On-task behaviour in 7-11 year-old children can be improved by Physical Education lessons

**Procedure**
- 6 weeks, 1 PE lesson per week
- Six different PE conditions, varying aerobic intensity and skill complexity
- Momentary Time Sampling (every 30 seconds for 25 minutes) in classroom lessons before and after PE

**Sample**
- 80 children - 36 boys, 44 girls
- Grades 3-5 of elementary school
- Age: 9.2 years
- SD: 0.7 years
- Range: 7.9 - 10.4 years

**Analysis & Results**

Logistic 3-level models (for binary data)

<table>
<thead>
<tr>
<th>Time (before/after PE)</th>
<th>d=0.17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time-by-intensity</td>
<td>high intensity only d=0.24</td>
</tr>
<tr>
<td>Time-by-complexity</td>
<td>no effect</td>
</tr>
<tr>
<td>Time-by-intensity-by-complexity</td>
<td>high intensity &amp; high complexity d=0.33</td>
</tr>
</tbody>
</table>

Controlled for: task type, task enjoyment, age, gender, BMI, attainment, free-living MVPA

**Purpose**
To investigate the impact of PE lesson intensity and skill complexity on students’ on-task behaviour in the classroom. It was hypothesised that

(i) intensity would have an inverted-U relationship with on-task behaviour,

(ii) that skill complexity would have a positive effect on-task behaviour, and

(iii) interaction effect of intensity and complexity, whereby high complexity negates the inverted-U relationship at high intensity.

In contrast to laboratory-based studies, this study investigated the effect of physical activity (PA) on learning behaviour in a naturalistic setting, lending it high ecological validity.