Full Name: Lijing Guo

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Personal Website : https://lijinggu0.github.io
25 years old

SUMMARY

Personal Background and Research Interests:

- During my Master's degree at Sichuan Normal University, I focused my research on visual working memory, branching into emotional states, memorability, and attention.
- I am particularly passionate about investigating memorability, an under-explored attribute of objects. This research necessitates an integration of visual short-term and long-term memory to deepen our understanding of the memory process, which has significant implications for education, advertising, and artificial intelligence.

Career Objectives:

- My goal is to become a university faculty member specializing in memory research and to develop a comprehensive memory training system to help students improve their memory and reduce academic stress.
- I believe that doctoral training will equip me with the knowledge and skills to achieve this and pave the way for my entry into academia.

Reasons for Choosing This University:

- I have chosen Finland and the University of Jyväskylä for my doctoral studies due to the substantial government support for doctoral education, which provides robust financial assistance for research.
- The university is recognized for its high-quality educational resources and is particularly strong in the field of Education and Psychology, offering a globally competitive environment for research.
- Additionally, my previous mentor, Dr. Ye, works there, and our past collaboration was successful.

Personal Qualities and Skills:

- I am recognized for my strong execution, rapid learning, and high work efficiency. I have quickly adapted to the field of psychology and published approximately 10 articles in collaboration with my mentor and classmates during the postgraduate period.
- I possess excellent teamwork and leadership skills and have become proficient in various research techniques.

Challenges and Overcoming Them:

- I have not encountered major challenges in my academic journey. When technical issues arise, I quickly acquire the necessary skills and share solutions with my team.

Conclusion:

- I am thrilled about the prospect of pursuing a doctoral degree and am confident in my ability to complete my studies.
- My research direction during my master's and future doctoral studies aligns closely, ensuring a smooth transition into research and article production.
- I look forward to contributing to the field of memory at the University of Jyväskylä.

EDUCATION

2020.09 ~ 2023.07

- Master   Sichuan Normal University   Institute of Brain and Psychological Sciences
- Psychology   GPA : 3.67/4

2016.09 ~2020.07

- Bachelor   Pingdingshan University   Institute of Economics and Management
- Marketing   GPA : 3.27/4

RESEARCH EXPERIENCE

2020 ~ 2021: Attention Mechanisms in Individuals with Depression
- University-level Project
- **Third Principal Researcher**
- Responsible for the preparation of research findings report and academic paper writing.

2020 ~ 2021: The Effect of Negative Emotional States on Short-term Memory Representations
- Conducted a comprehensive review examining the impact of negative emotions on visual short-term memory (STM).
- **Lead author.** Responsible for writing the full text.
- Identified decreased STM capacity and increased precision under negative emotions. The review was published in the Chinese Journal of Applied Psychology.

2020 ~ 2022: Encoding specificity instead of online integration of real-world spatial regularities for objects in working memory
- Exploring the effect of real-world spatial regularities on working memory encoding and maintenance.
- **Third author.** Assumed responsibilities for data collection and manuscript assistance.
- Found that spatial regularities enhance encoding efficiency but do not organize sampling sequence information. The paper was published in the Journal of Vision.

2021 ~ 2023: Processing Mechanisms of Filtering Interference Information in the Visual Working Memory Storage Process
- National Natural Science Foundation of China-supported project
- **Second Principal Researcher**
- Mainly responsible for data collection (behavioral, EEG, and nuclear magnetic resonance), data analysis, and academic paper writing.

2021 ~ 2023: Sustained attention required for effective dimension-based retro-cue benefit in visual working memory
- Investigated the effects of perceptual and cognitive interference on VWM at various stages.
- **co-first author.** Primarily handled data analysis and wrote experimental procedure and result sections.
- Confirming the importance of sustained attention on specific dimensions in VWM representation. The paper was published in the Journal of Vision.

2021 ~ 2023: Perceptual boost of visual memorability on visual memory formation
- Explore the specific role of visual memorability in the formation process of visual memory.
- **Second author.** Assumed responsibilities for programming, data collection, and initial analysis, as well as the initial drafting of the experimental and data analysis sections.
- Discovered that visual memorability strengthens memory within 100-200 ms, leading to durable traces resilient to disruptions and forgetting. Manuscript under submission for Journal of Cognition.

2021 ~ 2023: Negative emotional state impairs individuals' ability to filter out distractors from working memory: An ERP study
- Examining the effects of negative emotional state on visual working memory.
- **Third author.** Assumed responsibilities for preliminary data analysis and manuscript assistance.
- Found compromised interference filtering abilities and increased interference memory under negative emotional states. Manuscript accepted for publication in Cognitive, Affective, and Behavioral Neuroscience.

2022 ~ 2023: EEG-fMRI fusion analysis of attention and visual working memory
- Explore the exact spatio-temporal dynamics of working memory processes.
- **Second author.** Assumed responsibilities for programming, data collection, and initial data, analysis.
- EEG-fMRI fusion showed distinct temporal profiles in different regions containing sustained information and transient peaks, highlighting the role of attentional processes during working memory tasks. Presented at the 2023 Conference on Cognitive Computational Neuroscience.

2023: Comparing retro-cue benefit mechanisms in visual working memory: Completely valid vs. highly valid retro-cues
- Explore the attention allocation and information-processing mechanisms in VWM.

- **Third author.** Assumed responsibilities for preliminary data analysis and manuscript assistance.
- The mechanisms underlying retro-cue benefit (RCB) in visual working memory are consistent across different levels of cue validity, suggesting an all-or-nothing process of discarding uncued information. Manuscript under submission for Journal of Frontiers in Psychology.

2023: Influence of presentation duration on filtering irrelevant stimuli in visual working memory
- Investigate how the duration of visual stimuli presentation affects distractor filtering in visual working memory.
- **Third author.** Assumed responsibilities for preliminary data analysis and initial drafting of the experimental and data analysis sections.
- Underscoring the significant impact of presentation time on the efficiency of distractor suppression in VWM: longer exposure leads to greater distraction effects and more robust suppression of distractors. Manuscript under submission for Journal of BMC Psychology.

PUBLICATIONS

1. GUO Li-jing, YE Chao-Xiong, LONG Fang-fang, LIU Xin-yang, XIE Wei-Zhen. The Effect of Negative Emotional States on Short-term Memory Representations. *Chinese Journal of Applied Psychology, 2023, 29(4)*: 352-364.

2. Liu, R.(co-first author), **Guo, L.(co-first author)**, Sun, H. J., Parviainen, T., Zhou, Z., Cheng, Y., Liu, Q., & Ye, C. (2023). Sustained attention required for effective dimension-based retro-cue benefit in visual working memory. *Journal of Vision,* 23(5), 13.

3. Liu, R., **Guo, L.**, Cheng, Y., Li, X., & Ye, C. (2022). The Representation Unit of Visual Working Memory. *Advances in Psychology,* 12(03):868-875.

4. Li, X., **Guo, L.**, Zhou, Z., Liu, R., Cheng, X., & Ye, C. (2022). The Performance Difference of Visual Working Memory between Various Emotional Faces. *Advances in Psychology*,12(5), 1638-1646.

5. Cheng, X., **Guo, L.**, Zhou, Z., Liu, R., Li, X., & Ye, C. (2022).The Influencing Factors of Retro-Cue Effect in Visual Working Memory. *Advances in Psychology*, 12(4), 1079-1087.

6. Liu, X., Liu, R., **Guo, L.**, Astikainen, P., & Ye, C. (2022). Encoding specificity instead of online integration of real-world spatial regularities for objects in working memory. *Journal of Vision,* 22(9), 8.

7. Zhou, Z., Liu, X., **Guo, L.,** He, G., & Ye, C. (2021). The Effect of Internal Attention on Visual Working Memory at the Dimensional Level. *Advances in Psychology,* 11(12):2821-2829.

8. He, G., Liu, X., **Guo, L.**, Zhou, Z., & Ye, C. (2021). Whether the Trade-Off between Quantity and Quality in Visual Working Memory under Individual Voluntary Control? *Advances in Psychology,* 11(10):2323-2331.

9. Ye C, Liu R, **Guo L**, Qiang L, Zhao G. (2024) A negative emotional state impairs individuals' ability to filter out distractors from working memory: An ERP study. *Cognitive, Affective, and Behavioral Neuroscience*. (in press)

10. Salmela, V., **Guo, L.**, Alho, K., & Ye, C. (2023). EEG-fMRI fusion analysis of attention and visual working memory. In CCN 2023: *2023 Conference on Cognitive Computational Neuroscience* (pp. 678-680). Conference Management Services, Inc..

11. Ye C, **Guo L**, Wang N, Qiang L, Xie W. Perceptual boost of visual memorability on visual memory formation. *Cognition* (under review), preprint: https://osf.io/2hx8n.

12. Qiang L, Fu K, **Guo L**, Ye C. Comparing retro-cue benefit mechanisms in visual working memory: Completely valid vs. highly valid retro-cues. *Frontiers in Psychology* (under review), preprint: https://10.31234/osf .io/j4v6x.

13. Ye C, Yin X, **Guo L**, Qiang L. Influence of presentation duration on filtering of irrelevant stimuli in visual working memory. *BMC Psychology* (under review), preprint: https:// 10.31234/osf.io/pz83e.

WORK EXPERIENCE

2023 ~ 2024: Worked as a research assistant at Sichuan Normal University
1. Managed laboratory-related matters;
2. Led several national and university-level projects;
3. Assisted in drafting project proposals;

4. Host of Graduate Student Group Meetings;
5. Responsible for three scientific research projects and completed the experimental idea discussion of 3 projects, the experimental programming of 2 projects, and the preliminary data analysis of 1project;
6. Assisted in the writing of 2 paper manuscripts.

CONFERENCES AND TALKS

2021.04: The 6th Chinese National Emotion and Health Psychology Symposium
- Volunteer

2022.06: Meeting of the Vision Sciences Society
- Online poster presentations
- Sustained attention required for effective dimension-based retro-cue benefit in visual working memory

2023.06: Working Memory Symposium
- Online PowerPoint presentations
- Negative emotional state impairs individuals' ability to filter out distractors from working memory: An ERP study

HONOURS AND AWARDS

2019 National Inspirational Scholarship
- Pingdingshan University
- For the Top 3 academic performance among classmates

2020 Outstanding Graduate Award
- Pingdingshan University
- For superior all-around performance

2021 Inspirational Scholarship
- Sichuan Normal University
- For excellent academic performance

2022 Elsevier/Vision Research Travel Awards
- VSS Board of Directors
- For the excellent scientific quality of the submitted abstract

2022 Class Academic Scholarship
- Sichuan Normal University
- For Top 10 academic performance among classmates

2023 Class Academic Scholarship
- Sichuan Normal University
- For excellent academic performance

PERSONAL SKILLS

- **Computer skill:** Office- Photoshop - SPSS- JASP E-prime - Brain Vision Analyzer- Matlab - Python- FMRI
- **Presentation skills:** I have gained through my experience of the regular seminars at Sichuan Normal University.
- **Languages:** My IELTS score is 6. I have participated in international conferences (VSS, VSM) and McMaster's 2022 Attention Bias Summer Camp, boosting my English speaking through reports and defenses at conferences and interaction with grad students.
- **Communication skills:** Gained through my research experience instructing more than 200 participants in 5 experiments and my counseling sessions with college students.
- **Other skill:** Gained through the management of the current laboratory and group member as a research assistant at Sichuan Normal University.