

Supplementary Materials for

Epigenetic clocks derived from Western samples differentially

reflect Taiwanese health outcomes

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| 13 dichotomous health outcomes | HannumEAA (s.d. = 3.63 years) | | | | IEAA (s.d. = 3.69 years) | | | | PhenoEAA (s.d. = 4.79 years) | | | | GrimEAA (s.d. = 3.43 years) | | | | DunedinPACE (s.d. = 0.1064) | | | |
|--|-------------------------------|--------------|--------------|----------------|--------------------------|--------------|--------------|----------------|------------------------------|--------------|--------------|----------------|-----------------------------|--------------|--------------|----------------|-----------------------------|--------------|--------------|----------------|
| | OR | 95% CI | | p-value | OR | 95% CI | | p-value | OR | 95% CI | | p-value | OR | 95% CI | | p-value | OR | 95% CI | | p-value |
| Obesity | 1.119 | 1.013 | 1.235 | 2.7E-02 | 1.124 | 1.018 | 1.241 | 2.0E-02 | 1.220 | 1.106 | 1.347 | 7.4E-05 | 1.220 | 1.101 | 1.352 | 1.4E-04 | 1.605 | 1.450 | 1.779 | 9.6E-20 |
| Adiposity | 1.214 | 1.069 | 1.380 | 2.9E-03 | 1.245 | 1.100 | 1.411 | 5.7E-04 | 1.236 | 1.087 | 1.407 | 1.3E-03 | 1.225 | 1.088 | 1.381 | 8.0E-04 | 1.666 | 1.458 | 1.908 | 9.8E-14 |
| Abdominal obesity | 1.175 | 1.043 | 1.325 | 8.2E-03 | 1.166 | 1.037 | 1.311 | 1.0E-02 | 1.218 | 1.078 | 1.377 | 1.6E-03 | 1.294 | 1.155 | 1.451 | 8.9E-06 | 1.638 | 1.443 | 1.864 | 3.9E-14 |
| Diabetes | 1.154 | 0.993 | 1.340 | 6.0E-02 | 1.092 | 0.940 | 1.268 | 2.5E-01 | 1.326 | 1.140 | 1.544 | 2.7E-04 | 1.499 | 1.278 | 1.757 | 6.0E-07 | 1.699 | 1.461 | 1.978 | 7.0E-12 |
| Hypertension | 1.181 | 1.081 | 1.292 | 2.5E-04 | 1.194 | 1.092 | 1.307 | 1.1E-04 | 1.205 | 1.103 | 1.317 | 3.8E-05 | 1.227 | 1.115 | 1.352 | 2.8E-05 | 1.309 | 1.194 | 1.437 | 1.2E-08 |
| Hypertriglyceridemia | 1.094 | 0.987 | 1.212 | 8.7E-02 | 1.082 | 0.977 | 1.198 | 1.3E-01 | 1.106 | 0.999 | 1.224 | 5.3E-02 | 1.295 | 1.166 | 1.439 | 1.5E-06 | 1.519 | 1.369 | 1.687 | 4.5E-15 |
| High LDL-C | 0.948 | 0.871 | 1.031 | 2.1E-01 | 0.948 | 0.872 | 1.031 | 2.1E-01 | 0.957 | 0.881 | 1.040 | 3.0E-01 | 0.952 | 0.869 | 1.042 | 2.9E-01 | 0.952 | 0.873 | 1.037 | 2.6E-01 |
| Low HDL-C | 1.047 | 0.913 | 1.202 | 5.1E-01 | 1.038 | 0.907 | 1.188 | 5.8E-01 | 1.255 | 1.091 | 1.446 | 1.6E-03 | 1.400 | 1.232 | 1.593 | 2.7E-07 | 1.664 | 1.444 | 1.920 | 2.3E-12 |
| High TG/HDL-C ratio | 1.138 | 0.996 | 1.301 | 5.7E-02 | 1.079 | 0.947 | 1.229 | 2.5E-01 | 1.332 | 1.162 | 1.529 | 4.3E-05 | 1.477 | 1.303 | 1.677 | 1.2E-09 | 1.859 | 1.615 | 2.146 | 1.2E-17 |
| Coronary artery disease | 1.429 | 1.059 | 1.919 | 1.8E-02 | 1.305 | 0.971 | 1.741 | 7.4E-02 | 1.359 | 0.993 | 1.859 | 5.5E-02 | 1.578 | 1.188 | 2.081 | 1.4E-03 | 1.514 | 1.117 | 2.039 | 6.7E-03 |
| Cardiovascular diseases | 1.046 | 0.922 | 1.187 | 4.8E-01 | 1.124 | 0.991 | 1.275 | 6.8E-02 | 1.012 | 0.892 | 1.148 | 8.5E-01 | 1.159 | 1.011 | 1.325 | 3.2E-02 | 1.124 | 0.987 | 1.279 | 7.6E-02 |
| Regular exercise | 0.992 | 0.910 | 1.081 | 8.5E-01 | 0.964 | 0.884 | 1.051 | 4.0E-01 | 0.864 | 0.793 | 0.942 | 9.3E-04 | 0.825 | 0.750 | 0.907 | 6.8E-05 | 0.823 | 0.752 | 0.901 | 2.4E-05 |
| Choosing walking as the regular exercise | 1.166 | 1.030 | 1.322 | 1.6E-02 | 1.113 | 0.977 | 1.269 | 1.1E-01 | 1.166 | 1.027 | 1.325 | 1.8E-02 | 1.263 | 1.096 | 1.458 | 1.3E-03 | 1.378 | 1.203 | 1.581 | 4.4E-06 |

Table S1 - (Minimally adjusted models, models adjusted only for age and sex) Odds ratio (with 95% C.I. and p-values) of increasing one standard deviation of epigenetic age acceleration

Significant results with $p < 0.05/(25 \times 5) = 4.0E-4$ were highlighted in bold font.

| 12 continuous health outcomes | HannumEAA (s.d. = 3.63 years) | | | | IEAA (s.d. = 3.69 years) | | | | PhenoEAA (s.d. = 4.79 years) | | | | GrimEAA (s.d. = 3.43 years) | | | | DunedinPACE (s.d. = 0.1064) | | | |
|-------------------------------|-------------------------------|--------|--------|---------|--------------------------|--------|-------|---------|------------------------------|---------------|---------------|----------------|-----------------------------|---------------|---------------|----------------|-----------------------------|---------------|---------------|----------------|
| | Spearman's correlation | 95% CI | | p-value | Spearman's correlation | 95% CI | | p-value | Spearman's correlation | 95% CI | | p-value | Spearman's correlation | 95% CI | | p-value | Spearman's correlation | 95% CI | | p-value |
| Body mass index | 0.060 | 0.021 | 0.099 | 2.9E-03 | 0.059 | 0.019 | 0.098 | 3.5E-03 | 0.103 | 0.063 | 0.142 | 3.2E-07 | 0.119 | 0.080 | 0.158 | 3.0E-09 | 0.251 | 0.213 | 0.288 | 6.8E-37 |
| Body fat percentage | 0.068 | 0.028 | 0.108 | 9.2E-04 | 0.046 | 0.006 | 0.086 | 2.4E-02 | 0.092 | 0.052 | 0.132 | 6.5E-06 | 0.111 | 0.071 | 0.150 | 5.9E-08 | 0.235 | 0.196 | 0.273 | 2.5E-31 |
| Waist circumference | 0.059 | 0.020 | 0.099 | 3.1E-03 | 0.051 | 0.011 | 0.090 | 1.1E-02 | 0.100 | 0.060 | 0.139 | 7.0E-07 | 0.124 | 0.085 | 0.163 | 6.7E-10 | 0.228 | 0.190 | 0.265 | 1.7E-30 |
| Fasting glucose | 0.031 | -0.008 | 0.071 | 1.2E-01 | -0.016 | -0.055 | 0.024 | 4.3E-01 | 0.071 | 0.032 | 0.110 | 4.1E-04 | 0.076 | 0.037 | 0.115 | 1.5E-04 | 0.053 | 0.014 | 0.092 | 8.4E-03 |
| HbA1c | 0.015 | -0.025 | 0.054 | 4.7E-01 | 0.000 | -0.039 | 0.040 | 9.9E-01 | 0.054 | 0.015 | 0.093 | 7.0E-03 | 0.080 | 0.040 | 0.119 | 7.4E-05 | 0.116 | 0.077 | 0.155 | 6.6E-09 |
| Diastolic blood pressure | 0.067 | 0.028 | 0.107 | 8.2E-04 | 0.069 | 0.029 | 0.108 | 6.1E-04 | 0.078 | 0.038 | 0.117 | 1.1E-04 | 0.041 | 0.002 | 0.081 | 4.0E-02 | 0.107 | 0.068 | 0.146 | 9.0E-08 |
| Systolic blood pressure | 0.069 | 0.029 | 0.108 | 6.3E-04 | 0.034 | -0.005 | 0.074 | 8.7E-02 | 0.073 | 0.034 | 0.113 | 2.6E-04 | 0.064 | 0.024 | 0.103 | 1.5E-03 | 0.121 | 0.081 | 0.159 | 1.8E-09 |
| Triglyceride | 0.001 | -0.038 | 0.040 | 9.6E-01 | 0.005 | -0.034 | 0.044 | 8.0E-01 | 0.063 | 0.023 | 0.102 | 1.8E-03 | 0.071 | 0.031 | 0.110 | 4.2E-04 | 0.176 | 0.137 | 0.214 | 1.3E-18 |
| LDL-C | -0.015 | -0.054 | 0.025 | 4.6E-01 | -0.015 | -0.055 | 0.024 | 4.4E-01 | -0.033 | -0.072 | 0.006 | 1.0E-01 | -0.021 | -0.061 | 0.018 | 2.9E-01 | -0.027 | -0.066 | 0.013 | 1.9E-01 |
| HDL-C | -0.058 | -0.097 | -0.019 | 4.0E-03 | -0.023 | -0.063 | 0.016 | 2.5E-01 | -0.078 | -0.117 | -0.039 | 9.9E-05 | -0.135 | -0.173 | -0.095 | 1.9E-11 | -0.239 | -0.276 | -0.201 | 2.0E-33 |
| TG/HDL-C ratio | 0.010 | -0.030 | 0.049 | 6.4E-01 | 0.001 | -0.038 | 0.041 | 9.5E-01 | 0.078 | 0.039 | 0.117 | 1.1E-04 | 0.068 | 0.029 | 0.107 | 7.0E-04 | 0.205 | 0.166 | 0.242 | 8.7E-25 |
| Forced vital capacity | -0.035 | -0.085 | 0.014 | 1.6E-01 | -0.008 | -0.057 | 0.041 | 7.5E-01 | -0.036 | -0.085 | 0.014 | 1.6E-01 | -0.041 | -0.091 | 0.008 | 1.0E-01 | -0.052 | -0.102 | -0.003 | 3.8E-02 |

Table S2 - (Minimally adjusted models, models adjusted only for age and sex) Spearman's rank correlation coefficients (with 95% C.I. and p-values) between epigenetic age acceleration and continuous health outcomes

Significant results with $p < 0.05/(25 \times 5) = 4.0E-4$ were highlighted in bold font.