Supplemental Digital Content 4: Model fit statistics

Activity counts by tertile (Corresponds to Table 2)

Total Activity

	Model A	Model B	Model C
Log Likelihood	-2125.26	-2078.12	-492.502
AIC	4272.513	4196.246	1013.004
BIC	4338.689	4316.566	1088.336

Light Activity

	Model A	Model B	Model C
Log Likelihood	-2134.32	-2083.58	-494.967
AIC	4290.643	4207.163	1017.934
BIC	4356.819	4327.483	1093.266

MVPA

	Model A	Model B	Model C
Log Likelihood	-2139.29	-2088.95	-490.928
AIC	4300.582	4217.892	1009.856
BIC	4366.758	4338.212	1085.188

Isotemporal substitution (Corresponds to Table 3)

Replacing Sedentary Minutes

	Model A	Model B	Model C
Log Likelihood	-2113.23	-2067.95	-488.878
AIC	4250.453	4177.892	1007.756
BIC	4374.568	4395.093	1153.75

Replacing MVPA Minutes

	Model A	Model B	Model C
Log Likelihood	-2113.22	-2067.94	-488.877
AIC	4250.445	4177.887	1007.754
BIC	4374.56	4395.087	1153.748

To obtain these statistics, sampling weights were rescaled to sum to the sample size (n=3,029 for Models A and B, n=1,605 for Model C), rather than the population size. Then models were fit using maximum likelihood, rather than survey design-based estimation. Strata and primary sampling units were entered as covariates, rather than as components of a design-based variance estimator. Other covariates were the same as in the results reported in Tables 2 and 3.