**Playfulness and Reciprocal Development in Creative Thinking Processes and Academic Skills Among Kindergarten Children**

Wing Kai Fung1, Kevin Kien Hoa Chung2

1Liverpool Hope University, Liverpool, United Kingdom. 2Education University of Hong Kong, Hong Kong, Hong Kong

**Abstract**

This study examined the bidirectional relationship between kindergarten children’s creative thinking processes and academic skills and how these factors were longitudinally related to their playfulness. The participants were 150 Hong Kong kindergarten children (52.7% boys; Time 1 age range = 4 to 5 years; Time 2 age range = 5 to 6 years) and their parents. At Time 1, the parents reported demographic information and rated children’s playfulness (social and cognitive spontaneity) by completing the questionnaire. In contrast, children were administered behavioral measurements of creative thinking processes (convergent and divergent thinking), Chinese word reading, and mathematics skills (forward counting, backward counting, number word comparison, arithmetic addition, and arithmetic subtraction). One year later, at Time 2, children completed the same behavioral assessments again. Results from a path analytic model revealed that the indirect relationship between playfulness at Time 1 and mathematics at Time 2, mediating through creative thinking processes at Time 1, was positive and significant. Moreover, children’s creative thinking processes and mathematics skills reciprocally predicted each other across Times 1 and 2. These findings suggest that playful kindergarten children might develop better creative thinking processes that further support their academic skills. Furthermore, their creative thinking processes and mathematics skills might co-develop in the early years. Practically, the results highlight the utility of encouraging children’s playfulness and implementing play-based mathematics activities in daily schedules to shape their early creativity and academic skills.