

Brief Research Communication

Location of the Handedness Gene

on the X and Y Chromosomes

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TABLE I. Predictions of SS/OS Ratios, Four-Fold Point Correlations (ϕ), and Critical Sample Sizes (N), According to Two Single-Gene Models of Handedness*

Offspring phenotypes					
(Mother \times Father)	R \times R	R \times L	L \times L	ϕ	N
McManus's model					
R \times R	1.008	0.874	1.982	0.0222	15,928
R \times L	1.039	0.826	2.176	0.0590	2,255
L \times R	1.010	0.953	1.206	0.0148	35,838
L \times L	1.053	0.877	1.356	0.0538	2,712
Overall	1.013	0.872	1.562	0.0246	12,972
Annett's model					
R \times R	1.010	0.904	1.687	0.0224	15,645
R \times L	1.008	0.956	1.166	0.0133	44,378
L \times R	1.026	0.869	1.631	0.0415	4,558
L \times L	1.024	0.935	1.158	0.0263	11,349
Overall	1.016	0.898	1.535	0.0234	14,336

*The parameters used to derive these predictions were: for McManus's model [1985], $p(R/DD) = 1$, $p(R/DC) = 0.75$, $p(R/CC) = 0.5$, and $p(D) = 0.845$; for Annett's model [1985], $p(R/DD) = 0.9934$, $p(R/DC) = 0.9162$, $p(R/CC) = 0.61$, and $p(D) = 0.57$. Values of N are sample sizes needed for power of 0.80 at the 0.05 level of significance.

TABLE III Accumulated Data on the Concordance of Handedness and Sex Across Siblings

Parental pairs	Sex pairings	Offspring		
		Handedness pairings		
(Mother × father)	M × M	R × R	R × L	L × L