

**A COMPARATIVE-CORRELATIONAL STUDY OF UPPER  
ELEMENTARY AND MIDDLE SCHOOL STUDENTS'  
PERCEPTIONS OF PARENTAL INFLUENCE AND SELF-  
EFFICACY FOR LEARNING MATHEMATICS WITH  
MATHEMATICS ACADEMIC ACHIEVEMENT AT PAN-ASIA  
INTERNATIONAL SCHOOL, BANGKOK, THAILAND**

**Serpil Akkus<sup>1</sup>  
Richard Lynch<sup>2</sup>**

**Received: 2<sup>nd</sup> August 2021**

**Revised: 11<sup>th</sup> April 2022**

**Accepted: 1<sup>st</sup> July 2022**

**Abstract:** The purpose of this study was to investigate whether there was a significant relationship between perceived parental influence and self-efficacy for learning mathematics with mathematics academic achievement and also whether there was a significant difference in perceived parental influence on learning mathematics and in students' self-efficacy for learning mathematics for upper elementary and middle school students at Pan-Asia International School Bangkok, Thailand. The research was conducted among 41 upper elementary students, and 49 middle school students enrolled in the academic year 2020 - 2021. The Students' Perceptions of Parental Influence and Self-Efficacy for Learning Mathematics Questionnaire was used to collect data to measure students' perceived parental influence and self-efficacy for learning mathematics. The November 2020 Measures of Academic Progress (MAP) mathematics scores were used to determine the students' mathematics academic achievement. The data was used to analyze descriptive statistics such as means, standard deviations, independent samples t-test, and multiple correlation coefficient analysis. A multiple correlation coefficient analysis revealed significant, positive, and moderately strong multiple correlations between self-efficacy for learning mathematics and mathematics academic achievement for upper elementary and middle school students. However, there was a very weak and positive correlation between upper elementary students' perceptions of parental influence on learning mathematics and mathematics academic achievement. It also indicated a weak and negative correlation between middle school students' perceptions of parental influence on learning mathematics and mathematics academic achievement. Independent samples t-

---

<sup>1</sup> IB MYP Mathematics Teacher, Pan-Asia International School, Bangkok, Thailand.  
canserpil25@gmail.com

<sup>2</sup> Ph.D., Assistant Professor, Graduate School of Human Sciences, Assumption University, Thailand. richardlynch2002@yahoo.com

test revealed a significant difference between the upper elementary and middle school students' perceptions of parental influence on learning mathematics. At the same time, there was no significant difference between the upper elementary and middle school students' self-efficacy for learning mathematics.

**Keywords:** Perceptions of parental influence on learning mathematics, self-efficacy for learning mathematics, mathematics academic achievement.

### **Introduction**

Mathematics is a vital tool that people use to solve problems in their daily lives. People who use mathematics can significantly improve their chances and choices for shaping their lives (National Council of Teachers of Mathematics, 2000). The impact of mathematics in daily life is recognized, and as a subject has long been required for students from kindergarten through high school (Sriampai, 1988). Several variables can affect learners' mathematics learning. The literature strongly conveys that parental encouragement supports children's education, including numeracy growth (Cairney, 2000). Grolnick and Ryan (1989) found that parental influence was strongly and positively related to the mathematics and reading academic achievement of Grades 3 to 6 students at selected schools in New York. According to Pajares and Miller (1995), there is a strong connection between academic success and self-efficacy. Self-efficacy is a person's belief that she can attain learning goals that affect their lives (Bandura, 1986). Therefore, mathematics self-efficacy for students can be characterized as their decisions about their ability to learn the subject effectively. This study aimed to identify the level of students' perceptions of parental influence and self-efficacy for learning mathematics to present information for school administration and mathematics teachers to assist them in enhancing their students' mathematics achievement.

### **Research Objectives**

The following ten objectives were developed for this study.

1. To identify the level of upper elementary students' perceptions of parental influence on learning mathematics at Pan-Asia International School in Bangkok.
2. To identify the level of middle school students' perceptions of parental influence on learning mathematics at Pan-Asia International School in Bangkok.
3. To identify upper elementary students' self-efficacy level for learning mathematics at Pan-Asia International School in Bangkok.
4. To identify middle school students' mathematics self-efficacy at Pan-Asia International School in Bangkok.