RESEARCH BRIEF
Rhythm and Movement for Self-Regulation (RAMSR):
A pilot study in kindergarten

Background
Self-regulation is an umbrella term that includes lower order skills of regulating attention and emotion, and the executive functions including working memory (holding information in mind), shifting (flexible shifting of attention between information or tasks), and inhibition (the ability to control urges and resist distraction). While it is accepted that self-regulation skills are an important component of school readiness, and targeting these skills may offer a mechanism through which to address socioeconomic related achievement gaps, relatively little is known about effective approaches to boosting these skills in the preschool years. The neurological benefits of music participation and particularly rhythmic, coordinated movement, are well documented and used extensively in the field of music therapy.

Aims
In this study, a rhythm and movement program based on neurological and music therapy principles was designed with the aim of stimulating the shared neural networks for rhythm perception, beat synchronisation, motor skills, and self-regulation. The intervention was delivered by visiting music specialists in three preschool centres and ran as two 45-minute sessions per week for eight weeks.

The research questions were:

- How engaged in the intervention will preschool children in disadvantaged areas be?
- Does participation in the intervention result in steeper growth in executive function and self-regulation skills than is stimulated by regular preschool alone?

Key findings

How engaging is the intervention?
Child engagement as rated by the intervention session leaders was overall high across the program.

Was the intervention effective?
The intervention group showed steeper growth in teacher-rated emotional regulation than the comparison group.

Boys in the intervention group also showed steeper growth in the executive function of shifting (mental flexibility) than boys in the comparison group.

In one of the three centres, children in the intervention group showed steeper growth in teacher-reported cognitive and behavioural regulation.
Implications

These findings suggest that a rhythm and movement program has the potential to stimulate growth in important self-regulatory skills in the year prior to school. This may be particularly important in communities with high levels of child social-emotional vulnerability in the early years. It is likely that improvements in self-regulation prior to school entry will support positive school transition and future academic achievement for children.

Recommendations:

- Early childhood educators should aim to embed more rhythmic movement into their programming. All intervention activities for the program described here are freely available online at www.ramsrblog.wordpress.com.

- Future research should address the extent to which improvements found here are maintained following the intervention and whether effects extend to school transition and future academic achievement for children.

Study methodology

We designed a rhythm and movement program for preschool children and piloted it for two sessions a week over eight weeks in three preschool centres. Centres were in communities where early development data suggest there is room for improvement in supporting self-regulation skills in young children.

One class in each centre participated in the program run by visiting music specialists, while the other class in each centre did not participate and were the comparison group.

A total of 113 children across the three centres were included in the final data analysis.

Before and after the program we asked parents and teachers to report on children’s self-regulation behaviours using a survey. We also directly assessed children’s executive function skills (working memory, inhibition, and shifting) using three iPad games.

For further information on this study please contact:

Dr Kate Williams k15.williams@qut.edu.au • Prof Donna Berthelsen d.berthelsen@qut.edu.au.

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