

Abstract of thesis entitled:

The present study examined the relative associations of family variables to the arithmetic performance of primary school children in Hong Kong. The individual variables were children's age, grade and non-verbal IQ; while family variables involve family SES, parents' arithmetic performance, parents reported their attitudes toward learning math and home numeracy education. Three hypotheses were (i) Family socioeconomic status has directly positive effect on their children's arithmetic performance; (ii) Parents' arithmetic performance has directly positive effect on their children's arithmetic performance; (iii) Parents' attitudes toward children learning math and home numeracy education have significant correlates of children's arithmetic performance. This study is a part of a Bilingual Twin Project, which is a three years longitudinal study following children from Grade one to Grade five to investigate children's bilingual and mathematics cognitive and ability development. Children ($N = 181$; 95 boys, 86 girls) in Grade three to Grade four were randomly selected to participated in this study. They completed non-verbal IQ test and arithmetic skills test to evaluate own arithmetic performance. Parents were invited to completed self-report questionnaire about their family demographic information (E.g., family monthly income and educational levels), attitudes toward learning math and the frequency of home numeracy education. They were administrated to complete arithmetic skill test to evaluate own arithmetic performance. The analysis of SPSS shown directly positive correlation result between socioeconomic status (SES involves family monthly income and parents' educational levels) and children's arithmetic performance ($r = .18, p < .05$). SES has a trend to predict children's arithmetic performance in Grade three and Grade four children with small effect ($\Delta R^2 = .01$). SES correlated among parent's arithmetic