

**(Supplementary Material) Lifestyle factors and genetic
variants on two biological age measures: evidence from
94,443 Taiwan Biobank participants**

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Short title: Lifestyle and genetics on biological age measures

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	Units	<i>s</i>	<i>k</i>	<i>q</i>
Albumin	g/dL	0.3372441	-0.0057658	4.437681
Alkaline Phosphatase	U/L	28.91255	0.4822007	58.87995
Creatinine (Serum)	mg/dL	0.206529	0.0029099	0.9299351
C-reactive protein	mg/dL	0.6014597	0.0058188	0.1414078
Glycated hemoglobin (HbA1c)	%	0.9468073	0.0196594	4.488046
Systolic blood pressure	mmHg	14.64641	0.6784407	90.98659
Total cholesterol	mg/dL	39.93671	0.972077	163.2156

Table S1 Coefficients of 7 biomarkers used in BioAge

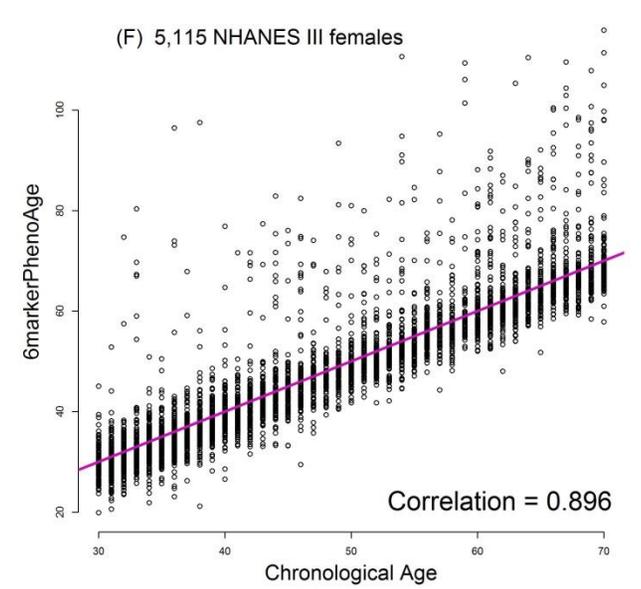
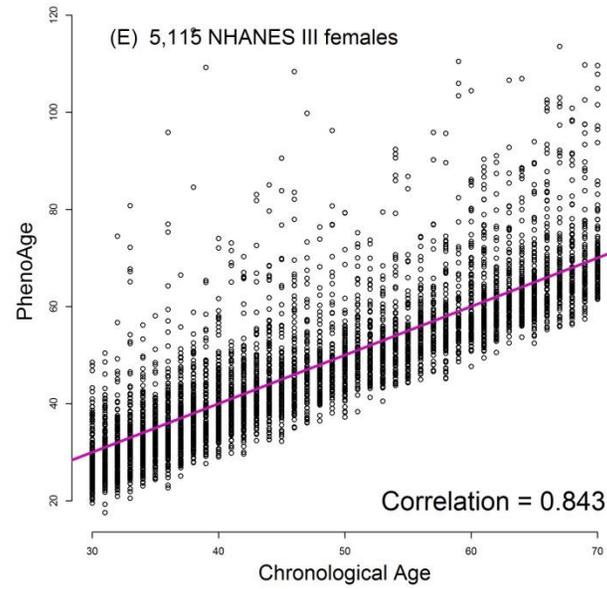
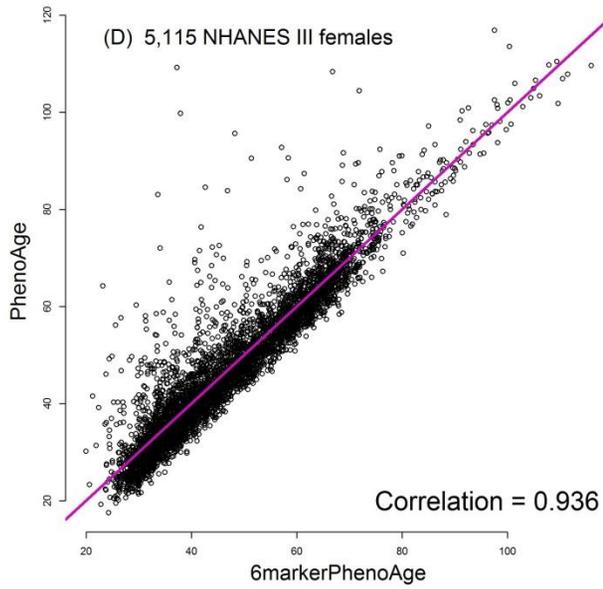
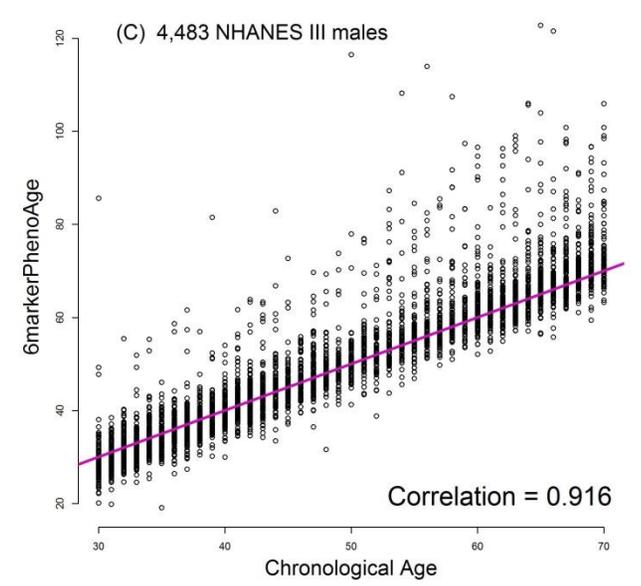
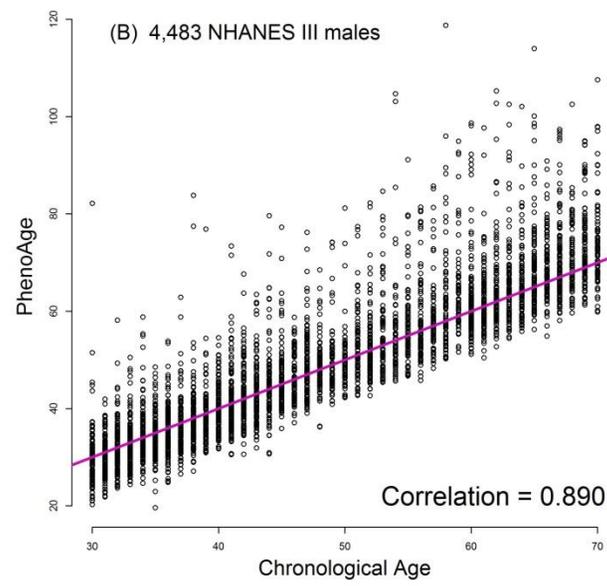
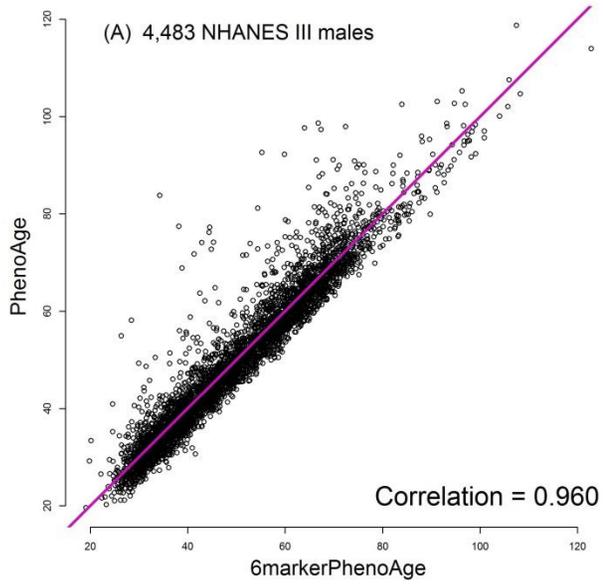


Figure S1 - The scatter plots of “6markerPhenoAge”, PhenoAge, and chronological age in NHANES III ($N = 9,598$)

- (A) The x -axis and y -axis mark “6markerPhenoAge” and PhenoAge of 4,483 NHANES III males, respectively.
- (B) The x -axis and y -axis mark chronological age and PhenoAge of 4,483 NHANES III males, respectively.
- (C) The x -axis and y -axis mark chronological age and “6markerPhenoAge” of 4,483 NHANES III males, respectively.
- (D) The x -axis and y -axis mark “6markerPhenoAge” and PhenoAge of 5,115 NHANES III females, respectively.
- (E) The x -axis and y -axis mark chronological age and PhenoAge of 5,115 NHANES III females, respectively.
- (F) The x -axis and y -axis mark chronological age and “6markerPhenoAge” of 5,115 NHANES III females, respectively.

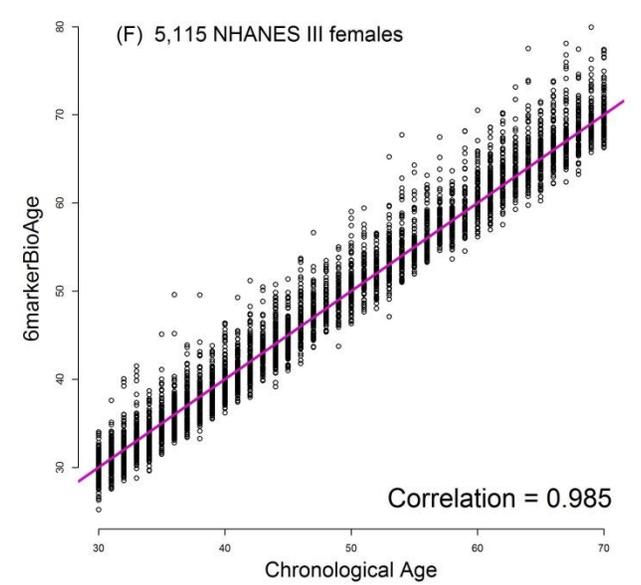
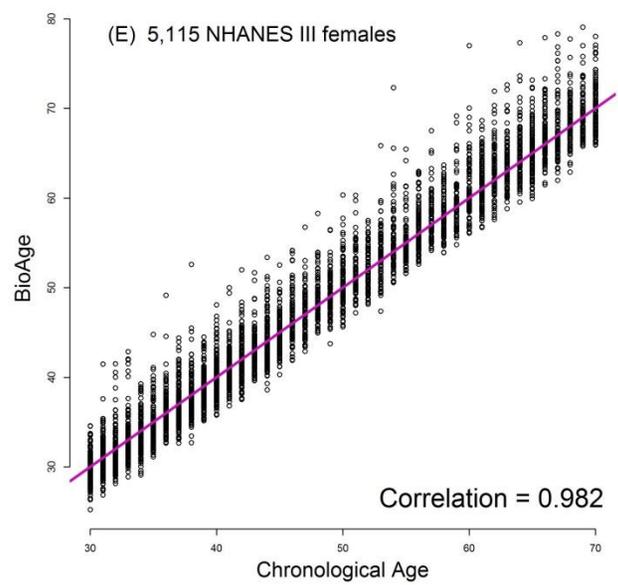
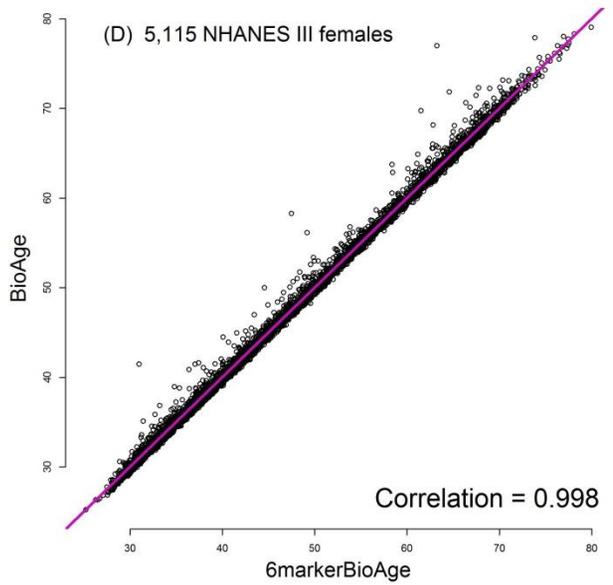
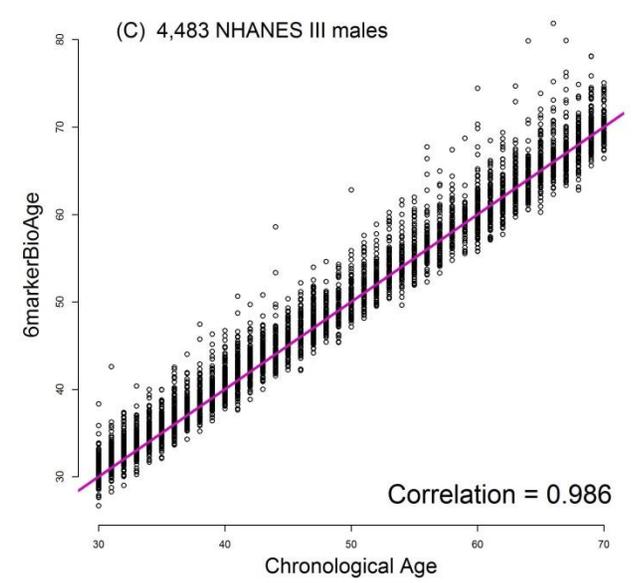
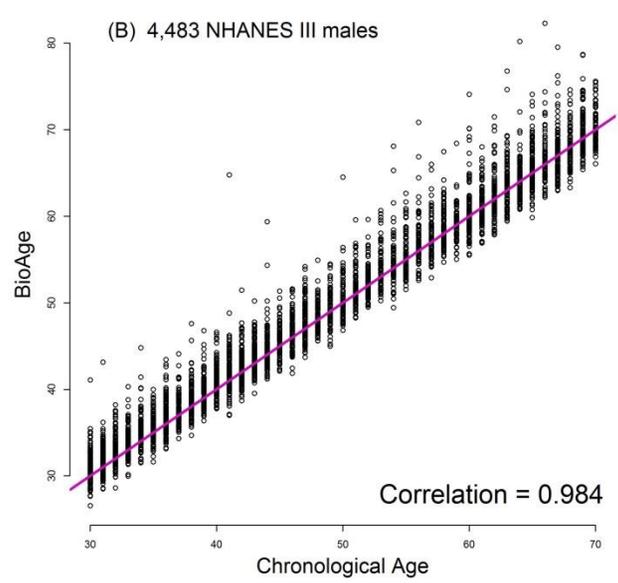
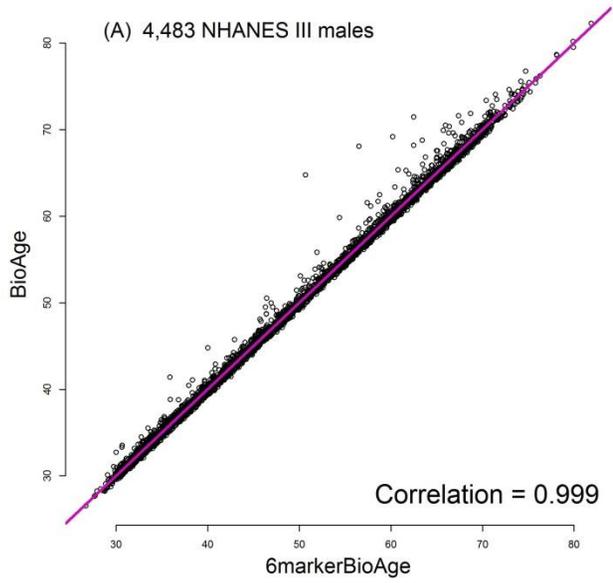


Figure S2 - The scatter plots of “6markerBioAge”, BioAge, and chronological age in NHANES III (N = 9,598)

- (A) The *x*-axis and *y*-axis mark “6markerBioAge” and BioAge of 4,483 NHANES III males, respectively.
- (B) The *x*-axis and *y*-axis mark chronological age and BioAge of 4,483 NHANES III males, respectively.
- (C) The *x*-axis and *y*-axis mark chronological age and “6markerBioAge” of 4,483 NHANES III males, respectively.
- (D) The *x*-axis and *y*-axis mark “6markerBioAge” and BioAge of 5,115 NHANES III females, respectively.
- (E) The *x*-axis and *y*-axis mark chronological age and BioAge of 5,115 NHANES III females, respectively.
- (F) The *x*-axis and *y*-axis mark chronological age and “6markerBioAge” of 5,115 NHANES III females, respectively.

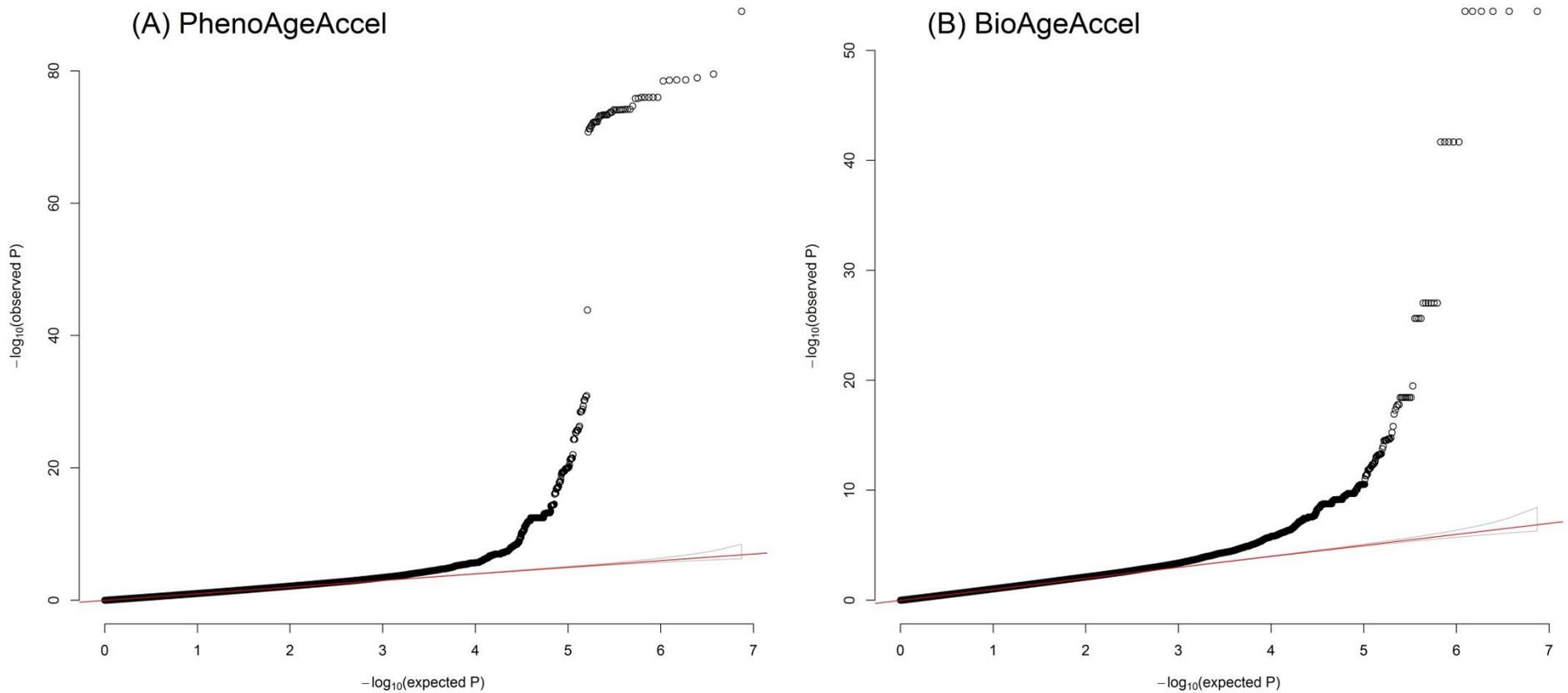


Figure S3 - The quantile-quantile (Q-Q) plots of TWB1 GWAS analyses

The x-axis and y-axis mark $-\log_{10}(\text{expected } P\text{-value})$ and $-\log_{10}(\text{observed } P\text{-value})$, respectively. The red line represents $y = x$. (A) PhenoAgeAccel; (B) BioAgeAccel.

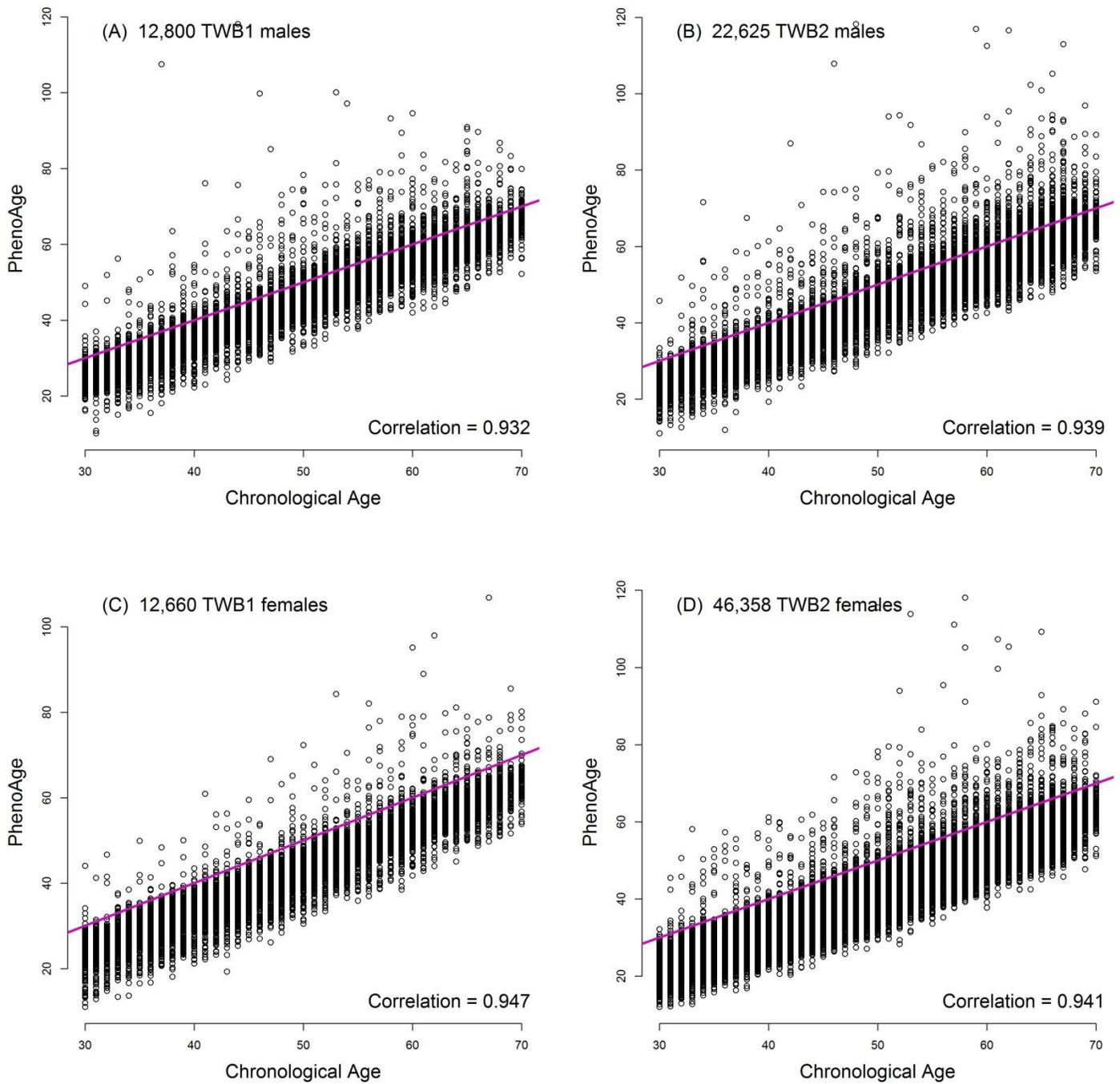


Figure S4 - The scatter plots of chronological age and PhenoAge in TWB1 ($N = 25,460$) and TWB2 ($N = 68,983$)

- (A) The x -axis and y -axis mark chronological age and PhenoAge of 12,800 TWB1 males, respectively.
- (B) The x -axis and y -axis mark chronological age and PhenoAge of 22,625 TWB2 males, respectively.
- (C) The x -axis and y -axis mark chronological age and PhenoAge of 12,660 TWB1 females, respectively.
- (D) The x -axis and y -axis mark chronological age and PhenoAge of 46,358 TWB2 females, respectively.

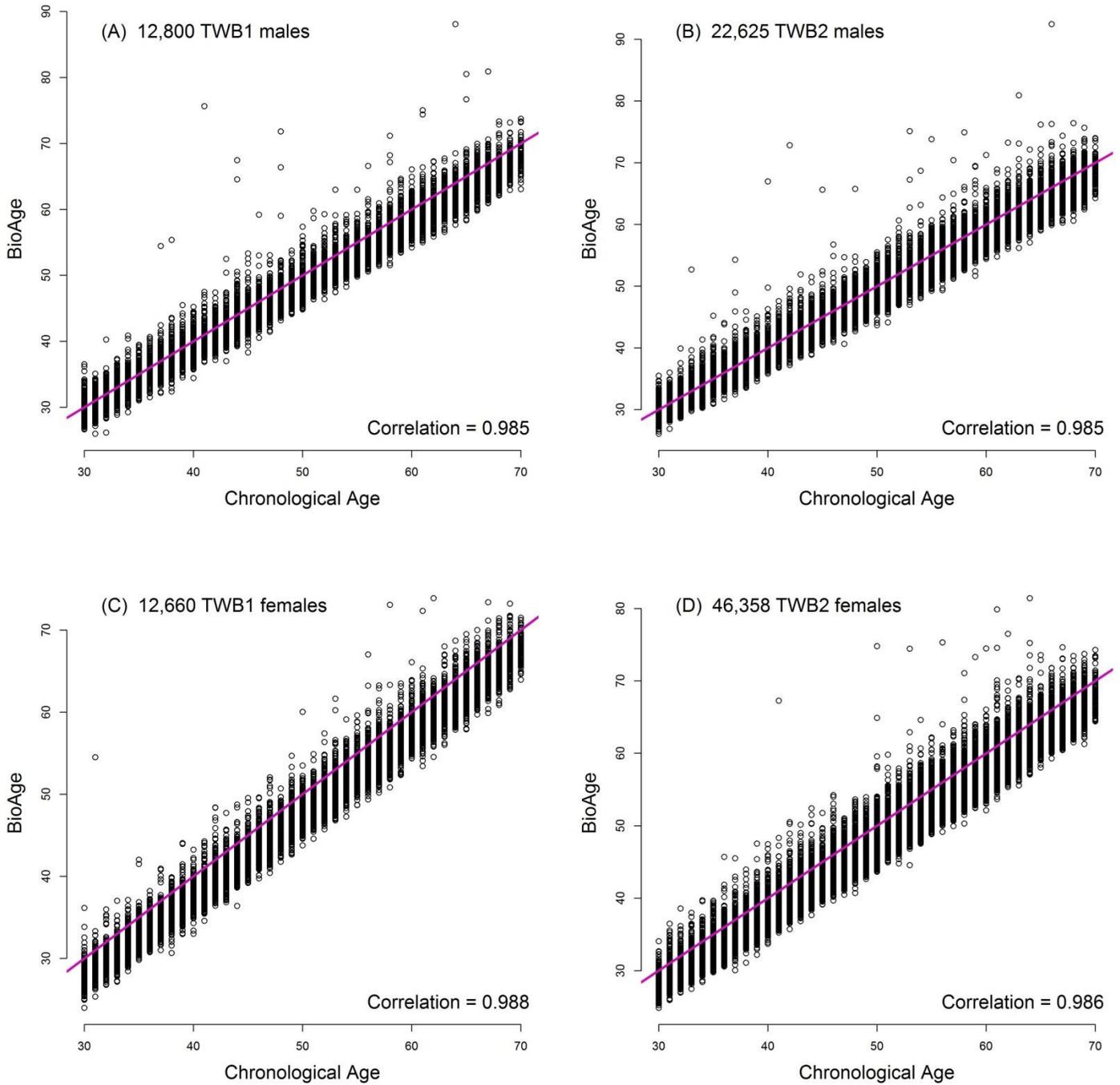


Figure S5 - The scatter plots of chronological age and BioAge in TWB1 ($N = 25,460$) and TWB2 ($N = 68,983$)

- (A) The x -axis and y -axis mark chronological age and BioAge of 12,800 TWB1 males, respectively.
- (B) The x -axis and y -axis mark chronological age and BioAge of 22,625 TWB2 males, respectively.
- (C) The x -axis and y -axis mark chronological age and BioAge of 12,660 TWB1 females, respectively.
- (D) The x -axis and y -axis mark chronological age and BioAge of 46,358 TWB2 females, respectively.

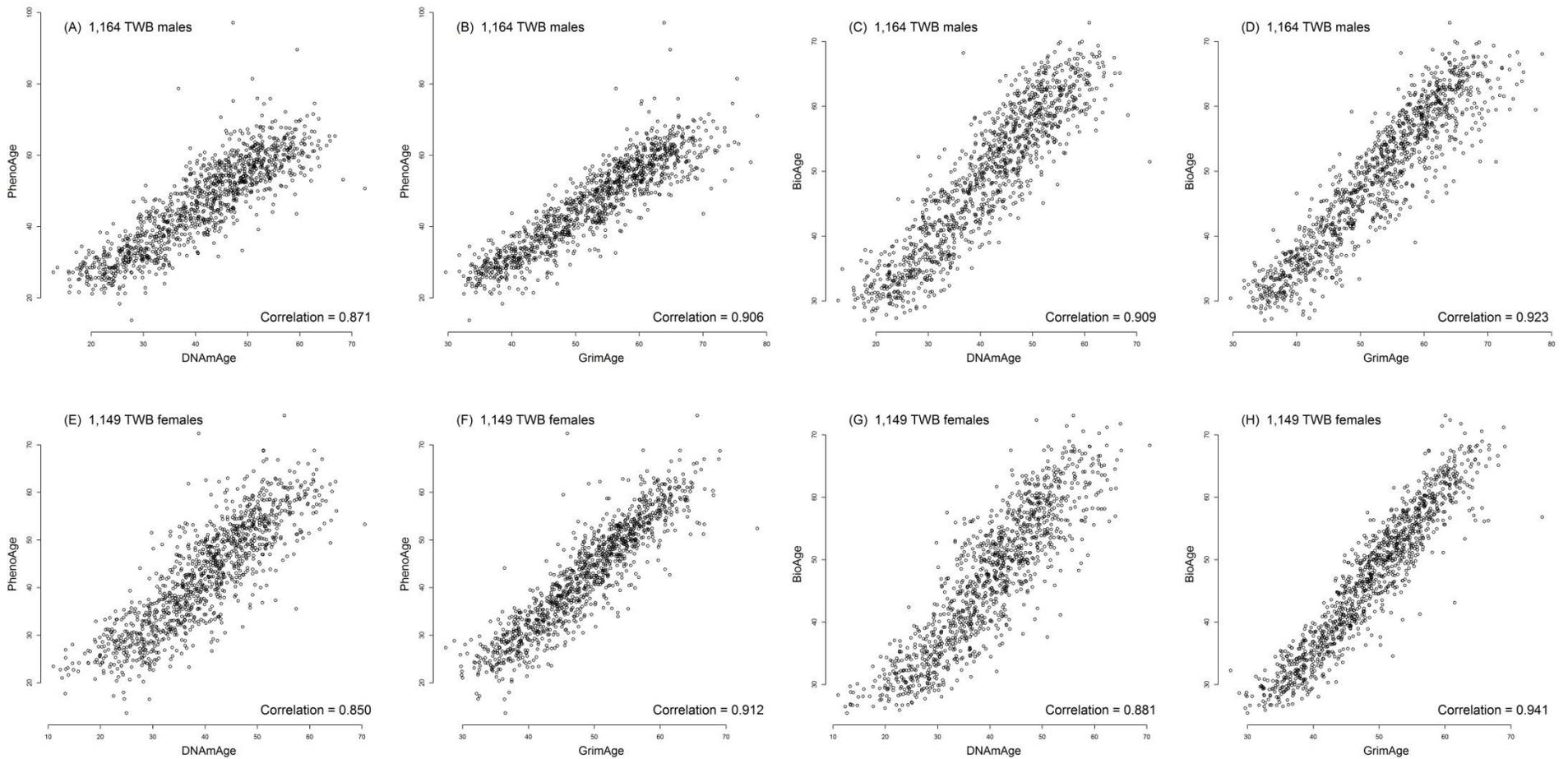


Figure S6 - The scatter plots of methylation age (DNAmAge or GrimAge) and biological age (PhenoAge or BioAge) in TWB ($N = 2,313$)

- (A) The x -axis and y -axis mark DNAmAge and PhenoAge of 1,164 TWB males, respectively.
 (B) The x -axis and y -axis mark GrimAge and PhenoAge of 1,164 TWB males, respectively.
 (C) The x -axis and y -axis mark DNAmAge and BioAge of 1,164 TWB males, respectively.
 (D) The x -axis and y -axis mark GrimAge and BioAge of 1,164 TWB males, respectively.
 (E) The x -axis and y -axis mark DNAmAge and PhenoAge of 1,149 TWB females, respectively.
 (F) The x -axis and y -axis mark GrimAge and PhenoAge of 1,149 TWB females, respectively.

(G) The x -axis and y -axis mark DNAmAge and BioAge of 1,149 TWB females, respectively.

(H) The x -axis and y -axis mark GrimAge and BioAge of 1,149 TWB females, respectively.