Beyond Language Skills, What are the Cognitive Skills and Environmental Risk Factors Contributing to Literacy Skills in Chinese Children at Family Risk of Dyslexia?

There has been significant research focusing on the identification of children with dyslexia, and recently work has been carried out in Europe that examined preschool children with a family risk of dyslexia (FRD) who often show a broad range of language and literacy difficulties prior to formal primary schooling. However, the impact of environmental risk factors and child cognitive skills implicated in the etiology and development of children at FRD has not been fully examined. Even though China has the largest population in the world, little research has been made to examine the impact of environment risk factors and cognitive skills on the development of language and literacy skills in Chinese-speaking children at FRD and their subgroups compared with typically developing children. Chinese is a rewarding case for study in the investigation of this issue because it has a different writing system from alphabetic languages. This also suggests that risk factors may be different and may operate differently in the Chinese culture and learning environment at school and home.

This project will examine the environmental factors (family socio-economic status and home literacy environment), cognitive skills (executive functioning and visual attention span), language and literacy skills in Chinese children at FRD and their subtypes in order to determine the unique contribution of risk factors and skills to literacy ability across different groups of children at FRD and those without. Approximately 190 Hong Kong children will be administered a diverse array of assessment measures from kindergarten grades 1 to 3 (K1 to K3). Parents of these children will be tested on cognitive and literacy skills. Longitudinal and multivariate analyses will be used to investigate the heterogeneity of children at FRD, indicators of FRD, the associations among the environmental factors, cognitive, language, and literacy skills of children at FRD vs typical children and their developmental trajectories across three time points.

This project will advance the understanding of the heterogeneity issue of FRD, its characteristics and subgroups, and thus may provide the taxonomic classification for future research into the physiological correlates and genetic contributions of Chinese children at FRD. Findings may also assist in enhancing early identification processes and intervention strategies to support Chinese children and their families. The study's findings will also provide insights into teachers, parents, and policy makers, including ways to facilitate the support of parents' socialisation efforts, especially among families at risk of literacy difficulties in Hong Kong and Taiwan.