

## Online Supplemental Material

### Babies of South Asian and European Ancestry Show Similar Associations with Genetic Risk Score for Birth Weight Despite the Smaller Size of South Asian Newborns

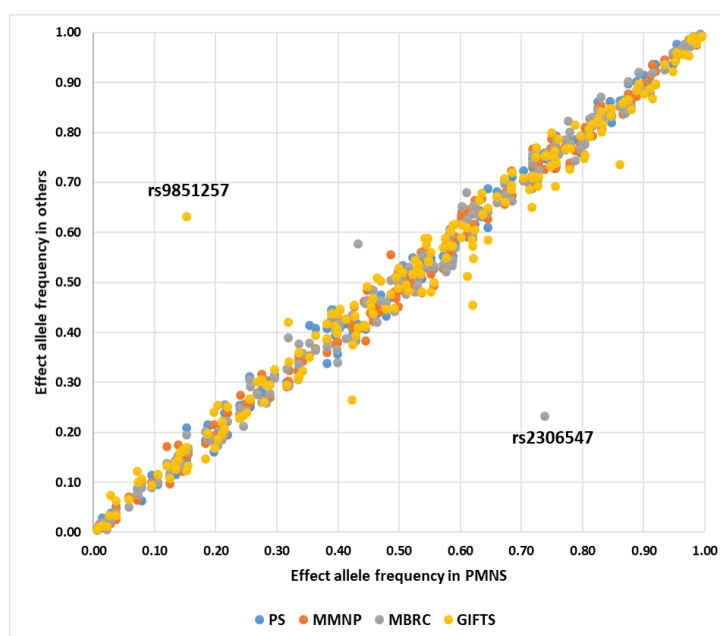
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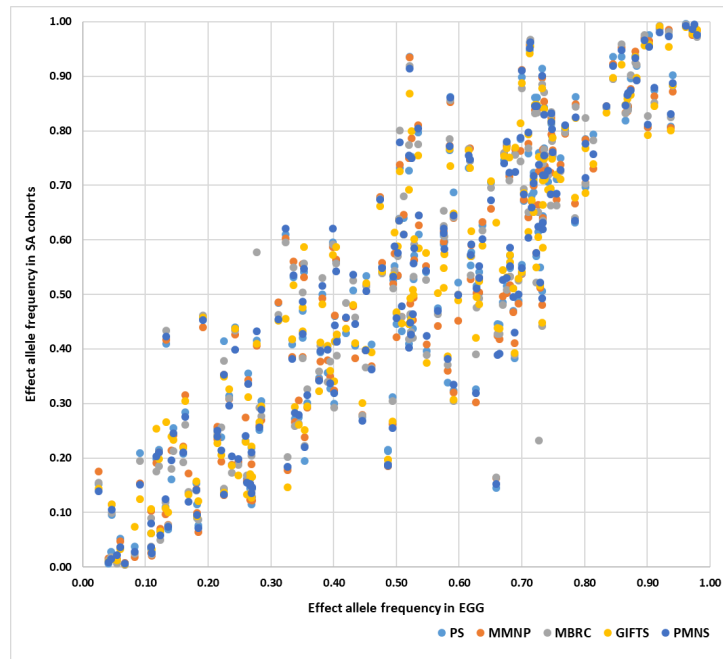
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## Supplementary Figures

A.



**B.**



Supplementary Figure 1: Comparison of the effect allele frequency of 196 birthweight-associated single nucleotide polymorphisms between EGG/UKBB and cohorts from South Asia (PMNS, Pune Maternal Nutrition Study; PS, Parthenon Study; MMNP, Mumbai Maternal Nutrition Project; MBRC, Mysore Birth Records Cohort; GIFTS, Bangladeshi Cohorts which included Dhaka-WP2, Dhaka-WP3 and UK-Bang). (A) Between South Asian cohorts. PMNS is on the X-axis and the other South Asian cohorts are on the Y-axis, each marked with specific colours. The variants rs9851257 and rs2306547 are outliers in GIFTS and MBRC cohorts respectively. (B) Between EGG/UKBB and South Asians. EGG/UKBB is on the X-axis and the South Asian cohorts are on the Y-axis, each indicated by specific colours. EGG, Early Growth Genetics Consortium; UKBB, UK Biobank.

**Supplementary Tables**

**Supplementary Table 2: Newborn and maternal anthropometry in the Indian cohorts**

Traits	PMNS			PS			MMNP			MBRC		
	Boys (N=271)	Girls (N=244)	All (N=515)	Boys (N=245)	Girls (N=266)	All (N=511)	Boys (N=271)	Girls (N=210)	All (N=481)	Boys (N=385)	Girls (N=299)	All (N=684)
Birthweight (kg)	2.74 (0.33)	2.62 (0.34)	2.68 (0.34)	2.96 (0.43)	2.87 (0.38)	2.91 (0.41)	2.67 (0.37)	2.59 (0.37)	2.64 (0.37)	2.81 (0.43)	2.71 (0.39)	2.76 (0.42)
Birth length (cm)	48.2 (1.94)	47.4 (1.92)	47.8 (1.97)	49.1 (2.13)	48.6 (2.05)	48.8 (2.11)	48.5 (2.29)	47.7 (2.14)	48.2 (2.26)	48.26 (3.00)	47.7 (2.85)	48.0 (2.95)
Ponderal index (kg/m <sup>3</sup> )	24.4 (2.17)	24.6 (2.71)	24.5 (2.44)	24.9 (2.68)	25.1 (2.82)	25.0 (2.75)	23.4 (2.35)	23.9 (2.83)	23.6 (2.58)	25.3 (4.6)	25.4 (5.16)	25.3 (4.85)
Head circumference (cm)	33.4 (1.18)	32.7 (1.20)	33.1 (1.24)	34.2 (1.31)	33.6 (1.19)	33.9 (1.28)	33.5 (1.20)	32.9 (1.13)	33.2 (1.21)	33.7 (1.63)	33.3 (1.50)	33.6 (1.58)
Chest circumference (cm)	31.4 (1.56)	31.0 (1.59)	31.2 (1.59)	32.1 (1.68)	32.0 (1.6)	32.0 (1.64)	31.0 (1.83)	30.7 (1.69)	30.9 (1.77)	NA	NA	NA
Abdominal circumference (cm)	28.8 (1.93)	28.7 (1.89)	28.7 (1.91)	30.0 (2.01)	30.0 (1.83)	30.0 (1.92)	28.5 (2.07)	28.4 (2.08)	28.4 (2.07)	NA	NA	NA

Mid-upper arm circumference (cm)	9.7 (0.87)	9.6 (0.89)	9.7 (0.88)	10.4 (0.94)	10.3 (0.89)	10.4 (0.92)	9.7 (0.80)	9.7 (0.86)	9.7 (0.82)	NA	NA	NA
Triceps skinfold (mm)	4.2 (0.87)	4.3 (0.87)	4.3 (0.87)	4.2 (0.91)	4.3 (0.89)	4.2 (0.90)	4.1 (0.98)	4.3 (1.11)	4.2 (1.04)	NA	NA	NA
Subscapular skinfold (mm)	4.2 (0.88)	4.3 (0.91)	4.2 (0.89)	4.4 (0.89)	4.6 (0.93)	4.5 (0.91)	4.0 (0.93)	4.3 (1.03)	4.2 (0.98)	NA	NA	NA
Gestational age (weeks)	39.1 (1.05)	39.0 (1.06)	39.1 (1.06)	39.4 (1.20)	39.6 (1.07)	39.5 (1.14)	39.3 (1.18)	39.3 (1.15)	39.3 (1.17)	NA	NA	NA
Maternal age (years)	21.4 (3.48)	21.4 (3.65)	21.4 (3.56)	23.8 (4.16)	23.8 (4.31)	23.8 (4.24)	24.7 (3.94)	24.77 (3.77)	24.73 (3.86)	NA	NA	NA
Maternal BMI (kg/m <sup>2</sup> )	18.2 (1.93)	17.9 (1.87)	18.1 (1.90)	23.4 (3.51)	23.8 (3.58)	23.6 (3.55)	20.2 (3.54)	20.4 (3.86)	20.3 (3.68)	NA	NA	NA

The values are mean (SD). N, number of term babies with both genotype and phenotype data available; BMI, body mass index; SD, standard deviation; NA, not available.

PMNS, Pune Maternal Nutrition Study; PS, Parthenon Study; MMNP, Mumbai Maternal Nutrition Project; MBRC, Mysore Birth Records Cohort.

**Supplementary Table 3: Newborn and maternal anthropometry in the Bangladeshi cohorts**

Traits	Dhaka-WP2			Dhaka-WP3			UK-Bang		
	Boys (N=29)	Girls (N=24)	All (N=53)	Boys (N=162)	Girls (N=152)	All (N=314)	Boys (N=71)	Girls (N=72)	All (N=151)
Birthweight (kg)	2.99 (0.36)	2.80 (0.39)	2.90 (0.38)	2.90 (0.39)	2.77 (0.43)	2.84 (0.42)	3.18 (0.48)	3.06 (0.41)	3.12 (0.45)
Birth length (cm)	46.5 (2.81)	45.9 (2.23)	46.2 (2.56)	49.8 (2.58)	49.4 (2.61)	49.6 (2.60)	47.1 (1.84)	46.2 (2.08)	46.7 (2.03)
Ponderal index (kg/m <sup>3</sup> )	29.9 (4.84)	28.9 (3.89)	29.5 (4.42)	23.6 (3.50)	23.0 (3.49)	23.3 (3.50)	28.7 (4.48)	29.1 (4.21)	28.9 (4.27)
Head circumference (cm)	33.7 (1.49)	33.0 (1.18)	33.4 (1.39)	33.1 (3.01)	32.7 (1.49)	32.9 (2.40)	34.0 (1.08)	33.1 (1.39)	33.6 (1.31)
Chest circumference (cm)	NA	NA	NA	NA	NA	NA	33.55 (2.37)	33.25 (1.46)	33.4 (1.97)

Abdominal circumference (cm)	NA	NA	NA	NA	NA	NA	31.86 (2.60)	30.95 (2.47)	31.41 (2.56)
Mid-upper arm circumference (cm)	10.0 (0.68)	9.7 (0.74)	9.9 (0.71)	10.5 (2.76)	10.0 (0.94)	10.2 (2.09)	11.4 (2.16)	10.3 (1.96)	10.9 (2.13)
Triceps skinfold (mm)	NA	NA	NA	NA	NA	NA	4.8 (2.08)	5.2 (1.80)	5.0 (1.93)
Subscapular skinfold (mm)	NA	NA	NA	NA	NA	NA	5.2 (2.02)	5.3 (1.75)	5.3 (1.87)
Gestational age (week)	40.2 (0.86)	40.4 (1.47)	40.3 (1.17)	39.2 (1.42)	39.2 (1.63)	39.2 (1.53)	38.7 (4.61)	39.2 (1.23)	39.0 (3.44)
Maternal Age (years)	20.07 (2.36)	19.83 (2.66)	19.91 (2.45)	22.74 (4.00)	22.66 (4.60)	22.68 (4.29)	29.22 (5.47)	30.19 (5.31)	29.68 (5.40)
Maternal BMI (kg/m <sup>2</sup> )	20.10 (3.36)	21.36 (3.40)	20.58 (3.40)	22.39 (4.12)	22.91 (3.92)	22.65 (4.03)	25.75 (4.02)	26.79 (4.65)	26.24 (4.34)

The values are mean (SD). N, number of term babies with both genotype and phenotype data available; BMI, body mass index; SD, standard deviation; NA, not available; Dhaka-WP2, Work Package 2 of GIFTS; Dhaka-WP3, Work Package 3 of GIFTS; UK-Bang, London UK Bangladeshi cohort.

**Supplementary Table 4: Body size and composition, and cardiometabolic measures during childhood and early adolescence in the Indian cohorts**

Traits	Childhood			Early adolescence	
	PMNS (N=608)	PS (N=562)	MMNP (N=696)	PMNS (N=604)	PS (N=516)
Age (years)	6.17 (0.21)	5.0 (0.04)	5.85 (0.32)	11.6 (0.93)	13.53 (0.14)
Weight (kg)	16.2 (1.9)	15.2 (1.9)	16.2 (2.5)	29.3 (6.8)	41.9 (8.6)
Height (cm)	109.9 (4.7)	105.6 (4.2)	109.6 (4.9)	139.6 (8.4)	153.7 (6.9)
Body mass index (kg/m <sup>2</sup> )	13.4 (0.9)	13.6 (1.1)	13.4 (1.4)	14.9 (2.1)	17.7 (3.1)
Head circumference (cm)	48.6 (1.5)	48.5 (1.4)	48.7 (1.5)	51.3 (1.8)	51.4 (1.4)
Waist circumference (cm)	50.3 (2.6)	45.9 (3.0)	49.1 (3.6)	57.4 (5.8)	66.3 (7.9)
Mid-upper arm circumference (cm)	15.2 (1.1)	15.3 (1.2)	15.4 (1.4)	18.8 (3.1)	22.1 (2.8)
Triceps skinfold (mm)	6.3 (1.4)	8.0 (2.1)	7.4 (2.0)	7.8 (3.3)	13.3 (5.7)
Subscapular skinfold (mm)	5.1 (1.1)	6.2 (1.9)	5.9 (1.7)	6.9 (3.9)	13.9 (7.1)
Fat percent (%)	19.6 (5.5)	25.5 (5.5)	15.3 (5.2)	16.7 (6.6)	21.7 (7.5)
Systolic blood pressure (mm Hg)	90.4 (12.2)	96.6 (8.3)	92.1 (8.5)	106.3 (10.0)	109.4 (8.1)
Diastolic blood pressure (mm Hg)	53.6 (10.2)	58.1 (6.8)	56.1 (7.6)	62.6 (6.8)	61.2 (7.0)
Fasting glucose (mmol/L)	4.9 (0.5)	4.8 (0.5)	4.8 (0.7)	4.8 (0.4)	5.0 (0.5)
120 minutes glucose(mmol/L)	5.5 (1.1)	5.9 (1.0)	4.7 (0.9)	NA	NA
Fasting insulin (pmol/L)	25.70 (17.22)	28.89 (21.95)	28.96 (35.98)	40.91 (22.64)	45.07 (29.03)
HOMA-IR	0.82 (0.6)	0.89 (0.7)	0.63 (0.6)	1.27 (0.8)	1.69 (1.2)
Total cholesterol (mmol/L)	3.3 (0.6)	3.5 (0.7)	3.8 (0.9)	3.4 (0.6)	3.5 (0.7)
LDL-cholesterol (mmol/L)	1.9 (0.5)	1.1 (0.3)	2.3 (0.7)	2.0 (0.5)	2.1 (0.5)
HDL-cholesterol (mmol/L)	1.1 (0.3)	2.1 (1.0)	1.0 (0.2)	1.1 (0.2)	1.1 (0.3)
Triglycerides (mmol/L)	0.7 (0.3)	0.6 (0.3)	0.9 (0.4)	0.7 (0.2)	0.8 (0.4)

Values are mean (SD). N, Number of individuals where both genotype and phenotype data are available (variable with different traits). PMNS, Pune Maternal Nutrition Study; PS, Parthenon Study; MMNP, Mumbai Maternal Nutrition Project; HOMA-IR, homeostasis model assessment of insulin resistance, LDL, low density lipoprotein; HDL, high density lipoprotein; NA, not available.



**Supplementary Table 5: Body size and composition, and cardiometabolic measures in the Indian adult cohorts**

Traits	PMNS	PMNS	PS	PS	MMNP	MBRC (N=684)
	Mother (N=543)	Father (N=402)	Mother (N=525)	Father (N=499)	Mother (N=691)	
Age (years)	27.9 (3.5)	39.4 (4.11)	28.9 (4.3)	36.4 (4.71)	32.9 (4.48)	62.2 (5.42)
Weight (kg)	44.4 (6.8)	59.9 (11.0)	56.4 (11.1)	67.1 (11.1)	55.0 (11.4)	66.56 (13.82)
Height (cm)	153.0 (5.1)	165.5 (6.1)	154.5 (5.3)	167.6 (6.3)	152.3 (5.5)	158.4 (9.7)
Body mass index (kg/m <sup>2</sup> )	18.9 (2.7)	21.8 (3.6)	23.6 (4.5)	23.9 (3.6)	23.7 (4.7)	26.6 (5.3)
Head circumference (cm)	53.0 (1.5)	54.6 (1.6)	52.4 (1.5)	54.7 (1.6)	52.4 (1.4)	53.2 (1.7)
Waist circumference (cm)	65.8 (7.2)	80.1 (9.6)	82.2 (11.8)	86.2 (10.3)	77.7 (11.4)	93.0 (12.3)
Hip circumference (cm)	85.5 (7.2)	88.5 (6.9)	92.4 (8.7)	92.8 (7.3)	87.8 (7.8)	95.7 (11.2)
Waist to hip ratio	0.77 (0.07)	0.90 (0.07)	0.89 (0.07)	0.93 (0.06)	69.7 (9.52)	0.98 (0.11)
Mid upper arm circumference (cm)	23.5 (2.4)	26.4 (2.6)	26.6 (3.6)	28.6 (2.8)	26.5 (3.9)	29.5 (3.9)
Triceps skinfold (mm)	9.7 (4.6)	8.8 (4.3)	23.0 (9.7)	13.3 (5.6)	18.5 (7.2)	19.3 (7.7)
Subscapular skinfold (mm)	12.8 (6.5)	12.4 (6.0)	31.0 (12.6)	26.1 (11.3)	27.8 (11.5)	31.3 (9.8)

Systolic blood pressure (mmHg)*	107.3 (9.6)	110.6 (9.2)	108.7 (11.2)	116.9 (14.7)	107.6 (12.2)	127.0 (15.5)
Diastolic blood pressure (mmHg)*	63.7 (6.9)	63.7 (8.1)	65.7 (9.1)	73.6 (11.1)	67.2 (9.6)	75.2 (10.7)
Fasting glucose (mmol/L)*	5.2 (1.0)	5.2 (1.0)	5.6 (1.2)	6.0 (2.0)	NA	7.2 (3.0)
120 minutes glucose(mmol/L)*	5.5 (1.6)	5.2 (2.2)	6.4 (2.8)	NA	NA	NA
Fasting insulin (pmol/L)*	34.73 (25.77)	47.02 (33.20)	60.56 (39.31)	60.77 (39.24)	NA	90.49 (91.54)
HOMA-IR*	1.19 (0.93)	1.63 (1.5)	2.18 (1.6)	2.45 (2.2)	NA	4.03 (3.8)
Total cholesterol (mmol/L)*	3.6 (0.7)	4.0 (0.8)	4.1 (0.8)	4.6 (1.0)	NA	4.7 (1.1)
LDL-cholesterol (mmol/L)*	2.1 (0.6)	2.5 (0.7)	2.5 (0.6)	2.7 (0.8)	NA	2.8 (0.9)
HDL-cholesterol (mmol/L)*	1.2 (0.3)	1.1 (0.3)	1.1 (0.2)	1.0 (0.2)	NA	1.2 (0.3)
Triglycerides (mmol/L)*	0.7 (0.4)	1.1 (0.6)	1.2 (0.7)	2.0 (1.4)	NA	1.7 (0.9)

Values are mean (SD). N, Number of individuals with genotype phenotype data available and this can be variable with different traits. BMI was additionally included as a covariate for analysis of traits marked with an asterisk (\*). SD, standard deviation; PMNS, Pune Maternal Nutrition Study; PS, Parthenon Study; MMNP, Mumbai Maternal Nutrition Project; MBRC, Mysore Birth Records Cohort; HOMA-IR, homeostatic model assessment insulin resistance; LDL, low density lipoprotein; HDL, high density lipoprotein; NA, not available.

**Supplementary Table 6: Associations of fetal genetic score with birthweight in South Asian populations (excluding GDM mothers)**

Cohort	fGS adjusted for sex and GA <sup>@</sup>				fGS adjusted for sex, GA, and mGS <sup>#</sup>			
	N	Effect	SE	P	N	Effect	SE	P
PMNS	512	0.009	0.004	0.048	441	0.010	0.005	0.047
PS	480	0.023	0.005	3.0x10 <sup>-7</sup>	428	0.023	0.005	1.3x10 <sup>-6</sup>
MMNP*	434	0.012	0.005	0.012	428	0.013	0.005	0.009
Dhaka-WP2	40	0.010	0.009	0.286	40	0.009	0.008	0.266
Dhaka-WP3	233	0.004	0.003	0.200	233	0.004	0.003	0.218
UK-Bang	75	0.012	0.006	0.058	75	0.011	0.007	0.094
Meta-analysis	1774	0.010	0.002	5.1x10 <sup>-8</sup>	1645	0.010	0.002	1.8x10 <sup>-7</sup>

*@, I<sup>2</sup>= 64.90%, Het-P=0.014 and #, I<sup>2</sup>=62.50%, Het-P=0.02*

**Supplementary Table 7: Associations of maternal genetic score with birthweight in South Asian populations (excluding GDM mothers)**

Cohort	mGS adjusted for sex and GA <sup>@</sup>				mGS adjusted for sex, GA, and fGS <sup>#</sup>			
	N	Effect	SE	P	N	Effect	SE	P
PMNS	459	0.000	0.004	0.975	441	0.001	0.004	0.881
PS	444	0.010	0.004	0.031	428	0.010	0.004	0.020
MMNP*	428	0.000	0.004	0.946	428	0.001	0.004	0.874
Dhaka-WP2	40	0.020	0.008	0.019	40	0.020	0.008	0.019
Dhaka-WP3	233	0.004	0.003	0.256	233	0.003	0.003	0.280
UK-Bang	75	0.009	0.007	0.217	75	0.006	0.007	0.386
Meta-analysis	1679	0.005	0.002	0.014	1645	0.005	0.002	0.011

*@, I<sup>2</sup>=34.30%, Het-P=0.179 and #, I<sup>2</sup>=30%, Het-P=0.210*

Association analysis was performed using linear regression, with standardized birthweight adjusted for sex and gestational age as the dependent variable for each cohort separately, and finally the summary results were meta-analyzed. \*In MMNP, the allocation group was additionally adjusted for. The effect size is in standard deviation units. The standard deviation of birthweight in kg in all the cohorts ranged between 0.34 to 0.45 kg. N, number of term babies; GA, gestational age; SE, standard error;  $I^2$ , heterogeneity; Het-P, P value for heterozygosity; P, P value; mGS, maternal genetic score; fGS, fetal genetic score; GDM; gestational diabetes mellitus; PMNS, Pune Maternal Nutrition Study; PS, Parthenon Study; MMNP, Mumbai Maternal Nutrition Project; Dhaka-WP2, Work Package 2 of GIFTS; Dhaka-WP3, Work Package 3 of GIFTS; UK-Bang, London UK Bangladeshi cohort.

**Supplementary Table 8: Country-wise meta-analysis of association of fetal genetic score with own birthweight**

Cohort	fGS adjusted for sex and GA				fGS adjusted for sex, GA and mGS			
	N	Effect	SE	P	N	Effect	SE	P
Indians	2176	0.012	0.002	8.9x10 <sup>-8</sup>	1361	0.015	0.003	6.4x10 <sup>-8</sup>
Bangladeshis	517	0.017	0.004	1.4x10 <sup>-4</sup>	517	0.015	0.004	5.5x10 <sup>-4</sup>

**Supplementary Table 9: Country-wise meta-analysis of association of maternal genetic score with offspring birthweight**

Cohort	mGS adjusted for sex and GA				mGS adjusted for sex, GA and fGS			
	N	Effect	SE	P	N	Effect	SE	P
Indians	1386	0.003	0.003	0.197	1361	0.004	0.0026	0.128
Bangladeshis	517	0.014	0.004	4.0x10 <sup>-4</sup>	517	0.012	0.004	0.002

Association analysis was performed using linear regression with standardized birthweight adjusted for sex and gestational age as the dependent variable for each cohort independently and finally the summary results were meta-analyzed. In MMNP, the allocation group was additionally adjusted for. The effect size is in standard deviation units of birthweight per unit change in genetic score. The standard deviation of birthweight ranged from 0.34 to 0.45 kg. N, number of term babies having both genotype and phenotype data; SNP, single nucleotide polymorphism; GA, gestational age; SE, standard error; P, P value; fGS, fetal genetic score; mGS, maternal genetic score. Indians include Pune Maternal Nutrition Study (PMNS), Parthenon Study (PS), Mumbai Maternal Nutrition Project (MMNP) and Mysore Birth Records Cohort (MBRC). Bangladeshis include Work Package 2 of GIFTS (Dhaka-WP2), Work Package 3 of GIFTS (Dhaka-WP3), and UK-Bang, London UK Bangladeshi cohort.

**Supplementary Table 10: Associations of fetal and maternal genetic scores with other birth measurements in South Asian populations**

Trait	fGS adjusted for sex, GA and mGS							mGS adjusted for sex, GA and fGS						
	N	Effect	L95	U95	P	I <sup>2</sup>	Het-P	N	Effect	L95	U95	P	I <sup>2</sup>	Het-P
Birth length	1795	0.007	0.002	0.012	0.011	0	0.558	1795	0.003	-0.002	0.008	0.222	37.5	0.156
Ponderal Index	1771	0.011	0.005	0.016	3.3x10 <sup>-4</sup>	39.7	0.141	1771	0.001	-0.004	0.006	0.713	0	0.441
Head circumference	1819	0.010	0.005	0.015	2.3x10 <sup>-4</sup>	0	0.722	1819	0.002	-0.002	0.007	0.320	0	0.970
Chest circumference	1452	0.013	0.007	0.018	2.8x10 <sup>-6</sup>	12.0	0.333	1452	0.002	-0.002	0.007	0.321	0	0.467
Abdominal circumference	1452	0.015	0.010	0.021	6.9x10 <sup>-8</sup>	52.1	0.099	1452	0.002	-0.003	0.007	0.463	52.2	0.099
Mid-upper arm circumference	1819	0.014	0.009	0.020	2.5x10 <sup>-7</sup>	0	0.575	1819	0.005	0.000	0.010	0.034	0	0.992
Triceps skinfold	1430	0.013	0.007	0.018	1.6x10 <sup>-5</sup>	11.8	0.334	1430	0.004	-0.001	0.009	0.161	55.4	0.081
Subscapular skinfold	1429	0.012	0.007	0.018	2.4x10 <sup>-5</sup>	0	0.518	1429	0.003	-0.002	0.008	0.225	14.8	0.318

Association analysis was performed using linear regression with standardized birth measures adjusted for sex and gestational age as dependent variables, for each cohort independently and finally the summary results were meta-analyzed. In MMNP, the allocation group was additionally adjusted for, and in MBRC only sex was adjusted for, since gestational data was not available for the majority of the sample. The effect size is in standard deviation units. The South Asian populations

include (from India) the PMNS, Pune Maternal Nutrition Study; PS, Parthenon Study; MMNP, Mumbai Maternal Nutrition Project; and MBRC, Mysore Birth Records Cohort; (from Bangladesh) WP2, Work Package 2 of GIFTS; Dhaka-WP3, Work Package 3 of GIFTS; and (from the UK) the UK-Bang, London UK Bangladeshi cohort. N, number of term babies having both genotype and phenotype data; SNP, single nucleotide polymorphism; GA, gestational age; L95 and U95, 95% confidence interval;  $I^2$ , heterogeneity; Het-P, P value for heterogeneity; P, P value; fGS, fetal genetic score; mGS, maternal genetic score.

**Supplementary Table 11: Details of LD SNP pairs with  $r^2 \geq 0.01$  in 1000Genome Phase 3 South Asians**

CHR	SNP1	BP (hg19)_SNP1	Nearest gene_SNP1	SNP2	BP (hg19)_SNP2	Nearest gene_SNP2	r2
1	rs905938	154991389	DCST2/KCNN3	rs670523	155878732	RIT1/LMNA	0.015
2	rs10495563	9662210	ADAM17	rs11893688	9695282	ADAM17	0.975
2	rs17034876	46484310	EPAS1	rs4953353	46567276	EPAS1	0.012
3	rs11708067	123065778	ADCY5	rs9851257	123125711	ADCY5	0.11
4	rs4144829	17903654	LCORL/DCAF16	rs2174633	17917781	LCORL/DCAF16	0.94
4	rs2189234	106075498	TET2	rs6533183	106133184	TET2	0.14
4	rs6845999	145565826	LOC646576/HHIP	rs2131354	145599908	LOC646576/HHIP	0.928
5	rs6871635	133830395	PHF15	rs1981627	133838180	PHF15	0.324
6	rs9366778	31269173	HLA-C	rs6911024	31368451	MICA/HLA-C	0.01
6	rs75104038	34190104	HMGA1	rs75034466	34199815	HMGA1	0.211
6	rs6911621	35529025	FKBP5/MAPK13/TEAD3	rs9348981	35687249	FKBP5/MAPK13/TEAD3	0.039
6	rs6569647	130337266	L3MBTL3	rs1415701	130345835	L3MBTL3	0.586
6	rs10872678	152039964	ESR1	rs7772579	152042502	ESR1	1.000
7	rs1724889	2741021	AMZ1/GNA12	rs4719648	2756832	AMZ1/GNA12	0.083
7	rs59084784	22739562	IL6	rs7808457	22798265	IL6	0.128



7	rs2908279	44174857	MYL7/GCK	rs2971669	44231778	GCK	0.042
7	rs13231367	127509070	SND1	rs6467157	127660763	SND1	0.857
8	rs732563	23345526	ENTPD4/NKX3-1	rs11778247	23403378	SLC25A37	0.081
8	rs13257363	142252580	SLC45A4	rs9657468	142362391	GPR20	0.014
9	rs1411424	113892963	LPAR1	rs2418135	113901309	LPAR1	0.811
10	rs5030938	70975916	HKDC1/HK1	rs9645500	70986723	HKDC1/HK1	0.851
10	rs10509669	95969913	PLCE1	rs2274224	96039597	PLCE1	0.22
10	rs3740360	96025491	PLCE1	rs2274224	96039597	PLCE1	0.063
10	rs7076938	115789375	ADRB1	rs1801253	115805056	ADRB1	0.804
11	rs12574749	32405355	WT1	rs5030317	32410337	WT1	0.674
11	rs10437653	46297631	CREB3L1	rs10734564	48160429	PTPRJ	0.029
12	rs8756	66359752	HMGA2	rs7968682	66371880	HMGA2	0.994
12	rs8756	66359752	HMGA2	rs1480470	66412130	HMGA2	0.022
12	rs7968682	66371880	HMGA2	rs1480470	66412130	HMGA2	0.022
15	rs7183988	91428589	FES/FURIN	rs4932373	91429287	FES/FURIN	0.453
17	rs222857	7164563	CLDN7/SLC2A4	rs2428362	7180274	CLDN7/SLC2A4	0.751
17	rs73354194	79905947	MYADML2	rs9912553	79959703	ASPSCR1	0.083

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CHR, chromosome; BP, base pair; SNP, single nucleotide polymorphism; LD, linkage disequilibrium; r<sup>2</sup>, squared coefficient of correlation.

**Supplementary Table 12: Details of 167 LD-pruned independent SNPs included for sensitivity analysis of fetal genetic and maternal genetic scores**

SNP*	CHR	BP (hg19)	Nearest gene	Fetal_LD_pruned SNPs#	Maternal_LD_pruned SNPs#
rs17367504	1	11862778	<i>MTHFR</i>	YES	YES
rs12401656	1	43456767	<i>FLJ32224/SLC2A1</i>	YES	YES
rs80278614	1	119412317	<i>TBX15</i>	YES	YES
rs905938	1	154991389	<i>DCST2/KCNN3</i>	NO	NO
rs670523	1	155878732	<i>RIT1/LMNA</i>	YES	YES
rs72480273	1	161644871	<i>FCGR2B/FCGR2C/HSPA6</i>	YES	YES
rs10913200	1	176521655	<i>PAPPA2</i>	YES	YES
rs61830764	1	212289976	<i>DTL</i>	YES	YES
rs3806315	1	214724668	<i>PTPN14</i>	YES	YES
rs708122	1	228216997	<i>WNT3A</i>	YES	YES
rs10495563	2	9662210	<i>ADAM17</i>	YES	NO
rs11893688	2	9695282	<i>ADAM17</i>	NO	YES
rs2551347	2	23912401	<i>KLHL29</i>	YES	YES

rs1179494	2	36809496	<i>FEZ2</i>	YES	YES
rs754868	2	43185532	<i>HAAO</i>	YES	YES
rs4952673	2	43423870	<i>ZFP36L2</i>	YES	YES
rs17034876	2	46484310	<i>EPAS1</i>	NO	NO
rs4953353	2	46567276	<i>EPAS1</i>	YES	YES
rs560887	2	169763148	<i>G6PC2</i>	YES	YES
rs2280235	2	191843830	<i>STAT1</i>	YES	YES
rs10181515	2	227019461	<i>LOC646736/COL4A4/IRS1</i>	YES	YES
rs9855896	3	14287150	<i>LSM3</i>	YES	YES
rs2168443	3	46947087	<i>PTH1R</i>	YES	YES
rs11708067	3	123065778	<i>ADCY5</i>	NO	NO
rs9851257	3	123125711	<i>ADCY5</i>	YES	YES
rs6440006	3	141142691	<i>ZBTB38</i>	YES	YES
rs2306700	3	142123841	<i>XRN1</i>	YES	YES
rs10935733	3	148622968	<i>CPA3/AGTR1</i>	YES	YES
rs4679760	3	155855418	<i>KCNAB1</i>	YES	YES
rs1482852	3	156798294	<i>LOC339894/CCNL1</i>	YES	YES
rs11711420	3	183349010	<i>KLHL24</i>	YES	YES
rs4144829	4	17903654	<i>LCORL/DCAF16</i>	YES	NO

rs2174633	4	17917781	<i>LCORL/DCAF16</i>	NO	YES
rs2189234	4	106075498	<i>TET2</i>	NO	YES
rs6533183	4	106133184	<i>TET2</i>	YES	NO
rs6845999	4	145565826	<i>LOC646576/HHIP</i>	YES	NO
rs2131354	4	145599908	<i>LOC646576/HHIP</i>	NO	YES
rs4579095	4	174726635	<i>NBLA00301</i>	YES	YES
rs1818782	5	39424628	<i>DAB2</i>	YES	YES
rs351930	5	52003397	<i>PELO</i>	YES	YES
rs854037	5	57091783	<i>ACTBL2</i>	YES	YES
rs28365970	5	67585723	<i>PIK3R1</i>	YES	YES
rs6871635	5	133830395	<i>PHF15</i>	NO	YES
rs1981627	5	133838180	<i>PHF15</i>	YES	NO
rs2946179	5	157886627	<i>EBF1</i>	YES	YES
rs34471628	5	172196752	<i>DUSP1</i>	YES	YES
rs9379084	6	7231843	<i>RREB1</i>	YES	YES
rs35261542	6	20675792	<i>CDKAL1</i>	YES	YES
rs9379832	6	26186200	<i>HIST1H2BE/HIST1H2BH</i>	YES	YES
rs9366778	6	31269173	<i>HLA-C</i>	YES	YES
rs6911024	6	31368451	<i>MICA/HLA-C</i>	YES	YES

rs9267812	6	32128394	<i>PPT2</i>	YES	YES
rs1547669	6	33775641	<i>MLN</i>	YES	YES
rs75104038	6	34190104	<i>HMGA1</i>	YES	NO
rs75034466	6	34199815	<i>HMGA1</i>	NO	YES
rs6911621	6	35529025	<i>FKBP5/MAPK13/TEAD3</i>	NO	YES
rs9348981	6	35687249	<i>FKBP5/MAPK13/TEAD3</i>	YES	NO
rs7744700	6	53349401	<i>GCLC</i>	YES	YES
rs76094073	6	109288036	<i>ARMC2/SESN1</i>	YES	NO
rs6568554	6	109290319	<i>ARMC2/SESN1</i>	NO	YES
rs6925689	6	126865884	<i>CENPW</i>	YES	YES
rs6569647	6	130337266	<i>L3MBTL3</i>	YES	NO
rs1415701	6	130345835	<i>L3MBTL3</i>	NO	YES
rs6930558	6	141878920	<i>NMBR</i>	YES	YES
rs962554	6	142734204	<i>GPR126</i>	YES	YES
rs10872678	6	152039964	<i>ESR1</i>	YES	NO
rs7772579	6	152042502	<i>ESR1</i>	NO	YES
rs2934844	6	166142456	<i>PDE10A</i>	YES	YES
rs1724889	7	2741021	<i>AMZ1/GNA12</i>	NO	YES
rs4719648	7	2756832	<i>AMZ1/GNA12</i>	YES	NO

rs59084784	7	22739562	<i>IL6</i>	NO	NO
rs7808457	7	22798265	<i>IL6</i>	YES	YES
rs34776209	7	23513093	<i>IGF2BP3</i>	YES	YES
rs2908279	7	44174857	<i>MYL7/GCK</i>	NO	NO
rs2971669	7	44231778	<i>GCK</i>	YES	YES
rs10265133	7	45895604	<i>IGFBP1/IGFBP3</i>	YES	YES
rs11983722	7	46298647	<i>IGFBP3</i>	YES	YES
rs10265057	7	47275737	<i>TNS3</i>	YES	YES
rs2237467	7	50733316	<i>GRB10</i>	YES	YES
rs112139215	7	73034559	<i>MLXIPL</i>	YES	YES
rs2282978	7	92264410	<i>CDK6</i>	YES	YES
rs45446698	7	99332948	<i>CYP3A7-CYP3AP1</i>	YES	YES
rs13231367	7	127509070	<i>SND1</i>	NO	YES
rs6467157	7	127660763	<i>SND1</i>	YES	NO
rs3918226	7	150690176	<i>NOS3</i>	YES	YES
rs62496903	8	6446938	<i>MCPH1</i>	YES	YES
rs732563	8	23345526	<i>ENTPD4/NKX3-1</i>	YES	NO
rs11778247	8	23403378	<i>SLC25A37</i>	NO	YES
rs34036147	8	38366249	<i>C8orf86/FGFR1</i>	YES	YES

rs13266210	8	41533514	<i>ANK1</i>	YES	YES
rs72656010	8	57122215	<i>PLAG1</i>	YES	YES
rs6995390	8	77611012	<i>ZFHX4</i>	YES	YES
rs7819593	8	106115172	<i>ZFPM2</i>	YES	YES
rs13271368	8	126506140	<i>TRIB1</i>	YES	YES
rs13257363	8	142252580	<i>SLC45A4</i>	NO	NO
rs9657468	8	142362391	<i>GPR20</i>	YES	YES
rs7854962	9	96900505	<i>PTPDC1</i>	YES	YES
rs28457693	9	98217348	<i>PTCH1/FANCC</i>	YES	YES
rs1411424	9	113892963	<i>LPAR1</i>	NO	YES
rs2418135	9	113901309	<i>LPAR1</i>	YES	NO
rs72760655	9	116916214	<i>COL27A1</i>	YES	YES
rs1323438	9	119115531	<i>PAPPA</i>	YES	YES
rs3933326	9	123633948	<i>PHF19</i>	YES	YES
rs10985827	9	125701608	<i>RABGAP1/GPR21</i>	YES	YES
rs28505901	9	139241030	<i>GPSM1</i>	YES	YES
rs4350272	10	25056118	<i>ARHGAP21</i>	YES	YES
rs5030938	10	70975916	<i>HKDC1/HK1</i>	NO	YES
rs9645500	10	70986723	<i>HKDC1/HK1</i>	YES	NO

rs1112718	10	94479107	<i>HHEX/IDE</i>	YES	YES
rs10509669	10	95969913	<i>PLCE1</i>	YES	YES
rs3740360	10	96025491	<i>PLCE1</i>	YES	YES
rs2274224	10	96039597	<i>PLCE1</i>	NO	NO
rs10883846	10	104958244	<i>NT5C2/CYP17A1</i>	YES	YES
rs7903146	10	114758349	<i>TCF7L2</i>	YES	YES
rs7076938	10	115789375	<i>ADRB1</i>	YES	NO
rs1801253	10	115805056	<i>ADRB1</i>	NO	YES
rs71486610	10	124134803	<i>PLEKHA1</i>	YES	YES
rs11042596	11	2118860	<i>INS-IGF2</i>	YES	YES
rs234864	11	2857297	<i>KCNQ1</i>	YES	YES
rs2168101	11	8255408	<i>LMO1</i>	YES	YES
rs4444073	11	10331664	<i>ADM</i>	YES	YES
rs12574749	11	32405355	<i>WT1</i>	NO	YES
rs5030317	11	32410337	<i>WT1</i>	YES	NO
rs10437653	11	46297631	<i>CREB3L1</i>	YES	YES
rs10734564	11	48160429	<i>PTPRJ</i>	YES	YES
rs667515	11	69449076	<i>CCND1</i>	YES	YES
rs61885091	11	69791952	<i>ANO1/FGF4</i>	YES	YES



rs10830963	11	92708710	<i>MTNR1B</i>	YES	YES
rs10895278	11	102095335	<i>YAP1</i>	YES	YES
rs11055030	12	12878349	<i>APOLD1</i>	YES	YES
rs2306547	12	26877885	<i>ITPR2</i>	YES	YES
rs11051061	12	30914668	<i>CAPRIN2</i>	YES	YES
rs6582623	12	46613394	<i>SLC38A1</i>	YES	YES
rs180438	12	47187260	<i>SLC38A4</i>	YES	YES
rs8756	12	66359752	<i>HMGGA2</i>	NO	YES
rs7968682	12	66371880	<i>HMGGA2</i>	YES	NO
rs1480470	12	66412130	<i>HMGGA2</i>	NO	NO
rs1533688	12	102772745	<i>IGF1</i>	YES	YES
rs2647873	12	103081192	<i>LINC00485/IGF1</i>	YES	YES
rs17033114	12	103123339	<i>LINC00485/IGF1</i>	YES	YES
rs3184504	12	111884608	<i>SH2B3</i>	YES	YES
rs9549046	13	40647206	<i>LINC00332</i>	YES	YES
rs34217484	13	48854550	<i>LINC00441/RB1</i>	YES	YES
rs9318511	13	78601413	<i>LINC00446</i>	YES	YES
rs6575803	14	101257755	<i>MIR2392/DLK1</i>	YES	YES
rs75844534	15	38667117	<i>SPRED1</i>	YES	YES

rs2928148	15	41401550	<i>INO80</i>	YES	YES
rs339969	15	60883281	<i>RORA</i>	YES	YES
rs3784789	15	75082552	<i>CSK</i>	YES	YES
rs12909648	15	86224570	<i>KLHL25/AKAP13</i>	YES	YES
rs12443252	15	91064690	<i>CRTC3</i>	YES	YES
rs7183988	15	91428589	<i>FES/FURIN</i>	NO	YES
rs4932373	15	91429287	<i>FES/FURIN</i>	YES	NO
rs55958435	15	96852638	<i>NR2F2</i>	YES	YES
rs7402983	15	99193276	<i>IGF1R</i>	YES	YES
rs11630479	15	99240481	<i>IGF1R</i>	YES	YES
rs2045457	16	20046115	<i>GPR139/GPRC5B</i>	YES	YES
rs40434	16	55699525	<i>SLC6A2</i>	YES	YES
rs28544888	16	55741204	<i>SLC6A2</i>	YES	YES
rs11641308	16	75312023	<i>BCAR1</i>	YES	YES
rs222857	17	7164563	<i>CLDN7/SLC2A4</i>	YES	NO
rs2428362	17	7180274	<i>CLDN7/SLC2A4</i>	NO	YES
rs4511593	17	7455536	<i>TNFSF12-TNFSF13</i>	YES	YES
rs9909342	17	25652275	<i>WSB1</i>	YES	YES
rs7223535	17	29211667	<i>ATAD5</i>	YES	YES

rs11867479	17	68090207	<i>KCNJ16</i>	YES	YES
rs10221267	17	68464662	<i>KCNJ2</i>	YES	YES
rs73354194	17	79905947	<i>MYADM2</i>	NO	NO
rs9912553	17	79959703	<i>ASPSCR1</i>	YES	YES
rs11082304	18	20720973	<i>CABLES1</i>	YES	YES
rs2779165	19	4915447	<i>UHRF1</i>	YES	YES
rs8106042	19	7161849	<i>INSR</i>	YES	YES
rs2967676	19	8789666	<i>ACTL9</i>	YES	YES
rs41355649	19	33790556	<i>CEBPA</i>	YES	YES
rs1129156	19	40719076	<i>MAP3K10/AKT2</i>	YES	YES
rs147957154	19	43431040	<i>PSG7</i>	YES	YES
rs516246	19	49206172	<i>FUT2</i>	YES	YES
rs255773	19	54723546	<i>LILRB3/RPS9</i>	YES	YES
rs147110934	19	55993436	<i>ZNF628</i>	YES	YES
rs12461110	19	56320663	<i>NLRP11</i>	YES	YES
rs304001	19	56423668	<i>NLRP13</i>	YES	YES
rs6040076	20	10658882	<i>JAG1</i>	YES	YES
rs6033062	20	11207419	<i>LOC339593</i>	YES	YES
rs1203876	20	22540915	<i>LINC00261/FOXA2</i>	YES	YES

rs11698914	20	31327144	<i>COMMD7</i>	YES	YES
rs181451002	20	32466219	<i>CHMP4B</i>	YES	YES
rs2889874	20	33715777	<i>EDEM2/MYH7B</i>	YES	YES
rs1012167	20	39159119	<i>MAFB</i>	YES	YES
rs753381	20	39797465	<i>PLCG1</i>	YES	YES
rs6026449	20	57272617	<i>STX16-NPEPL1/GNAS</i>	YES	YES
rs73143584	20	62445702	<i>ZBTB46</i>	YES	YES
rs2229742	21	16339172	<i>NRIP1</i>	YES	YES
rs220193	21	43581308	<i>UMODL1</i>	YES	YES
rs134594	22	29468456	<i>KREMEN1</i>	YES	YES
rs41311445	22	42070374	<i>NHP2L1/SREBF2</i>	YES	YES
rs7285579	22	46441980	<i>LOC100271722</i>	YES	YES

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\*, Warrington et al, 2019; SNP - Single nucleotide polymorphism; CHR - chromosome; BP - base position

#, Among the LD pair SNPs, most significant SNPs were selected for sensitivity analysis of 167 LD-pruned SNPs

**Supplementary Table 13: Associations results of 167 LD-pruned SNPs with own birthweight and maternal genetic score**

with its offspring birthweight in South Asian cohorts

Cohort	fGS adjusted for sex and GA*					fGS adjusted for sex, GA and mGS†				
	N	Effect	L95	U95	P	N	Effect	L95	U95	P
PMNS	515	0.011	0.000	0.022	0.049	443	0.011	-0.001	0.023	0.065
PS	511	0.023	0.012	0.035	9.3x10 <sup>-5</sup>	458	0.024	0.012	0.036	1.1x10 <sup>-4</sup>
MMNP‡	466	0.013	0.002	0.024	0.024	460	0.014	0.003	0.026	0.016
MBRC§	684	0.006	-0.003	0.015	0.217	NA	NA	NA	NA	NA
Dhaka-WP2	53	0.016	-0.030	0.061	0.496	53	0.015	-0.029	0.059	0.500
Dhaka-WP3	314	0.019	0.005	0.032	0.007	314	0.019	0.006	0.032	0.005
UK-Bang	150	0.021	0.002	0.039	0.032	150	0.017	-0.002	0.036	0.079
<b>Meta-analysis</b>	<b>2693</b>	<b>0.014</b>	<b>0.009</b>	<b>0.018</b>	<b>1.5x10<sup>-8</sup></b>	<b>1878</b>	<b>0.017</b>	<b>0.011</b>	<b>0.023</b>	<b>6.3x10<sup>-9</sup></b>
	mGS adjusted for sex and GA					mGS adjusted for sex, GA and fGS¶				
	N	Effect	L95	U95	P	N	Effect	L95	U95	P
PMNS	461	0.000	-0.009	0.009	0.983	443	0.001	-0.008	0.011	0.762
PS	475	0.014	0.004	0.024	0.008	458	0.015	0.005	0.025	0.003
MMNP‡	467	0.000	-0.009	0.009	0.997	460	0.002	-0.008	0.011	0.742
Dhaka-WP2	53	0.031	0.003	0.058	0.035	53	0.030	0.003	0.058	0.037
Dhaka-WP3	314	0.014	0.003	0.025	0.016	314	0.014	0.003	0.026	0.011
UK-Bang	150	0.022	0.005	0.040	0.015	150	0.019	0.002	0.037	0.035
<b>Meta-analysis</b>	<b>1920</b>	<b>0.008</b>	<b>0.003</b>	<b>0.012</b>	<b>0.001</b>	<b>1878</b>	<b>0.009</b>	<b>0.004</b>	<b>0.014</b>	<b>1.6x10<sup>-4</sup></b>

Association analysis was conducted for LD-pruned 167 independent SNPs (please refer supplementary table 12 for details) using linear regression with standardized birthweight adjusted for sex and gestational age as the dependent variable for

each cohort separately and finally the summary results were meta-analyzed. <sup>†</sup>, In MMNP, allocation group was additionally adjusted for, and <sup>§</sup>, in MBRC only sex was adjusted for, since gestational age data was not available for the majority of the sample. The effect size is in standard deviation units of birthweight per unit change in genetic score. The standard deviation of birthweight in kg in all these cohorts ranged from 0.34 to 0.45 kg. N, number of term babies; GA, gestational age; I<sup>2</sup>, heterogeneity; Het-P, P value for heterozygosity; P, P value; fGS, fetal genetic score; mGS, maternal genetic score; GA, gestational age. PMNS, Pune Maternal Nutrition Study; PS, Parthenon Study; MMNP, Mumbai Maternal Nutrition Project; MBRC, Mysore Birth Records Cohort; Dhaka-WP2, Work Package 2 of GIFTS; Dhaka-WP3, Work Package 3 of GIFTS; UK-Bang, London UK Bangladeshi cohort.

**For fGS, \***, I<sup>2</sup> = 8.8 and Het-P = 0.361; †, I<sup>2</sup> = 0 and Het-P = 0.775

**For mGS, †**, I<sup>2</sup> = 62.0 and Het-P = 0.02; ‡, I<sup>2</sup> = 54.0 and Het-P = 0.054

**Supplementary Table 14: Associations of birthweight with anthropometric and cardiometabolic traits in Indian children<sup>§</sup> and adolescents<sup>#</sup>**

Trait	Children					Adolescents				
	N	Effect	P	I <sup>2</sup>	Het-P	N	Effect	P	I <sup>2</sup>	Het-P
Weight	1674	0.849	1.9x10 <sup>-51</sup>	50.3	0.134	1081	0.590	9.2x10 <sup>-20</sup>	0	0.977
Height	1673	0.665	1.3x10 <sup>-31</sup>	46.8	0.153	1081	0.523	8.6x10 <sup>-17</sup>	0	0.901
Body Mass Index	1673	0.634	2.5x10 <sup>-27</sup>	0	0.681	1081	0.456	8.7x10 <sup>-11</sup>	0	0.828
Head circumference	1674	0.721	3.2x10 <sup>-39</sup>	44.7	0.164	1076	0.755	8.1x10 <sup>-27</sup>	0	0.348
Waist circumference	1672	0.661	8.6x10 <sup>-29</sup>	45.4	0.160	1059	0.462	1.7x10 <sup>-10</sup>	0	0.986
Mid-upper arm circumference	1674	0.558	7.1x10 <sup>-21</sup>	0	0.943	1075	0.406	5.9x10 <sup>-9</sup>	0	0.925
Triceps skin-fold	1673	0.245	3.0x10 <sup>-5</sup>	0	0.856	1075	0.321	5.7x10 <sup>-6</sup>	0	0.830
Sub-scapular skin-fold	1673	0.311	1.3x10 <sup>-7</sup>	0	0.800	1074	0.318	5.7x10 <sup>-6</sup>	0	0.657
Fat percent	1659	0.123	0.030	28.3	0.248	1048	0.145	0.031	0	0.516
Systolic blood pressure*	1657	-0.140	0.024	4.7	0.350	1064	-0.148	0.041	0	0.714
Diastolic blood pressure*	1658	-0.162	0.010	52.2	0.123	1055	-0.020	0.794	51.8	0.150
Fasting glucose*	1653	-0.075	0.237	0	0.664	1071	-0.042	0.580	0	0.959

120 minutes glucose*	1624	0.045	0.478	35.7	0.211	NA	NA	NA	NA	NA
Fasting insulin*	1644	0.001	0.991	0	0.824	1072	-0.055	0.405	0	0.627
HOMA-IR*	1570	-0.025	0.691	0	0.838	1071	-0.061	0.365	0	0.655
Total cholesterol*	1652	-0.045	0.481	0	0.675	1072	-0.059	0.441	68.9	0.073
LDL-cholesterol*	1652	0.030	0.638	0	0.742	1072	-0.020	0.787	67.3	0.080
HDL-cholesterol*	1662	-0.036	0.573	13.5	0.315	1072	0.075	0.318	0	0.414
Triglycerides*	1652	-0.209	9.8x10 <sup>-4</sup>	41.3	0.182	1072	-0.228	0.002	0	0.344

Association analysis was performed using linear regression with standardized log<sub>10</sub> transformed traits as dependent variables for each cohort independently and finally the summary results were meta-analyzed. Age and sex were included as covariates in the regression model for all traits; BMI was additionally included as a covariate for analysis of traits marked with an asterisk (\*). In MMNP, the allocation group was additionally adjusted for. \$, The meta-analysis for children included those from the Pune Maternal Nutrition Study at 6 yrs, the Parthenon Study at 5 yrs and the Mumbai Maternal Nutrition Project at 7 yrs of age. #, Meta-analysis included adolescents from Pune Maternal Nutrition Study at 12 yrs and from Parthenon Study at 13.5 yrs; P, P value; I<sup>2</sup>, heterogeneity; Het-P, P value for heterozygosity; HOMA-IR, homeostasis model assessment of insulin resistance; LDL, low density lipoprotein; HDL, high density lipoprotein; NA, not available. Those passing the Bonferroni corrected P<sub>≤</sub>0.001 were considered as statistically significant.



**Supplementary Table 15: Meta-analysis of associations of maternal genetic score with anthropometric and cardiometabolic traits in Indian children<sup>s</sup> & adolescents<sup>#</sup>**

Traits	Children					Adolescents				
	N	effect	P	I <sup>2</sup>	Het-P	N	effect	P	I <sup>2</sup>	Het-P
Weight	1760	0.003	0.152	0	0.911	1028	0.002	0.523	0	0.611
Height	1759	0.002	0.409	0	0.505	1028	0.002	0.478	0	0.480
Body mass index	1759	0.003	0.255	0	0.654	1028	0.001	0.723	20.9	0.261
Head circumference	1760	0.001	0.808	0	0.977	1023	0.002	0.510	0	0.645
Waist circumference	1758	0.003	0.263	0	0.915	1005	0.001	0.758	0	0.398
Mid-upper arm circumference	1759	0.004	0.122	0	0.916	1023	0.003	0.353	0	0.407
Triceps skinfold	1759	0.003	0.263	0	0.550	1022	-0.001	0.789	0	0.352
Subscapular skinfold	1759	0.003	0.227	0	0.628	1021	0.000	0.861	42.7	0.186
Fat percent	1753	-0.001	0.661	3.5	0.355	993	0.000	0.909	0	0.449
Systolic blood pressure*	1740	-0.002	0.348	0	0.967	1005	-0.001	0.784	0	0.629
Diastolic blood pressure*	1741	0.000	0.891	0	0.954	1005	-0.002	0.440	0	0.884

Fasting glucose*	1733	-0.002	0.449	11.1	0.325	1018	0.000	0.994	0	0.826
120 minutes glucose*	1710	-0.002	0.413	0	0.767	NA	NA	NA	NA	NA
Fasting insulin*	1727	0.000	0.963	26.9	0.255	1019	0.001	0.696	0	0.746
HOMA-IR*	1662	0.000	0.838	52.6	0.121	1018	0.001	0.738	0	0.776
Total cholesterol*	1732	0.004	0.056	5.7	0.346	1019	0.002	0.422	0	0.752
LDL-cholesterol*	1733	0.003	0.209	46.8	0.153	1019	0.000	0.911	0	0.674
HDL-cholesterol*	1742	0.003	0.219	59.4	0.085	1019	0.005	0.094	0	0.385
Triglycerides*	1731	0.000	0.840	57	0.098	1019	0.001	0.761	18.0	0.269

Association analysis was performed using linear regression with standardized log<sub>10</sub> transformed traits as the dependent variable for each cohort independently and finally the summary results were meta-analyzed. Age and sex were included as covariates in the regression model for all traits; BMI was additionally included as a covariate for analysis of traits marked with an asterisk (\*). \$, Meta-analysis for children included those from Pune Maternal Nutrition Study at 6 yrs, Parthenon Study at 5 yrs; Mumbai Maternal Nutrition Project at 7 yrs of age; #, Meta-analysis included adolescents from Pune Maternal Nutrition Study at 12 yrs and from Parthenon Study at 13.5 yrs; P, P value; I<sup>2</sup>, heterogeneity; Het-P, P value for heterozygosity; SNP, single nucleotide polymorphism; HOMA-IR, homeostasis model assessment of insulin resistance; LDL, low density lipoprotein; HDL, high density lipoprotein; NA, not available. Those passing the Bonferroni corrected P<sub>≤</sub>0.001 were considered as statistically significant.