

## ONLINE APPENDIX

**Appendix Table 1.** Effect of anthropometric measures on adipokine concentrations, by ethnicity. ¶

	Adiponectin §			Leptin §		
	B (SE)	P-value	Partial R	B (SE)	P-value	Partial R
European						
Body mass index	-0.04 (0.008)	<0.0001	-0.26*	0.11 (0.01)	<0.0001	0.53*
Waist circumference	-0.01 (0.003)	<0.0001	-0.27*	0.03 (0.004)	<0.0001	0.46*
Waist adjusted for hip	-0.01 (0.005)	0.02	-0.13	0.01 (0.006)	0.04	0.12
Waist-to-hip ratio	-1.61 (0.52)	0.002	-0.17‡	2.38 (0.71)	0.001	0.18‡
Chinese						
Body mass index	-0.05 (0.01)	<0.0001	-0.27*	0.13 (0.01)	<0.0001	0.55*
Waist circumference	-0.01 (0.003)	<0.0001	-0.22*	0.03 (0.004)	<0.0001	0.40*
Waist adjusted for hip	-0.02 (0.006)	<0.001	-0.19 †	0.04 (0.007)	<0.0001	0.32*
Waist-to-hip ratio	-1.32 (0.48)	0.007	-0.16‡	2.69 (0.60)	<0.0001	0.25*
South Asian						
Body mass index	-0.007 (0.008)	0.33	-0.05	0.10 (0.009)	<0.0001	0.52*
Waist circumference	-0.002 (0.002)	0.47	-0.04	0.03 (0.003)	<0.0001	0.46*
Waist adjusted for hip	-0.006 (0.005)	0.24	-0.07	0.04 (0.006)	<0.0001	0.32*
Waist-to-hip ratio	-0.683 (0.47)	0.15	-0.08	3.42 (0.66)	<0.0001	0.28*
Aboriginal						
Body mass index	-0.02 (0.004)	<0.0001	-0.24*	0.09 (0.006)	<0.0001	0.68*
Waist circumference	-0.009 (0.002)	<0.0001	-0.28*	0.04 (0.002)	<0.0001	0.70*
Waist adjusted for hip	-0.01 (0.003)	<0.001	-0.22 †	0.03 (0.005)	<0.0001	0.38*
Waist-to-hip ratio	-1.72 (0.40)	<0.0001	-0.25*	4.84 (0.69)	<0.0001	0.38*

\* P&lt;0.0001; † P&lt;0.001; ‡ P&lt;0.01; § P&lt;0.05

¶ B and partial R values are adjusted for age and sex.

§ Natural log.

**Appendix Table 2.** Independent predictors of insulin resistance (HOMA-IR) using standardized regression coefficients.

Predictor	Univariate		Multivariate	
	Standardized coefficient †	P-value	Standardized coefficient †	P-value
Ethnicity				
European	Reference		Reference	
South Asian	0.21	<0.0001	0.19	<0.0001
Chinese	0.009	0.78	0.15	<0.0001
Aboriginal	0.48	<0.0001	0.23	<0.0001
Metabolic factor				
Adiponectin (ln)	-0.30	<0.0001	-0.13	<0.0001
Leptin (ln)	0.37	<0.0001	0.17	<0.0001
C-reactive protein (ln)	0.45	<0.0001	0.04	0.23
Age, years	0.19	<0.0001	0.06	0.01
Female	-0.17	<0.0001	-0.10	0.007
Body mass index, kg/m <sup>2</sup>	0.60	<0.0001	0.37	<0.0001
Waist-to-hip ratio	0.50	<0.0001	0.17	<0.0001
Glycemic index ‡	0.26	<0.001	0.005	0.87
Physical activity, high	-0.22	<0.0001	-0.10	0.003
Physical activity, medium	-0.11	0.005	-0.04	0.17
Current smoking	0.10	0.002	-0.02	0.52
Energy intake, kcals/day	0.110	0.001	0.03	0.24

† Z scores have a mean of 0 and a SD of 1, the beta coefficient represents the change in the insulin resistance for an increase in 1 SD in the independent variable.

‡ The results presented in the Table are with glycemic index in the model. A separate model with glycemic load in place of glycemic index produced virtually the same parameter estimates.

**Appendix Table 3.** The coefficients of partial determination (partial R<sup>2</sup>)† indicating the proportion of variance in HOMA-IR ‡ attributable to ethnicity, adipokines, and lifestyle factors.

	Partial R <sup>2</sup>	P-value
Ethnic origin [Model 1 <sup>a</sup> vs 2 <sup>b</sup> ]	0.115	<0.001
Adiponectin ‡ [Model 2 <sup>b</sup> vs 3 <sup>c</sup> ]	0.038	<0.001
Leptin ‡ [Model 3 <sup>c</sup> vs 4 <sup>d</sup> ]	0.045	<0.001
Health Behaviours [Model 4 <sup>d</sup> vs 5 <sup>e</sup> ]	0.017	0.028

† The coefficient of partial determination (partial R<sup>2</sup>) shows the marginal reduction in the variation of Y associated with a new variable X (e.g., ethnicity) which is added to a simpler model that includes other predictors (e.g., age, sex, center, body mass index, and waist-to-hip ratio). For example, a partial R<sup>2</sup> value of 0.115 comparing Model 1 versus Model 2 means that adding ethnicity to the model which already includes age, sex, center, BMI and WHR reduces the variation in HOMA-IR by 11.5%. Corresponding p values for the partial R<sup>2</sup> estimates were determined using the multiple partial F-test.

‡ Natural log.

a Model 1 included the variables age, sex, center, body mass index, and waist-to-hip ratio.

b Model 2 included Model 1 plus ethnicity.

c Model 3 included Model 2 plus Adiponectin.

d Model 4 included Model 3 plus Leptin.

e Model 5 included Model 4 plus physical activity.