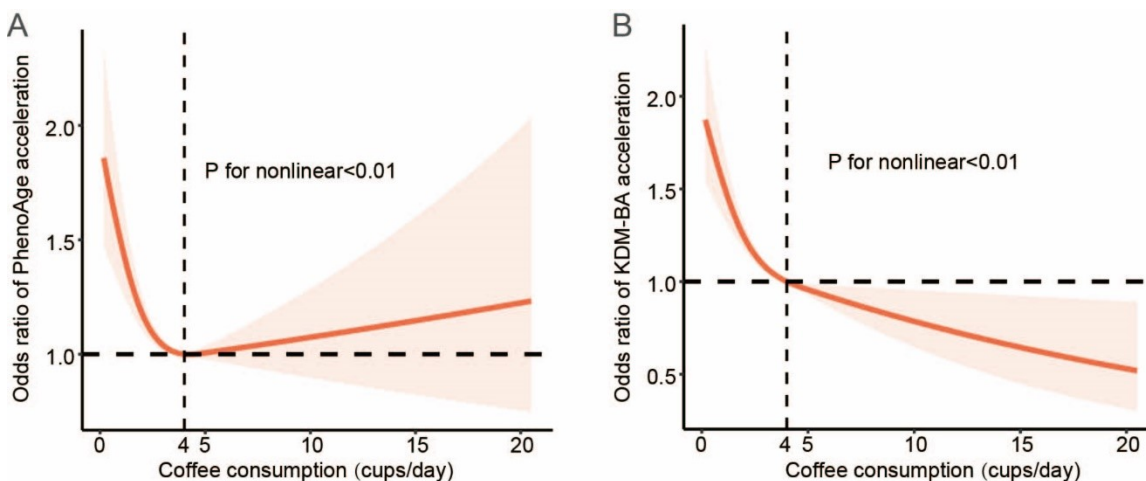# Supplementary Material

Supplementary Figure

Figure S1. The nonlinear associations between coffee consumption and odds ratio of PhenoAge (A) and KDM-BA acceleration (B)

Supplementary Tables

TableS1. Logistic regression analysis of the association between coffee consumption and odds ratio of accelerated aging.

	None	≤1 cup	1-3 cups	≥3 cups	P for trend
			Coffee consumption (cup/day)		
PhenoAge					
Model I OR(95%CI)	Reference	0.96(0.83,1.12)	0.63(0.56,0.72)	0.83(0.69,0.99)	<0.01
Model II OR(95%CI)	Reference	1.01(0.85,1.20)	0.65(0.56,0.74)	0.78(0.65,0.95)	<0.01
Model III OR(95%CI)	Reference	1.07(0.89,1.29)	0.66(0.56,0.77)	0.67(0.54,0.82)	<0.01
KDM-BA					
Model I OR(95%CI)	Reference	1.03(0.87,1.21)	0.66(0.59,0.75)	0.49(0.41,0.58)	<0.01
Model II OR(95%CI)	Reference	1.09(0.92,1.29)	0.84(0.74,0.94)	0.70(0.60,0.83)	<0.01
Model III OR(95%CI)	Reference	1.14(0.96,1.36)	0.86(0.77,0.97)	0.67(0.57,0.79)	<0.01

Model I: non-adjusted model; Model II: adjusted for age gender, ethnicity, marital status, family income-to-poverty ratio and education level; Model III: adjusted for covariates of model 2, and smoking status, drinking status, body mass index, total energy intake, physical activity, the Healthy Eating Index 2015, trouble sleeping and general health. **Abbreviations**: OR=odds ratio; CI = confidence interval;

Table S2. Regression analysis of the association between caffeinated or decaffeinated coffee and accelerated aging.

Types of coffee	Coffee consumption (cup/day)			P for trend
	≤1 cup	1-3 cups	≥3 cups	
Caffeinated				
PhenoAge				
β(95%CI)	-0.05(-0.10, 0.01)	-0.12(-0.17,-0.07)	-0.15(-0.21,-0.09)	<0.01
OR(95%CI)	0.97(0.82,1.15)	0.66(0.56,0.77)	0.68(0.55,0.84)	<0.01
KDM-BA				
β(95%CI)	-0.01(-0.06, 0.05)	-0.04(-0.09, 0.02)	-0.13(-0.19,-0.07)	<0.01
OR(95%CI)	1.04(0.90,1.20)	0.88(0.78,1.00)	0.67(0.57,0.80)	<0.01
Decaffeinated				
PhenoAge				
β(95%CI)	-0.11(-0.16,-0.07)	-0.11(-0.23, 0.01)	-0.27(-0.44,-0.09)	<0.01
OR(95%CI)	0.73(0.63,0.83)	0.72(0.46,1.14)	0.57(0.33,0.98)	<0.01
KDM-BA				
β(95%CI)	-0.05(-0.10,-0.01)	-0.13(-0.25, 0.00)	-0.19(-0.38,-0.01)	0.01
OR(95%CI)	0.85(0.77,0.94)	0.79(0.53,1.18)	0.65(0.37,0.93)	<0.01

β based on linear regression model of biological aging; OR based on logistic regression model of biological aging. All analysis adjusted for age, gender, ethnicity, marital status, family income-to-poverty ratio and education level, smoking status, drinking status, body mass index, total energy intake, physical activity, the Healthy Eating Index 2015, trouble sleeping and general health. **Abbreviations**: OR=odds ratio; CI = confidence interval;

Table S3. Multivariate regression analysis of the association between coffee consumption and KDM-BA accelerated aging stratified by age, gender, BMI and physical activity.

Characteristics	β (95%CI)	P value	OR (95%CI)	P value
Age				
≤50 years				
≤1 cup	0.03(-0.04, 0.10)	0.42	1.14(0.96,1.36)	0.12
1-3 cups	-0.05(-0.12, 0.01)	0.13	0.86(0.77,0.97)	0.02
≥3 cups	-0.11(-0.18,-0.04)	<0.01	0.67(0.57,0.79)	<0.01
>50 years				
≤1 cup	0.04(-0.07, 0.15)	0.43	1.14(0.96,1.36)	0.12
1-3 cups	-0.04(-0.13, 0.05)	0.33	0.86(0.77,0.97)	0.02
≥3 cups	-0.12(-0.20,-0.04)	<0.01	0.67(0.57,0.79)	<0.01
Gender				
Male				
≤1 cup	0.1(0, 0.20)	0.05	1.17(0.89,1.54)	0.24
1-3 cups	-0.03(-0.11, 0.04)	0.35	0.89(0.74,1.08)	0.23
≥3 cups	-0.12(-0.21,-0.04)	0.01	0.66(0.57,0.88)	0.01
Female				
≤1 cup	-0.01(-0.08, 0.06)	0.79	1.10(0.90,1.34)	0.35
1-3 cups	-0.05(-0.12, 0.02)	0.15	0.85(0.71,1.03)	0.1
≥3 cups	-0.15(-0.23,-0.08)	<0.01	0.66(0.51,0.86)	<0.01
BMI				
Normal weight				
≤1 cup	0.02(-0.08, 0.13)	0.67	0.95(0.63,1.43)	0.80
1-3 cups	-0.03(-0.10, 0.04)	0.43	0.77(0.60,0.99)	0.04
≥3 cups	-0.16(-0.28,-0.05)	0.01	0.58(0.38,0.87)	0.01
Overweight/Obesity				
≤1 cup	0.04(-0.03, 0.12)	0.26	1.20(0.96,1.49)	0.10

	β(95%CI)	P	OR(95%CI)	P
1-3 cups	-0.07(-0.13,-0.01)	0.03	0.88(0.76,1.02)	0.08
≥3 cups	-0.14(-0.20,-0.07)	<0.01	0.69(0.57,0.83)	<0.01
Physical activity				
Inactive/Insufficient				
≤1 cup	0.06(-0.13, 0.25)	0.53	1.09(0.66,1.79)	0.73
1-3 cups	-0.08(-0.21, 0.05)	0.20	0.87(0.59,1.28)	0.46
≥3 cups	-0.02(-0.19, 0.15)	0.79	0.89(0.54,1.47)	0.64
Active				
≤1 cup	0.01(-0.07, 0.09)	0.82	1.09(0.84,1.40)	0.50
1-3 cups	-0.05(-0.11, 0.02)	0.15	0.85(0.73,0.99)	0.04
≥3 cups	-0.14(-0.21,-0.07)	<0.01	0.67(0.55,0.82)	<0.01

β based on linear regression model of KDM-BA aging; OR based on logistic regression model of KDM-BA aging. All analysis adjusted for age, gender, ethnicity, marital status, family income-to-poverty ratio and education level, smoking status, drinking status, body mass index, total energy intake, physical activity, the Healthy Eating Index 2015, trouble sleeping and general health.
Abbreviations: OR=odds ratio; CI = confidence interval;