Monitoring of physical fitness of all first graders in Basel-Stadt – the Sportcheck

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Project in cooperation with the Cantonal Office of Sport of Basel-Stadt
Scientific background

• 12.5% of the girls and 27.8% of the boys in Switzerland met the global physical activity recommendation of 60 minutes a day (Verloigne et al., *Int J Behav Nutr Phys Act*, 2012)

• 14% of the Swiss children (6-12 years) were overweight and 3.4% obese (Murer et al., *European Journal of Nutrition*, 2014)
Scientific background

• Overweight/Obesity and physical inactivity are risk factors for:
  • Orthopedic problems (i.e. back pain) (Shiri et al., *American Journal of Epidemiology*, 2010)
Overweight/Obesity in Swiss Cities

![Bar chart showing overweight and obesity rates in Swiss cities.](chart.png)

(mod. from Stamm et al., Monitoring der Gewichtsdaten der schulärztlichen Dienste der Städte Basel, Bern und Zürich, 2014)

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Aims

1. a continuous monitoring of the physical fitness development and anthropometry of all first-graders of the canton Basel-Stadt

2. improving the classifications for the existing additional physical education lessons, offered in every school
Definition of additional physical education

• Includes all physical education lessons offered at school (in addition to the three mandatory lessons)
• Free for everybody, available for all pupils in Basel-Stadt
• As a forth physical education lesson additional physical education contributes to an active lifestyle
• Integration of children with migrational background
• Cooperation between the Cantonal Office of Sports and the schools of Basel-Stadt

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Additional physical education: Facts

Area-wide offer, takes place at all schools of Basel-Stadt

• 120 lessons with 110 instructors (~ 2200 pupils)

• School championships and events

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Methods - Sportcheck

- 20m shuttle run (A)
- 20m sprint (B)
- Balancing backwards (C)
- Jumping sideward (D)
- Body weight
- Height
- Body fat
## Baseline characteristics (2014-2017)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
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</thead>
<tbody>
<tr>
<td><strong>Age (y)</strong></td>
<td>5429</td>
<td>7.3</td>
<td>0.4</td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>2695</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>2734</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>BMI (kg/m²)</strong></td>
<td>5418</td>
<td>16.2</td>
<td>2.4</td>
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<tr>
<td>Overweight</td>
<td>619</td>
<td>11.4%</td>
<td></td>
</tr>
<tr>
<td>Obese</td>
<td>270</td>
<td>5.0%</td>
<td></td>
</tr>
<tr>
<td><strong>20m shuttle run (stages)</strong></td>
<td>5256</td>
<td>3.7</td>
<td>1.5</td>
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<tr>
<td><strong>20m sprint (sec)</strong></td>
<td>5414</td>
<td>5.03</td>
<td>0.39</td>
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<tr>
<td><strong>Jumping sideways (jumps)</strong></td>
<td>5411</td>
<td>44.6</td>
<td>12.1</td>
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<tr>
<td><strong>Balancing backwards (steps)</strong></td>
<td>5402</td>
<td>35.5</td>
<td>13.9</td>
</tr>
</tbody>
</table>
Children’s profit

- Test results
- Personalized recommendations and invitation for physical education
- Lots of fun
Teachers profit

- Test results of the class
- Recommendations for physical education
- Basis for parent-teacher conference concerning physical education
- Personal coaching if wanted
- Booklet: how to promote children’s physical fitness
Consequences of the Sportcheck for the Cantonal Office of Sports

- Evidence-based promotion for sports
- Arguments to convince head of schools for the need of additional physical education
- Regulation of administration
- Individualized physical education
- Model of three columns (3-Säulenmodell)
Additional physical education – 3 Säulenmodell

BF: Bewegungsförderung
TF: Talentförderung

Sportcheck
Kindergarten

Sek I
Primarstufe

Stufe

sportartenspezifisch
Polysportiv

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Maps *(exemplary)*

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Sex differences

Names of the schools censored
Participation additional sport lesson (Freiwilliger Schulsport)
Perspectives

– Additional medical measurements

– Secular trends

– Evaluation of additional physical education lessons

– Demand analysis

– Follow-up
Thank you for your attention.

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