Predictors of activity engagement during pre-school Physical Education.

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Objective: In Flanders (Belgium) virtually all children attend preschool. However Belgian preschoolers spend 85% of their time sedentary on preschool attending days. Well-delivered Physical Education (PE) classes can contribute to reach the recommended physical activity (PA) levels. The present study aims to describe PA engagement levels during preschool PE lessons and to evaluate how they are predicted by lesson variables and teacher involvement.

Methods: A random sample of 573 pre-schoolers (age: 4.8 ± 0.4; 50% boys) from 35 different preschools, wore an accelerometer during one PE class. Additionally, the 35 lessons were videotaped and quantified according to the System for Observing Fitness Instruction Time (SOFIT). Multilevel analyses were conducted to examine the contribution of lesson variables and teacher involvement to PA engagement, taking clustering of children within preschools into account.

Main Results: According to the accelerometer output 56 % of the lesson times was spent in sedentary activities, 30% in MVPA, with no gender differences. According to SOFIT 31% was spend lying down or sitting and 46% walking or being very active. The most prevalent lesson context was skill practice (42%) and the teachers were instructing during the majority of the lesson time (48%). Significant predictors of higher percentages of MVPA engagement during PE were: less general lesson content (time allocated to transition, management, break) ($p= 0.02$), more skill practice lesson content ($p= 0.03$), less teacher involvement in promoting fitness ($p= 0.05$), longer lessons ($p< 0.001$) and more space per child ($p= 0.02$).

Conclusion: Efforts are needed to manage preschool PE lesson time in order to include more MVPA. Besides striving for more time allocation to PE and quality PE lessons already in preschool, there is also a need to move beyond the PE curriculum to promote PA.

Key words: physical activity, physical education, preschoolers