

Children's cycling skills and the impact of physical activity

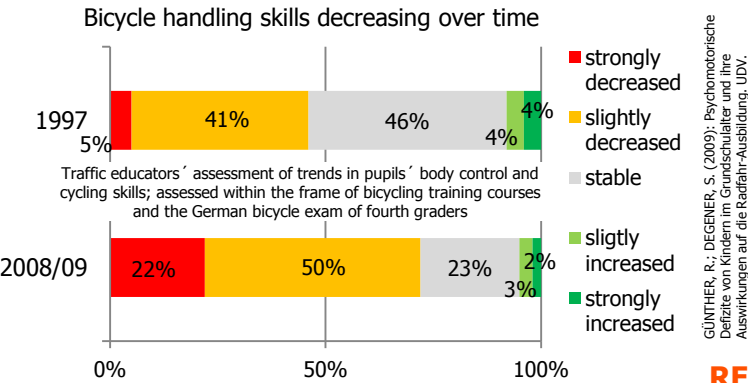


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Introduction

Psychomotor skills of children and adolescents have decreased over the last few years. One indicator is the decrease of pupil's bicycle handling skills as shown in the graph below. This development can be explained partly by a general decrease of children's physical activity levels.



OBJECTIVE

Testing the cycling skills of third and fourth graders in bicycling training courses to verify the hypotheses claiming that:

- Physically active pupils (60 min activity per day, WHO-recommendation) use active travel modes more frequently.
- Physically active pupils show better cycling skills.
- The encouragement of children's families influences children's level of physical activity.

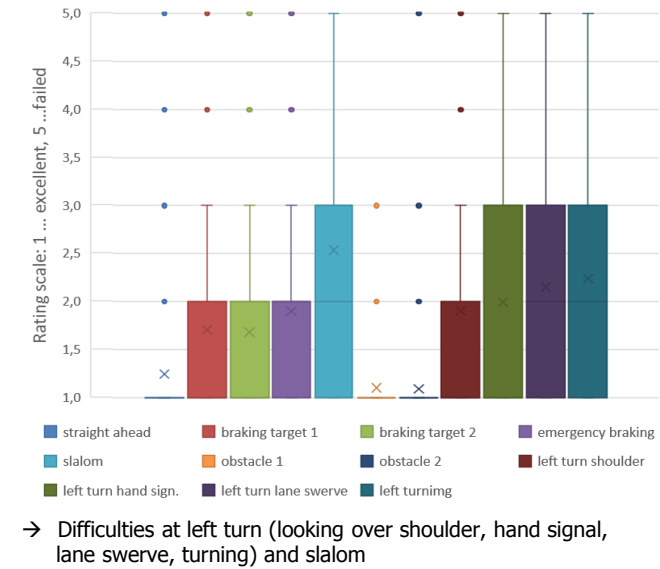
METHOD

Pupils from five primary schools in Lower Austria (total sample size of 152) participated in this survey. Different quantitative and qualitative methods were combined to give a comprehensive overview of this topic:

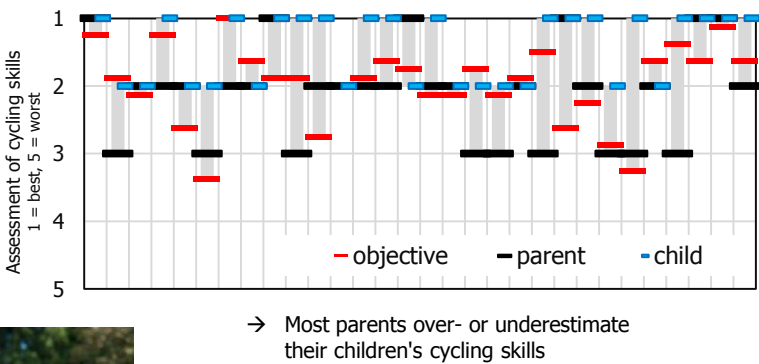
- Activities and preferences reported by primary school children
- Objective observations during cycling skill tests before/after a one-hour cycling training session
- In-depth interviews with children's parents
- Evaluation of the pupil's educational performance by their teachers

RESULTS

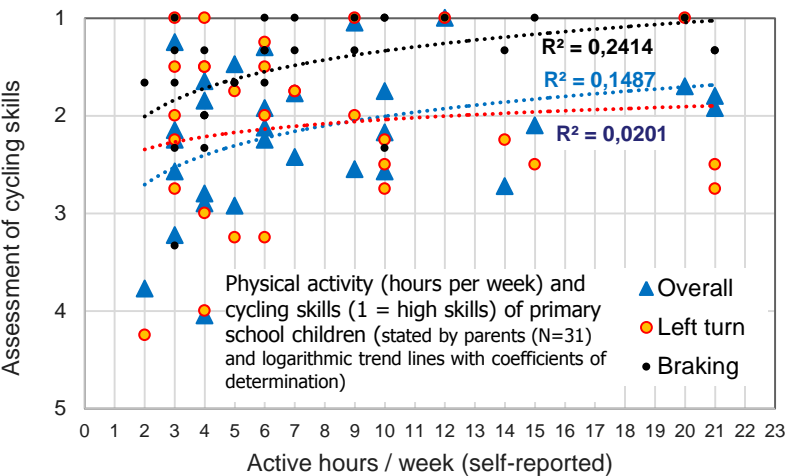
Cycling skills on a 5-point scale:
(1 = best, 5 = worst; X = mean of each observation; n = 147)



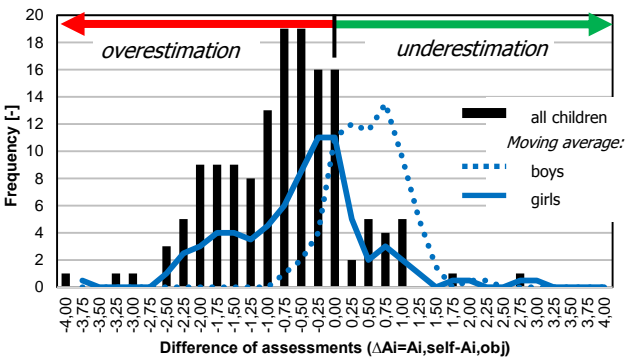
Comparison of children's cycling skills as observed in the cycling training course, compared with statements from children and parents (n=31):



Physical activity and cycling skills of children



Differences in the assessment of cycling skills:



(five-point scale from 1 = high skills to 5 = low skills). $A_{i,self}$ = self-assessment of child i, $A_{i,obj}$ = objective assessment of child i while riding the cycling course (n=147)

→ Children assessed their cycling skills as „very good“ or „good“, but the objective observation shows that 77% overestimate their skills in general and 40% overestimate their cycling skills by one or more points; girls tend to overestimating, boys to underestimating.

CONCLUSIONS

- Turning left and slalom are two skills where children have some deficits – children need good psychomotor coordination to meet multiple challenges (e.g. left turn)
- Children largely overestimate their bicycle skills
- Children with higher physical activity levels show higher bicycle riding competence.