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A56: Mediation Analysis of Association Between Fundamental Motor Skills and Physical Activity in Elementary School Students

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Abstract

Purpose: This study aimed to investigate the association of fundamental motor skills (FMS), perceived motor competence (PMC), physical activity (PA) in elementary school students, as well as to examine whether PMC mediated the relationship between FMS and PA. **Methods:** Participants were 470 3-6th grade students (210 boys vs. 242 girls; Mean age = 10.11 years old; SD = 1.19) at five elementary schools from the province of Hunan in China. The students' FMS were assessed with The Test of Gross Motor Development-3, PMC was assessed using the perceived athletic competence sub-scale of Harter's Self-perception profile for children and PA were assessed using Physical Activity Questionnaire for Older Children, respectively. Data were analyzed with descriptive statistics, independent sample t test, Pearson correlation coefficients, multiple regressions, and bootstrapping method. **Results:** The descriptive statistics showed that the students' PA was generally in the moderate level (M = 2.78, SD = 0.75). The boys' total FMS mean score (M = 72.63, SD = 9.62), ball skills mean score (M = 39.33, SD = 6.23), PMC mean score (M = 2.78, SD = 0.66), PA mean score (M = 2.97, SD = 0.75) was higher than the girls respectively. The independent sample t test showed that significant difference in the mean score of total FMS, ball skills, PMC, PA between the boys and girls ($t = 3.99, p < 0.001$; $t = 6.20, p < 0.001$; $t = 5.40, p < 0.001$; $t = 5.42, p < 0.001$) respectively. Also, the bivariate correlations coefficients showed that FMS, PMC, and PA were related to each other at $p < 0.01$ level. The result of simple mediation analyses showed that PMC mediate the association between FMS and PA (Indirect effect = 0.07, 95%CI = [0.03, 0.11]). **Conclusion:** Good FMS levels are associated with a high level of PA. The relationship between FMS and PA was fully mediated by the PMC. This study suggests that improving FMS and maintaining appropriate levels of PMC may promote PA in elementary school students.

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