Supporting Information

Coffey 10.1073/pnas.1416964112

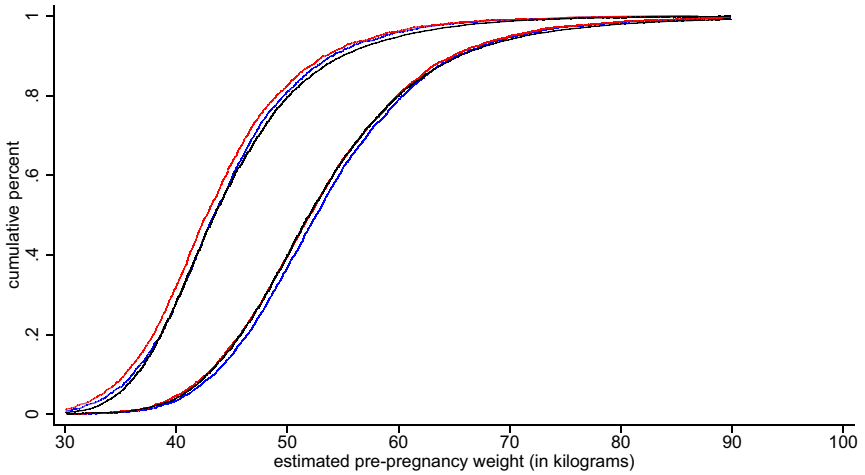

Fig. S1. Three estimates of prepregnancy weight for India (left) and sub-Saharan Africa (right). This figure shows six distributions of estimated prepregnancy weight. The three distributions for India are to the left of those for sub-Saharan Africa. The distributions in black are estimated using the extended nonparametric reweighting, which adjusts the body weights of nonpregnant women for selection into pregnancy. This method is described in *Materials and Methods*. Distributions shown in red and blue are estimated from a cross section of women who are 3+ mo pregnant. I first regress body weight on month of gestation, and all of the indicator variables used in the extended nonparametric reweighting, and their interactions with month of gestation. For each woman who has completed the first trimester, I compute the effect of gestational age on her body weight based on her own characteristics, month gestation, and the interactions of these variables. To estimate an individual prepregnancy weight, I subtract from her body weight the product of her gestational age and her estimated effect. The blue distributions assume that no weight is gained in the first trimester, and the red distributions assume that 10% of an individual's estimated second and third trimester gain is gained in the first trimester.

Table S1. Countries included in the sub-Saharan Africa sample

Country	Year of DHS survey
Benin	2006
Burkina Faso	2003
Burundi	2010
Cameroon	2004
Chad	2004
Democratic Republic of Congo	2007
Ethiopia	2005
Gabon	2000
Ghana	2003
Guinea	2005
Kenya	2003
Lesotho	2004
Liberia	2007
Madagascar	2003
Malawi	2004
Mali	2006
Mozambique	2003
Namibia	2006
Niger	2006
Nigeria	2003
Rwanda	2005
São Tomé and Princípe	2008
Senegal	2005
Sierra Leone	2008
Swaziland	2006
Tanzania	2004
Uganda	2006
Zambia	2007
Zimbabwe	2005

Table S2. Sample means of covariates used to compute prepregnancy estimates

	India		Sub-Saharan Africa	
	Women 3+ mo pregnant*	Nonpregnant, not using contraception†	Women 3+ mo pregnant*	Nonpregnant, not using contraception†
Age group (y)				
15–19	0.228	0.326	0.176	0.245
20–24	0.434	0.221	0.271	0.184
25–29	0.225	0.139	0.253	0.159
30–39	0.106	0.179	0.255	0.232
40–49	0.007	0.136	0.045	0.180
Education level				
Primary or less	0.608	0.505	0.823	0.753
Secondary or more	0.392	0.495	0.177	0.247
Residence				
Urban	0.240	0.310	0.234	0.298
Rural	0.760	0.690	0.766	0.702
Age of youngest child				
No living children	0.360	0.475	0.203	0.320
Less than 12 mo	0.090	0.115	0.055	0.082
Between 12 and 23 mo	0.240	0.077	0.286	0.058
24 mo or more	0.310	0.332	0.460	0.540
Sex of children				
Has a living son	0.408	0.402	0.626	0.560
Number of living children				
None	0.360	0.475	0.203	0.320
One	0.287	0.157	0.204	0.140
Two	0.162	0.135	0.178	0.121
Three	0.092	0.088	0.134	0.109
Four or more	0.099	0.146	0.282	0.311
Child death				
Any child death in last 5 y	0.095	0.039	0.182	0.112
n	5,055	69,543	17,061	148,964
Fraction of nonpregnant women using contraceptiion at time of survey‡		0.385		0.174

*Sample means for women who are 3+ mo pregnant are calculated based on what was true in the month of conception.
†Sample means for nonpregnant women not using contraception are calculated based on what was true at the time of the survey.
‡Calculated for nonpregnant women whose weights and heights were measured.

Table S3. Linear probability regressions predicting pregnancy, using covariates from the extended reweighting

	India	Sub-Saharan Africa
Age group (y)		
15–19	.	.
	.	.
20–24	0.053***	0.042***
	(0.003)	(0.003)
25–29	0.033***	0.040***
	(0.004)	(0.003)
30–39	−0.044***	−0.001
	(0.003)	(0.003)
40–49	−0.090***	−0.080***
	(0.004)	(0.003)
Education level		
Primary or less	0.027***	0.024***
	(0.002)	(0.002)
Residence		
Urban	−0.004*	−0.014***
	(0.002)	(0.002)
Age of youngest child		
No living children	.	.
	.	.
Less than 12 mo	0.020***	−0.047***
	(0.005)	(0.003)
Between 12 and 23 mo	0.154***	0.223***
	(0.006)	(0.005)
24 mo or more	0.093***	0.012***
	(0.005)	(0.004)
Sex of children		
Has a living son	−0.026***	0.001
	(0.004)	(0.003)
Number of living children		
None	.	.
	.	.
One	.	.
	.	.
Two	−0.024***	0.012***
	(0.004)	(0.003)
Three	−0.024***	0.006
	(0.005)	(0.003)
Four or more	−0.024***	0.010**
	(0.004)	(0.003)
Child death		
Any child death in last 5 y	0.065***	0.046***
	(0.007)	(0.003)
Constant	0.033***	0.059***
	(0.002)	(0.002)
n	74,598	166,565

SEs are shown in parentheses. Two-sided *P* values: $*P < 0.05$; $**P < 0.01$; $***P < 0.001$. Women whose heights and weights were measured and who are 3+ months pregnant, or not pregnant and not contracepting, are included in the regression.

Table S4. Distribution of gestational ages in the Indian and sub-Saharan African samples

	India		Sub-Saharan Africa	
Month of gestation	Number of women	Fraction of pregnant women	Number of women	Fraction of pregnant women
1	107	0.019	509	0.026
2	495	0.088	1,488	0.076
3	759	0.134	2,197	0.112
4	729	0.129	2,534	0.129
5	727	0.128	2,736	0.139
6	693	0.123	2,591	0.132
7	668	0.118	2,627	0.134
8	695	0.123	2,720	0.138
9+	785	0.139	2,250	0.115

Design weights, described in *Materials and Methods*, are used.

Table S5. Method 1 estimates of weight gain during pregnancy, which use early pregnancy as a counterfactual

	1	2	3	4	5
Estimates for India					
Coefficient & SE for month gestation	1.08 (0.05)	1.06 (0.05)	1.06 (0.05)	0.99 (0.06)	1.08 (0.06)
Estimated gain (kg)	7.13	7.00	7.00	6.53	7.13
95% CI	(6.48, 7.77)	(6.35,7.64)	(6.35,7.64)	(5.76, 7.31)	(6.35, 7.90)
n	5,055	5,055	5,055	4,316	4,279
Estimates for sub-Saharan Africa					
Coefficient & SE for month gestation	0.98 (0.04)	0.94 (0.03)	0.95 (0.03)	1.00 (0.04)	0.92 (0.04)
Estimated gain (kg)	6.47	6.20	6.27	6.60	6.07
95% CI	(5.95, 6.99)	(5.82,6.59)	(5.88, 6.66)	(6.08, 7.12)	(5.55, 6.59)
*n**	17,601	17,333	17,333	15,149	15,244
Age fixed effects		✓	✓	✓	✓
Years of schooling fixed effects		✓	✓	✓	✓
Number of children fixed effects		✓	✓	✓	✓
Urban		✓	✓	✓	✓
Wealth quintile × country		✓	✓	✓	✓
Place × month fixed effects			✓	✓	✓
Gestational months	3–9	3–9	3–9	4–9	3–8

All coefficients are significant at the 0.001 level.

*Wealth quintiles are not provided for Gabon; these data are dropped from regressions in columns 2–5.