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A Longitudinal Examination of the Contribution of Perceived Motor Competence and Actual Motor Competence to Physical Activity in 6 to 9 Year Old Children

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ABSTRACT

This study examined the relationship between perceived motor competence, actual motor competence and physical activity. In particular, it aimed to identify the impact of perceived motor competence (PMC), actual motor competence (AMC), and age and gender on the physical activity levels of young children. A number of factors have been identified as key contributors to children's physical activity levels. However, there had been little investigation into their developing impact and subsequent relationship with emergent physical activity levels, particularly in the younger primary age groups.

Physical activity, AMC and PMC measures were collected from 6-, 7-, 8-, and 9-year-old boys and girls (N=201) on four occasions across 18 months. For physical activity, participants wore pedometers for 7 days and completed physical activity diaries to record daily step counts. Actual motor competence was assessed by videoing four motor skills (50m run, overhand throw, standing broad jump, and line walk), and creating a score based on mastery of skill criteria. Perceived motor competence was measured through the Self Description Questionnaire-I (Marsh, 1988). Participants answered closed questions in the form of scaled responses based on a scoring system of 1 (No, always) to 5 (Yes, always) with a total possible score of 120.

Independent t-tests detected significant gender differences in physical activity with boys having higher mean daily step counts than girls at every age. Similarly, boys had significantly higher AMC scores than girls at every age. There were no significant differences between boys and girls for PMC scores. AMC and PMC were moderately correlated in older boys (7-, 8-, and 9-year-olds) and strongly correlated in older girls (9-year-olds), with the relationship evident at an earlier age in boys than girls.

Cross sectional multiple regression analysis investigated the contribution of PMC and AMC to physical activity levels at each age, and in this sample of young children AMC made a greater contribution (9% – 30%) to physical activity than PMC (0% -

5%). Again, this significant input was evident at an earlier age in boys (7 years) than girls (9 years). Longitudinal analysis examined the influences on physical activity over time. Using linear mixed model analysis across the four data collection cycles (DC) identified Actual Motor Competence level, Gender and School significantly impacting physical activity levels over time in these young children.

This study provides evidence of the emerging relationship between perceived and actual motor competence and their differing impact on physical activity levels in young primary school children. Previous research has predominantly focused on children older than 9 years and identified that independently, perceived and actual motor competence both influence physical activity levels. The current results for children younger than 9 years suggest that AMC is more important to physical activity than PMC. Another major finding is that the pattern of development is different between boys and girls, with boys being more advanced in actual motor competency and its subsequent contribution to physical activity. These results have important implications for early childhood learning environments and the need to acknowledge these developmental distinctions.

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