Prospects for promoting health and performance by school meals in Nordic countries
School meal systems

Iceland
Legislation
Partly government subsidization

Norway
Lunch box from home

Legislation
Government subsidization of milk, fruit and vegetables

Finland & Sweden
Legislation
Complete government subsidization
ProMeal - overall aims

• Importance of school lunch for…
  • Healthiness of total diet
  • Class room learning behaviour
  • Cognitive function

• Experiences and perspectives of school lunches
### Recruitment in the four countries

<table>
<thead>
<tr>
<th></th>
<th>Schools, n</th>
<th>Classes, n</th>
<th>Children, n</th>
<th>Boys, n (%)</th>
<th>Girls, n (%)</th>
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<tbody>
<tr>
<td>Finland</td>
<td>9</td>
<td>18</td>
<td>206</td>
<td>99 (48)</td>
<td>107 (52)</td>
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<tr>
<td>Iceland</td>
<td>6</td>
<td>13</td>
<td>225</td>
<td>115 (51)</td>
<td>110 (49)</td>
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<tr>
<td>Norway</td>
<td>6</td>
<td>17</td>
<td>211</td>
<td>92 (44)</td>
<td>119 (56)</td>
</tr>
<tr>
<td>Sweden</td>
<td>9</td>
<td>14</td>
<td>201</td>
<td>99 (49)</td>
<td>102 (51)</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>30</strong></td>
<td><strong>62</strong></td>
<td><strong>843</strong></td>
<td><strong>405 (48)</strong></td>
<td><strong>438 (52)</strong></td>
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</table>
Week 1
Day 1
- Height & Weight
- Cognitive tests
- Empathy based stories

Week 2
Day 2-6
- Short questionnaire before & after lunch
- Photographs of school lunch trays/boxes
- Classroom observations
- Cognitive tests

Week 3
Day 7
- Focus groups

Parents
- Questionnaire about the diet at home (Nordic Monitoring)

School
- School meal environment
- Learning environment
- Organisation (SkolmatSverige)
Classroom observations

<table>
<thead>
<tr>
<th></th>
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</table>

**Systematic classroom observation – ProMeal**

- **1a. Sheet no.:** 2
- **2a. Observer:** M W
- **2b. Country:** SWE
- **3a. School:** Kasaimark
- **3b. Class:** 4
- **3c. Subject:** Syeuska
- **3e. Teacher/leading teacher:** Roger
- **3f. Gender of teacher:** M/F
- **1c. Observation start (this sheet):** 11:00
- **3d. Number of pupils present in class:**
- **3g. Number of teaching staff present:** 2

**Notes:**
- Film
- Film
- Film
- Film
Cognitive tests

- **Color stroop** (all) - cognitive flexibility, selective & sustained attention
- **CO-span** (all) - working memory capacity
- **IVA** (subsample) - ability to concentrate and remain focused
School meal environment Sweden and Finland
School meal environment Norway and Iceland
Qualitative methods

- The purpose was to study children’s experiences, ideas and interpretations of school lunches.
- Shared socio-cultural meanings and representations

- Empathy-based stories
- Focus group interviews
Empathy based stories

Main focus:
• The food
• The social environment
• The physical environment

I feel good because it was good food and it was not busy and disorderly in the dining room. It was quiet and everyone whispering when they talked. You got a quiet meal.
Reference portions (Fin, Ice, Swe)

Recommended energy content (kcal/lunch):
- Finland: 650
- Iceland: 500-600 (min 400)
- Sweden: 645 (range 535-750)
Comparison reference portion with actual serving
<table>
<thead>
<tr>
<th>Day no.</th>
<th>Pupil no. 1</th>
<th>Pupil no. 2</th>
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<tr>
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<td>Lunch package</td>
<td>Leftovers</td>
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<td><img src="image2.png" alt="Image" /></td>
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<tr>
<td>2</td>
<td><img src="image5.png" alt="Image" /></td>
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<td>3</td>
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<tr>
<td>5</td>
<td><img src="image14.png" alt="Image" /></td>
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</table>
Project members

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Thank you for your attention!