

Table S1. Correlations between different activity intensities (counts per minute)

		Counts per minute									
		0-499	500-999	1000-1499	1500-1999	2000-2499	2500-2999	3000-3499	3500-3999	4000-4499	>4500
Counts per minute	0-499	-	-0.434**	-0.528**	-0.521**	-0.428**	-0.316**	-0.204**	-0.195**	-0.132**	-0.127**
	500-999		-	0.865**	0.689**	0.478**	0.292**	0.134**	0.058	0.038	0.020
	1000-1499			-	0.906**	0.683**	0.441**	0.234**	0.142**	0.096**	0.081*
	1500-1999				-	0.857**	0.619**	0.364**	0.218**	0.122**	0.114**
	2000-2499					-	0.824**	0.500**	0.286**	0.163**	0.154**
	2500-2999						-	0.756**	0.457**	0.250**	0.170**
	3000-3499							-	0.735**	0.408**	0.236**
	3500-3999								-	0.778**	0.438**
	4000-4499									-	0.597**
	>4500										-

** p<0.01

* p<0.05

Table S2. Percentage difference in the concentration of lipid subclasses associated with a 10 minute increase in time spent in bands of 500 counts per minute of PA intensities ranging from 0 to >=4500 counts per minute.

	0-499	500-999	1000-1499	1500-1999	2000-2499	2500-2999	3000-3499	3500-3999	4000-4499	4500+
Apo A-1	-2 (-3, -1)*	3 (1, 5)*	5 (1, 9)*	8 (1, 15)*	15 (3, 27)*	17 (5, 30)*	20 (6, 35)*	20 (3, 37)*	15 (-1, 31)	15 (5, 24)*
Apo B	1 (-1, 3)	1 (-3, 5)	2 (-3, 6)	3 (-5, 11)	1 (-11, 14)	-9 (-17, -1)*	-3 (-22, -4)*	-16 (-26, -5)*	-12 (-22, -2)*	-10 (-16, -4)*
Ratio of Apo B and Apo A-1	1 (-1, 2)	-1 (-4, 2)	-1 (-5, 4)	-1 (-9, 6)	-6 (-18, 6)	-17 (-29, -4)*	-21 (-36, -7)*	-23 (-29, -6)*	-18 (-34, -3)*	-16 (-25, -7)**
Mean diameter VLDL	2 (1, 3)*	-3 (-6, -1)*	-5 (-9, -1)*	-7 (-14, 0)	-12 (-24, 0)	-16 (-31, 2)	-14 (-32, 5)	-14 (-34, 7)	-13 (-33, 7)	-19 (-30, -7)**
Mean diameter HDL	-2 (-3, -1)*	2 (-1, 4)	3 (-1, 7)	4 (-3, 11)	10 (-2, 21)	16 (1, 31)*	20 (3, 37)*	20 (1, 39)*	14 (-5, 33)	19 (8, 30)**
Mean diameter LDL	1 (-1, 3)	-2 (-4, 0)	-3 (-8, 1)	-5 (-13, 3)	-3 (-15, 10)	-4 (-20, 13)	-1 (-20, 19)	-1 (-20, 19)	-3 (-23, 18)	-2 (-14, 11)

Adjusted for age, sex, ethnicity, smoking status, accelerometer wear time, omega-3 fatty acids and omega-6 fatty acids

** p<0.01; * p<0.05

Table S3. Percentage difference in apolipoproteins and lipoprotein particle size associated with a 10 minute increase in time spent in bands of 500 counts per minute of physical activity intensities ranging from 0 to >=4500 counts per minute.

	0-499	500-999	1000-1499	1500-1999	2000-2499	2500-2999	3000-3499	3500-3999	4000-4499	4500+
Concentration of extremely large VLDL particles	1 (0, 2)	-1 (-3, 1)	-1 (-4, 2)	-2 (-7, 3)	-3 (-12, 6)	-5 (-17, 6)	-7 (-20, 6)	-10 (-25, 5)	-13 (-28, 1)	-10 (-19, -2)*
Concentration of very large VLDL particles	2 (1, 3)*	-2 (-4, 1)	-2 (-5, 1)	-3 (-9, 2)	-6 (-15, 3)	-10 (-22, 2)	-10 (-24, 4)	-11 (-27, 5)	-12 (-28, 3)	-12 (-21, -3)*
Concentration of large VLDL particles	2 (1, 3)*	-2 (-4, 0)	-2 (-6, 1)	-4 (-10, 2)	-7 (-17, 2)	-10 (-23, 2)	-11 (-26, 3)	-15 (-31, 2)	-15 (-31, 1)	-14 (-23, -5)*
Concentration of medium VLDL particles	2 (1, 3)*	-2 (-5, 0)	-3 (-7, 1)	-5 (-11, 1)	-8 (-18, 2)	-11 (-24, 2)	-13 (-28, 2)	-15 (-32, 2)	-16 (-32, 1)	-15 (-25, -5)*
Concentration of small VLDL particles	2 (1, 3)*	-2 (-4, 0)	-2 (-6, 1)	-4 (-10, 2)	-8 (-18, 1)	-15 (-27, 2)*	-16 (-31, -2)*	-11 (-28, 5)	-11 (-26, 5)	-14 (-23, -5)*
Concentration of very small VLDL particles	1 (-1, 2)	-1 (-3, 1)	0 (-3, 2)	0 (-5, 4)	-3 (-10, 4)	-7 (-16, 3)	-13 (-24, -3)*	-10 (-22, 2)	-7 (-18, 5)	-5 (-12, 2)
Concentration of very large HDL particles	-1 (-2, 0)	1 (-2, 4)	1 (-3, 6)	1 (-6, 8)	4 (-7, 16)	9 (-6, 24)	13 (-5, 30)	12 (-8, 31)	9 (-9, 28)	18 (7, 29)*
Concentration of large HDL particles	-2 (-3, -1)*	2 (-1, 5)	3 (-1, 7)	5 (-2, 12)	12 (1, 23)*	19 (4, 34)*	25 (8, 42)*	28 (8, 48)*	20 (1, 39)*	21 (10, 32)*
Concentration of medium HDL particles	-2 (-3, -1)*	3 (-1, 5)	4 (1, 8)*	8 (1, 15)*	14 (3, 26)*	22 (7, 37)*	24 (6, 41)*	21 (1, 41)*	15 (-4, 34)	9 (-3, 20)
Concentration of small HDL particles	-1 (-2, 0)	2 (-1, 4)	3 (1, 6)*	6 (1, 11)*	10 (-2, 21)	12 (-3, 27)	11 (-6, 29)	10 (-10, 30)	11 (-8, 30)	1 (-10, 9)
Concentration of IDL particles	0 (-2, 1)	0 (-2, 3)	-1 (-5, 3)	-2 (-10, 5)	-4 (-15, 8)	-1 (-16, 14)	-3 (-20, 15)	-8 (-28, 11)	-7 (-26, 12)	-7 (-18, 5)
Concentration of large LDL particles	0 (-1, 0)	-1 (-2, 1)	-1 (-4, 1)	-2 (-6, 2)	-2 (-8, 5)	-1 (-10, 7)	-6 (-15, 4)	-11 (-22, -1)*	-5 (-15, 6)	-1 (-6, 4)
Concentration of medium LDL particles	0 (-1, 0)	-1 (-2, 1)	-1 (-4, 1)	-2 (-6, 2)	-2 (-8, 5)	-1 (-9, 7)	-6 (-15, 3)	-11 (-22, -1)*	-5 (-15, 5)	-1 (-6, 4)
Concentration of small LDL particles	0 (-1, 0)	-1 (-2, 1)	-2 (-4, 1)	-2 (-6, 2)	-2 (-8, 4)	-1 (-9, 7)	-5 (-14, 4)	-10 (-21, -1)*	-4 (-14, 6)	-1 (-6, 4)

Adjusted for age, sex, ethnicity, smoking status, accelerometer wear time, omega-3 fatty acids and omega-6 fatty acids