Abstract

Purpose: The purpose of this study was: (1) to analyse longitudinally the changes in body coordination (BC) in children during 3 years (6 to 9 years old); and to analyse the stability of BC.

Methods: Sample size comprises 142 girls (6.37 ± 0.31 years old at the first evaluation and 8.42 ± 0.35 at the third), and 143 boys (6.44 ± 0.29 years old at the first evaluation and 8.34 ± 0.39 at the third). BC was evaluated according to the body coordination test battery (KörperkoordinationsTest für Kinder) developed by Kiphard and Schilling (1974). The battery comprises four tests: backward balance (BB), jumping sideways (JS), hopping on one leg (HL), and shifting platforms (SP), from the 4 tests it is obtain a motor quotient (MQ) that permit the classification of children BC. A mixed ANOVA was used to analyze the changes along the 3 years and the differences between boys and girls. Intra-class correlation coefficient was used to analyze the stability in the all items test battery.

Results: In both boys and girls and in all items of test battery there were significant increases during the 3 years. In MQ the results show a linear increase in girls and no significant changes in boys. The BC level was higher in boys than in girls at all 3 evaluations, although in both boys and girls the level was low. It was found moderate (0.50) to strong (0.80) stability in both boys and girls.

Conclusions: In summary: (1) boys had a higher BC level than girls; (2) there was a linear increase in MQ in girls; (3) BC shows moderate to strong stability.

Purpose

The purposes of this study were:
- To analyse longitudinally the changes in body coordination (BC) in children during 3 years (6 to 9 years old);
- To analyse the stability of BC.

Body Coordination Assessment

BC was evaluated according to the body coordination test battery (KörperkoordinationsTest für Kinder) (Schilling, 1974).

The battery comprises four tests: backward balance (BB), jumping sideways (JS), hopping on one leg (HL), and shifting platforms (SP), from the 4 tests it is obtain a motor quotient (MQ) that permit the classification of children BC.

Results

Children were assessed once a year during 3 years

Conclusion

In both boys and girls and in all items of test battery there were significant increases during the 3 years. In MQ the results show a linear increase in girls and no significant changes in boys. The BC level was higher in boys than in girls at all 3 evaluations, although in both boys and girls the level was low. It was found moderate (0.50) to strong (0.80) stability in both boys and girls.

In summary:
- boys had a higher BC level than girls;
- there was a linear increase in MQ in girls;
- BC shows moderate to strong stability.

Sample

Sample size comprises 142 girls (6.37 ± 0.31 years old at the first evaluation and 8.42 ± 0.35 at the third), and 143 boys (6.44 ± 0.29 years old at the first evaluation and 8.34 ± 0.39 at the third)

Statistical analysis

A mixed ANOVA was used to analyze the changes along the 3 years and the differences between boys and girls. Intra-class correlation coefficient was used to analyze the stability in the all items test battery.

Intra-class correlation (R) and 95% confidence interval (CI) to estimate stability

<table>
<thead>
<tr>
<th>Test</th>
<th>R 1st year</th>
<th>CI(95%) 1st year</th>
<th>R 2nd year</th>
<th>CI(95%) 2nd year</th>
<th>R 3rd year</th>
<th>CI(95%) 3rd year</th>
</tr>
</thead>
<tbody>
<tr>
<td>BB</td>
<td>0.76</td>
<td>0.69 – 0.83</td>
<td>0.79</td>
<td>0.70 – 0.82</td>
<td>0.80</td>
<td>0.72 – 0.82</td>
</tr>
<tr>
<td>JS</td>
<td>0.75</td>
<td>0.68 – 0.81</td>
<td>0.78</td>
<td>0.69 – 0.81</td>
<td>0.79</td>
<td>0.70 – 0.81</td>
</tr>
<tr>
<td>SP</td>
<td>0.70</td>
<td>0.54 – 0.81</td>
<td>0.73</td>
<td>0.57 – 0.80</td>
<td>0.74</td>
<td>0.59 – 0.80</td>
</tr>
<tr>
<td>HL</td>
<td>0.75</td>
<td>0.62 – 0.83</td>
<td>0.78</td>
<td>0.64 – 0.81</td>
<td>0.80</td>
<td>0.67 – 0.83</td>
</tr>
</tbody>
</table>

Vitor Ribeiro Lopes
Educação Física e Ciências do Desporto, ISCSP-University of Lisbon, Portugal

Bibliography