This study sought answers to the following research questions:

RQ 1. What is the impact of a multi-dimensional metacognitive and affective intervention on: (a) maths performance (b) maths anxiety (c) maths self-concept; (d) self-regulated behaviour in maths

RQ 2. To what extent are the factors being investigated contributing to the explanation of variance in maths anxiety and maths performance?

### Analysis

**Mixed Analysis of Variance (ANOVA)**: to assess the impact of the intervention. Regression Analysis: to identify factors explaining the variance in maths anxiety and performance.

### Results

**RQ1a : Math Performance**: Pupils in the Intervention Group performed significantly better than the pupils in the Control Waiting List Group when retested after the intervention period.

**RQ1b: Maths Anxiety**: There was not a significant difference in maths anxiety after the intervention period.

**RQ1c: Self Regulated Behaviours**: A significant impact on increasing some elements of self-regulated behaviours (strategising and focusing) but not in other self-regulated behaviours (self-managing; self-correcting; persevering).

**RQ1d: Maths Self-Concept**: No significant impact overall. However, boys in the intervention group reported significantly higher mathematics self-concept compared to males in the control group.

**RQ2 in this study**: 45% of maths anxiety is explained by performance, maths self-concept and self-talk behaviours.

17% of maths performance is explained by self-regulated behaviours, maths self-concept and maths anxiety.

### Implications

- Reciprocal links between maths performance, anxiety, self-concept and self-regulated behaviour supported in younger pupils. Early intervention is therefore required.
- Interventions to support emotional aspects of learning potentially require long term involvement to have impact.
- Raises the possibility of further research into and development of interventions which can enhance the “cognitive” and “emotional” dimensions of learning.
- Usefulness of models (e.g.IMPROVE; Mevarech & Kramarski, 1997) to support self-regulated behaviours in maths is indicated.
- Importance of developing self-concept as a means of reducing maths anxiety, particularly with respect to girls.
- Mathematics anxiety is likely to be predicted by lower math ability.
- Development of TA skills to support multidimensional interventions could be considered in order to promote a higher level of instructional skills and enhanced learning.