

S3 Table Associations between sex-specific Genetic Scores and M-Index.

| | Males | | | Females | | |
|----------------------------|-------|---------|--------|---------|---------|--------|
| | R^2 | β | P | R^2 | β | P |
| Whole Model | 0.367 | | | 0.448 | | |
| Age | 0.008 | -0.001 | <0.001 | 0.074 | -0.001 | 0.01 |
| WAA | 0.233 | 0.175 | <0.001 | 0.292 | 0.216 | <0.001 |
| Genetic Score ¹ | 0.126 | 0.892 | <0.001 | 0.082 | 0.607 | <0.001 |

Weighted sex-specific Genetic Score was calculated using top three SNPs, rs2470102 (*SLC24A5*), rs16891982 (*SLC45A2*), and rs1800404 (*OCA2*) associated with M-Index.