

3rd conference and 7th annual meeting of HEPA Europe



gkgk - The Dutch-German Euregio project
(2008-2012):

longitudinal BMI, physical fitness and motor
development: a comparative view on German and
Dutch young people



Sample

Cohort 2			
Netherlands		Germany	
Cuijk	4 schools	Bocholt	4 schools
Enschede	2 schools	Moers	2 schools
Rijnwaarden	3 schools		
Winterswijk	4 schools		

	Frequency	Percent	Male	Female
Germany	300	50,3	166	134
Netherlands	296	49,7	147	148



Anthropometric data

Country (Germany, Netherlands)		Height (cm) T1	Weight (kg) T1	Age T1	BMI T1	Height (cm) T2	Weight (kg) T2	Age T2	BMI T2
GER	Mean Value	123,29	25,017	6,7695	16,344	128,77	28,086	7,6813	16,813
	N	300	300	300	300	300	300	300	300
	Standard deviation	6,2274	4,9758	0,4557	2,254	6,082	5,7644	0,4028	2,467
NL	Mean Value	125,05	25,615	6,9643	16,29	129,85	27,995	7,7673	16,502
	N	296	296	296	296	296	296	294	286
	Standard deviation	5,6817	4,6119	0,5672	2,086	5,9211	5,2889	0,9212	2,402

*

$p < .001$,
 $n^2 = .022$

*

$p < .001$
 $n^2 = .035$

*

$p < .05$
 $n^2 = .029$



Mean value of raw values _ T 1

Country		Sit ups (count)	Push ups (count)	Sit & reach (cm)	20-m sprint (sec)	Standing broad jump (cm)	Lateral jumping (count)	Balancing backwards (steps)	6-min run (m)
Germany	Mean value	12,58	10,03	3,29	4,74	93,71	<u>20,95</u>	<u>22,73</u>	843,75
	N	298,00	299,00	299,00	300,00	300,00	300,00	300,00	300,00
	Standard deviation	5,29	3,44	4,81	0,41	18,38	6,17	9,88	110,26
Netherlands	Mean value	<u>14,95</u>	<u>10,19</u>	<u>4,56</u>	<u>4,80</u>	<u>103,77</u>	20,67	22,40	<u>874,00</u>
	N	296,00	296,00	296,00	296,00	296,00	296,00	296,00	296,00
	Standard deviation	5,29	3,88	5,16	0,44	19,12	7,17	9,20	126,03

*
p < .001

*
p < .01

*
p < .001

*
p < .01



Mean value of raw values _ T 2

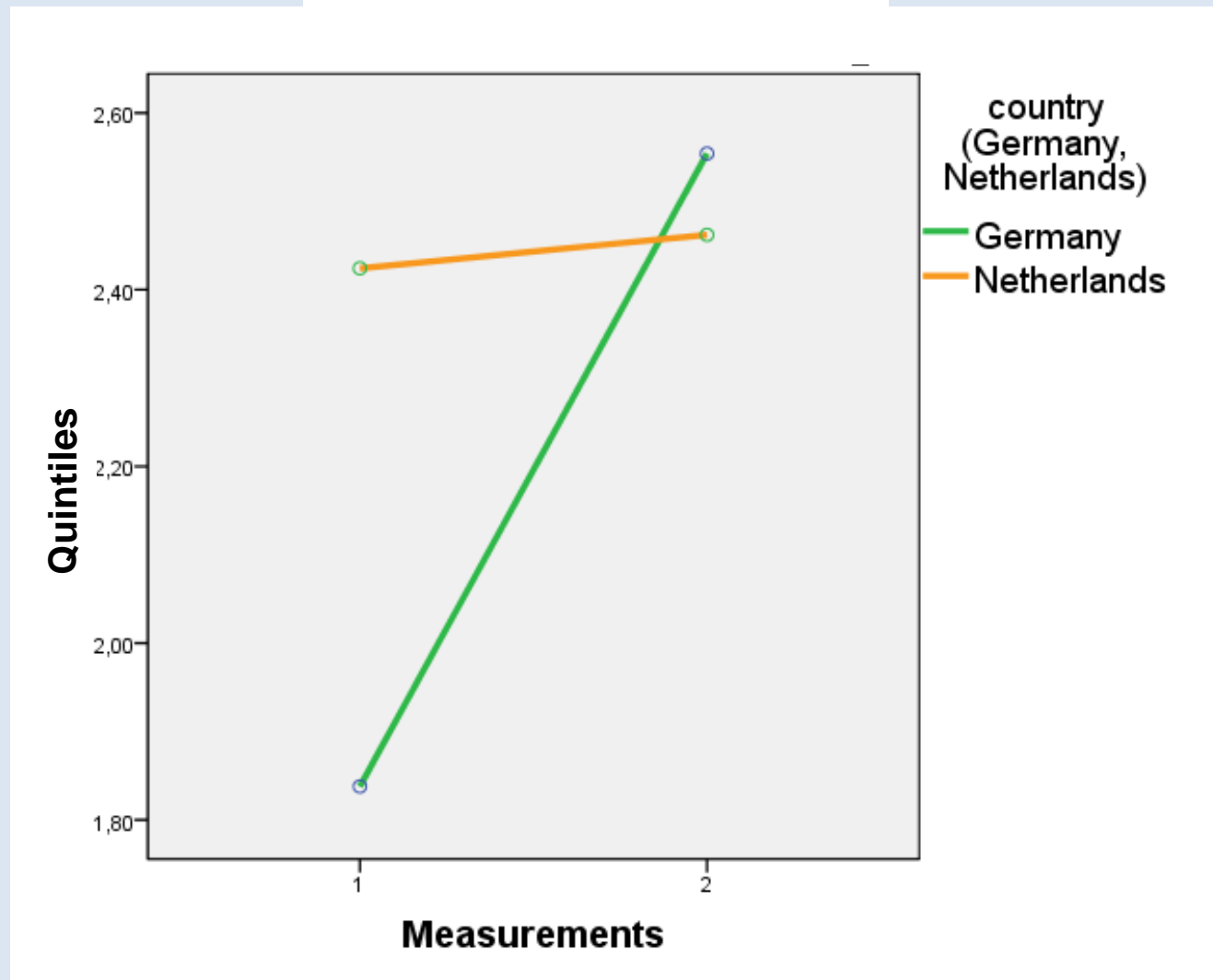
Country		Sit ups (count)	Push ups (count)	Sit & reach (cm)	20-m sprint (sec)	Standing broad jump (cm)	Lateral jumping (count)	Balancing backwards (steps)	6-min run (m)
Germany	Mean value	<u>17,86</u>	<u>14,03</u>	<u>3,23</u>	<u>4,52</u>	<u>113,11</u>	<u>27,48</u>	<u>27,44</u>	<u>901,35</u>
	N	300	300	299	300	300	300	300	300
	Standard deviation	5,94	4,37	5,29	0,35	16,31	13,24	9,13	119,77
Netherlands	Mean value	<u>17,75</u>	<u>12,14</u>	<u>2,42</u>	<u>4,63</u>	<u>111,56</u>	<u>26,41</u>	<u>26,63</u>	<u>917,74</u>
	N	296	296	293	296	294	294	294	294
	Standard deviation	5,27	4,63	5,54	0,48	18,76	7,12	9,55	122,11

*
p < .01

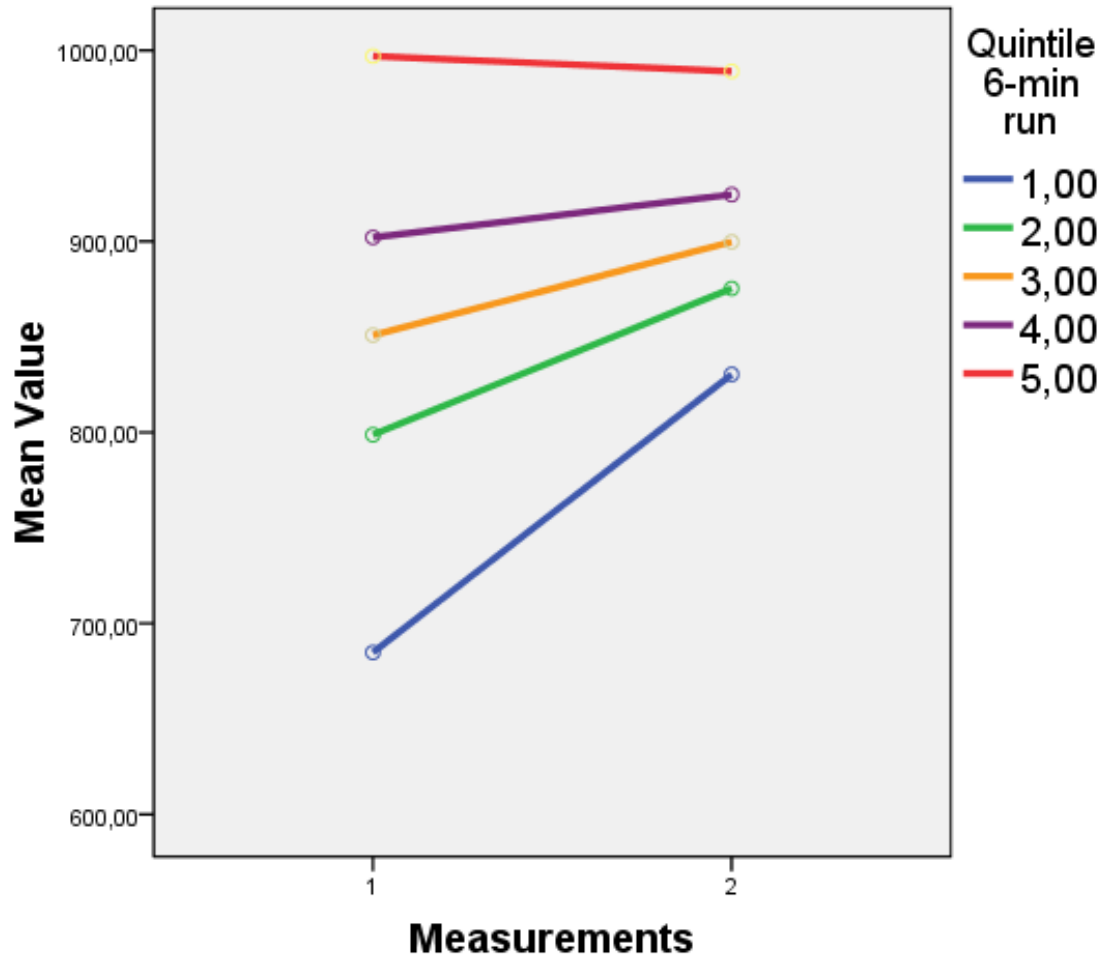
*
p < .01



Development of sit-ups ranged in age and gender



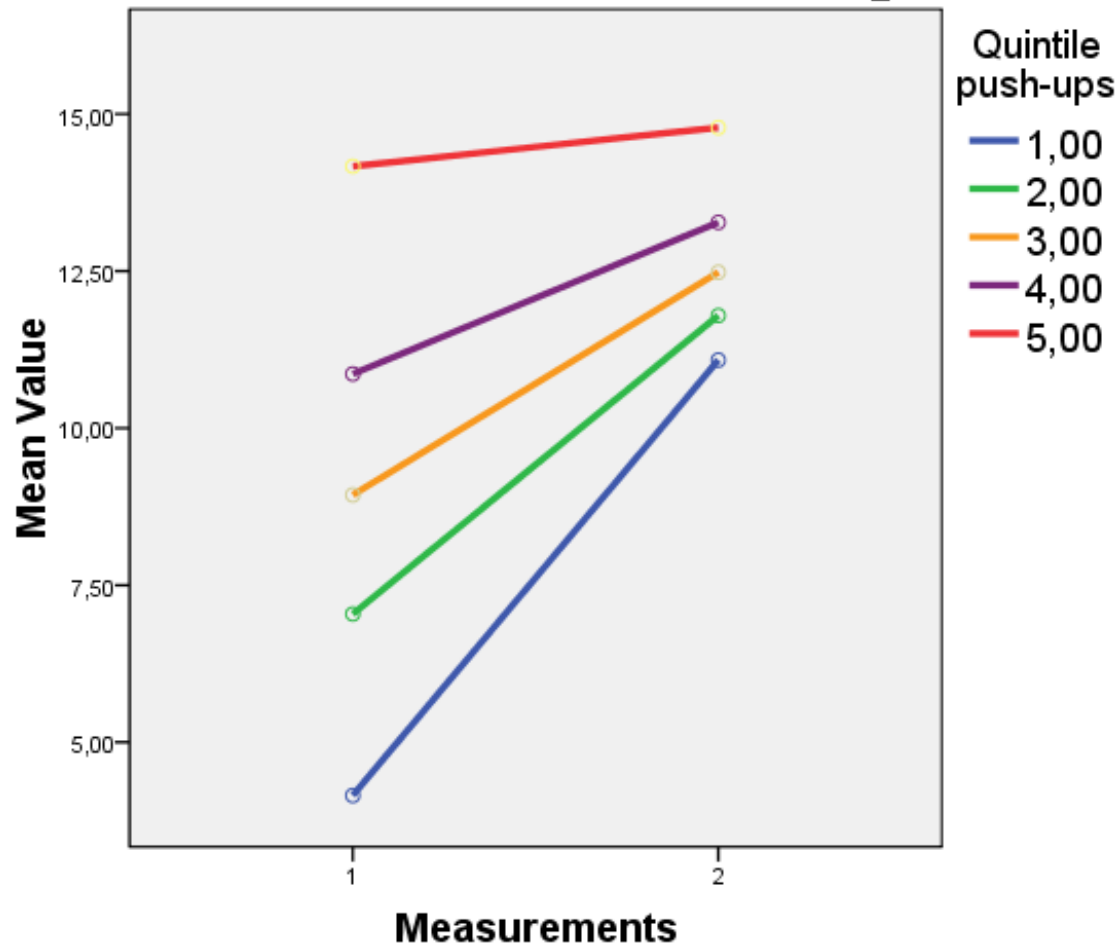
Development of different Quintiles for both countries in one year



6-min run



Development of different Quintiles for both countries in one year

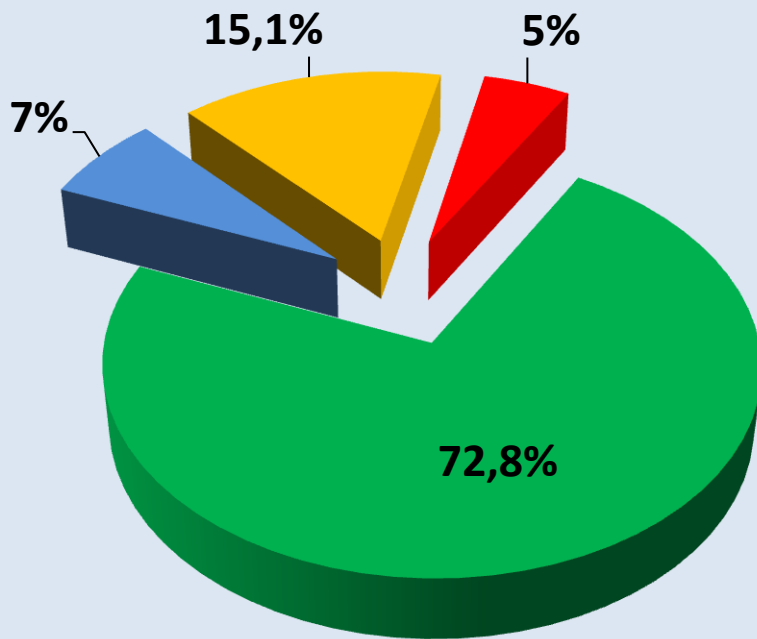


Push-ups

Prevalence of overweight and obesity – Germany

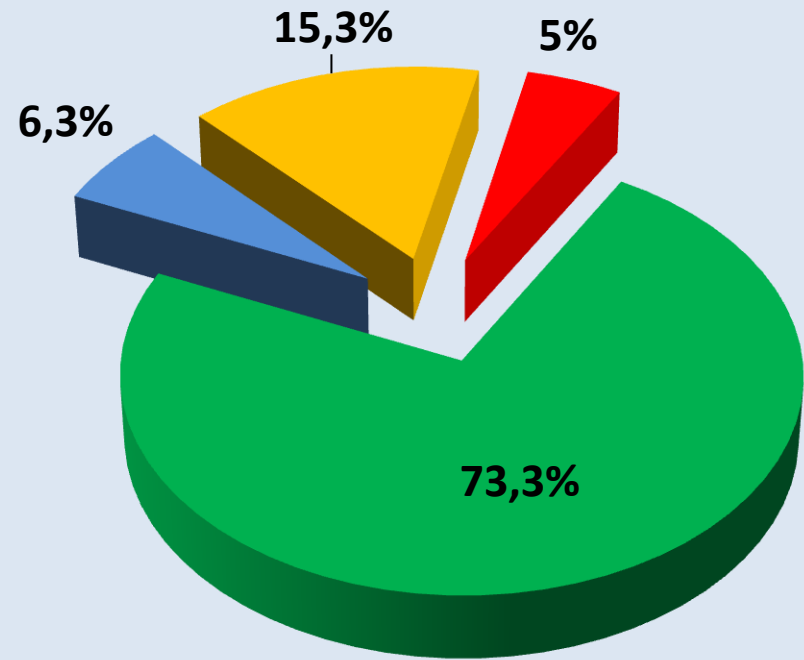
Germany C2 _ T 1

■ normalweight ■ underweight
■ overweight ■ obesity



Germany C2 _ T2

■ normalweight ■ underweight
■ overweight ■ obesity



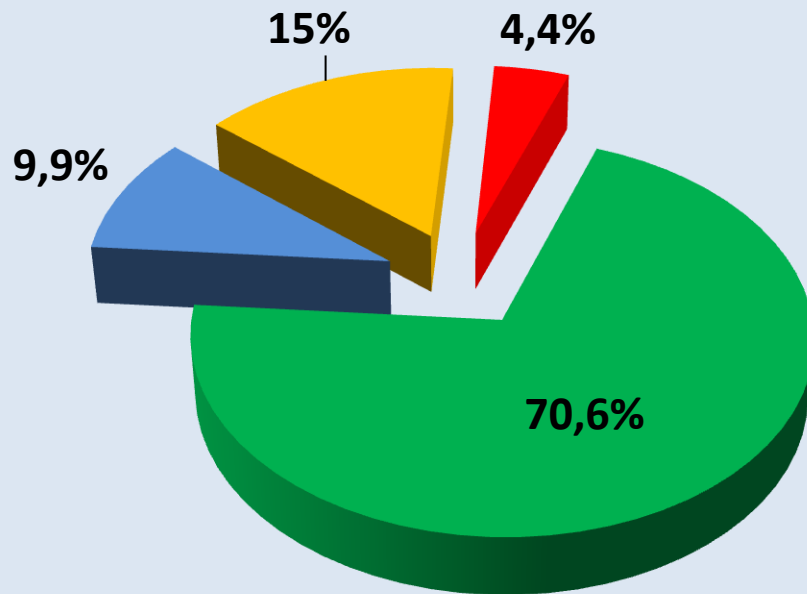
Cole, 2000



Prevalence of overweight and obesity - Netherlands

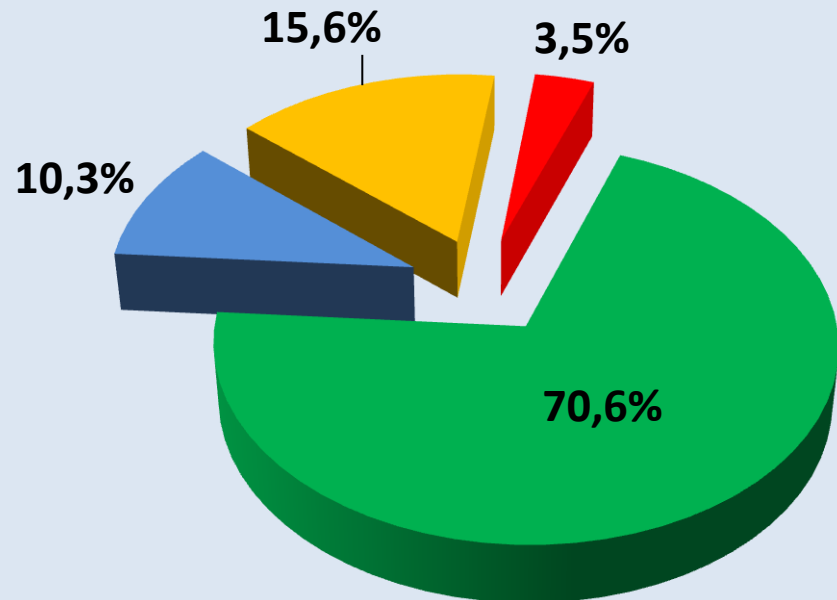
Netherlands C2 _ T1

■ normalweight ■ underweight
■ overweight ■ obesity



Netherlands C2 _ T2

■ normalweight ■ underweight
■ overweight ■ obesity



Cole, 2000

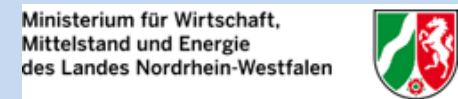
Conclusion

1. better development of motor performance in the German cohort between T1 and T2
 - weekly hours of physical activity in German schools are higher
2. increasing performance of motor abilities in all performance groups (quintiles), but especially in quintile 1 (lowest performance group)
 - effect of the differentiated third sport lesson with focus on the groups with special needs
3. reduced prevalence of obesity in the Dutch cohort and a stagnating number of overweight and obese children in Germany
 - greater consideration of parents to change lifestyle parameters is one aim in future





Thank you for your attention



Unterstützt durch / Mede mogelijk gemaakt door:

Das Projekt Gesunde Kinder in gesunden Kommunen wird im Rahmen des INTERREG IV A Programms Deutschland-Niederland mit Mitteln des Europäischen Fonds für Regionale Entwicklung (EFRE) und vom Land Nordrhein-Westfalen, von der Provincie Gelderland und der Provincie Noord-Brabant kofinanziert. Es wird begleitet durch das Programmmanagement bei der Euregio Rhein-Waal.“

