SUPPLEMENTARY MATERIAL

A priori and *a posteriori* dietary patterns at the age of 1 year and body composition at the age of 6 years: The Generation R Study

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Supplementary Table 1. Characteristics of the children and their parents before and after multiple imputation (*n* = 2,026)

	N	Original data[1]	Imputed data[1]
Parental characteristics			
Maternal age (y)	2,026	32.3 (22.9 – 39.9)	*No missings*
Maternal BMI at enrollment (kg/m^2)	1,849	23.3 (18.9 – 34.8)	23.3 (18.9 – 34.8)
Parity			
0	1,242	1,242 (63.0%)	1,271 (62.7%)
1	557	557 (28.2%)	575 (28.4%)
≥ 2	173	173 (8.8%)	180 (8.9%)
Folic acid supplement use (%)			
Started periconceptional	970	970 (63.5%)	1,252 (62.7%)
Started in first 10 weeks	448	448 (29.3%)	597 (29.5%)
Never	110	110 (7.2%)	177 (8.9%)
Alcohol use during pregnancy (%)			
Never	517	517 (30.8%)	619 (30.6%)
Until pregnancy was known	278	278 (16.6%)	343 (16.9%)
Continued	881	881 (52.6%)	1,064 (52.5%)
Smoking during pregnancy (%)			
Never	1,466	1,466 (79.5%)	1,596 (78.8%)
Until pregnancy was known	186	186 (10.1%)	213 (10.5%)
Continued	193	193 (10.5%)	217 (10.7%)
Paternal smoking (%)			
No	947	947 (61.7%)	1,233 (60.9%)
Yes	589	589 (38.3%)	793 (39.1%)
Paternal education (%)			
Primary or secondary school	542	542 (29.0%)	630 (31.1%)
Higher education	1,328	1,328 (71.0%)	1,396 (68.9%)
Net household income per month (%)			
<2200 €	359	359 (20.3%)	448 (22.1%)
≥2200 €	1,413	1,413 (79.7%)	1,578 (77.9%)
Child characteristics			
Gender (%)			
Boys	1,002	1,002 (49.5%)	*No missings*
Girls	1,024	1,024 (50.5%)	*No missings*
Breastfeeding (%)			
Exclusive for at least 4 months	552	552 (30.2%)	605 (29.9%)
Partial in the first 4 months	1,101	1,101 (60.2%)	1,211 (59.8%)
Never	176	176 (9.6%)	210 (10.4%)
Introduction complementary feeding (%)			
After 6 months	800	800 (39.6%)	803 (39.6%)
3-6 months	1,136	1,136 (56.3%)	1,139 (56.2%)
0-3 months	83	83 (4.1%)	84 (4.2%)
Television watching at 2 years (h/day)	1915	0.9 (0 – 2)	0.9 (0 – 2)
Child age at FFQ (mo)	2,026	12.9 (12.2 – 19.2)	*No missings*
Total energy intake (kcal/d)	2,026	1267 (737 – 2080)	*No missings*
Child age at center visit (y)	2,026	5.9 (5.7 – 6.5)	*No missings*

[1]*Values are valid percentages for categorical variables or medians (95% range) for continuous variables.*

Supplementary Table 2. Multivariable-adjusted associations of dietary patterns at 1 year of age with additional growth and body composition outcomes at 6 years of age.

	Weight (SDS) *n* =2,026	Height (SDS) *n* = 2,026	BMI (SDS) *n* = 2,026	BF% (SDS) *n* = 1,980	A/G ratio (SDS) *n* = 1,980
	β (95%CI)	β (95%CI)	β (95%CI)	β (95%CI)	β (95%CI)
Diet score					
Per SD	**0.06 (0.03; 0.10)****	**0.05 (0.01; 0.09)***	**0.06 (0.02; 0.09)****	0.00 (-0.03; 0.03)	-0.00 (-0.04; 0.04)
Q1	*Reference*	*Reference*	*Reference*	*Reference*	*Reference*
Q2	0.04 (-0.05; 0.13)	-0.01 (-0.13; 0.10)	0.07 (-0.02; 0.16)	0.01 (-0.08; 0.10)	-0.04 (-0.14; 0.06)
Q3	0.04(-0.05; 0.14)	-0.02 (-0.14; 0.09)	0.07 (-0.02; 0.16)	-0.05 (-0.14; 0.04)	-0.06 (-0.16; 0.04)
Q4	**0.19 (0.10; 0.29)****	**0.15 (0.03;0.27)***	**0.18 (0.08; 0.27)****	0.02 (-0.08; 0.11)	0.01 (-0.10; 0.11)
PCA Health-conscious pattern					
Per SD	0.03 (-0.01; 0.07)	0.01 (-0.04; 0.05)	**0.04 (0.01; 0.08)***	-0.01 (-0.04; 0.03)	-0.01 (-0.05; 0.03)
Q1	*Reference*	*Reference*	*Reference*	*Reference*	*Reference*
Q2	0.04 (-0.06; 0.13)	0.05 (-0.07; 0.16)	0.03 (-0.07; 0.12)	0.01 (-0.09; 0.10)	0.02 (-0.08; 0.12)
Q3	**0.12 (0.02;0.21)***	0.11 (-0.01; 0.22)	**0.10 (0.01; 0.19)***	-0.01 (-0.11; 0.08)	0.02 (-0.08; 0.12)
Q4	**0.13 (0.03;0.23)****	0.08 (-0.04; 0.20)	**0.14 (0.05; 0.24)****	-0.01 (-0.11; 0.08)	-0.02 (-0.12; 0.09)
PCA Western pattern					
Per SD	0.00 (-0.04; 0.04)	0.00 (-0.05; 0.05)	0.00 (-0.04; 0.05)	-0.01 (-0.05; 0.04)	0.01 (-0.04; 0.06)
Q1	*Reference*	*Reference*	*Reference*	*Reference*	*Reference*
Q2	-0.01 (-0.11; 0.08)	-0.05 (-0.16; 0.07)	0.02 (-0.07; 0.11)	0.05 (-0.05; 0.14)	0.08 (-0.03; 0.18)
Q3	**0.11 (0.01; 0.20)***	0.04 (-0.07; 0.16)	**0.12 (0.02; 0.21)***	0.03 (-0.07; 0.13)	0.08 (-0.02; 0.19)
Q4	0.03 (-0.08; 0.14)	0.02 (-0.11; 0.15)	0.04 (-0.07; 0.14)	-0.02 (-0.13; 0.09)	0.05 (-0.07; 0.17)
RRR pattern 1					
Per SD	**0.10 (0.06; 0.14)****	**0.05 (0.00; 0.10)***	**0.11 (0.07; 0.15)****	**0.08 (0.04; 0.12)****	**0.07 (0.02; 0.11)****
Q1	*Reference*	*Reference*	*Reference*	*Reference*	*Reference*
Q2	**0.09 (0.00;0.19)***	0.04 (-0.08; 0.15)	**0.12 (0.03; 0.21)****	**0.10 (0.01; 0.19)***	0.08 (-0.02; 0.18)
Q3	**0.14 (0.05;0.24)****	**0.12 (0.00; 0.24)***	**0.12 (0.03; 0.21)****	0.08 (-0.01; 0.18)	0.06 (-0.04; 0.16)
Q4	**0.23 (0.13;0.33)****	**0.13 (0.01; 0.25)***	**0.25 (0.16; 0.35)****	**0.14 (0.04; 0.24)****	**0.14 (0.03; 0.25)****
RRR pattern 2					
Per SD	0.02 (-0.02; 0.06)	0.02 (-0.03; 0.07)	0.02 (-0.02; 0.06)	**-0.05 (-0.09;-0.01)****	**-0.05 (-0.09;-0.00)***
Q1	*Reference*	*Reference*	*Reference*	*Reference*	*Reference*
Q2	-0.06 (-0.15; 0.04)	-0.03 (-0.15; 0.09)	-0.06 (-0.15; 0.03)	-0.07 (-0.16; 0.03)	-0.07 (-0.17; 0.03)
Q3	**0.11 (0.01; 0.21)***	**0.13 (0.01; 0.25)***	0.07 (-0.03; 0.16)	-0.06 (-0.16; 0.04)	-0.03 (-0.14; 0.08)
Q4	0.04 (-0.07; 0.15)	0.01 (-0.12; 0.15)	0.06 (-0.04; 0.17)	**-0.12 (-0.23; -0.02)***	-0.12 (-0.23; 0.00)

Values are regression coefficients that reflect the difference in outcome (age- and sex-adjusted SD scores) per 1 SD increase in exposure and for quartiles of exposure compared to the lowest quartile.

Models are adjusted for maternal age, BMI at enrollment, parity, folic acid supplement use, smoking and alcohol use during pregnancy; paternal smoking and education; household income; and child sex, breastfeeding in the first four months of life, timing of introduction of complementary feeding, age at dietary measurement, total energy intake at 1 year, and television watching at age 2 years. BF% and A/G ratio are additionally adjusted for child height. *p<0.05, **p<0.01 Abbreviations: BF%, body fat percentage; A/G ratio, android/gynoid ratio; PCA, principal component analyses; RRR, reduced rank regression

Supplementary Table 3. Associations of dietary patterns at 1 year of age with childhood body composition at 6 years of age: crude, confounder and baseline BMI adjusted models.

	BMI (SDS) *n* = 2,026 β (95%CI)	FMI (SDS) *n* = 1,980 β (95%CI)	FFMI (SDS) *n* = 1,980 β (95%CI)
Diet quality score (per SD)			
Crude	**0.05 (0.02; 0.08)****	0.01 (-0.02; 0.04)	**0.07 (0.03; 0.11)****
Covariate adjusted (main model)	**0.06 (0.02; 0.09)****	0.02 (-0.01; 0.05)	**0.06 (0.02; 0.10)****
Additionally adjusted for baseline BMI	**0.04 (0.01; 0.07)***	0.01 (-0.02; 0.04)	**0.05 (0.01; 0.08)***
Health-conscious pattern (PCA) (per SD)			
Crude	**0.04 (0.00; 0.07)***	0.00 (-0.03; 0.04)	**0.05 (0.01; 0.09)***
Covariate adjusted (main model)	**0.04 (0.01; 0.08)***	0.01 (-0.03; 0.04)	**0.05 (0.01; 0.09)***
Additionally adjusted for baseline BMI	0.03 (-0.00; 0.07)	0.00 (-0.03; 0.03)	**0.04 (0.00; 0.08)***
Western pattern (PCA) (per SD)			
Crude	0.04 (-0.01; 0.08)	**0.05 (0.01; 0.09)***	0.00 (-0.04; 0.05)
Covariate adjusted (main model)	0.00 (-0.04; 0.05)	-0.01 (-0.05; 0.03)	0.02 (-0.04; 0.07)
Additionally adjusted for baseline BMI	0.01 (-0.03; 0.05)	-0.01 (-0.04; 0.03)	0.02 (-0.03; 0.07)
RRR pattern 1 (per SD)			
Crude	**0.14 (0.10; 0.18)****	**0.15 (0.11; 0.19)****	**0.08 (0.03; 0.13)****
Covariate adjusted (main model)	**0.11 (0.07; 0.15)****	**0.10 (0.06; 0.13)****	**0.09 (0.04; 0.14)****
Additionally adjusted for baseline BMI	**0.10 (0.06; 0.14)****	**0.09 (0.06; 0.13)****	**0.08 (0.03; 0.12)****
RRR pattern 2 (per SD)			
Crude	0.00 (-0.04; 0.04)	**-0.06 (-0.10; -0.03)****	**0.08 (0.03; 0.12)****
Covariate adjusted (main model)	0.02 (-0.02; 0.06)	-0.03 (-0.07; 0.00)	**0.07 (0.02; 0.11)****
Additionally adjusted for baseline BMI	0.01 (-0.03; 0.04)	**-0.04 (-0.07; -0.01)***	**0.06 (0.01; 0.10)****

Values are regression coefficients that reflect the difference in outcome (age- and sex-adjusted SD scores) per 1 SD increase in exposure, based on imputed data.

Crude models are adjusted for child sex, age at dietary measurement and total energy intake at 1 year.

Covariate models are additionally adjusted for maternal age, BMI at enrollment, parity, folic acid supplement use, smoking and alcohol use during pregnancy; paternal smoking and education; household income; and child breastfeeding in the first four months of life, timing of introduction of complementary feeding, and television watching at age 2 years.

Baseline BMI adjusted models are additionally adjusted for BMI-SDS at the age of 1 year

Abbreviations: BMI, body mass index; FMI, fat mass index; FFMI, fat-free mass index; PCA, principal component analyses; RRR, reduced rank regression

*p<0.05, **p<0.01

Supplementary Table 4. Associations of dietary patterns at 1 year of age with childhood body composition at 6 years of age in the total population vs. in weaned children only

	FMI (SDS) *n* = 1,980 or 1,609 β (95%CI)	FFMI (SDS) *n* = 1,980 or 1,609 β (95%CI)
Diet quality score (per SD)		
Total population	0.02 (-0.01; 0.05)	**0.06 (0.02; 0.10)****
Weaned children only	0.03 (-0.01; 0.06)	**0.05 (0.00; 0.09)***
Health-conscious pattern (PCA) (per SD)		
Total population	0.01 (-0.03; 0.04)	**0.05 (0.01; 0.09)***
Weaned children only	-0.00 (-0.04; 0.04)	0.03 (-0.02; 0.08)
Western pattern (PCA) (per SD)		
Total population	-0.01 (-0.05; 0.03)	0.02 (-0.04; 0.07)
Weaned children only	-0.04 (-0.09; 0.01)	0.00 (-0.06; 0.06)
RRR pattern 1 (per SD)		
Total population	**0.10 (0.06; 0.13)****	**0.09 (0.04; 0.14)****
Weaned children only	**0.08 (0.04; 0.12)****	**0.07 (0.01; 0.12)***
RRR pattern 2 (per SD)		
Total population	-0.03 (-0.07; 0.00)	**0.07 (0.02; 0.11)****
Weaned children only	-0.03 (-0.07; 0.01)	0.05 (-0.00; 0.10)

Values are regression coefficients that reflect the difference in outcome (age- and sex-adjusted SD scores) per 1 SD increase in exposure, based on imputed data.

Weaned children were defined as children who no longer receive breast milk or a substantial amount of infant formula (i.e., more than 500 kcal/d).

Models are adjusted for child sex, age at dietary measurement and total energy intake at 1 year and maternal age, BMI at enrollment, parity, folic acid supplement use, smoking and alcohol use during pregnancy; paternal smoking and education; household income; and child breastfeeding in the first four months of life, timing of introduction of complementary feeding, and television watching at age 2 years.

Abbreviations: FMI, fat mass index; FFMI, fat-free mass index; PCA, principal component analyses; RRR, reduced rank regression

*p<0.05, **p<0.01