Yuyao Zhao

yuyzhao@unc.edu | Google Scholar

Education

2023 - Present	Ph.D. student in Cognitive Psychology, Department of Psychology and Neuroscience, University of North Carolina at Chapel Hill
2020 - 2023	M.S. in Cognitive Neuroscience, State Key Laboratory of Cognitive Neuroscience and Learning & IDG/McGovern Institute for Brain Research, Beijing Normal University (GPA: 3.9/4.0)
2016 - 2020	B.S. in Psychology, Faculty of Psychology, Beijing Normal University (GPA: 3.8/4.0)

Publications

Zhao, Y., Xu, J., Chen, M., Hao, L., … Tao, S., Dong, Q., & Qin, S. (2024). Power of self-belief: Growth mindset fosters cognitive development via mesocortical functional coactivation and dynamic reconfiguration. (preprint). https://doi.org/10.1101/2022.07.11.499525

Chen, M., He, Y., Hao, L., Xu, J., Tian, T., Peng, S., Zhao, G., Lu, J., **Zhao, Y.**, ... & Qin, S. (2023). Default mode network scaffolds immature frontoparietal network in cognitive development. *Cerebral Cortex*. https://doi.org/10.1093/cercor/bhac414

Tian, T., Chen, B., **Zhao, Y.**, … Qiu, J., Chen, Xu., & Qin, S. (2023). Positive coping supports children's emotional wellness: Behavioral evidence and neuroendocrine mechanisms. (preprint). https://doi.org/10.1101/2023.02.19.526965

Research Projects

Lead Projects

2023 - 2024 **Maternal psychiatric history and children's executive function development and psychopathology (manuscript)**

- Maternal psychiatric history significantly impacts the future well-being of offspring. We found that high-risk children exhibited elevated EF impairments and psychopathology symptoms compared to the low-risk group over six years. Improvements in EF predicted reductions in psychopathological symptoms, and relatively intact EF protected high-risk children from developing clinically significant psychopathology. The poster of this project has been presented in the annual conference for Triangle Society of Neuroscience in 2024.

2021 - 2024 **Cortico-striatal interaction in working memory and effect of growth mindset (preprint)**

- Growth mindset benefits the development of working memory capacity in school-aged children. Via analyzing imaging data, we found that the growth mindset promoted

working memory through enhanced frontoparietal, salience network activity and cortico-striatal interactions. Moreover, the reconfiguration of networks prepared children for demanding tasks in future.

Cooperating Projects

2022-Present **Neural reconfiguration of multiple-demand system and math performance during childhood and adolescence (manuscript)**

- The brain organization underlies multiple executive functions is also strongly associated with math performance, which is challenging but crucial in primary education. We found that the dynamic mechanisms of multiple-demand system identified during four executive function tasks predicted individual math performance during childhood and adolescence. The poster of this project has been presented in the annual conference for Society of Neuroscience in 2024.

2020-2022 **Default mode network scaffolds immature frontoparietal network in working memory development (published)**

- The default mode network (DMN) is a workspace for convergence of internal and external information. The frontal parietal network (FPN) is indispensable to executive functioning. We investigated how they interplay to support cognitive development. The findings showed that the DMN provides a scaffolding effect in support of an immature FPN that is critical for the development of executive functions in children.

2021-2023 **Positive coping and hippocampal-neocortical maturation (preprint)**

- The positive coping style is a key buffer against vulnerability to stress. We investigated the neurobiological mechanisms behind the positive coping in children undergoing rapid brain development. The findings revealed that positive coping promotes hippocampal function through response in endocrinal system and shapes hippocampal-neocortical functional systems involved in negative emotion processing.

Teaching Experiences

2025 Spring	Instructional assistant for NSCI 225
2024 Fall	Instructional assistant for IDST 129
2024 Spring	Instructional assistant for PSYC 210
2023 Fall	Instructional assistant for PSYC 101

Honors, Awards and Fundings

2017-2021	Scholarship for Academic Excellence, Beijing Normal University
2020	Scholarship for Outstanding Freshman, State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University
2019	Excellent Project of Undergraduate Research Funding, Faculty of psychology, Beijing Normal University
2018 & 2019	Excellent Report of Psychology Research Program Competition, Faculty of psychology, Beijing Normal University