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

November 19, 2013

Outcome: HeightZGenderAge;

Relationship Paths: (Gen1Housemates, Gen2Siblings, Gen2Cousins, ParentChild) [IDs:(1,2,3,4)];

Newer Links Version: 84; Older Links Version: 83;

Newer Links: Adds Gen1 back Older Links: Reverts to V82

R Groups specifically excluded: { 0, 0.0625 }

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	.76	.05	.19	19195	.71	.11	.18	4249
RFull	.77	.04	.18	19378	.75	.09	.17	4348
RExplicit	.76	.05	.19	18664	.95	.00	.05	3837
RImplicit	.74	.06	.20	17862	.73	.08	.19	3635
RImplicit2004	.69	.08	.23	16299	.69	.13	.18	2317

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
0.016	FALSE	0								FALSE
0.031	TRUE	71	-0.14	-0.30	1.51	0.60	-0.16	-0.17	0.9	TRUE
0.062	FALSE	241	0.13	-0.08	1.07	0.82	0.14	0.14	0.9	TRUE
0.125	TRUE	2038	-0.07	0.03	1.01	0.99	0.17	0.17	1.0	TRUE
0.250	TRUE	2160	-0.05	-0.06	1.03	1.06	0.27	0.26	1.0	TRUE
0.375	TRUE	46	0.22	-0.11	1.07	0.96	0.43	0.42	0.8	TRUE
0.500	TRUE	14853	-0.06	-0.02	0.96	0.99	0.41	0.43	0.8	TRUE
0.750	FALSE	0								FALSE
1.000	TRUE	27	-0.11	-0.13	0.69	0.99	0.69	0.83	0.2	TRUE

Table 2: R – Newer Version of Links

$\overline{R}$	Included in SEM	$N_{Pairs}$	$\bar{x}_1$	$\bar{x}_2$	$s_{1}^{2}$	$s_{2}^{2}$	$s_{1,2}$	r	Determinant	PosDefinite
0.062	FALSE	39	-0.41	-0.12	0.84	0.83	0.24	0.29	0.6	TRUE
0.125	TRUE	64	-0.18	-0.56	0.81	0.94	0.10	0.12	0.8	TRUE
0.250	TRUE	280	0.05	0.06	1.02	1.18	0.27	0.24	1.1	TRUE
0.500	TRUE	3894	-0.05	-0.03	0.97	1.02	0.47	0.47	0.8	TRUE
1.000	TRUE	11	-0.09	-0.01	0.32	0.95	0.36	0.65	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
0.000	FALSE	656	-0.01	-0.02	0.94	0.79	0.19	0.23	0.7	TRUE
0.016	TRUE	12	-0.85	0.07	0.34	0.09	0.02	0.12	0.0	TRUE
0.031	TRUE	117	0.05	-0.23	1.55	0.53	-0.17	-0.18	0.8	TRUE
0.062	FALSE	245	0.11	-0.09	1.07	0.82	0.13	0.14	0.9	TRUE
0.094	TRUE	12	0.23	-0.21	0.85	0.01	0.00	0.05	0.0	TRUE
0.125	TRUE	2075	-0.06	0.03	1.01	0.99	0.17	0.17	1.0	TRUE
0.188	TRUE	5	1.28	0.25	0.42	0.49	-0.08	-0.17	0.2	TRUE
0.250	TRUE	2172	-0.05	-0.06	1.03	1.06	0.26	0.25	1.0	TRUE
0.375	TRUE	60	0.23	0.02	1.17	0.98	0.40	0.37	1.0	TRUE
0.500	TRUE	14887	-0.06	-0.02	0.96	0.98	0.41	0.43	0.8	TRUE
0.750	TRUE	11	-0.14	0.10	0.87	0.81	0.66	0.79	0.3	TRUE
1.000	TRUE	27	-0.11	-0.13	0.69	0.99	0.69	0.83	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
0.000	FALSE	537	0.02	-0.02	0.95	0.81	0.21	0.24	0.7	TRUE
0.062	FALSE	43	-0.45	-0.14	0.81	0.81	0.19	0.24	0.6	TRUE
0.125	TRUE	92	-0.02	-0.47	0.95	0.99	0.16	0.17	0.9	TRUE
0.250	TRUE	292	0.04	0.07	1.00	1.16	0.25	0.23	1.1	TRUE
0.375	TRUE	14	0.24	0.44	1.61	0.86	0.31	0.26	1.3	TRUE
0.500	TRUE	3928	-0.05	-0.03	0.97	1.02	0.46	0.47	0.8	TRUE
0.750	TRUE	11	-0.14	0.10	0.87	0.81	0.66	0.79	0.3	TRUE
1.000	TRUE	11	-0.09	-0.01	0.32	0.95	0.36	0.65	0.2	TRUE

Table 5: RFull – Older Version of Links

## 4 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
0.000	FALSE	52	-0.03	0.25	0.75	0.87	0.19	0.23	0.6	TRUE
0.062	FALSE	203	0.23	-0.08	1.05	0.83	0.11	0.12	0.9	TRUE
0.094	TRUE	14	0.30	-0.00	0.87	0.27	0.09	0.19	0.2	TRUE
0.125	TRUE	1969	-0.06	0.04	1.02	0.98	0.16	0.16	1.0	TRUE
0.250	TRUE	2035	-0.06	-0.07	1.05	1.06	0.29	0.28	1.0	TRUE
0.375	TRUE	216	0.04	0.01	0.92	1.14	0.17	0.17	1.0	TRUE
0.500	TRUE	14414	-0.06	-0.02	0.96	0.98	0.41	0.43	0.8	TRUE
1.000	TRUE	16	-0.13	-0.21	0.99	1.06	0.95	0.92	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
0.000	FALSE	41	-0.06	0.34	0.82	1.05	0.22	0.24	0.8	TRUE
0.062	FALSE	2	-0.01	-1.21	0.22	0.26	0.24	1.00	0.0	FALSE
0.250	TRUE	268	0.06	0.07	1.07	1.21	0.29	0.26	1.2	TRUE
0.375	TRUE	36	-0.07	0.04	1.03	1.08	0.33	0.32	1.0	TRUE
0.500	TRUE	3533	-0.05	-0.02	0.96	1.02	0.47	0.47	0.8	TRUE

Table 7: R<br/>Explicit – 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
0.000	FALSE	297	0.11	0.03	0.93	0.66	0.06	0.07	0.6	TRUE
0.062	FALSE	94	-0.36	-0.23	1.20	0.85	0.29	0.28	0.9	TRUE
0.125	TRUE	1610	-0.02	0.04	1.05	1.00	0.17	0.16	1.0	TRUE
0.250	TRUE	1906	-0.06	-0.09	1.03	1.02	0.26	0.26	1.0	TRUE
0.500	TRUE	14330	-0.05	-0.01	0.96	0.99	0.41	0.42	0.8	TRUE
0.750	FALSE	0								FALSE
1.000	TRUE	16	-0.13	-0.21	0.99	1.06	0.95	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
0.000	FALSE	183	0.07	-0.04	0.90	0.72	0.14	0.17	0.6	TRUE
0.250	TRUE	163	-0.02	0.01	0.83	0.87	0.19	0.22	0.7	TRUE
0.500	TRUE	3472	-0.03	-0.02	0.98	1.02	0.44	0.45	0.8	TRUE

Table 9: RImplicit – Older Version of Links

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

RImplicit2004	Included in SEM	$N_{Pairs}$	$\bar{x}_1$	$\bar{x}_2$	$s_{1}^{2}$	$s_{2}^{2}$	$s_{1,2}$	r	Determinant	PosDefinite
0.031	TRUE	80	0.29	-0.03	1.36	0.60	0.19	0.21	0.8	TRUE
0.062	FALSE	32	-0.49	-0.34	0.90	0.23	0.07	0.15	0.2	TRUE
0.094	TRUE	184	0.12	0.13	0.95	0.94	0.14	0.14	0.9	TRUE
0.125	TRUE	923	-0.12	0.04	0.91	1.05	0.19	0.20	0.9	TRUE
0.188	TRUE	25	0.17	0.27	0.68	0.51	-0.15	-0.26	0.3	TRUE
0.250	TRUE	1509	-0.08	-0.10	1.00	1.02	0.26	0.26	1.0	TRUE
0.375	TRUE	1268	-0.06	-0.05	0.99	0.97	0.34	0.35	0.8	TRUE
0.500	TRUE	12265	-0.05	-0.01	0.96	0.98	0.41	0.42	0.8	TRUE
0.750	TRUE	30	0.02	0.03	0.60	0.91	0.42	0.57	0.4	TRUE
1.000	TRUE	15	-0.07	-0.19	1.01	1.13	1.00	0.93	0.2	TRUE

Table 10: R Implicit<br/>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
0.125	TRUE	73	-0.07	-0.25	0.79	1.01	0.12	0.13	0.8	TRUE
0.250	TRUE	43	-0.13	-0.07	0.75	1.04	0.22	0.25	0.7	TRUE
0.375	TRUE	306	-0.02	0.02	0.94	1.14	0.46	0.44	0.9	TRUE
0.500	TRUE	1865	-0.00	-0.00	0.95	0.98	0.45	0.47	0.7	TRUE
0.750	TRUE	30	0.02	0.03	0.60	0.91	0.42	0.57	0.4	TRUE

Table 11: R Implicit<br/>2004 – 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