**Table S5 Female (co)variance components.** Within-sex variances (diagonal) covariances (lower off diagonal) and correlations (upper off diagonal) between female life history traits (±1SE) from a multivariate model of all female traits simultaneously. Genetic parameters do not have associated significances or standard errors as they are calculated from a fourth order FA model where significance values and errors are given on factor estimates, not on the subsequently recovered $\hat{\mathbf{G}}$ (see Table S8 for the non-FA estimate of $\mathbf{G_f}$ with associated errors on each element). Non-genetic matrices were estimated as variance-correlation matrices as these models proved more stable than unstructured variance-covariance models (Gilmour *et al.* 2009) and thus there are no standard errors on covariances. The permanent env/residual section of the table presents permanent environment (PE) variances in the upper row and residual variances in the lower row. AFR is multiplied by -1 to make any trade-offs negative in sign. Variances are presented for comparison with univariate models.

| | SBA | AFR | L | ABS |
|---|---|---|---|---|
| **Genetic** | | | | |
| SBA | 0.165 | 0.220 | 0.147 | -0.300 |
| AFR | 0.0360 | 0.163 | -0.574 | 0.787 |
| L | 0.0161 | -0.0624 | 0.0727 | -0.696 |
| ABS | -0.0257 | 0.0669 | -0.0396 | 0.0444 |
| **Permanent env/ Residual** | | | | |
| SBA | *X* | *NA* | *NA* | *NA* |
| | *0.660±0.057* | *NA* | *NA* | *NA* |
| AFR | *NA* | **0.624±0.083** | 0.206±.0110* | **0.999**$^{NE}$* |
| | *NA* | *X* | *NA* | *NA* |
| L | *NA* | 0.152 | **0.867±0.121** | **0.504±0.172*** |
| | *NA* | *NA* | *X* | *NA* |
| ABS | *NA* | **0.168** | **0.0997** | **0.0452±0.0123** |
| | *NA* | *NA* | *NA* | **0.720±0.0171** |
| **Birth year** | | | | |
| SBA | **0.0634±0.0228** | 0.381±0.249 | *NA* | *NA* |
| AFR | 0.0270 | **0.0792±0.0322** | *NA* | *NA* |
| L | *NA* | *NA* | *X* | *NA* |
| ABS | *NA* | *NA* | *NA* | *X* |
| **Maternal** | | | | |
| SBA | **0.0689±0.0333** | 0.0145±0.360 | *NA* | *NA* |
| AFR | 0.0123 | **0.105±0.043** | *NA* | *NA* |
| L | *NA* | *NA* | *X* | *NA* |
| ABS | *NA* | *NA* | *NA* | *X* |
| **Year of measurement** | | | | |
| SBA | *X* | *NA* | *NA* | *NA* |
| AFR | *NA* | *X* | *NA* | *NA* |
| L | *NA* | *NA* | *X* | *NA* |
| ABS | *NA* | *NA* | *NA* | **0.0293±0.0090** |

Bold values are significantly different from 0 ($P < 0.05$). *X* term not fit, see methods for details. *NA* covariance or correlation not applicable. *covariance is between PE for ABS and residual for other traits, estimated by forcing residual variance into permanent environment variance as detailed in the methods. $^{NE}$Standard errors not estimable.