Comparison of Versions of Kinship Links Joe Rodger's BG Team

November 20, 2013

Outcome: MathZGenderAge;

Relationship Paths: (Gen2Siblings) [IDs:(2)];

Newer Links Version: 84; Older Links Version: 84;

Newer Links: Adds Gen1 back Older Links: Adds Gen1 back

R Groups specifically excluded: { }

Drop pair if housemates are not confirmed in the same generation: FALSE

1 Ace - Comparison of R Variants

(See the final table for an explanation of the different R variants.)

| R Variant | a_{new}^2 | c_{new}^2 | e_{new}^2 | N_{new} | a_{old}^2 | c_{old}^2 | e_{old}^2 | N_{old} |
|---------------|-------------|-------------|-------------|-----------|-------------|-------------|-------------|-----------|
| R | .64 | .20 | .16 | 8,338 | .64 | .20 | .16 | 8,338 |
| RFull | .64 | .20 | .16 | 8,338 | .64 | .20 | .16 | 8,338 |
| RExplicit | .65 | .20 | .15 | 7,674 | .65 | .20 | .15 | 7,674 |
| RImplicit | .61 | .22 | .17 | 7,877 | .61 | .22 | .17 | 7,877 |
| RImplicit2004 | .61 | .22 | .17 | 8,196 | .61 | .22 | .17 | 8,196 |

Table 1: Comparison of R Variants (by rows) and of Links Versions (left vs right side).

${\bf 2}\quad Subgroups-R$

| R | Included in SEM | N_{Pairs} | \bar{x}_1 | \bar{x}_2 | s_{1}^{2} | s_{2}^{2} | $s_{1,2}$ | r | Determinant | PosDefinite |
|-------|-----------------|-------------|-------------|-------------|-------------|-------------|-----------|------|-------------|-------------|
| 0.250 | TRUE | 2691 | -0.36 | -0.32 | 0.63 | 0.74 | 0.20 | 0.30 | 0.4 | TRUE |
| 0.375 | TRUE | 133 | -0.48 | -0.50 | 0.80 | 0.62 | 0.22 | 0.32 | 0.4 | TRUE |
| 0.500 | TRUE | 5493 | -0.04 | -0.04 | 0.82 | 0.85 | 0.44 | 0.53 | 0.5 | TRUE |
| 0.750 | FALSE | 2 | 0.71 | 0.45 | 1.45 | 0.13 | 0.43 | 1.00 | 0.0 | FALSE |
| 1.000 | TRUE | 21 | -0.15 | -0.36 | 1.40 | 1.07 | 1.12 | 0.92 | 0.2 | TRUE |

Table 2: R – Newer Version of Links

| R | Included in SEM | N_{Pairs} | \bar{x}_1 | \bar{x}_2 | s_{1}^{2} | s_{2}^{2} | $s_{1,2}$ | r | Determinant | PosDefinite |
|-------|-----------------|-------------|-------------|-------------|-------------|-------------|-----------|------|-------------|-------------|
| 0.250 | TRUE | 2691 | -0.36 | -0.32 | 0.63 | 0.74 | 0.20 | 0.30 | 0.4 | TRUE |
| 0.375 | TRUE | 133 | -0.48 | -0.50 | 0.80 | 0.62 | 0.22 | 0.32 | 0.4 | TRUE |
| 0.500 | TRUE | 5493 | -0.04 | -0.04 | 0.82 | 0.85 | 0.44 | 0.53 | 0.5 | TRUE |
| 0.750 | FALSE | 2 | 0.71 | 0.45 | 1.45 | 0.13 | 0.43 | 1.00 | 0.0 | FALSE |
| 1.000 | TRUE | 21 | -0.15 | -0.36 | 1.40 | 1.07 | 1.12 | 0.92 | 0.2 | TRUE |

Table 3: R - Older Version of Links

3 Subgroups – RFull

| RFull | Included in SEM | N_{Pairs} | \bar{x}_1 | \bar{x}_2 | s_{1}^{2} | s_{2}^{2} | $s_{1,2}$ | r | Determinant | PosDefinite |
|-------|-----------------|-------------|-------------|-------------|-------------|-------------|-----------|------|-------------|-------------|
| 0.250 | TRUE | 2691 | -0.36 | -0.32 | 0.63 | 0.74 | 0.20 | 0.30 | 0.4 | TRUE |
| 0.375 | TRUE | 133 | -0.48 | -0.50 | 0.80 | 0.62 | 0.22 | 0.32 | 0.4 | TRUE |
| 0.500 | TRUE | 5493 | -0.04 | -0.04 | 0.82 | 0.85 | 0.44 | 0.53 | 0.5 | TRUE |
| 0.750 | FALSE | 2 | 0.71 | 0.45 | 1.45 | 0.13 | 0.43 | 1.00 | 0.0 | FALSE |
| 1.000 | TRUE | 21 | -0.15 | -0.36 | 1.40 | 1.07 | 1.12 | 0.92 | 0.2 | TRUE |

Table 4: RFull – Newer Version of Links

| RFull | Included in SEM | N_{Pairs} | \bar{x}_1 | \bar{x}_2 | s_{1}^{2} | s_{2}^{2} | $s_{1,2}$ | r | Determinant | PosDefinite |
|-------|-----------------|-------------|-------------|-------------|-------------|-------------|-----------|------|-------------|-------------|
| 0.250 | TRUE | 2691 | -0.36 | -0.32 | 0.63 | 0.74 | 0.20 | 0.30 | 0.4 | TRUE |
| 0.375 | TRUE | 133 | -0.48 | -0.50 | 0.80 | 0.62 | 0.22 | 0.32 | 0.4 | TRUE |
| 0.500 | TRUE | 5493 | -0.04 | -0.04 | 0.82 | 0.85 | 0.44 | 0.53 | 0.5 | TRUE |
| 0.750 | FALSE | 2 | 0.71 | 0.45 | 1.45 | 0.13 | 0.43 | 1.00 | 0.0 | FALSE |
| 1.000 | TRUE | 21 | -0.15 | -0.36 | 1.40 | 1.07 | 1.12 | 0.92 | 0.2 | TRUE |

Table 5: RFull – Older Version of Links

${\bf 4}\quad {\bf Subgroups-RExplicit}$

| RExplicit | Included in SEM | N_{Pairs} | \bar{x}_1 | \bar{x}_2 | s_{1}^{2} | s_{2}^{2} | $s_{1,2}$ | r | Determinant | PosDefinite |
|-----------|-----------------|-------------|-------------|-------------|-------------|-------------|-----------|------|-------------|-------------|
| 0.250 | TRUE | 2473 | -0.35 | -0.29 | 0.62 | 0.73 | 0.20 | 0.30 | 0.4 | TRUE |
| 0.375 | TRUE | 192 | -0.50 | -0.64 | 0.73 | 0.75 | 0.18 | 0.24 | 0.5 | TRUE |
| 0.500 | TRUE | 4989 | -0.06 | -0.05 | 0.82 | 0.84 | 0.45 | 0.54 | 0.5 | TRUE |
| 1.000 | TRUE | 20 | -0.24 | -0.47 | 1.30 | 0.86 | 0.96 | 0.91 | 0.2 | TRUE |

Table 6: RExplicit – Newer Version of Links

| RExplicit | Included in SEM | N_{Pairs} | \bar{x}_1 | \bar{x}_2 | s_{1}^{2} | s_2^2 | $s_{1,2}$ | r | Determinant | PosDefinite |
|-----------|-----------------|-------------|-------------|-------------|-------------|---------|-----------|------|-------------|-------------|
| 0.250 | TRUE | 2473 | -0.35 | -0.29 | 0.62 | 0.73 | 0.20 | 0.30 | 0.4 | TRUE |
| 0.375 | TRUE | 192 | -0.50 | -0.64 | 0.73 | 0.75 | 0.18 | 0.24 | 0.5 | TRUE |
| 0.500 | TRUE | 4989 | -0.06 | -0.05 | 0.82 | 0.84 | 0.45 | 0.54 | 0.5 | TRUE |
| 1.000 | TRUE | 20 | -0.24 | -0.47 | 1.30 | 0.86 | 0.96 | 0.91 | 0.2 | TRUE |

Table 7: RExplicit – Older Version of Links

${\bf 5}\quad {\bf Subgroups-RImplicit}$

| RImplicit | Included in SEM | N_{Pairs} | \bar{x}_1 | \bar{x}_2 | s_{1}^{2} | s_2^2 | $s_{1,2}$ | r | Determinant | PosDefinite |
|-----------|-----------------|-------------|-------------|-------------|-------------|---------|-----------|------|-------------|-------------|
| 0.250 | TRUE | 2496 | -0.37 | -0.33 | 0.64 | 0.73 | 0.20 | 0.30 | 0.4 | TRUE |
| 0.500 | TRUE | 5360 | -0.02 | -0.02 | 0.82 | 0.85 | 0.44 | 0.53 | 0.5 | TRUE |
| 0.750 | FALSE | 2 | 0.71 | 0.45 | 1.45 | 0.13 | 0.43 | 1.00 | 0.0 | FALSE |
| 1.000 | TRUE | 21 | -0.15 | -0.36 | 1.40 | 1.07 | 1.12 | 0.92 | 0.2 | TRUE |

Table 8: RImplicit – Newer Version of Links

| RImplicit | Included in SEM | N_{Pairs} | \bar{x}_1 | \bar{x}_2 | s_{1}^{2} | s_2^2 | $s_{1,2}$ | r | Determinant | PosDefinite |
|-----------|-----------------|-------------|-------------|-------------|-------------|---------|-----------|------|-------------|-------------|
| 0.250 | TRUE | 2496 | -0.37 | -0.33 | 0.64 | 0.73 | 0.20 | 0.30 | 0.4 | TRUE |
| 0.500 | TRUE | 5360 | -0.02 | -0.02 | 0.82 | 0.85 | 0.44 | 0.53 | 0.5 | TRUE |
| 0.750 | FALSE | 2 | 0.71 | 0.45 | 1.45 | 0.13 | 0.43 | 1.00 | 0.0 | FALSE |
| 1.000 | TRUE | 21 | -0.15 | -0.36 | 1.40 | 1.07 | 1.12 | 0.92 | 0.2 | TRUE |

Table 9: RImplicit – Older Version of Links

${\bf 6}\quad Subgroups-RImplicit 2004\\$

| RI | Implicit2004 | Included in SEM | N_{Pairs} | \bar{x}_1 | \bar{x}_2 | s_{1}^{2} | s_{2}^{2} | $s_{1,2}$ | r | Determinant | PosDefinite |
|----|--------------|-----------------|-------------|-------------|-------------|-------------|-------------|-----------|------|-------------|-------------|
| | 0.250 | TRUE | 1972 | -0.37 | -0.35 | 0.62 | 0.72 | 0.22 | 0.32 | 0.4 | TRUE |
| | 0.375 | TRUE | 1459 | -0.43 | -0.35 | 0.66 | 0.74 | 0.23 | 0.32 | 0.4 | TRUE |
| | 0.500 | TRUE | 4743 | 0.02 | 0.02 | 0.81 | 0.84 | 0.44 | 0.53 | 0.5 | TRUE |
| | 1.000 | TRUE | 22 | -0.04 | -0.26 | 1.45 | 1.07 | 1.13 | 0.91 | 0.3 | TRUE |

Table 10: R
Implicit
2004 – Newer Version of Links $\,$

| RImplicit2004 | Included in SEM | N_{Pairs} | \bar{x}_1 | \bar{x}_2 | s_{1}^{2} | s_{2}^{2} | $s_{1,2}$ | r | Determinant | PosDefinite |
|---------------|-----------------|-------------|-------------|-------------|-------------|-------------|-----------|------|-------------|-------------|
| 0.250 | TRUE | 1972 | -0.37 | -0.35 | 0.62 | 0.72 | 0.22 | 0.32 | 0.4 | TRUE |
| 0.375 | TRUE | 1459 | -0.43 | -0.35 | 0.66 | 0.74 | 0.23 | 0.32 | 0.4 | TRUE |
| 0.500 | TRUE | 4743 | 0.02 | 0.02 | 0.81 | 0.84 | 0.44 | 0.53 | 0.5 | TRUE |
| 1.000 | TRUE | 22 | -0.04 | -0.26 | 1.45 | 1.07 | 1.13 | 0.91 | 0.3 | TRUE |

Table 11: RImplicit2004 – Older Version of Links

7 Explanation of R Variants

| Variant | Explanation |
|-----------------------|---|
| \overline{R} | We recommend researchers typical use this version. |
| R_{Full} | The most complete version we have; doesn't exclude groups like $R=0$. |
| R_{Pass1} | Supposed to be fooled only by errors in the subject's/mother's knowledge |
| RImplicit | Uses only implicit items |
| $RImplicit_{Pass1}$ | Uses only implicit items & supposed to be fooled only by knowledge errors |
| $RImplicit_{Mother}$ | Uses only mother's implicit items (exists only for Gen2) |
| $RImplicit_{Subject}$ | Uses only subject's implicit items |
| $RImplicit_{2004}$ | The state of the links in 2004. Rodgers & Rowe for Gen1; Rodgers, Johnson & Bard for Gen2 |
| RExplicit | Uses only explicit items |
| $RExplicit_{Pass1}$ | Uses only explicit items & supposed to be fooled only by knowledge errors |