

DI LIU

Faculty of Psychology
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EDUCATION

Beijing Normal University , Beijing, China	September, 2019 – June, 2023
<ul style="list-style-type: none">Bachelor of Science in PsychologyGPA: 4.00/4.00, 95.37/100 (rank: 1/128)	
University of Oxford , Oxford, United Kingdom	September, 2022 – December, 2022
<ul style="list-style-type: none">Visiting student in PsychologyGPA: 4.00/4.00	

PUBLICATIONS

- Li, Z., Lu, H., **Liu, D.**, & Gendron, M. (*submitted*). Beyond faces: Emotional Event Perception is Related to Lexical Complexity and Emotion Knowledge. Manuscript submitted to *Nature Communication*
- Liu, D.**, Wang, X., Zheng, Q., Xin C., & Bi, Y. (*in preparation*). Individual emotional semantic space predicts propensity of depression and anxiety. Manuscript to be submitted to *Emotion*

POSTER PRESENTATIONS

- Li, Z., Lu, H., **Liu, D.**, & Gendron, M. (March, 2022). *Active emotion vocabulary is associated with emotion segmentation ability*. Poster presented at the 2022 Annual Conference of the Society for Affective Science

GRANTS, HONORS & AWARDS

Jindong Grant for International Communication (¥150,000)	July, 2022
National Grant for Undergraduate Scientific Projects (¥20,000)	July, 2021
National Scholarship (¥8000)	October, 2020 & October, 2021
-Awarded to top 0.2% students for outstanding academic performance	
The First-Class Jing Shi Scholarship (¥5000)	October, 2020 & October, 2021
-Awarded to top 10% students for outstanding academic performance	
Merit Students (¥1000)	October, 2020 & October, 2021
-Awarded for outstanding moral and academic performance	
The First-Class scholarship of competition winner (¥3000)	October, 2021
-Awarded for outstanding competition performance	
Freshman Scholarship of Beijing Normal University (¥5000)	November, 2019
-Awarded to top 5% students in the College Entrance Examination	
The First-Class scholarship of Beijing Normal University (¥1000 per semester)	2019-2022
-Awarded to top 20% students	

RESEARCH EXPERIENCE

Research assistant at Bi's Concept Lab - Beijing Normal University	September, 2019 – Present
<i>PI: Dr. Yanchao Bi, Professor</i>	

Project Name: Idiosyncratic concept representation predicts individual traits in prosocial tendency

June, 2020 – June, 2021

- Designed a study examining correlation between individual's idiosyncratic representation of word meanings and their prosocial tendency
- Conducted literature reviews and developed research proposal
- Processed word materials based on a large corpus and select measurement of prosocial tendency
- Created online and offline data-collection questionnaires and run human participants
- Analyzed data with supportive vector machine model (SVM) based on MATLAB

Project Name: Individual emotional semantic space predicts psychological well-being

June, 2021 – June, 2022

- Designed a study examining correlation between individual's emotional concept representation and psychological well-being based on prior findings in the prosocial project
- Conducted literature research and developed research proposal
- Processed word materials based on literature review

- Implemented behavioral paradigm online and ran large sample of human participants ($N = 300$)
- Analyzed data with unsupervised clustering approach based on R and relevance vector regression (RVR) model based on MATLAB
- Designed poster, documented preliminary results, presented findings, and was awarded excellence prize at the Undergraduate Scientific Project Competition

Research assistant at Affective Science and Culture Lab - Yale University

May, 2021 – Present

PI: Dr. Maria Gendron, Assistant professor

Project Name: Emotional segmentation and its relationship with active emotion vocabulary

May, 2021 – September, 2022

- Designed a new paradigm to capture individual difference in emotional perception using dynamic movie clips
- Involved in pre-processing of behavioral data in the segmentation and vocabulary task
- Developed innovative computational method to measure individual's understanding of discrete emotions
- Analyzed data with natural language processing approach based using R
- Contributed to poster presentation and publication

Project Name: Ability to differentiate between sentiments in narratives predicts emotional properties

September, 2021 – Present

- Develop innovative computation method to measure individual's ability to differentiate sentiments in diary narratives and examine its relationship and with emotional properties (i.e., emotional granularity)
- Conduct literature review for experiment ideas
- Analyze data with natural language processing based using R
- Document preliminary results for future publications

Research assistant at Computational Auditory Perception group - Max Planck Institute for Empirical Aesthetics

PI: Dr. Nori Jacoby and Dr. Robert Hawkins (Princeton University)

Project Name: A new paradigm measuring individual difference in perceptual and semantic representations

July, 2022 – Present

- Develop 4 studies to efficiently identify the concept that maximize individual variations in perceptual representation and the perceptual stimuli that elicit the most ambiguous conceptual representation
- Implement and deploy online behavioral paradigm using Python and JavaScript
- Run large sample of participants on crowdsourcing platforms
- Analyze data using Python, SPSS, JASP, and R
- Document results and contribute to publications

Research assistant at Language and Cognition Lab - Stanford University

September, 2021 - Present

PI: Dr. Michael C. Frank, Professor

Project Name: How does culture influence children's relational-reasoning in the development course

September, 2021 – Present

- Conduct online behavioral experiment for a study comparing relational-reasoning abilities in young children between US and Chinese culture
- Create and maintain research partnerships with preschools and elementary schools
- Recruit, consent, and run 3- to 12-year-old children's ($N=122$) using online meeting platform
- Organize data spreadsheet in excel and code behavioral performance of children
- Assist data analysis and reproducibility project using R

Research assistant at ReadOxford - University of Oxford

September, 2022 – December, 2022

PI: Dr. Kate Nation, Professor

Project Name: Acquisition of word valence by reading contexts

September, 2022 – December, 2022

- Experiment for a study investigating whether children and adults learn word valence by reading paragraphs, and which contextual valence elicit the best learning performance
- Created materials of reading paragraphs and designed testing tasks (i.e., sentence completion and meaning generation)
- Implemented paradigms online and recruited participants
- Conducted data analysis based on R and Python
- Documented preliminary findings

Project Name: Adoption of proportional reasoning contributes children's number line representation shift

December, 2021 – June, 2022

- Conducted and wrote literature reviews on the development of children's number line representation
- Created stimuli for future empirical test
- Implemented paradigm measuring number line representation using Psychtoolbox based on MATLAB

Student Project for Computational Modeling Course – Beijing Normal University

PI: Dr. Dajun Xing, Professor

Project Name: Simulating the process of language converging with a dynamic model

November, 2021 – December, 2021

- Developed a dynamic model to simulate the process through which humans use converging verbal labels in the community based on MATLAB
Design details: Key parameters include a population of N , each starting with an idiosyncratic word repertoire of M , the effectiveness of communication E , and a personality parameter of openness O
- Documented and presented preliminary results
Results details: current model suggests that community tend to share a limited word repertoire in order to convey information efficiently. Further, if some words were repeated several times by some community members in the initial individual word base, these words would significantly decrease the diversity of final word repertoire. These results fit the empirical data presented in prior literature

Student Project for Advanced Physiological Psychology Course – Beijing Normal University

PI: Dr. Mengyuan Wang, Lecturer

November, 2021 – December, 2021

Project Name: Do mice have “concept” of shape in mind? Evidence from a radical six arm maze experiment

- Conducted literature review and wrote research proposal
- Designed, coded, and analyzed data for a study examining whether mice represent information about shape in mind and the generalizability of that representation based on a hand-made radical six-arm maze
Design details: The entrance of each arm was designed to contain a hole of 3 shapes (circle, triangle, and rectangle), and the sequence of shapes were randomized constantly in the training phase. A blue container was placed at the end of each arm to hold food. In the training trials, only containers at the end of arms with a circle entrance were filled with food reward. After training for 6 days, the food reward was removed and the mice was tested for its frequency of entering the circle entrance on the 7th day, which reflects whether it learnt to associate shape with food
- Documented and presented preliminary results
Results details: mice enter the circle entrance significantly more frequently; however, in the exploratory test, where I set all entrance to the same shape and attached stickers of the 3 shapes at the walls of each arm, mice did not show preference for the circle arms. One possible inference is that mice represent shape information restrictedly that cannot generalize to other “modalities”.

SKILLS

MATLAB (Proficient), R (Proficient, especially with data visualization), JavaScript (Proficient), Python (Proficient)

Enthusiastic and efficient in learning new methodologies, i.e., have learnt representation similarity analysis (RSA), RVR

and SVM within a week; also have experience with modeling, for instance, see:

<https://github.com/AuroraLiuDi/Decoding-scripts-for-sharing>

TEACHING ASSISTANTSHIP

Student teaching assistant of *Children emotional well-being and development* (Spring, 2021)

Supervisor: Dr. Yinghe Chen

- Develop framework of teaching materials
- Collect mid-term and final assignment
- Offer feedback for students' oral presentations

Student teaching assistant of *Abnormal Psychology* (Autumn, 2021)

Supervisor: Dr. Zhuo Han

- Assist with teaching materials preparations
- Write brief outline about certain chapters of the recommended text book
- Organize group discussions and collect weekly assignment

Mentor of Peer Workshop in *Abnormal Psychology* and *Social Psychology* (Autumn, 2021)

Supervisor: Dr. Zhuo Han & Dr. Yu Kou

- Volunteer to help first-generation-to-college students at risk of failing exams prepare for finals in a one-to-one manner
- Summarize key points of the learning materials
- Develop attractive teaching method based on the student's idiosyncratic knowledge structure
- Share tips for how to organizing knowledge in a more efficient way

SERVICE AND OUTREACH

Co-chair of Student Union at Faculty of Psychology, Beijing Normal University

July, 2020 - October, 2022

- Lead 50-member organization and coordinate two of BNU's largest psychology events, Face to Face Psychology Cultural Festival and 525 Mental Health Week
- Design, advertise, and organize academic events (i.e., seminars, lectures) in psychology field
- Organize series of talks and open exhibitions to promote psychology scientific communication
- Some featured events are listed below:
Lecture in Neuroscience: A fun introduction to nerve concussion
Scientific Salon: Look into the eyes of children with Autism - What does their world look like?
Scientific Salon: Cognitive style of the elderly and how to offer them emotional support in practice
Fun talk: Learn how to love in Love Psychology
Open exhibition: Introduction to classic psychology experiment instrument

Core member of Academic Well-being Association at Faculty of Psychology, Beijing Normal University

October, 2019 - October, 2022

- Design workshops to offer academic well-being support for peers in specific courses and general study skills
- Develop lectures and talks to provide guidance in career planning
- Organize advertisement of research assistant opportunities for undergraduates in spreadsheet, and help students apply for corresponding positions

Mentor of psychology outreach program

June, 2020 - Present

- Exchange over 70 hand-written letters with two left-behind girls (start from their grade 7 year) from rural middle schools in Henan and Gansu Province
- Encourage them pursue higher education, inspire them to be interested in science, offer study skill tips
- Provide mental health aid by empathizing with their emotional feelings (i.e., stress from exams, depression from arguing with friends) and sharing my personal experience of handling similar situations with them

Volunteer teacher at Shangshui First Middle School

July, 2020 - August, 2020

- Teach around 60 kids from grade 7 and 8 at Shangshui First Middle School, which is located in an under-developed city of Henan province where educational resource is highly constrained
- Design teaching materials and teach English courses
- Organize interest class and introducing fun facts about human brain
- Give talks to share personal experience of conducting scientific research
- Offer emotion regulation tips and mental health aid

Volunteer teacher at Dandelion Middle School

October, 2019 - December, 2019

- Mentor to 8 middle school students from a charity school for peasant immigrant workers' families
- Design teaching materials and tutor Math and English in one-to-one manner
- Offer study skill tips and mental health aid