

Table 1: Sample Statistics

Population (American)	n	Mean Weigh (gms)	Mean Gestation (weeks)	Missing	Missing	Missing	Infant Mortality
				Weight	Gestation	Both	
(rate / 1000 births)							
Males							
European	68696	3510	39.79	2.45	24.77	0.3	6.36
African	14744	3248	38.95	1.10	48.36	0.1	15.41
Hispanic	16960	3384	39.44	1.65	66.95	0.8	7.37
Asian	1994	3321	39.56	0.00	26.37	0.0	3.91
Females							
European	64823	3381	39.94	2.45	24.99	0.2	5.30
African	14222	3126	39.00	0.94	48.97	0.1	13.10
Hispanic	15908	3268	39.55	1.41	67.64	0.6	7.44
Asian	1758	3233	39.74	1.10	31.37	0.0	3.85

Table 2: Chi square values with Model 6

Population	Model 5	Model 4	Model 3	Model 2	Model 1
(American)	3.84&	3.84&	5.99&	7.81&	12.59&
Males					
European	4232.2	1920.2	7507.6	11567.0	28107.4
African	595.8	468.0	1272.6	2270.4	3599.0
Hispanic	597.2	271.8	1053.4	2201.2	5960.8
Asian	127.16	20.78	180.64	126.32	404.5
Females					
European	3419.0	1608.2	6091.4	11785.0	26263.6
African	420.4	399.0	962.0	2277.0	7083.2
Hispanic	8679.8	299.2	968.8	2094.8	6118.8
Asian	71.64	32.26	123.42	198.04	563.80

& = the Chi-square value necessary to reject the nested model in favor of Model 6, $p < 0.05$. The statistical comparisons with Model 1 have also been tested using simulation methods (see text), in all cases Model 1 is rejected, $p < 0.01$.

Table 3: Parameter Estimates

Pop	Parameter Estimates and Standard Errors (s.e.)										
	μ_p		μ_s		$1/\rho$	σ_p		r_p	σ_s		r_s
	bwght	gest	bwght	gest		bwght	gest		bwght	gest	
Males											
European	3568	40.00	3106	38.34	0.876	467.6	1.506	0.32	889.9	5.261	0.50&
s.e.	2.17	0.006	14.5	0.092	0.005	1.71	0.010	0.004	16.44	0.092	0.009
age 20	3540	40.20	3254	39.28	0.811	468.8	1.493	0.32	876.9	5.186	0.50&
s.e.	4.73	0.017	23.1	0.132	0.011	1.911	0.009	0.004	13.09	0.086	0.010
age 40	3612	39.73	2872	36.94	0.925	468.8	1.493	0.32	876.9	5.186	0.50&
s.e.	5.12	0.018	41.42	0.219	0.004	1.911	0.009	0.004	13.09	0.086	0.010
African	3354	39.59	2732	35.84	0.829	462.9	1.815	0.27	990.5	5.561	0.51&
s.e.	5.19	0.018	31.4	0.189	0.008	4.22	0.028	0.011	21.28	0.091	0.011
age 20	3320	39.72	2730	35.88	0.830	464.3	1.796	0.28	998.5	5.509	0.51\$
s.e.	7.63	0.037	34.04	0.193	0.008	4.83	0.028	0.011	19.54	0.105	0.016
age 40	3435	39.35	2730	35.88	0.830	464.3	1.796	0.28	998.5	5.509	0.51\$
s.e.	13.96	0.044	34.04	0.193	0.028	4.83	0.028	0.011	19.54	0.105	0.016

Hispanic	3449	39.85	3022	37.17	0.847	453.6	1.730	0.25	894.0	4.896	0.38&
s.e.	4.59	0.018	27.3	0.165	0.009	4.65	0.025	0.010	20.34	0.112	0.018
Asian	3342	39.71	3138	38.30	0.893	400.0	1.541	0.33	790.5	4.007	0.37
s.e.	10.2	0.042	111.	0.621	0.041	10.6	0.071	0.026	85.88	0.416	0.053

Females

European	3427	40.10	3060	38.80	0.875	442.0	1.459	0.29	856.2	5.148	0.47&
s.e.	2.21	0.007	14.0	0.091	0.005	1.71	0.012	0.004	14.42	0.110	0.009
African	3232	39.66	2647	36.00	0.819	459.5	1.770	0.24	955.6	5.523	0.48&
s.e.	5.16	0.020	35.3	0.221	0.010	4.13	0.032	0.012	17.32	0.116	0.015
Hispanic	3327	39.91	2894	37.30	0.864	438.3	1.664	0.25	871.2	5.098	0.38&
s.e.	4.82	0.015	35.8	0.231	0.010	3.86	0.026	0.010	22.51	0.139	0.016
Asian	3249	39.86	3139	39.05	0.857	368.1	1.376	0.26	774.9	4.199	0.38
s.e.	11.1	0.042	105.	0.845	0.042	14.1	0.081	0.029	88.82	0.607	0.077

& r_p and r_s significantly different at $p < 0.05$ level (likelihood ratio test)

Table 4: Percentage of the Secondary Component Correctly
Classified

Population (American)	Multi-variate	Birth weight	Gestational Age
Males			
European	54	28	48
African	61	38	53
Hispanic	53	29	45
Asian	43	24	34
Females			
European	54	27	47
African	62	38	54
Hispanic	54	30	47
Asian	43	28	41

Table 5: Parameter estimates by age of mother

Age	Parameter Estimates				
	μ_p		μ_s		$1/\rho$
	bwght	gest	bwght	gest	%
European American Males					
20	3540	40.20	3254	39.28	0.801
40	3612	39.73	2872	36.94	0.925
African American Males					
20	3320	39.72	2730	36.88	0.831
40	3435	39.35	2730	35.88	0.831

