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

### December 9, 2012

```
## Warning:  NaNs produced
```

**Outcome**: HeightZGenderAge;
**RelationshipPath**: Gen1Housemates [ID:1]; **Newer Links Version**: 53; **Older Links Version**: 52;

```
Newer Links: R Excludes Gen1 R=0, .375, .75
Older Links: After chaning 'R' to 'RFull'; Excludes Gen1 R=0
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 | $a^2_{new}$ | $c^2_{new}$ | $e^2_{new}$ | $N_{new}$ | $a^2_{old}$ | $c^2_{old}$ | $e^2_{old}$ | $N_{old}$ |
|---|---|---|---|---|---|---|---|---|
| R | .90 | .00 | .10 | 3729 | .90 | .00 | .10 | 3784 |
| RFull | .50 | .19 | .31 | 4227 | .50 | .19 | .31 | 4227 |
| RExplicit | .78 | .06 | .16 | 3702 | .78 | .06 | .16 | 3702 |
| RImplicit2004 | .75 | .09 | .16 | 2262 | .75 | .09 | .16 | 2262 |

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

## 2    Subgroups – R

| R | Included in SEM | $N_{Pairs}$ | $s^2_1$ | $s^2_2$ | $s_{1,2}$ | $r$ | Determinant | PosDefinite |
|---|---|---|---|---|---|---|---|---|
| 0.125 | TRUE | 88 | 0.91 | 0.95 | 0.15 | 0.16 | 0.8 | TRUE |
| 0.250 | TRUE | 238 | 1.01 | 1.14 | 0.26 | 0.24 | 1.1 | TRUE |
| 0.500 | TRUE | 3392 | 0.97 | 1.02 | 0.44 | 0.44 | 0.8 | TRUE |
| 1.000 | TRUE | 11 | 0.29 | 0.61 | 0.37 | 0.89 | 0.0 | TRUE |

Table 2: R – Newer Version of Links

| R | Included in SEM | $N_{Pairs}$ | $s^2_1$ | $s^2_2$ | $s_{1,2}$ | $r$ | Determinant | PosDefinite |
|---|---|---|---|---|---|---|---|---|
| 0.125 | TRUE | 88 | 0.91 | 0.95 | 0.15 | 0.16 | 0.8 | TRUE |
| 0.250 | TRUE | 238 | 1.01 | 1.14 | 0.26 | 0.24 | 1.1 | TRUE |
| 0.375 | TRUE | 45 | 1.00 | 1.18 | 0.48 | 0.44 | 1.0 | TRUE |
| 0.500 | TRUE | 3392 | 0.97 | 1.02 | 0.44 | 0.44 | 0.8 | TRUE |
| 0.750 | TRUE | 10 | 0.78 | 0.76 | 0.55 | 0.71 | 0.3 | TRUE |
| 1.000 | TRUE | 11 | 0.29 | 0.61 | 0.37 | 0.89 | 0.0 | TRUE |

Table 3: R – Older Version of Links

# 3 Subgroups – RFull

| RFull | Included in SEM | $N_{Pairs}$ | $s_1^2$ | $s_2^2$ | $s_{1,2}$ | $r$ | Determinant | PosDefinite |
|---|---|---|---|---|---|---|---|---|
| 0.000 | TRUE | 443 | 0.93 | 0.82 | 0.23 | 0.26 | 0.7 | TRUE |
| 0.125 | TRUE | 88 | 0.91 | 0.95 | 0.15 | 0.16 | 0.8 | TRUE |
| 0.250 | TRUE | 238 | 1.01 | 1.14 | 0.26 | 0.24 | 1.1 | TRUE |
| 0.375 | TRUE | 45 | 1.00 | 1.18 | 0.48 | 0.44 | 1.0 | TRUE |
| 0.500 | TRUE | 3392 | 0.97 | 1.02 | 0.44 | 0.44 | 0.8 | TRUE |
| 0.750 | TRUE | 10 | 0.78 | 0.76 | 0.55 | 0.71 | 0.3 | TRUE |
| 1.000 | TRUE | 11 | 0.29 | 0.61 | 0.37 | 0.89 | 0.0 | TRUE |

Table 4: RFull – Newer Version of Links

| RFull | Included in SEM | $N_{Pairs}$ | $s_1^2$ | $s_2^2$ | $s_{1,2}$ | $r$ | Determinant | PosDefinite |
|---|---|---|---|---|---|---|---|---|
| 0.000 | TRUE | 443 | 0.93 | 0.82 | 0.23 | 0.26 | 0.7 | TRUE |
| 0.125 | TRUE | 88 | 0.91 | 0.95 | 0.15 | 0.16 | 0.8 | TRUE |
| 0.250 | TRUE | 238 | 1.01 | 1.14 | 0.26 | 0.24 | 1.1 | TRUE |
| 0.375 | TRUE | 45 | 1.00 | 1.18 | 0.48 | 0.44 | 1.0 | TRUE |
| 0.500 | TRUE | 3392 | 0.97 | 1.02 | 0.44 | 0.44 | 0.8 | TRUE |
| 0.750 | TRUE | 10 | 0.78 | 0.76 | 0.55 | 0.71 | 0.3 | TRUE |
| 1.000 | TRUE | 11 | 0.29 | 0.61 | 0.37 | 0.89 | 0.0 | TRUE |

Table 5: RFull – Older Version of Links

# 4 Subgroups – RExplicit

| RExplicit | Included in SEM | $N_{Pairs}$ | $s_1^2$ | $s_2^2$ | $s_{1,2}$ | $r$ | Determinant | PosDefinite |
|---|---|---|---|---|---|---|---|---|
| 0.250 | TRUE | 245 | 1.03 | 1.18 | 0.29 | 0.26 | 1.1 | TRUE |
| 0.375 | TRUE | 45 | 1.00 | 1.18 | 0.48 | 0.44 | 1.0 | TRUE |
| 0.500 | TRUE | 3412 | 0.96 | 1.01 | 0.44 | 0.44 | 0.8 | TRUE |

Table 6: RExplicit – Newer Version of Links

| RExplicit | Included in SEM | $N_{Pairs}$ | $s_1^2$ | $s_2^2$ | $s_{1,2}$ | $r$ | Determinant | PosDefinite |
|---|---|---|---|---|---|---|---|---|
| 0.250 | TRUE | 245 | 1.03 | 1.18 | 0.29 | 0.26 | 1.1 | TRUE |
| 0.375 | TRUE | 45 | 1.00 | 1.18 | 0.48 | 0.44 | 1.0 | TRUE |
| 0.500 | TRUE | 3412 | 0.96 | 1.01 | 0.44 | 0.44 | 0.8 | TRUE |

Table 7: RExplicit – Older Version of Links

# 5  Subgroups – RImplicit2004

| RImplicit2004 | Included in SEM | $N_{Pairs}$ | $s_1^2$ | $s_2^2$ | $s_{1,2}$ | $r$ | Determinant | PosDefinite |
|---:|---|---:|---:|---:|---:|---:|---:|---|
| 0.125 | TRUE | 70 | 0.78 | 0.94 | 0.03 | 0.04 | 0.7 | TRUE |
| 0.250 | TRUE | 42 | 0.77 | 0.98 | 0.22 | 0.25 | 0.7 | TRUE |
| 0.375 | TRUE | 297 | 0.96 | 1.22 | 0.51 | 0.47 | 0.9 | TRUE |
| 0.500 | TRUE | 1823 | 0.96 | 0.96 | 0.44 | 0.45 | 0.7 | TRUE |
| 0.750 | TRUE | 30 | 0.65 | 0.90 | 0.46 | 0.60 | 0.4 | TRUE |

Table 8: RImplicit2004 – Newer Version of Links

| RImplicit2004 | Included in SEM | $N_{Pairs}$ | $s_1^2$ | $s_2^2$ | $s_{1,2}$ | $r$ | Determinant | PosDefinite |
|---:|---|---:|---:|---:|---:|---:|---:|---|
| 0.125 | TRUE | 70 | 0.78 | 0.94 | 0.03 | 0.04 | 0.7 | TRUE |
| 0.250 | TRUE | 42 | 0.77 | 0.98 | 0.22 | 0.25 | 0.7 | TRUE |
| 0.375 | TRUE | 297 | 0.96 | 1.22 | 0.51 | 0.47 | 0.9 | TRUE |
| 0.500 | TRUE | 1823 | 0.96 | 0.96 | 0.44 | 0.45 | 0.7 | TRUE |
| 0.750 | TRUE | 30 | 0.65 | 0.90 | 0.46 | 0.60 | 0.4 | TRUE |

Table 9: RImplicit2004 – Older Version of Links

# 6  Explanation of $R$ Variants

| Variant | Explanation |
|---|---|
| $R$ | 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 |