SUPPLEMENTARY DATA

Supplementary Table 1. Cross-sectional Continuous Metabolic Variables (95% Confidence Intervals) by Sedentary Time Category

	<6 hr/day (n=214)	6 to <8 hr/day (n=722)	8 to <10 hr/day (n=825)	≥10 hr/day (n=266)	P-for-trend
Fasting Glucose (mg/dL)	95.5 (93.3, 97.9)	98.0 (96.8, 99.2)	96.9 (95.8, 98.0)	97.5 (95.3, 99.6)	0.792
2-hour Glucose (mg/dL) [†]	98.8 (94.0, 103.8)	104.0 (101.5, 106.7)	100.5 (98.3, 102.8)	104.9 (109.7)	0.683
Fasting Insulin (mU/dL)	**7.72** **(7.16, 8.33)**	**8.54** **(8.21, 8.88)**	**8.69** **(8.39, 9.01)**	**9.25** **(8.62, 9.93)**	**0.005**
HOMA-IR	**1.82** **(1.67, 1.99)**	**2.07** **(1.98, 2.16)**	**2.08** **(2.00, 2.17)**	**2.22** **(2.05, 2.42)**	**0.012**
HbA1c (%) [‡]	5.37 (5.27, 5.47)	5.47 (5.42, 5.53)	5.40 (5.35, 5.45)	5.42 (5.33, 5.52)	0.728

Least square means adjusted for age, center, race, sex, education, income, smoking, alcohol, wear time and log-transformed moderate-to-vigorous-intensity physical activity (total minutes) (Model 2). Adjusted least square means and confidence intervals have been exponentiated (variables were log-transformed for analysis)
[†]Missing in 400 participants
[‡]Missing in 261 participants

Supplementary Table 2. 5-year Changes in Continuous Metabolic Variables (95% Confidence Intervals) by Sedentary Time Category

	<6 hr/day (n=190)	6 to <8 hr/day (n=602)	8 to <10 hr/day (n=708)	≥10 hr/day (n=218)	P-for-trend
Fasting Glucose (mg/dL)	-1.46 (-3.34, 0.42)	-0.13 (-1.12, 0.87)	-0.25 (-1.12, 0.65)	0.31 (-1.48, 2.10)	0.365
2-hour Glucose (mg/dL) [†]	7.40 (2.03, 12.77)	4.35 (1.67, 7.02)	4.51 (2.12, 6.90)	3.56 (-1.15, 8.26)	0.475
Fasting Insulin (mU/dL)	0.34 (-0.64, 1.33)	0.83 (0.31, 1.35)	0.94 (0.47, 1.41)	0.81 (-0.14, 1.76)	0.532
HOMA-IR	0.09 (-0.19, 0.37)	0.24 (0.10, 0.39)	0.27 (0.14, 0.41)	0.28 (0.01, 0.55)	0.408
HbA1c [‡]	0.15 (0.09, 0.21)	0.18 (0.15, 0.21)	0.17 (0.15, 0.20)	0.23 (0.18, 0.28)	0.153

Least square means adjusted for age, center, race, sex, education, income, smoking, alcohol, wear time, log-transformed moderate-to-vigorous intensity physical activity (total minutes), and baseline covariate value (Model 2).
[†]Missing in 401 participants
[‡]Missing in 244 participants

SUPPLEMENTARY DATA

Supplementary Table 3. Cross-sectional and 5-year Longitudinal Relationships between Sedentary Time and Continuous Metabolic Variables by Race

| | Cross-sectional (n=2,027) | | 5-year Change (n=1,718) | |
	β (% difference per hour ST)*	p-value	β (5-year change per hour ST)	p-value
Fasting Glucose (mg/dL)*				
Whites	-0.1%	0.845	-0.01	0.960
Blacks	0.8%	0.141	0.48	0.178
2-hour Glucose (mg/dL)*, †				
Whites	-0.3%	0.671	-0.45	0.570
Blacks	1.0%	0.275	-0.87	0.390
Fasting Insulin (mU/dL)*				
Whites	1.4%	0.205	0.15	0.223
Blacks	**3.7%**	**0.011**	0.00	0.986
HOMA-IR*				
Whites	1.4%	0.274	0.05	0.196
Blacks	**4.5%**	**0.009**	0.03	0.692
HbA1c (%)*, ‡				
Whites	0.5%	0.223	0.00	0.874
Blacks	-0.2%	0.270	0.02	0.093

Abbreviations: ST, sedentary time

All models adjusted for age, center, race, sex, education, income, smoking, alcohol, wear time, baseline value (longitudinal model only), and log-transformed mvpa (total minutes)

*Dependent variables were log transformed in cross-sectional models; thus β is presented as the % difference associated with each additional 1 hour increase in sedentary time.

†Missing in 400 participants at baseline and 401 participants at 5-year follow-up

‡Missing in 261 participants at baseline and 244 participants at 5-year follow-up

SUPPLEMENTARY DATA

Supplementary Table 4. Cross-sectional and 5-year Longitudinal Relationships between Sedentary Time and Metabolic Outcomes

		Cross-sectional Analysis				5-year Longitudinal Analysis		
	Prevalence	**OR (per hour ST)**	**95% CI**	*p-value*	**Incidence[*]**	**OR (per hour ST)**	**95% CI**	*p-value*
Impaired Fasting Glucose	537/1,866 (29%)				131/1,199 (11%)			
Model 1: demographics and lifestyle		1.04	0.97, 1.13	0.207		1.04	0.92, 1.19	0.470
Model 2: + MVPA		0.99	0.91, 1.07	0.726		1.01	0.87, 1.16	0.928
Model 3: + comorbidities		0.99	0.91, 1.07	0.727		1.01	0.87, 1.17	0.902
Impaired Glucose Tolerance	159/1,570 (10%)				107/1,159 (9%)			
Model 1: demographics and lifestyle		**1.20**	**1.06, 1.36**	**0.003**		1.05	0.91, 1.21	0.519
Model 2: + MVPA		1.11	0.97, 1.28	0.121		1.01	0.86, 1.18	0.932
Model 3: + comorbidities		1.11	0.97, 1.28	0.127		1.00	0.85, 1.17	0.992
Prediabetes by HbA1c	277/1,627 (17%)				198/1,190 (17%)			
Model 1: demographics and lifestyle		0.97	0.88, 1.06	0.451		0.98	0.89, 1.10	0.784
Model 2: + MVPA		0.92	0.83, 1.03	0.139		0.94	0.83, 1.06	0.289
Model 3: + comorbidities		0.92	0.83, 1.03	0.167		1.06	0.81, 1.04	0.172
Diabetes	161/2,027 (8%)				81/1,718 (5%)			
Model 1: demographics and lifestyle		**1.29**	**1.14, 1.45**	**<0.001**		1.04	0.89, 1.22	0.591
Model 2: + MVPA		**1.20**	**1.06, 1.38**	**0.006**		0.99	0.83, 1.18	0.873
Model 3: + comorbidities		**1.22**	**1.06, 1.40**	**0.006**		0.95	0.79, 1.15	0.627

Abbreviations: CI, confidence interval; MVPA, moderate-to-vigorous physical activity; ST, sedentary time

Model 1: age, center, race, sex, education, income, smoking, alcohol, wear time, baseline value (longitudinal model only)

Model 2: Model 1 + log-transformed mvpa (total minutes)

Model 3: Model 2 + body mass index, hypertension and total cholesterol (+5-year change in longitudinal model)

[*]Prevalent baseline cases excluded for each specific outcome