

# Relationship between physical abilities over 6-years

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The aim of this study was to evaluate the stability of physical abilities mutuality over six-year period within schoolchildren. Previous studies explain tracking of motor ability characteristics or relationships between physical ability and anthropometry or clarify the gender differences.

## Methods

This longitudinal study examined the relationship between physical abilities and compared the correlations between abilities in first grade and in the same cohort schoolchildren in seventh grades. In total 98 pupils took part in this study.

<b>BMI</b>	Girls (n=51) (X±SD)	Boys (n=47) (X±SD)
First grade	15,5 ± 2,4	16,1 ± 1,9
Seventh grade	18,2 ± 2,3	20,0 ± 2,3

All the children had usual physical activities and took part in physical education classes twice per week. The Eurofit tests were used 10x5 m shuttle run, a standing long jump, bent-arm hang, sit-and-reach test, flamingo balance test, sit-ups and plate taping test.

**Results** indicated substantial changes in the relationships over a six-year period. At first grade to seventh grade the correlation persists in moderate level in following tests: standing long jump with sit-ups test ( $r=0.41-0.35^{**}$ ), 10x5m shuttle run ( $r=-0.36-0.33^{*}$ ) and bent arm hang ( $r=0.36-0.38^{**}$ ) in boys and standing long jump and sit-and-reach ( $r=0.45-0.37^{**}$ ),  $p<0.01$  in girls.

## Discussion

The results detected gender differences in the stability of mutuality's in physical abilities. Sustained interrelation in physical abilities both in girls and boys are in standing long jump, bent arm hang and 10x5 m shuttle run. Comparing the boys and girls: at first grade physical abilities were more correlated with standing long jump and 10x5 m shuttle run, at seventh grade physical abilities were more correlated continually only with standing long jump within boys. Within girls did not descry any grouping correlations between physical abilities in first grade. At seventh grade within girls there is more correlation between standing long jump and 10x5 m shuttle run, sit-and-reach test results and bent arm hang test results.

## Conclusion

This study shows that correlation between physical abilities occurs more in older children. Furthermore, relationships between physical abilities over 6-years of our cohort, especially in boys, was more related with standing long jump and with bent arm hang test results.

## References

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