

Supplementary Table S3

Hazard ratios and 95% confidence intervals relating PA and ST with mortality stratified by GRS for longevity among women of White race/ethnicity in OPACH enrolled in 2012-2014 and followed through February 28, 2020 (N=2,530)

		Tertiles of genetic risk score for longevity ^a			<i>P</i> _{interaction} ^b
		Low (n = 686)	Medium (n = 1,006)	High (n = 838)	
Mortality events, n (rate per 1,000 person-years)		179 (44.0)	283 (47.4)	208 (41.5)	
PA ^c					
Light					
Model 1	Q1	1.00 [ref.]	1.00 [ref.]	1.00 [ref.]	
	Q2	0.80 [0.55, 1.18]	0.65 [0.49, 0.86]	0.58 [0.40, 0.84]	
	Q3	0.90 [0.59, 1.38]	0.47 [0.33, 0.67]	0.78 [0.54, 1.14]	
	Q4	0.76 [0.47, 1.21]	0.47 [0.32, 0.69]	0.47 [0.31, 0.73]	.33
Model 2	Q1	1.00 [ref.]	1.00 [ref.]	1.00 [ref.]	
	Q2	0.78 [0.52, 1.16]	0.68 [0.50, 0.91]	0.60 [0.41, 0.88]	
	Q3	0.90 [0.57, 1.40]	0.52 [0.36, 0.76]	0.89 [0.60, 1.32]	
	Q4	0.70 [0.42, 1.17]	0.48 [0.32, 0.73]	0.53 [0.33, 0.85]	
Moderate-to-vigorous					
Model 1	Q1	1.00 [ref.]	1.00 [ref.]	1.00 [ref.]	
	Q2	0.79 [0.55, 1.15]	0.64 [0.48, 0.85]	0.51 [0.36, 0.73]	
	Q3	0.58 [0.37, 0.91]	0.43 [0.30, 0.62]	0.39 [0.26, 0.59]	
	Q4	0.39 [0.22, 0.70]	0.35 [0.23, 0.53]	0.27 [0.16, 0.46]	.21
Model 2	Q1	1.00 [ref.]	1.00 [ref.]	1.00 [ref.]	
	Q2	0.92 [0.63, 1.36]	0.79 [0.58, 1.06]	0.67 [0.46, 0.97]	
	Q3	0.70 [0.43, 1.12]	0.56 [0.38, 0.81]	0.48 [0.31, 0.75]	
	Q4	0.45 [0.24, 0.83]	0.45 [0.29, 0.72]	0.37 [0.22, 0.64]	
Total ST ^d					.20

Model 1	Q1	1.00 [ref.]	1.00 [ref.]	1.00 [ref.]
	Q2	0.73 [0.44, 1.22]	1.56 [1.01, 2.40]	2.01 [1.20, 3.38]
	Q3	1.31 [0.83, 2.06]	2.16 [1.42, 3.30]	2.31 [1.40, 3.83]
	Q4	1.35 [0.83, 2.18]	2.59 [1.69, 3.95]	3.12 [1.88, 5.18]
Model 2	Q1	1.00 [ref.]	1.00 [ref.]	1.00 [ref.]
	Q2	0.69 [0.41, 1.19]	1.48 [0.95, 2.30]	1.80 [1.07, 3.06]
	Q3	1.36 [0.84, 2.22]	1.86 [1.20, 2.88]	1.92 [1.14, 3.23]
	Q4	1.41 [0.81, 2.44]	2.11 [1.33, 3.36]	2.48 [1.45, 4.27]

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 models $< .05$ except for light PA low GRS model 1 (p for trend = .11) and model 2 (p for trend = .12). 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 $p_{\text{interaction}}$ 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.