Department of Psychology
The University of Hong Kong
香港大學心理學系

Departmental Seminar

Beyond Phonological Deficits: Exploring Auditory and Visual Processing in Developmental Dyslexia

3:00 p.m. – 4:00 p.m. | July 3, 2025 (Thursday)
Room 814, The Jockey Club Tower | Centennial Campus | The University of Hong Kong

Professor Ting Qi
Associate Professor
Department of Brain Cognition and Intelligent Medicine
Beijing University of Posts and Telecommunications

Abstract

Learning to read constitutes a milestone in children's development, leading to profound changes in language processing and beyond. Some children develop persistent reading difficulties diagnosed as developmental dyslexia (DD), with a core deficit of phonological awareness. However, DD extends beyond phonological deficits. Some frame it as a more general auditory processing deficits that drives the inability of phoneme representations, while others emphasize difficulties in fine-grained visual tasks and reduced repetition suppression across categories. But are these non-phonological deficits causes of dyslexia, or consequences of reduced reading experience? Here, we investigated how reading proficiency relates to auditory and visual processing in a developmental sample of children with dyslexia and without. For auditory processing, dyslexic children showed amplitude rise time deficits (but preserved speech in noise). Critically, amplitude rise time independently predict reading and correlated with neural development in the posterior STG, while speech in noise related only to phonological awareness. For visual processing, children with dyslexia showed lower repetition detection hit rates across visual categories and negatively correlated with absolute reading proficiency. We also observed that both absolute reading proficiency and dyslexia impacted categorical distinctiveness for words and other categories across hemispheres, in different but complementary ways. However, reading scores showed stronger effects than dyslexia diagnosis per se. These findings illuminate dyslexia's heterogeneity, with implications for targeted interventions.

About the Speaker

Ting Qi is Associate Professor at the Department of Brain Cognition and Intelligent Medicine, Beijing University of Posts and Telecommunications. She earned her Ph.D. degree from Max Planck Institute for Human Cognition and Brain Science in Germany and further worked as a postdoctoral researcher at UCSF. Her research focuses on investigating language and brain development, with a particular interest in reading, spoken language comprehension and developmental dyslexia. She also explores the applications of advanced techniques to neuroimaging data, aiming to better understand the neural basis of language development.

Zoom Meeting (For participants who couldn't attend the Seminar in person)

https://hku.zoom.us/j/6985555998?pwd=V05yTGJWNTlzazd2OFZ0Q3FReHVkdz09
Meeting ID: 698 555 5998 | Password: Psyc

~All are Welcome~

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