

Results Summary from GeneEvolve Simulation 2022-05-31 21:36:37

Basic Parameters:

Working Directory: /Users/matthewkeller/Google Drive/DriveDocuments/Teaching/TwinWorkshops/Assumptions/GeneEvolveSims

Number of generations: 20

Population size at start: 40000

Number of genes: 20

Vertical Trans. model: vertical transmission from parental phenotypes to offspring

Assort. Mating model: primary phenotypic assortment – correlation b/w mates due to their choosing similar phenotypes AM = 0.3

Sample Sizes in Dataset:

MZ	DZ	Parents	Sibs	Spouses	Children
7312	9384	16510	10008	2761	0

Variance Components – User Input: (Note: U+MZ+TW=E)

A	AA	D	F	S	U	MZ	TW	SEX	AGE	A.by.SEX	A.by.AGE	A.by.S	A.by.U
0.4	0	0.1	0.1	0	0.4	0	0	0	0	0	0	0	0

Time

Simulation started: 2022-05-31 21:34:53

Simulation ended: 2022-05-31 21:36:38

Minutes taken – looping through generations: 1.63

Minutes taken – creating pedigree datasets: 0.24

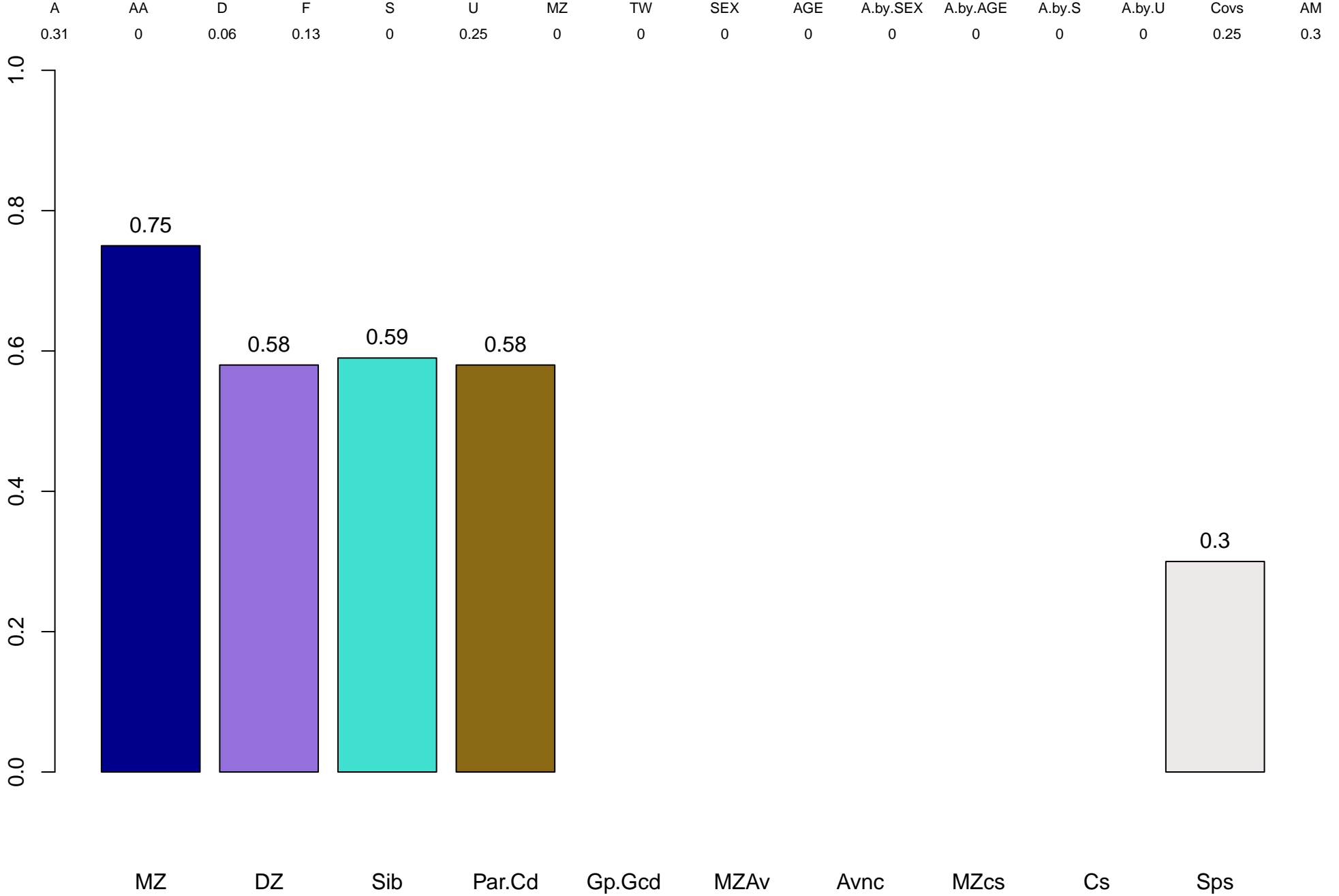
Minutes taken – finding relative correlations: 0.02

Minutes taken – TOTAL: 1.76

Warnings in script:

Correlations between 10 Relative Types

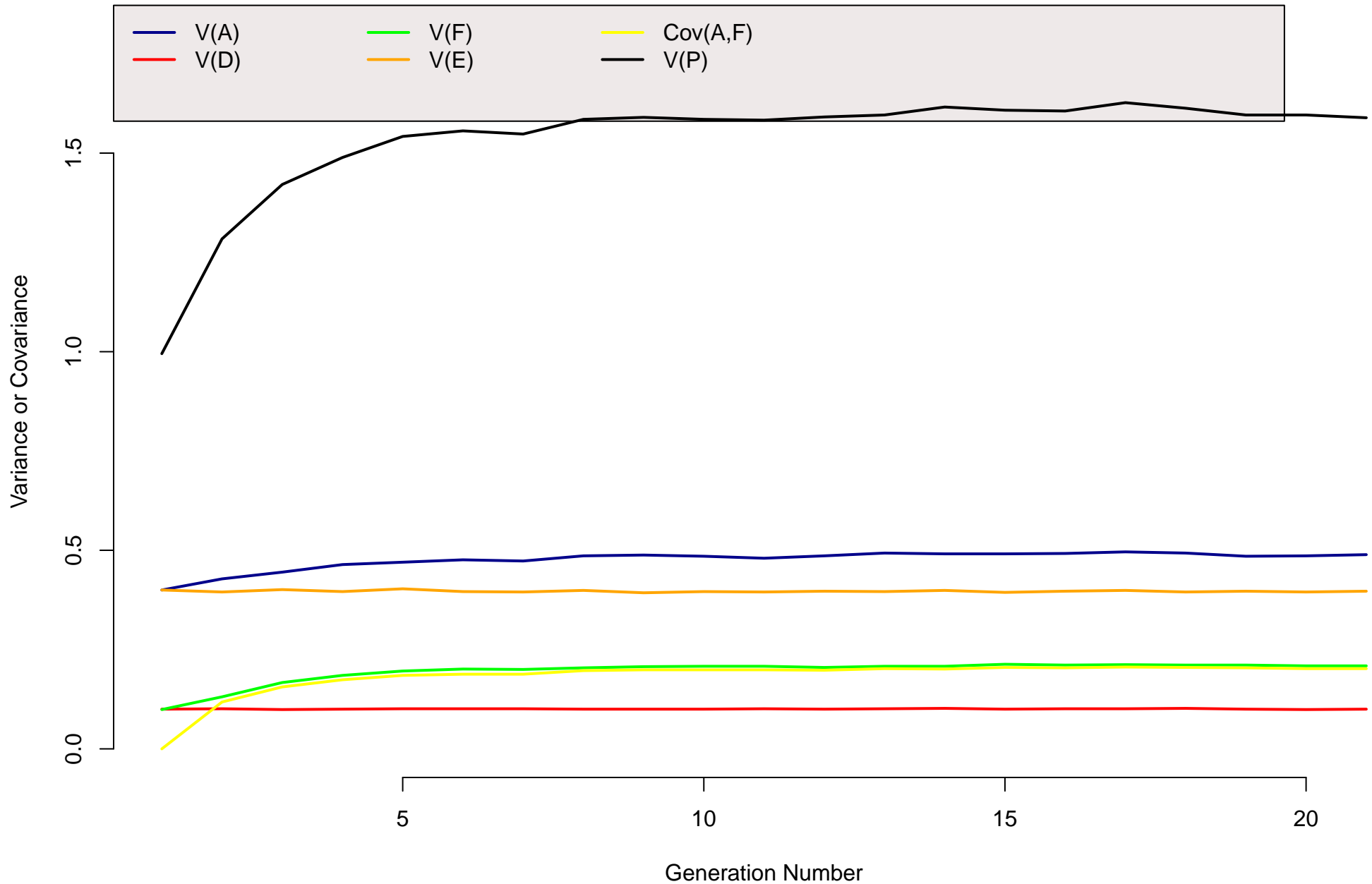
True Standardized Variance Components in Dataset



Change in Variance Across Generations – Includes V(P)

Unstandardized Variance Components

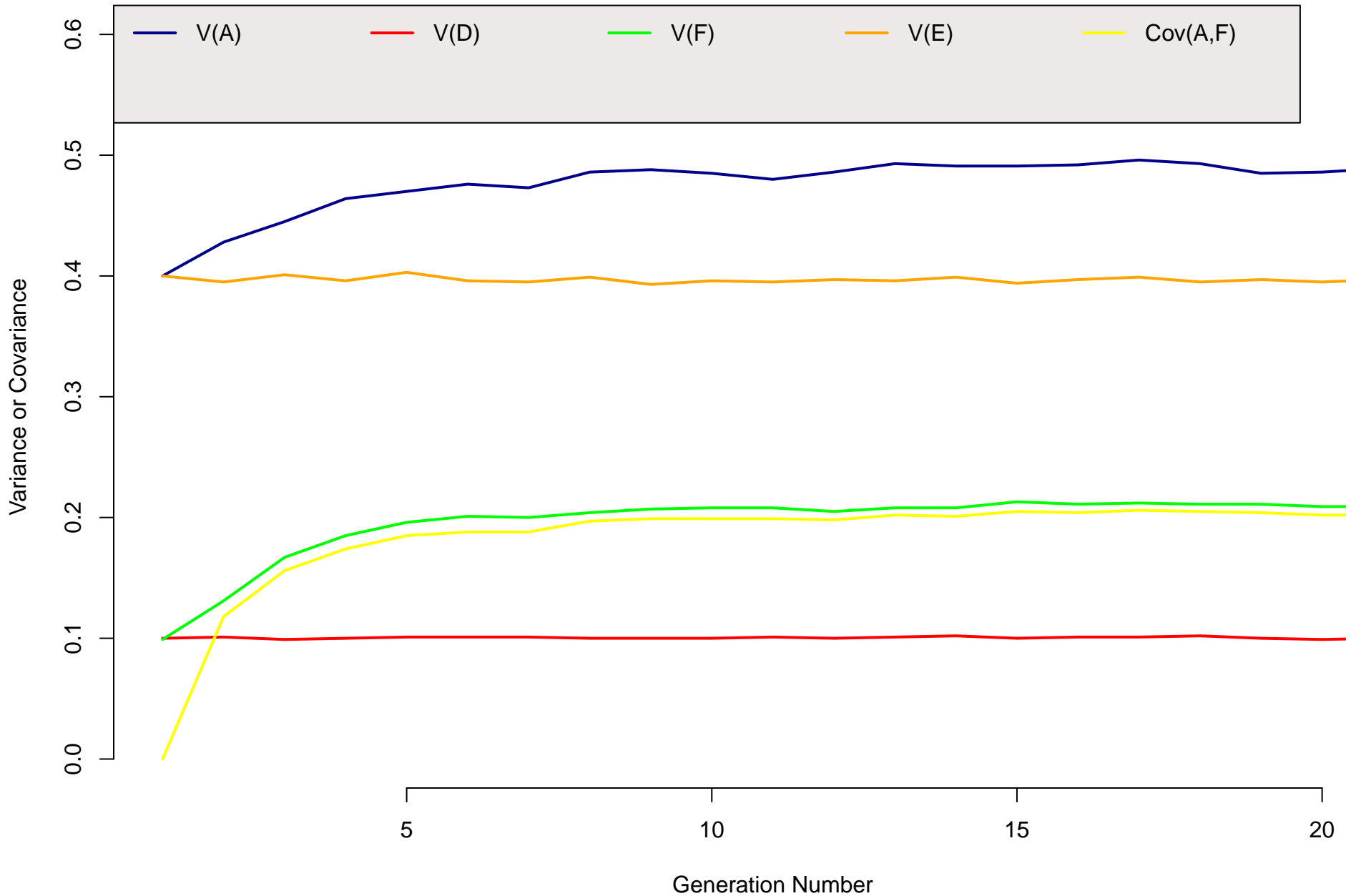
	V(A)	V(AA)	V(D)	V(F)	V(S)	V(E)	V(Sex)	V(Age)	V(AxSex)	V(AxAge)	V(AxS)	V(AxU)	Cov(A,F)	V(P)	r(sps)
Start:	0.4	0	0.1	0.1	0	0.4	0	0	0	0	0	0	0	1	0.3
End:	0.49	0	0.1	0.21	0	0.4	0	0	0	0	0	0	0.2	1.59	0.3
Data:	0.49	0	0.1	0.21	0	0.39	0	0	0	0	0	0	0.2	1.58	0.3



Change in Variance Across Generations – Does Not Include V(P)

Unstandardized Variance Components

	V(A)	V(AA)	V(D)	V(F)	V(S)	V(E)	V(Sex)	V(Age)	V(AxSex)	V(AxAge)	V(AxS)	V(AxU)	Cov(A,F)	r(sps)
Start:	0.4	0	0.1	0.1	0	0.4	0	0	0	0	0	0	0	0.3
End:	0.49	0	0.1	0.21	0	0.4	0	0	0	0	0	0	0.2	0.3
Data:	0.49	0	0.1	0.21	0	0.39	0	0	0	0	0	0	0.2	0.3



Change in V(A) Across Generations due to Assortative Mating

Unstandardized Variance Components

	V(A)	V(AA)	V(D)	V(F)	V(S)	V(E)	V(Sex)	V(Age)	V(AxSex)	V(AxAge)	V(AxS)	V(AxU)	Cov(A,F)	V(P)	r(sps)
Start:	0.4	0	0.1	0.1	0	0.4	0	0	0	0	0	0	0	1	0.3
End:	0.49	0	0.1	0.21	0	0.4	0	0	0	0	0	0	0.2	1.59	0.3

