

Supplementary Table S2

Hazard ratios and 95% confidence intervals relating PA and ST with mortality stratified by GRS for longevity among OPACH women who survived 2 years after 2012-2014 baseline and were followed through February 28, 2020 by GRS subgroups (n=5,283)

		Tertiles of GRS for longevity ^a			<i>P</i> _{interaction} ^b
		Low (n = 1,640)	Medium (n = 1,742)	High (n = 1,901)	
Mortality events, n (rate per 1,000 person-years)		254 (24.8)	319 (29.2)	286 (23.9)	
PA ^c					
Light					
Model 1	Q1	1.00 [ref.]	1.00 [ref.]	1.00 [ref.]	.71
	Q2	0.73 [0.53, 1.01]	0.61 [0.46, 0.81]	0.78 [0.57, 1.05]	
	Q3	0.75 [0.53, 1.06]	0.54 [0.39, 0.74]	0.78 [0.57, 1.08]	
	Q4	0.54 [0.37, 0.81]	0.57 [0.40, 0.80]	0.47 [0.32, 0.69]	
Model 2	Q1	1.00 [ref.]	1.00 [ref.]	1.00 [ref.]	
	Q2	0.75 [0.53, 1.05]	0.66 [0.49, 0.89]	0.79 [0.58, 1.08]	
	Q3	0.78 [0.54, 1.13]	0.62 [0.44, 0.87]	0.97 [0.69, 1.36]	
	Q4	0.55 [0.36, 0.83]	0.64 [0.44, 0.92]	0.59 [0.39, 0.88]	
Moderate-to-vigorous					
Model 1	Q1	1.00 [ref.]	1.00 [ref.]	1.00 [ref.]	.28
	Q2	0.85 [0.62, 1.15]	0.70 [0.53, 0.92]	0.43 [0.32, 0.59]	
	Q3	0.61 [0.42, 0.87]	0.50 [0.36, 0.70]	0.38 [0.27, 0.54]	
	Q4	0.36 [0.23, 0.59]	0.37 [0.25, 0.55]	0.27 [0.18, 0.41]	
Model 2	Q1	1.00 [ref.]	1.00 [ref.]	1.00 [ref.]	
	Q2	0.94 [0.69, 1.30]	0.83 [0.62, 1.10]	0.55 [0.40, 0.75]	
	Q3	0.72 [0.49, 1.06]	0.64 [0.45, 0.90]	0.54 [0.38, 0.77]	
	Q4	0.45 [0.27, 0.75]	0.50 [0.33, 0.75]	0.43 [0.27, 0.67]	
Total ST ^d					
Model 1	Q1	1.00 [ref.]	1.00 [ref.]	1.00 [ref.]	.79
	Q2	0.85 [0.57, 1.28]	1.22 [0.85, 1.76]	1.66 [1.13, 2.45]	

Model 2	Q3	1.58 [1.09, 2.29]	1.73 [1.20, 2.50]	1.95 [1.33, 2.87]
	Q4	1.83 [1.23, 2.73]	2.14 [1.48, 3.10]	2.69 [1.80, 4.01]
	Q1	1.00 [ref.]	1.00 [ref.]	1.00 [ref.]
	Q2	0.82 [0.54, 1.24]	1.17 [0.81, 1.70]	1.39 [0.93, 2.05]
	Q3	1.56 [1.05, 2.30]	1.51 [1.03, 2.21]	1.48 [1.00, 2.21]
	Q4	1.77 [1.14, 2.75]	1.67 [1.11, 2.50]	1.80 [1.18, 2.75]

Note. Measures of effect from multivariable Cox proportional hazards regression models. p for trend for light PA, moderate-to-vigorous PA, or ST for all 18 models $< .05$. Model 1 adjusts for accelerometer wear time, age, race/ethnicity, and the first five principal components to control for population stratification. Model 2 includes Model 1 and additionally adjusts for education, BMI, smoking status, self-reported health status, alcohol consumption, comorbidities, and physical functioning. Comorbidities is defined as the sum of the following chronic conditions present at or before accelerometer wear: cancer, cardiovascular disease, cerebrovascular disease, chronic obstructive pulmonary disease, cognitive impairment, depression, diabetes, frequent falls, and osteoarthritis. BMI = body mass index; GRS = genetic risk score; PA = physical activity; OPACH = Objective Physical Activity and Cardiovascular Health; ST = sedentary time; Q = quartile.

^a Higher GRS is indicative of higher genetic predisposition for longevity. ^b $p_{interaction}$ corresponds to the Wald test statistic comparing the model 2 with and without the interaction continuous PA/ST by GRS terms. ^c Light PA (min/day) Q are defined as follows: Q1 \leq 233.96; Q2 = 233.97 to 287.13; Q3 = 287.14 to 337.94; Q4 \geq 337.95. Moderate-to-vigorous PA (min/day) Q are defined as follows: Q1 \leq 25.17; Q2 = 25.18 to 44.33.; Q3 = 44.34 to 69.75; Q4 \geq 69.76. ^d ST (min/day) Q are defined as follows: Q1 \leq 489.04; Q2 = 489.05 to 555.85; Q3 = 555.86 to 620.50; Q4 \geq 620.51.