, J., **Doh, H.**, & Ahn, W.-Y. (2020). Mapping fNIRS to fMRI with Neural Data Augmentation and Machine Learning Models. *NeurIPS 2020 BabyMind Workshop.*

* indicates equal contribution

CONFERENCE PRESENTATIONS

Doh, H.*, Jeong, Y.*, Park, H., Lee., D. & Ahn, W.-Y. (submitted). Revealing the time-course of Pavlovian-instrumental conflict using mouse-tracking and drift diffusion modeling. *Society for Neuroeconomics 2022.*

Park, H., **Doh, H.**, Park, H., & Ahn, W.-Y. (2022). The neurocognitive role of working memory load when motivation affects instrumental learning. *Computational and Systems Neuroscience (COSYNE) 2022.* [Poster Presentation]

Doh, H.*, Jeong, Y.*, Park, H., & Ahn, W.-Y. (2020). Dissecting the mechanism of Pavlovian bias with the orthogonalized Approach/Withdrawal task and mouse-tracking. *The 53rd Annual Meeting of the Society for Mathematical Psychology.* [Oral Presentation]

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HONORS AND AWARDS

SNU Graduate Research Grant in Social Sciences ($2,500)	2021
SNU Graduate Student Instructor Scholarship (2 semesters, full-funded)	2020 - 2021
Runner-up in SNU Brain-Mind-Behavior Research Presentation	2019
SNU Alumni Association Scholarship (6 semesters, full-funded)	2015 - 2019
Samsung Dream Class Mentoring Scholarship ($2,000)	2014

TEACHING EXPERIENCE

Computational Psychiatry Course (CPC) Zurich
Tutorial on Reinforcement Learning   Teaching Assistant. 2021

Seoul National University
Computational Modeling (graduate, in English)   Teaching Assistant. 2020

ACADEMIC SERVICE

Manuscript Review
eLife (with advisor Dr. Woo-Young Ahn)

OTHER EXPERIENCE

Certification of Datascience Bootcamp at SNU   2020
Math (perfect score), Probability and Statistics, Programming

Study Groups   2019 - 2020
Reinforcement Learning, fMRI analysis, Stochastic Processes, Math and Psychology

RELEVANT COURSEWORK

Neuroeconomics: Judgement and Decision-Making, Cognitive Processes, Neuroscience, Biology, Brain-Mind-Behavior, Principles of Economics
Computational Modeling: Computational Modeling, Datascience and Reinforcement Learning, Probabilistic Brain, Dynamics and Cognitive Models
Math and Statistics: Advanced Psychological Statistics, Multivariate Analysis, Linear Algebra, Math and Programming for Machine Learning

LANGUAGE

Korean (native), English (advanced)

TECHNICAL SKILLS

Programming

- **Python** (Numpy, Pandas, PsychoPy, Matplotlib, Jupyter)

- **R** (Tidyverse, ggplot, R Markdown)

- **MATLAB** (SPM12)

- **Stan**

- **Git, GitHub, LaTeX**