

# **The predictive effects of motivation toward science on TIMSS grade 8 students' science achievement: a comparative study between Malaysia and Singapore**

## **Abstract**

### **Background:**

TIMSS routinely presents very powerful evidence showing that within countries students with more positive motivation toward science have substantially higher achievement. The results from TIMSS 2011 are consistent with previous assessments. This study explored the predictive effects of motivation toward science on science achievement among Malaysian and Singaporean eighth graders who participated in the TIMSS 2011.

### **Material and methods:**

In this study, students' interest in and liking of learning science, students' understanding about the importance of the subject and usefulness of the subject (attainment value and utility value), and students' self-confidence or self-concept in their ability to learn science were measured. Data were obtained from 5,733 Malaysian students and 5,927 Singaporean students who participated in the TIMSS 2011.

### **Results:**

The results of the present study indicated that eighth-graders' liking and valuing of learning science were positively associated with their science achievement.

### **Conclusions:**

This study provides high quality information on Malaysian and Singaporean student achievement outcomes in science and the educational contexts (the educational systems, the organisation, curricula, resources, and instructional practices) of the two countries. Implications of the findings for educational policy and practice are discussed.