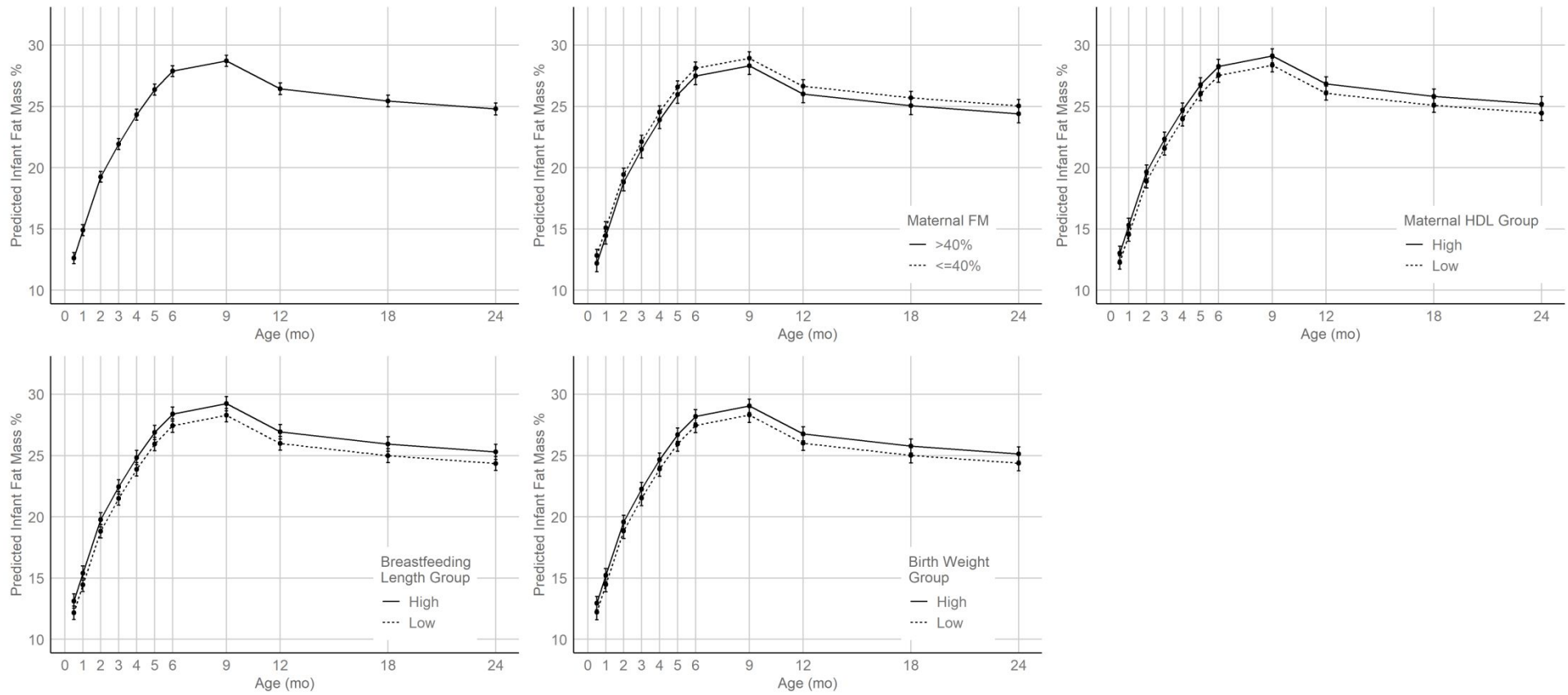**Supplementary Figure 1:** Estimated Marginal Means of Female Fat Mass (%)

Predicted fat mass in female infants based on linear mixed effect models adjusting for postpartum age. The influence of each covariate from the most parsimonious model is investigated. Each variable was dichotomized based upon the median of the cohort.

Supplementary Figure 2: Estimated Marginal Means of Male Fat Mass (%)

Predicted fat mass in male infants based on linear mixed effect models adjusting for postpartum age. The influence of each covariate from the most parsimonious model is investigated. Each variable was dichotomized based upon the median of the cohort.

Supplemental Table S1: Respiratory Exchange Ratio and Resting Energy Expenditure means and standard deviation at first, second and third trimesters of pregnancy.

Variable	
RER (1st trimester)	0.85 (0.04)
RER (2nd trimester)	0.85 (0.05)
RER (3rd trimester)	0.84 (0.04)
REE (kcal/day, 1st trimester)	1458.8 (192.3)
REE (kcal/day, 2nd trimester)	1569.4 (193.4)
REE (kcal/day, 3rd trimester)	1657.4 (227.9)

RER, respiratory exchange ratio; REE, resting energy expenditure. Data are expressed as mean (SD)

Supplemental Table S2: Offspring Fat Mass (%) at each visit from quantitative Nuclear Magnetic Resonance

	2wk	1mo	2mo	3mo	4mo	5mo	6mo	9mo	12mo	18mo	24mo
Male	12.7±2.2	14.9±2.8	19.4±3.9	22.1±4.7	24.6±5.2	26.4±5.7	28.0±5.7	28.9±6.5	26.7±5.7	25.3±5.2	24.5±6.1
Female	13.8±2.6	16.1±3.0	20.5±3.5	23.7±4.0	25.9±4.4	28.1±4.5	29.2±5.6	29.6±6.4	27.4±6.3	27.5±6.8	26.8±7.4

Data is presented as mean ± SD.