

Children's use of visual and kinaesthetic imagery in generating movement

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Literature Review

- Imagery is the ability to generate, maintain and transform images in one's mind¹. It contains visual imagery (external and internal: see figure 1) and kinaesthetic imagery².
- Imagery contributes to the planning, production and representation of a movement³. It can be used for practice, as a motivator⁵ and to improve performance in sports¹.
- Deficits in movement imagery have been linked with developmental co-ordination disorder in children³.
- Little research is available about how children use mental imagery and none of the imagery questionnaires available (1,6,7,8) are designed for use with children.
- The questionnaire used for this research project was a modified version of Hall and Martin's Movement Imagery Questionnaire-Revised.

Purpose

- To evaluate the use of kinaesthetic imagery and internal and external visual imagery in children ages 7 to 12.

Hypothesis

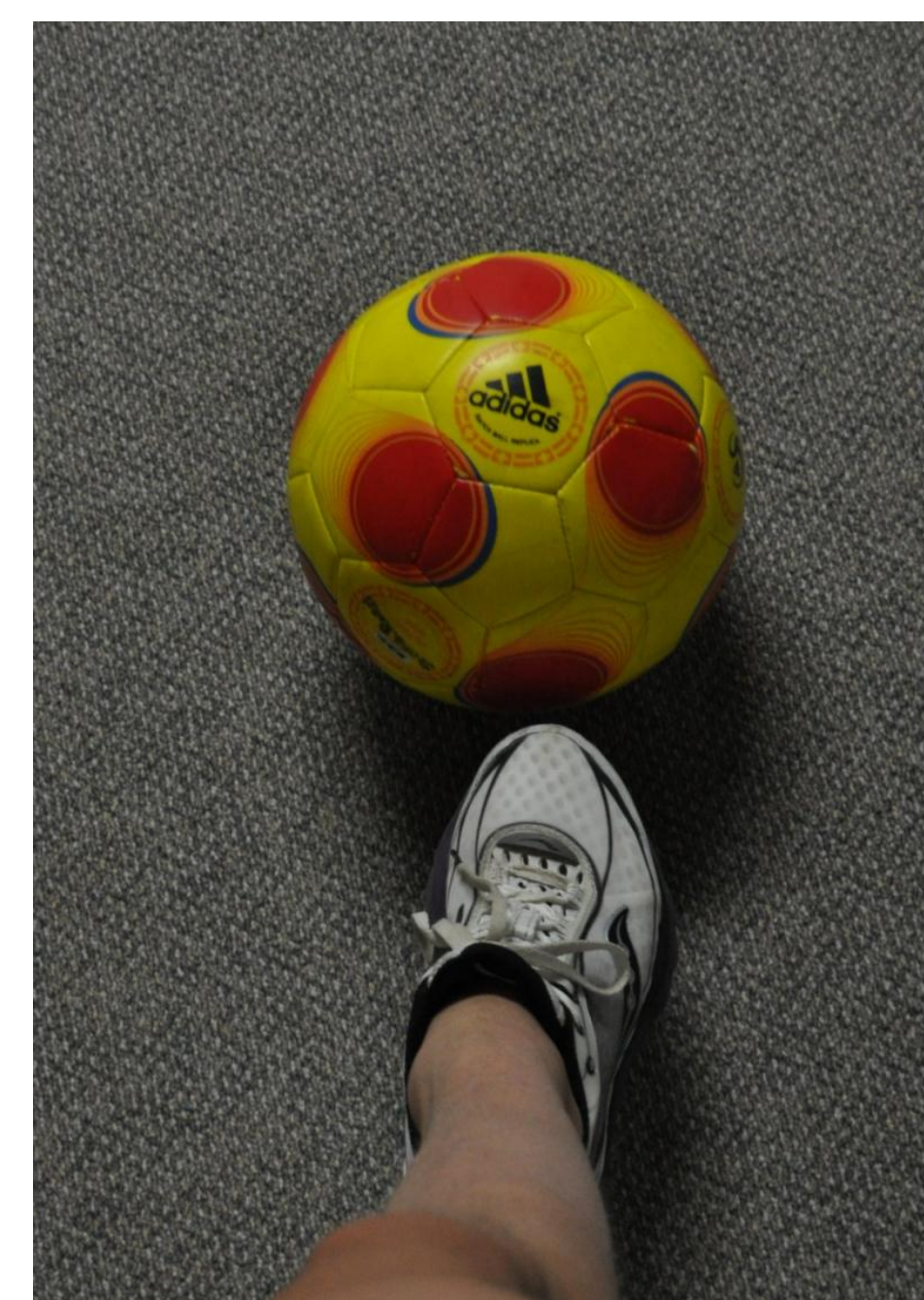
- Children will use visual imagery (both internal and external) more easily than kinaesthetic imagery

Method

- Sample: 153 English-speaking children (72 male, 81 female) ages of 7 and 12
- Questionnaire: 12-questions and four movements. The child performed a movement then imagined the same movement using external visual, internal visual or kinaesthetic imagery and ranked the ease of imagery on a scale from 1 to 7.



External Imagery



Internal Imagery

Figure 1: Images used in the MIQ-C to explain external and internal visual imagery

Results

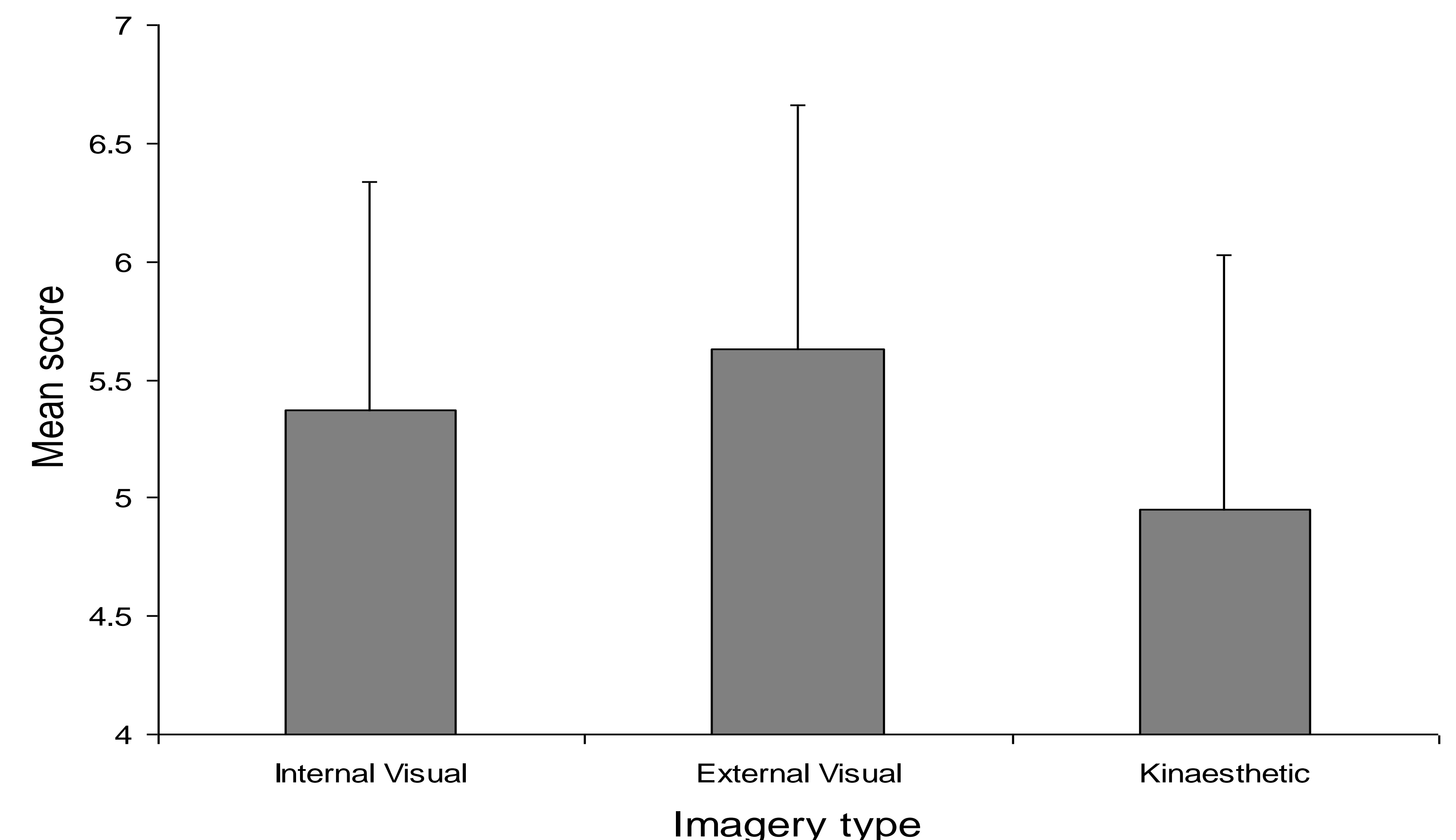


Figure 2: Mean MIQ-C score for a group of 153 subjects (72 male, 81 female) between the ages of 7 and 12 for each type of imagery

An ANOVA analysis was performed and external visual imagery (M = 5.63; SD = 1.03) was shown to be used more easily than kinaesthetic imagery (M = 4.95; SD = 1.08); $p < 0.05$. Internal visual imagery (M = 5.37; SD = 0.97) was also shown to be used more easily than kinaesthetic imagery ($p < 0.05$)

Discussion

- Kinaesthetic imagery was significantly harder for the subjects to use than both forms of visual imagery, which supported our hypothesis and is consistent with the findings of Caeyenberghs et al. (2009)⁹
- Future research:
 - Increase the sample size to determine if this pattern persists
 - Examine whether there is a developmental progression in the type of imagery used
 - Use the MIQ-C to determine the effects of Developmental Co-ordination Disorder (DCD) on children's ability to use motor imagery and develop new strategies to improve their motor performance through imagery training

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