Assessing Basic Motor Competencies in Primary School – an International Comparative Study in Europe

1. Background
MOBAK-Network

Lithuania
Lithuanian Sports University

Italy
School Interfaculty of secondary teacher’s school training, University of Turin
Laboratorio di Didattica delle Attività Motorie, University of Foggia

Greece
Faculty of Physical Education and Sport Science, National and Kapodistrian University of Athens

Sweden
School of Health and Medical Sciences
Sport Science, Örebro University

Czech Republic
Faculty of Education, Department of Physical Education, Masarykovy University Brno

The Netherlands
Hanze University of Applied Sciences Groningen

Belgium
Université de Liège, Département des sciences de la motricité

Slovakia
Faculty of Education, Trnava University

Portugal
Human Kinetics Faculty, Departement of Education, Social Sciences and Humanities, University of Lisbon

Austria
Department of Sport Science and Kinesiology, University of Salzburg

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2. Methods

Test items

- Throwing
- Catching
- Bouncing
- Dribbling
- Balancing
- Rolling
- Jumping
- Side stepping
2. Methods
MOBAK-Network

**MOBAK-1 Switzerland (Zurich)**

- Sample: **317** first graders (girls = 55%)
- Age: $M = 7.04$ years ($SD = .37$); BMI: $16.08$ ($SD = 2.25$)
- Assessment: University of Basel (Christian Herrmann)

**MOBAK-1 Germany (Frankfurt)**

- Sample: **1091** first and second graders (girls = 45%)
- Age: $M = 6.80$ years ($SD = .89$); BMI: $16.30$ ($SD = 2.37$)
- Assessment: University of Frankfurt (Christopher Heim)

**MOBAK-1 Czech Republic (Brno)**

- Sample: **153** first and second graders (girls = 55%)
- Age: $M = 7.37$ years ($SD = .62$)
- Assessment: Masaryk University Brno (Petr Vlcek)
2. Methods

MOBAK-Network

MOBAK-1 Luxembourg
... Sample: 150 first graders (girls = 47%)
... Age: M = 6.74 years (SD = .34)
... Assessment: University of Luxembourg (Claude Scheuer)

MOBAK-1 Lithuania (Kaunas)
... Sample: 120 first graders (girls = 48 %);
... Age: M = 7.76 years (SD = .33); BMI: 16.14 (SD = 2.30)
... Assessment: Lithuanian Sports University (Arūnas Emeljanovas)

MOBAK-1 Italy (Foggia)
... Sample: 85 first graders (girls = 45 %);
... Age: M = 7.24 years (SD = .30); BMI: 17.53 (SD = 3.04)
... Assessment: University of Foggia (Dario Colella)
2. Methods
MOBAK-Network

MOBAK-1 Slovakia (Trnava)
… Sample: 241 first graders (girls = 56 %)
… Age: M = 7.06 years (SD = 0.57); BMI: 16.02 (SD = 1.46)
… Assessment: Trnava University (Dana Masarykova)

MOBAK-1 Belgium (Liège)
… Sample: 166 first graders (girls = 55 %);
… Age: M = 7.23 years (SD = 0.64)
… Assessment: Université de Liège (Boris Jidovtseff)
Confirmatory factor analysis (Total sample: N = 2336)

(CFI = .97; TLI = .96; RMSEA = .035 [.027 - .044]; WRMR = 1.13)
Confirmatory factor analysis (Total sample: N = 2336)
taking into account the multilevel structure (students in countries)

Object-control
- Bouncing 0.71
- Dribbling 0.53
- Catching 0.59
- Throwing 0.44

Locomotion
- Balancing 0.48
- Rolling 0.50
- Side-stepping 0.48
- Jumping 0.55

(CFI = 0.97; TLI = 0.95; RMSEA = 0.019 [0.009 - 0.029]; WRMR = 0.87)
3. Results

Descriptive Statistics

Object-control

<table>
<thead>
<tr>
<th>Location</th>
<th>Zürich (N = 179)</th>
<th>Frankfurt (N = 1091)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locomotion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zürich (N = 195)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Université du Luxembourg
3. Results
Descriptive Statistics

Object-control

Tschechien (N = 153)

Luxemburg (N = 145)

Locomotion

Tschechien (N = 153)

Luxemburg (N = 140)
3. Results
Descriptive Statistics

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Scheuer C., et al.
Assessing Basic Motor Competencies in Primary School – an International Comparative Study in Europe

Object-control

Locomotion

Lithuania (N = 120)

Italy (N = 85)

Pt.
3. Results
Descriptive Statistics

Object-control

Slovakia (N = 241)

<table>
<thead>
<tr>
<th>Pt.</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
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<td>1</td>
<td>8</td>
<td>9</td>
<td>19</td>
<td>21</td>
<td>20</td>
<td>9</td>
<td></td>
</tr>
</tbody>
</table>

Belgium (N = 166)

<table>
<thead>
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<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
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<td>1</td>
<td>3</td>
<td>5</td>
<td>12</td>
<td>14</td>
<td>14</td>
<td>18</td>
<td>20</td>
</tr>
</tbody>
</table>

Locomotion

Slovakia (N = 241)

<table>
<thead>
<tr>
<th>Pt.</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>0</td>
<td>4</td>
<td>8</td>
<td>9</td>
<td>21</td>
<td>26</td>
<td>18</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

Belgium (N = 166)

<table>
<thead>
<tr>
<th>Pt.</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>2</td>
<td>2</td>
<td>11</td>
<td>15</td>
<td>27</td>
<td>15</td>
<td>20</td>
<td>8</td>
<td>1</td>
</tr>
</tbody>
</table>
3. Results
Descriptive Statistics

<table>
<thead>
<tr>
<th>Country</th>
<th>N</th>
<th>M</th>
<th>(CI 95)</th>
<th>M</th>
<th>(CI 95)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switzerland (Zurich)</td>
<td>138</td>
<td>5.48</td>
<td>(5.18-5.78)</td>
<td>4.67</td>
<td>(4.36-4.99)</td>
</tr>
<tr>
<td>Germany (Frankfurt)</td>
<td>1091</td>
<td>4.37</td>
<td>(4.26-4.48)</td>
<td>4.02</td>
<td>(3.90-4.14)</td>
</tr>
<tr>
<td>Czech Republic (Brno)</td>
<td>153</td>
<td>5.52</td>
<td>(5.23-5.80)</td>
<td>4.38</td>
<td>(4.06-4.69)</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>134</td>
<td>4.80</td>
<td>(4.48-5.11)</td>
<td>4.59</td>
<td>(4.24-4.94)</td>
</tr>
<tr>
<td>Lithuania (Kaunas)</td>
<td>120</td>
<td>4.29</td>
<td>(3.97-4.62)</td>
<td>4.25</td>
<td>(3.94-4.56)</td>
</tr>
<tr>
<td>Italy (Foggia)</td>
<td>84</td>
<td>2.82</td>
<td>(2.37-3.27)</td>
<td>2.44</td>
<td>(2.08-2.80)</td>
</tr>
<tr>
<td>Slovakia (Trnava)</td>
<td>241</td>
<td>5.24</td>
<td>(5.01-5.48)</td>
<td>5.28</td>
<td>(5.05-5.50)</td>
</tr>
<tr>
<td>Belgium (Liège)</td>
<td>164</td>
<td>4.38</td>
<td>(4.13-4.63)</td>
<td>5.32</td>
<td>(5.02-5.62)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2127</td>
<td>4.59</td>
<td>(4.50-4.67)</td>
<td>5.01</td>
<td>(4.93-5.10)</td>
</tr>
</tbody>
</table>

**ANCOVA (age)**

\[ F(7, 2185) = 28.28, \quad p < .001, \quad \eta^2 = .083 \]

\[ F(7, 2176) = 38.01, \quad p < .001, \quad \eta^2 = .109 \]
4. Conclusion

Model

- **Two factors** consisting of four items each were found
- The related CFA (CFI = .95; RMSEA = .044) revealed **good model fit indices**.
- The first factor *“Locomotion”* represents body movements (e.g., balancing), the second factor *“Object-control”* represents ball control (e.g., catching)
4. Conclusion

Locomotion
• The mean in the first factor “Locomotion” of the total sample is 4.59, varying between 2.82 (Italy) and 5.52 (Czech Republic).
• The students in the sample from Switzerland, Czech Republic, Luxembourg and Slovakia perform above-average in “Locomotion” (median above 4).
• The students in the sample from Italy perform below-average in “Locomotion” (median below 4).

Object-control
• The mean in the second factor “Object control” of the total sample is 5.01, varying between 2.44 (Italy) and 5.32 (Belgium).
• The students in the sample from Switzerland, Luxembourg, Slovakia and Belgium perform above-average in “Object-control” (median above 4).
• The students in the sample from Italy perform below-average in “Object-control” (median below 4).
Basic Motor Competencies in EUROpe – Assessment and Promotion

Concern:
Improve the promotion of basic motor competences in school sports

Objectives:
1. International analysis of basic motor competences in school sports
2. Development of a support-toolkit for teachers/coaches in physical education and school sports for the promotion of basic motor competences
3. Development and testing of a workshop-concept to train teachers/coaches in physical education and school sports to apply the support-toolkit
4. Dissemination/implementation of the support-toolkit – Europe-wide

Structure:
1. phase: MOBAK-study (international study in 12 countries)
2. phase: Development and implementation: support-toolkit & workshop-concept
3. phase: Documentation, presentation and dissemination of the project results, Evaluation
5. Outlook
Project BMC-EU

University of Potsdam
E. Gerlach, J. Sallen

Coordination, evaluation, dissemination

Universität Basel
C. Herrmann, H. Seelig, U. Pühse
Lead phase 1:
MOBAK-Study

University of Luxembourg
C. Scheuer, A. Bund
Lead phase 2:
Workshop concept
Support-toolkit

Partner organisations
• Implementation of the MOBAK-study
• Application of the workshop-concept
• Dissemination of the support-toolkit

EUPEA & ISCA Consultants Networking

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5. Outlook
Project BMC-EU

Partner organisations

- University of Salzburg (Austria) G. Amesberger, B. Niederkofler
- University of Liége (Belgium) M. Cloes, B. Jidovtseff
- Masaryk University Brno (Czech Republic) P. Vlcek, J. Vrbas
- Goethe-University of Francfort (Germany) C. Heim, F. Ennigkeit
- National and Kap. University of Athen (Greece) I. Kossyva, E. Adamakis
- University of Foggia (Italy) D. Colella, C. Simonetti
- Lithuanian Sports University (Lithuania) A. Emeljanovas, B. Mieziene
- Hanze University Groningen (Netherlands) R. Mombarg, B. Moraal
- University of Lissabon (Portugal) M. Onofre, A. Quiterio
- University of Trnava (Slovakia) D. Masarykova, J. Labudova
From MOBAK-Europe to MOBAK-World?

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For more information:
http://www.dsbg4public.ch (search for “MOBAK”)