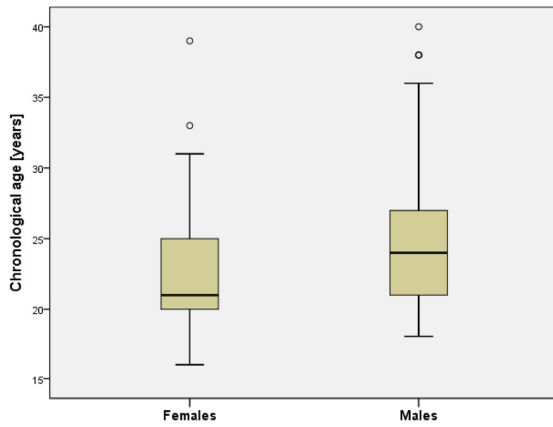
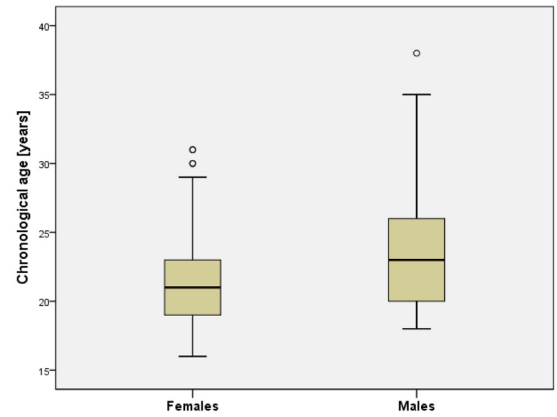


SUPPLEMENTARY MATERIAL

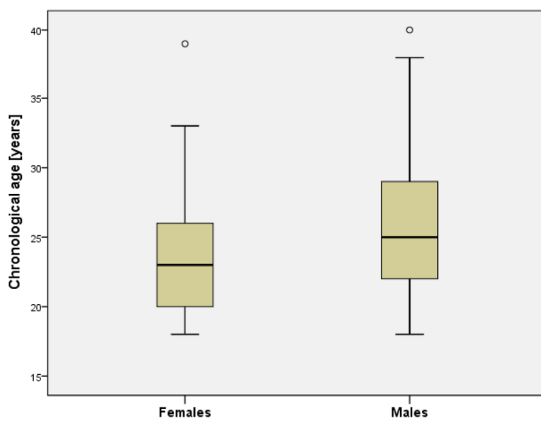
A) Age distribution in the studied group of all athletes



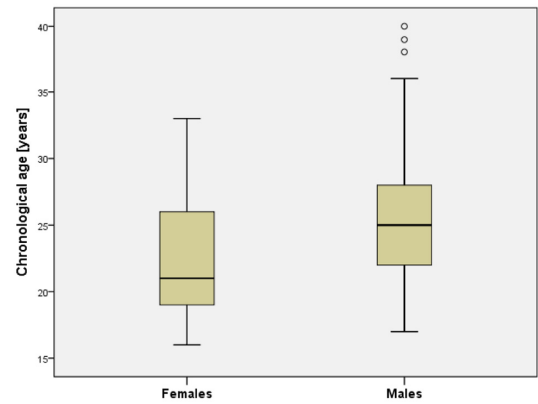
C) Age distribution in the studied group of power athlete



B) Age distribution in the studied group of endurance athletes



D) Age distribution in the control group



Supplementary Figure 1. Distribution of age in the studied group of athletes divided by gender of the individuals.

Supplementary Table 1. DNA methylation status of single age-related CpG sites measured in Polish athletes divided by gender and compared to age-matched controls from the general population.

Locus CpG site	Mean % of DNAm ^{et}		P value	Mean % of DNAm ^{et}		P value
	Females			Males		
	Athletes (N=64)	Controls (N=47)		Athletes (N=112)	Controls (N=81)	
<i>ELOVL2 C7</i>	59.22	58.87	0.754	61.85	62.37	0.573
<i>MIR29B2C C1</i>	79.86	81.45	0.179	79.19	80.01	0.341
<i>FHL2 C2</i>	36.44	36.89	0.647	36.33	35.27	0.122
<i>TRIM59 C7</i>	31.03	27.15	1.144x10⁻⁵	31.65	28.79	0.001
<i>KLF14 C1</i>	4.84	3.96	0.002	5.34	4.21	8.379x10⁻⁸

Significant values are marked in bold.

Supplementary Table 2. Age prediction accuracy measured by MAE using the 5-CpG sites model compared between athletes and controls divided by gender.

5 CpG model					
Model	Compared groups	N	MAE	Std. Deviation	P value
Females	Athletes	63	3.684	2.906	0.010
	Controls	47	2.501	1.822	
	Endurance	27	3.233	2.472	0.149
	Controls	47	2.501	1.822	
	Power	36	4.023	3.185	0.013
	Controls	47	2.501	1.822	
Males	Athletes	112	3.042	2.428	0.013
	Controls	81	2.280	1.789	
	Endurance	55	2.551	2.341	0.445
	Controls	81	2.280	1.789	
	Power	57	3.515	2.437	0.002
	Controls	81	2.280	1.789	

One sample was removed from prediction analysis because of missing data in *MIR29B2C C1*.