Effects of a school-based multicomponent-sport-intervention

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Within the projects “Eddy” and “Eddy-Young” a school-based multicomponent-sport-intervention with children aged 8-14 years was conducted. The goal was to improve overall fitness and motor performance by implementing high quality sport and nutrition classes. The long-term aim was to reduce obesity and secondary diseases caused by a sedentary lifestyle in elementary- and middle-school children.

In both projects participants were split into an intervention (IG) and control group (CG). IG received two blocks of either 8 or 10 weeks of a multicomponent-intervention. The intervention consisted of sport exercises, and dietary information held by experts. Before, after and in between the intervention blocks participants performed sport-motoric-tests to assess motor performance. The significance level for all tests was set at $p \leq 0.05$.

**Eddy-Young:** All children improved in every subtest of the German-Motor-Test-Battery except for the sit-and-reach-test, where both groups performed worse ($p=0.00$). The baseline values of the CG were significantly better within the 20m-sprint ($p=0.02$), sit-and-reach ($p=0.02$), push-up ($p=0.01$), standing-long-jump ($p=0.04$) and the six-minute-run ($p=0.00$). Further, results showed greater improvement in push-up ($p=0.00$), lateral-quick-jump ($p=0.00$), and the overall Z-values ($p=0.00$) in the IG.

**Eddy:** Difference in every subtest of the Motor-Test-Battery was found in all children. CG showed better baseline values in the 20m-sprint ($p=0.04$), one-legged-stance ($p=0.02$; $p=0.01$) and the endurance-test ($p=0.00$). IG showed better improvement in the sit-and-reach and endurance-test. In contrast CG showed better one-leg-stance improvements.

Findings suggest that a multicomponent-intervention involving exercise and nutrition classes held by experts improves the motor performance in children. According to greater improvements within elementary-school children it can be concluded that the promotion of a healthy lifestyle should be implemented as early as possible to prevent obesity and enhance physical fitness in youth.