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Weight and Height Growth in Twins and Children Born in the Last Decade

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Abstract. Weight and height growth has been examined in 400 twins and 229 singletons born 1975-1985. Periodical measurements have been taken from 0 to 7 years of age. As compared to values obtained in a previous study of twins and singletons born 1960-1974, though limited to the first year of age, twins appear to continue to do worse than singletons in their growth. However, height values appear to have become higher in the first year of age in both twins and singletons born 1975-1985.

Key words: Height, Weight, Longitudinal study, Twins

Back in 1970s, we had conducted a longitudinal study on growth in the first year of age in twins vs singletons, some results of which are summarized in Table 1. As can be seen, measurements were then taken at 3-month intervals on a total of 100 same-sex twin pairs of both zygosities and 133 male or female singletons. Twins were found to largely catch up with respect to singletons, although differences remained at the end of the first year of growth, particularly in height.

A larger study has now been conducted on a total sample of 200 same-sex twin pairs of both zygosities as compared to 104 male and 125 female singletons, all born 1975-1985. Weight and height measurements have been taken at 3-month intervals in the first year of age, at 6-month intervals in the second year of age, and at 12-month intervals from age 2 to 7 years.

The results of this study are summarized in Table 2. Again, twins appear be born considerably underweight, with no differences with respect to those born in the previous decade. Also, and as previously found, twins appear to considerably catch up in their weight growth, but not so in their height, there being a difference of over 5 cm at age 4-7 years.

Interestingly, all children born 1975-1985 show, already by age 1 year, an increase in their height as compared to those born 1960-1974, apparently reflecting the well-known secular trend of statural increase. However, twins do not appear to benefit from this trend to the same extent as singletons. Indeed, the trend may have actually stressed the difference, presumably on account of differential influences of better environmental care, particularly nutritional and hygienic factors.

Table 1. Growth in the first year of age in twins vs singletons born 1960-1974

A. Mean Weight (kg)

	Males			Females		
Age (months)	MZ twins (N = 50)	DZ twins (N = 50)	Singletons (N = 50)	MZ twins (N = 50)	DZ twins (N = 50)	Singletons (N = 66)
0	2.597	2.695	3.428	2.540	2.560	3.210
3	5.140	5.271	5.870	4.910	4.970	5.385
6	7.021	7.637	7.865	6.736	7.053	7.260
9	8.563	9.238	9.270	8.479	8.564	8.528
12	10.041	10.050	10.310	9.422	10.107	9.600
B. Mean Length (cm)						
0	48.2	48.3	50.7	47.9	48.0	50.0
3	57.5	57.8	59.8	55.8	56.7	58.7
6	65.6	66.0	66.5	63.9	64.9	64.8
9	69.5	70.9	70.7	68.6	68.9	69.0
12	74.0	73.3	74.5	71.6	73.5	72.8

Table 2. Growth in the first seven years of age in twins vs singletons born 1974 or later

Age	Males			Females		
	MZ twins (N = 100)	DZ twins (N = 100)	Singletons (N = 104)	MZ twins (N = 100)	DZ twins (N = 100)	Singletons (N = 125)
A. Weight ($\bar{x} \pm s$, kg)						
0 m	2.608 ± 0.600	2.620 ± 0.707	3.391 ± 0.890	2.580 ± 0.430	2.509 ± 0.373	3.284 ± 0.925
3	5.479 ± 0.939	5.670 ± 0.674	6.106 ± 1.324	5.448 ± 0.329	5.327 ± 0.723	5.647 ± 1.293
6	7.428 ± 1.046	7.535 ± 1.192	8.020 ± 1.390	7.317 ± 0.514	7.055 ± 1.046	7.517 ± 1.523
9	8.753 ± 1.170	8.715 ± 1.262	9.371 ± 1.609	8.609 ± 0.379	8.349 ± 0.964	8.845 ± 1.559
12	10.050 ± 1.250	9.757 ± 1.295	10.430 ± 1.646	9.462 ± 0.931	9.597 ± 1.142	10.036 ± 1.602
18	11.159 ± 1.315	11.351 ± 1.148	11.643 ± 1.600	10.800 ± 0.277	10.846 ± 1.301	11.352 ± 1.521
2 yr	12.545 ± 1.580	12.273 ± 1.515	12.830 ± 1.730	12.100 ± 1.087	12.149 ± 1.387	12.530 ± 1.438
3	14.633 ± 1.081	14.286 ± 1.106	15.086 ± 1.604	14.665 ± 1.144	14.519 ± 1.138	14.829 ± 1.863
4	16.756 ± 1.306	16.118 ± 1.631	17.065 ± 1.563	16.717 ± 0.816	16.797 ± 1.383	17.022 ± 2.003
5	19.638 ± 1.804	17.763 ± 1.030		19.044 ± 0.502	19.249 ± 1.123	19.265 ± 1.974
6	20.942 ± 859	21.395 ± 1.918		22.175 ± 1.404	24.090 ± 1.455	22.000 ± 0.827
7	23.590 ± 1.682	23.834 ± 4.000		22.008 ± 3.840	26.840 ± 6.112	24.325 ± 1.124
B. Height ($\bar{x} \pm s$, cm)						
0 m	48.0 ± 2.8	48.5 ± 1.4	50.8 ± 1.8	47.2 ± 2.0	47.9 ± 2.7	50.1 ± 2.0
3	59.4 ± 2.8	59.9 ± 2.6	63.3 ± 2.0	58.7 ± 2.2	58.7 ± 5.4	61.7 ± 2.9
6	66.2 ± 3.5	67.7 ± 2.5	70.6 ± 2.8	66.0 ± 3.2	66.1 ± 3.3	69.0 ± 2.6
9	71.3 ± 2.6	71.8 ± 2.8	75.4 ± 2.4	70.6 ± 3.4	70.4 ± 4.0	73.9 ± 2.6
12	75.2 ± 2.9	75.1 ± 2.6	79.6 ± 2.9	73.8 ± 2.6	74.6 ± 3.6	78.2 ± 3.2
18	79.7 ± 3.4	80.1 ± 3.2	84.9 ± 2.7	78.3 ± 2.6	79.8 ± 3.3	84.2 ± 3.1
2 yr	85.7 ± 3.3	85.1 ± 3.2	89.7 ± 2.8	84.9 ± 3.0	85.2 ± 3.6	88.6 ± 3.5
3	94.5 ± 4.6	93.0 ± 3.9	98.0 ± 4.4	90.8 ± 3.6	94.9 ± 3.6	98.0 ± 4.8
4	101.4 ± 4.6	101.6 ± 3.6	106.9 ± 4.5	102.4 ± 4.4	102.3 ± 3.8	106.7 ± 4.8
5	108.5 ± 5.1	108.5 ± 4.1		109.0 ± 2.8	108.6 ± 4.4	113.6 ± 5.8
6	112.7 ± 4.6	114.7 ± 5.7		115.0 ± 5.5	116.9 ± 6.8	120.2 ± 4.2
7	119.6 ± 5.5	120.1 ± 5.6		120.0 ± 4.0	120.8 ± 7.3	125.7 ± 2.9

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