S3. Longitudinal Model Comparisons

**Intercept (m1) vs. Linear slope (m2)**

| Model                     | df | AIC       | BIC       | logLik   | L.Ratio | p-value |
|---------------------------|----|-----------|-----------|----------|---------|---------|
| *Gc, Females (All), Chronological Age* |    |           |           |          |         |         |
| m1                        | 3  | 48428.37  | 48449.75  | -24211.18 |         | <.0001  |
| m2                        | 6  | 48158.81  | 48201.57  | -24073.40 | 275.5588 | <.0001  |
| *Gc, Females (Decedents), Chronological Age* |    |           |           |          |         |         |
| m1                        | 3  | 32806.97  | 32827.11  | -16400.48 |         | <.0001  |
| m2                        | 6  | 32652.47  | 32692.76  | -16320.24 | 160.4953 | <.0001  |
| *Gc, Males (All), Chronological Age* |    |           |           |          |         |         |
| m1                        | 3  | 19960.54  | 19979.23  | -9977.268 |         | <.0001  |
| m2                        | 6  | 19815.61  | 19853.00  | -9901.806 | 150.9234 | <.0001  |
| *Gc, Males (Decedents), Chronological Age* |    |           |           |          |         |         |
| m1                        | 3  | 16420.47  | 16438.52  | -8207.233 |         | <.0001  |
| m2                        | 6  | 16298.62  | 16334.74  | -8143.311 | 127.844  | <.0001  |
| *Gf, Females (All), Chronological Age* |    |           |           |          |         |         |
| m1                        | 3  | 51467.69  | 51489.07  | -25730.85 |         | <.0001  |
| m2                        | 6  | 50170.58  | 50213.34  | -25079.29 | 1303.114 | <.0001  |
| *Gf, Females (Decedents), Chronological Age* |    |           |           |          |         |         |
| m1                        | 3  | 34608.20  | 34628.34  | -17301.10 |         | <.0001  |
| m2                        | 6  | 33610.52  | 33650.81  | -16799.26 | 1003.671 | <.0001  |
| *Gf, Males (All), Chronological Age* |    |           |           |          |         |         |
| m1                        | 3  | 21659.05  | 21677.74  | -10826.52 |         | <.0001  |
| m2                        | 6  | 20993.21  | 21030.59  | -10490.60 | 671.8431 | <.0001  |
| *Gf, Males (Decedents), Chronological Age* |    |           |           |          |         |         |
| m1                        | 3  | 17721.79  | 17739.85  | -8857.897 |         | <.0001  |
| m2                        | 6  | 17105.89  | 17142.00  | -8546.946 | 621.9018 | <.0001  |
### Linear slope (m1) vs. Quadratic slope (m2)

| Model                        | df | AIC          | BIC          | logLik      | L.Ratio   | p-value  |
|------------------------------|----|--------------|--------------|-------------|-----------|----------|
| **Gc, Females (All), Chronological Age** |    |              |              |             |           |          |
| m1, Females (All), Chronological Age | 6  | 48158.81     | 48201.57     | -24073.40   |           |          |
| m2, Females (Decedents), Chronological Age | 7  | 48077.08     | 48126.97     | -24031.54   | 83.72873  | <.0001   |
| **Gc, Males (All), Chronological Age** |    |              |              |             |           |          |
| m1, Males (All), Chronological Age | 6  | 19815.61     | 19853.0      | -9901.806   |           |          |
| m2, Males (Decedents), Chronological Age | 7  | 19762.08     | 19805.7      | -9874.039   | 55.53427  | <.0001   |
| **Gf, Females (All), Chronological Age** |    |              |              |             |           |          |
| m1, Females (All), Chronological Age | 6  | 50170.58     | 50213.34     | -25079.29   |           |          |
| m2, Females (Decedents), Chronological Age | 7  | 49380.55     | 49430.43     | -24683.27   | 792.0317  | <.0001   |
| **Gf, Males (All), Chronological Age** |    |              |              |             |           |          |
| m1, Males (All), Chronological Age | 6  | 20993.21     | 21030.59     | -10490.60   |           |          |
| m2, Males (Decedents), Chronological Age | 7  | 20698.04     | 20741.66     | -10342.02   | 297.1654  | <.0001   |

**Note:** The table compares the linear slope (m1) and quadratic slope (m2) for different categories of gender and age. The models are evaluated based on the Akaike Information Criterion (AIC), Bayesian Information Criterion (BIC), logLikelihood, likelihood ratio (L.Ratio), and p-values. The models with lower AIC and BIC values are generally preferred.
| Model df | AIC      | BIC      | logLik    | L.Ratio   | p-value   |
|----------|----------|----------|-----------|-----------|-----------|
| Gc, Females (All), Chronological Age | m1 7 48077.08 48126.97 -24031.54 | | | | |
| Gc, Females (All), Chronological Age | m2 9 47785.95 47850.09 -23883.97 295.1299 <.0001 | | | | |
| Gc, Females (Decedents), Chronological Age | m1 7 32611.16 32658.16 -16298.58 | | | | |
| Gc, Females (Decedents), Chronological Age | m2 9 32422.35 32482.77 -16202.17 192.8122 <.0001 | | | | |
| Gc, Males (All), Chronological Age | m1 7 19762.08 19805.70 -9874.039 | | | | |
| Gc, Males (All), Chronological Age | m2 9 19616.86 19672.94 -9799.430 149.2182 <.0001 | | | | |
| Gc, Males (Decedents), Chronological Age | m1 7 16262.15 16304.29 -8124.075 | | | | |
| Gc, Males (Decedents), Chronological Age | m2 9 16106.62 16160.79 -8044.310 159.531 <.0001 | | | | |
| Gf, Females (All), Chronological Age | m1 7 49380.55 49430.43 -24683.27 | | | | |
| Gf, Females (All), Chronological Age | m2 9 47829.04 47893.18 -23905.52 1555.503 <.0001 | | | | |
| Gf, Females (Decedents), Chronological Age | m1 7 33226.78 33273.78 -16606.39 | | | | |
| Gf, Females (Decedents), Chronological Age | m2 9 32419.48 32479.91 -16200.74 811.2993 <.0001 | | | | |
| Gf, Males (All), Chronological Age | m1 7 20698.04 20741.66 -10342.02 | | | | |
| Gf, Males (All), Chronological Age | m2 9 20114.97 20171.05 -10048.49 587.0683 <.0001 | | | | |
| Gf, Males (Decedents), Chronological Age | m1 7 16918.23 16960.36 -8452.115 | | | | |
| Gf, Males (Decedents), Chronological Age | m2 9 16507.67 16561.03 -8244.033 414.5641 <.0001 | | | | |
### QS + T1 time w/Retest (m1) vs. QS + T1 time w/out Retest (m2)

| Model                        | df | AIC          | BIC          | logLik | L.Ratio   | p-value |
|------------------------------|----|--------------|--------------|--------|-----------|---------|
| **Gc, Females (All), Chronological Age** |    |              |              |        |           |         |
| m1                           | 9  | 47785.95     | 47850.09     | -23883.97 |           |         |
| m2                           | 10 | 47785.19     | 47856.46     | -23882.59 | 2.762048 | 0.0965  |
| **Gc, Females (Decedents), Chronological Age** |    |              |              |        |           |         |
| m1                           | 9  | 32422.35     | 32482.77     | -16202.17 |           |         |
| m2                           | 10 | 32421.44     | 32488.58     | -16200.72 | 2.909795 | 0.088   |
| **Gc, Males (All), Chronological Age** |    |              |              |        |           |         |
| m1                           | 9  | 19616.86     | 19672.94     | -9799.430 |           |         |
| m2                           | 10 | 19615.99     | 19678.31     | -9797.996 | 2.868212 | 0.0903  |
| **Gc, Males (Decedents), Chronological Age** |    |              |              |        |           |         |
| m1                           | 9  | 16106.62     | 16160.79     | -8044.310 |           |         |
| m2                           | 10 | 16107.76     | 16167.95     | -8043.881 | 0.8584507 | 0.3542  |
| **Gf, Females (All), Chronological Age** |    |              |              |        |           |         |
| m1                           | 9  | 47829.04     | 47893.18     | -23905.52 |           |         |
| m2                           | 10 | 47826.75     | 47898.02     | -23903.38 | 4.294747 | 0.0382  |
| **Gf, Females (Decedents), Chronological Age** |    |              |              |        |           |         |
| m1                           | 9  | 32419.48     | 32479.91     | -16200.74 |           |         |
| m2                           | 10 | 32421.36     | 32488.50     | -16200.68 | 0.1193403 | 0.7298  |
| **Gf, Males (All), Chronological Age** |    |              |              |        |           |         |
| m1                           | 9  | 20114.97     | 20171.05     | -10048.49 |           |         |
| m2                           | 10 | 20105.23     | 20167.54     | -10042.62 | 11.73956 | 6e-04   |
| **Gf, Males (Decedents), Chronological Age** |    |              |              |        |           |         |
| m1                           | 9  | 16507.67     | 16561.83     | -8244.833 |           |         |
| m2                           | 10 | 16496.94     | 16557.12     | -8238.468 | 12.72902 | 4e-04   |