

**Title:** Physical activity and activity type during school recess in elementary schools

**Background:** It is recommended for children to engage in at least one hour of moderate to vigorous physical activity (MVPA) every day. Non- intervention school recess can contribute substantially (5-40%) to this guideline **(1)**. Does school recess contribute to motor skill development as well?

The purpose of this study was to investigate the variability in physical activity and activity type during recess on 4 elementary schools in the Netherlands.

**Methods:** SOFIT (System for Observing Fitness Instruction Time) **(2)** and SOPLAY (System for Observing Play and Leisure Activity in Youth) **(3)** were integrated and modified specifically for this study to measure the amount of moderate-to-vigorous physical activity (MVPA) and the activity type. 343 Children (4-12 year) were observed by trained observers during 24 breaks.

**Results:** Inter-observer reliability physical activity exceeded 71% (average: 76%); activity type exceeded 74% (average 81%). Children engaged in MVPA 22,5% of recess time and in vigorous physical activity (VPA) for 7,1%. 10-12 Year old boys were significantly more active than girls at this age (22,7% vs 15,7%;  $p < .05$ ).

More than one third of the time (38%) children showed no specific activity; 29% was spent walking and running. Other activity types (e.g. climbing, balancing, jumping, ball play) were performed less than 8% of the time each.

Girls spent significantly ( $p < .01$ ) more time tumbling and jumping, boys more time with ball play ( $p < .01$ ).

4-6 Year old children spend significantly ( $p < .01$ ) less time walking/running, jumping and romping games, than older children, but were more active ( $p < .01$ ) on bikes and play-cars (these being unavailable to the older children).

### **Conclusion:**

There is relatively little complex (non-ambulatory) activity in Dutch elementary school recess, and MVPA is relatively low; school recess contributes only 5,6% to the desired daily MVPA of children. Both findings could be due to short recess-times, usually 15 minutes morning break for 6-12 year old children. This might be too short to commence more complex activities needing a certain level of organisation. In order to stimulate physical activity and motor development in schools, studies might aim at developing interventions that can be implemented during recess. We speculate that elementary school physical education could play an important role herein.

### **References:**

1. Ridgers, N. D., Stratton, G., & Fairclough, S. J. (2006). Physical Activity Levels of Children during School Playtime. *Sports Medicine*, 36(4), 359-371.
2. McKenzie, T. L. (2006). *SOFIT. (System for Observing Fitness Instruction Time) Generic Description and Procedures Manual*. San Diego: San Diego State University.
3. Mc Kenzie, T. L. (2006). *SOPLAY. System for Observing Play and Leisure Activitiy in Youth. Description and Procedures Manual*. San Diego: San Diego State University.