



A comparison of body composition of mothers of monozygotic and dizygotic twins

Chantal Hoekstra, Gonneke Willemsen, Toos van Beijsterveldt,
Grant Montgomery and Dorret Boomsma

AIM: To gain more insight in the mechanisms underlying monozygotic (MZ) and dizygotic (DZ) twinning, body composition (height, weight, BMI) of mothers of MZ and DZ twins was compared in two samples: mothers of newborn twins (young NTR) and mothers of adolescent & adult twins (adult NTR).

Young NTR (twins born after 1986)

- Height, weight, BMI
- Familial twinning (FT), (more twins in family)
- Parity, (number of children before twins)
- IVF treatment excluded

	MZ (2480)	DZ (4087)	
Height	169.2 (6.4)	170.0 (6.3)	**
Weight	66.8 (10.5)	68.0 (11.4)	**
BMI	23.3 (3.3)	23.5 (3.6)	*
Age	30.2 (3.8)	30.8 (3.7)	**
Parity	1.4 (0.7)	1.4 (0.7)	
FT	34.9%	65.1%	**

* significant difference MZ-DZ mother at 0.05

** significant difference MZ-DZ mother at 0.01

Adult NTR (twins born before 1986)

- Height, weight, BMI
- Familial twinning (FT), (more twins in family)
- Number of biological children (NC)

	MZ (2480)	DZ (4087)	
Height	166.8 (6.1)	167.8 (6.1)	**
Weight	67.0 (10.4)	69.0 (11.4)	**
BMI	24.1 (3.5)	24.5 (3.8)	**
Age	45.4 (5.9)	46.1 (5.7)	**
Parity	3.1 (1.2)	3.2 (1.2)	
FT	37.2%	62.8%	**

* significant difference MZ-DZ mother at 0.05

** significant difference MZ-DZ mother at 0.01

DZ twin mothers were taller, heavier and had a higher BMI than MZ mothers. The same results were seen in both samples. After correcting for age, parity/NC and familial twinning, only the differences in height and weight remained. There was a striking difference between DZ and MZ twin mothers in familial twinning.

CONCLUSION: Body composition differs significantly between mothers of MZ and DZ twins. Future research is needed to examine if these differences in body composition are related to differences in ovulations rate.