

Supplementary materials for the manuscript

“Stability and inter-family associations of hair endocannabinoid and N-acyl-ethanolamines across the perinatal period in mothers, fathers, and children”

Table S1

Descriptive statistics for batch and storage time

Variables	Sample of Mothers (N = 336)				Sample of Fathers (N =225)				Sample of Children (N =319)			
Time points	T ₁ (N = 299)	T ₂ (N = 288)	T ₃ (N = 261)	T ₄ (N = 175)	T ₁ (N = 189)	T ₂ (N = 188)	T ₃ (N = 188)	T ₄ (N = 165)	T ₁ (N = 207)	T ₂ (N = 252)	T ₃ (N = 257)	T ₄ (N = 241)
Batch (n, %)												
Batch 1	80 (26.8)	74 (25.7)	0 (0.0)	0 (0.0)	54 (28.6)	46 (24.5)	0 (0.0)	0 (0.0)	55 (26.6)	56 (22.2)	0 (0.0)	0 (0.0)
Batch 2	130 (43.5)	127 (44.1)	66 (25.3)	0 (0.0)	75 (39.7)	79 (42.0)	48 (25.5)	0 (0.0)	93 (44.9)	117 (46.4)	68 (26.5)	0 (0.0)
Batch 3	73 (24.4)	69 (24.0)	111 (42.5)	53 (30.3)	58 (25.4)	48 (25.5)	70 (37.2)	54 (32.7)	46 (22.2)	62 (24.6)	101 (39.3)	67 (27.8)
Batch 4	12 (4.0)	18 (6.3)	67 (25.7)	73 (41.7)	9 (4.8)	15 (8.0)	55 (29.3)	63 (38.2)	10 (4.8)	17 (6.7)	73 (28.4)	106 (44.0)
Batch 5	4 (1.3)	0 (0.0)	17 (6.5)	49 (28.0)	3 (1.6)	0 (0.0)	15 (8.0)	48 (29.1)	3 (1.4)	0 (0.0)	15 (5.8)	68 (28.2)
Storage time in weeks, M (SD)	57.03 (15.90)	44.33 (14.21)	40.38 (13.58)	37.00 (15.28)	56.90 (16.49)	44.50 (14.87)	41.95 (17.09)	38.48 (15.21)	52.08 (16.17)	44.54 (14.11)	39.78 (13.50)	37.37 (15.20)

Table S2

Pairwise comparisons of hair AEA levels with Sidak correction for mothers, fathers, and children when including imputed non-detectable values

Comparisons	Mothers (<i>n</i> = 336)		Fathers (<i>n</i> = 225)		Children (<i>n</i> = 318)	
	AEA		AEA		AEA	
	<i>M</i> _{DIFF}	<i>p</i>	<i>M</i> _{DIFF}	<i>p</i>	<i>M</i> _{DIFF}	<i>p</i>
T1–T2	-.11	.054 ^a	-.06	.922	.14	< .001
T1–T3	-.04	.970	-.13	.293	.80	< .001
T1–T4	-.28	< .001	-.19	.077	.67	< .001
T2–T3	.06	.795	-.07	.787	.66	< .001
T2–T4	-.18	.009^b	-.13	.272	.53	< .001
T3–T4	-.24	< .001^b	-.06	.833	-.12	.254

Note. *M*_{DIFF} = Mean difference. Numbers in bold = *p* < .05. ^a This comparison was significant when excluding non-detectable values. ^b This comparison was not significant when excluding non-detectable values.

Table S3

Pairwise comparisons of hair EC/NAE levels with Sidak correction for female and male children separately

	AEA ^c		1-AG/2-AG		SEA		PEA		OEA	
	<i>M</i> _{DIFF}	<i>p</i>	<i>M</i> _{DIFF}	<i>p</i>	<i>M</i> _{DIFF}	<i>p</i>	<i>M</i> _{DIFF}	<i>p</i>	<i>M</i> _{DIFF}	<i>p</i>
Female children^a										
T1–T2	.09	.065	-.36	< .001	-.45	< .001	-.56	< .001	-.63	< .001
T1–T3	.43	< .001	.25	< .001	-.59	< .001	-.63	< .001	-.84	< .001
T1–T4	.35	< .001	.18	.002	-.62	< .001	-.63	< .001	-.89	< .001
T2–T3	.34	< .001	.61	< .001	-.14	< .001	-.08	.233	-.21	< .001
T2–T4	.26	< .001	.54	< .001	-.17	< .001	-.07	.376	-.26	< .001
T3–T4	-.08	.207	-.07	.158	-.02	.891	.00	1.000	-.04	.558
Male children^b										
T1–T2	.14	.007	-.25	< .001	-.46	< .001	-.57	< .001	-.56	< .001
T1–T3	.54	< .001	.16	< .001	-.64	< .001	-.62	< .001	-.77	< .001
T1–T4	.55	< .001	.16	.004	-.63	< .001	-.57	< .001	-.73	< .001
T2–T3	.41	< .001	.41	< .001	-.19	< .001	-.05	.725	-.21	< .001
T2–T4	.41	< .001	.41	< .001	-.18	< .001	.00	1.000	-.17	.015
T3–T4	.01	1.000	.00	1.000	-.01	.999	.05	.282	.04	.748

Note. *M*_{DIFF} = Mean difference. Numbers in bold = $p < .05$. ^a $n = 155$ for AEA, $n = 157$ for 1-AG/2-AG, SEA, PEA, and OEA. ^b $n = 139$ for AEA, $n = 140$ for 1-AG/2-AG, SEA, PEA, and OEA. ^c Calculated when excluding non-detectable values.

Table S4

Test-retest relative stability of hair endocannabinoids and N-acyl-ethanolamines for mothers, fathers, and children calculated using Pearson correlation.

		T1-T2	T1-T3	T1-T4	T2-T3	T2-T4	T3-T4
		<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>
Mothers	AEA	.44***	.21*	-.03	.24**	.11	-.02
	2-AG/1-AG	.50***	.16*	.07	.31***	.17	.41***
	SEA	.53***	.20**	.37***	.23**	.19*	.43***
	PEA	.56***	.24***	.32***	.30***	.22*	.42***
	OEA	.54***	.25***	.38***	.36***	.23**	.38***
		(n=258)	(n=234)	(n=158)	(n=233)	(n=155)	(n=158)
Fathers	AEA	.48***	.10	-.02	.15	.06	.10
	2-AG/1-AG	.59***	.11	.18	.08	.23*	.39***
	SEA	.63***	.16	.17	.16	.14	.43***
	PEA	.61***	.24**	.32***	.26***	.18	.47***
	OEA	.62***	.18*	.27**	.31***	.25**	.46***
		(n=155)	(n=160)	(n=137)	(n=164)	(n=143)	(n=151)
Children	AEA	.23**	.14	-.06	.22**	-.11	.07
	2-AG/1-AG	.41***	-.23**	-.12	-.05	-.14	.20*
	SEA	.44***	.07	-.16	-.11	-.27***	.26***
	PEA	.46***	-.01	-.03	-.08	.01	.23***
	OEA	.52***	.11	.03	.00	.13	.14
		(n=182)	(n=169)	(n=158)	(n=203)	(n=185)	(n=210)

Note. * $p < .05$, ** $p < .01$, *** $p < .001$, FDR-corrected p -values. r = Pearson correlation coefficient.

Table S5

Parent-child associations of hair endocannabinoids and N-acyl ethanolamines calculated using Pearson correlation.

		T1	T2	T3	T4
		<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>
Mother-Child ^a	AEA	.20*	.34***	.21**	.39***
	2-AG/1-AG	.40***	.40***	.23**	.04
	SEA	.27***	.22**	.25**	.27**
	PEA	.18*	.18*	.21**	.33**
	OEA	.19*	.18*	.18*	.38***
Father-Child ^b	AEA	.02	.20	.33***	.20
	2-AG/1-AG	.40***	.39***	.50***	.24*
	SEA	.33***	.33***	.44***	.35***
	PEA	.26**	.40***	.42***	.44***
	OEA	.21	.39***	.41***	.35***
Mother-Father ^c	AEA	.13	.24*	.39***	.19
	2-AG/1-AG	.52***	.44***	.53***	.32**
	SEA	.28***	.29***	.36***	.27*
	PEA	.24**	.28**	.38***	.25*
	OEA	.17*	.27**	.38***	.23*

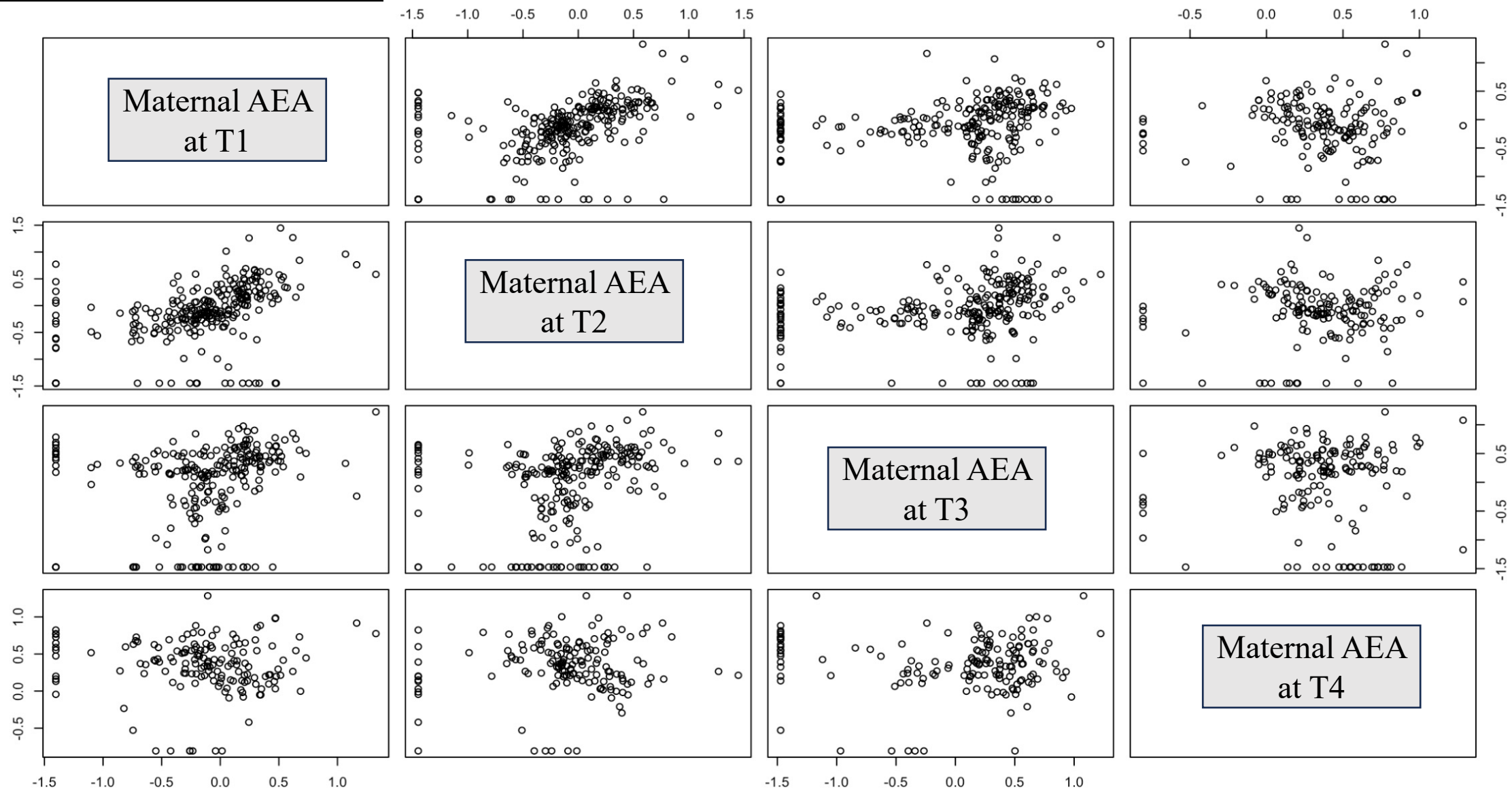
Notes. * $p < .05$, ** $p < .01$, *** $p < .001$, FDR-corrected p -values. r = Pearson correlation coefficient.

^a T1 $n = 183$; T2 $n = 214$ – 215 ; T3 $n = 212$; T4 $n = 153$.

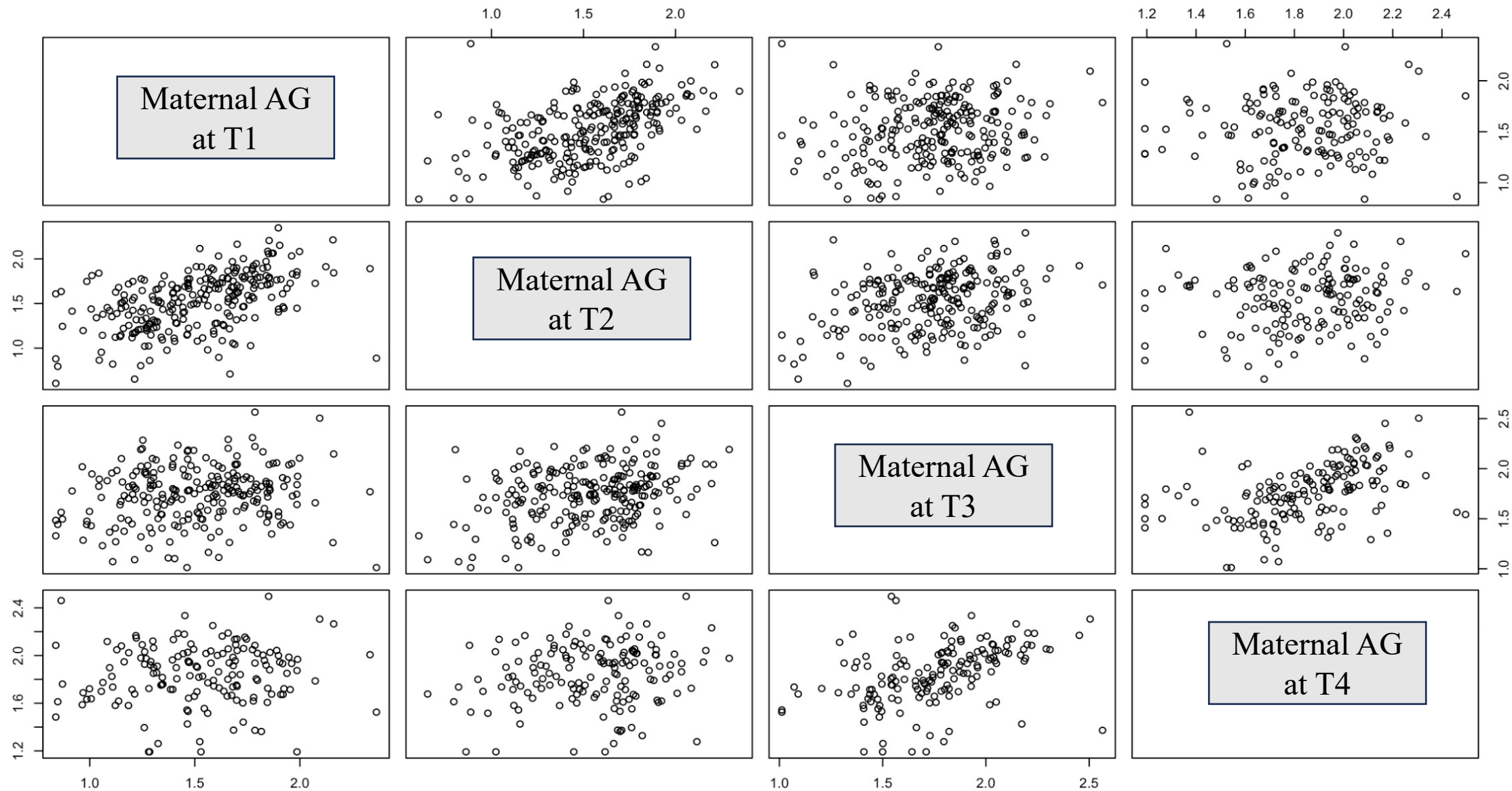
^b T1 $n = 117$; T2 $n = 141$ – 142 ; T3 $n = 154$; T4 $n = 146$.

^c T1 $n = 167$; T2 $n = 160$; T3 $n = 153$; T4 $n = 98$.

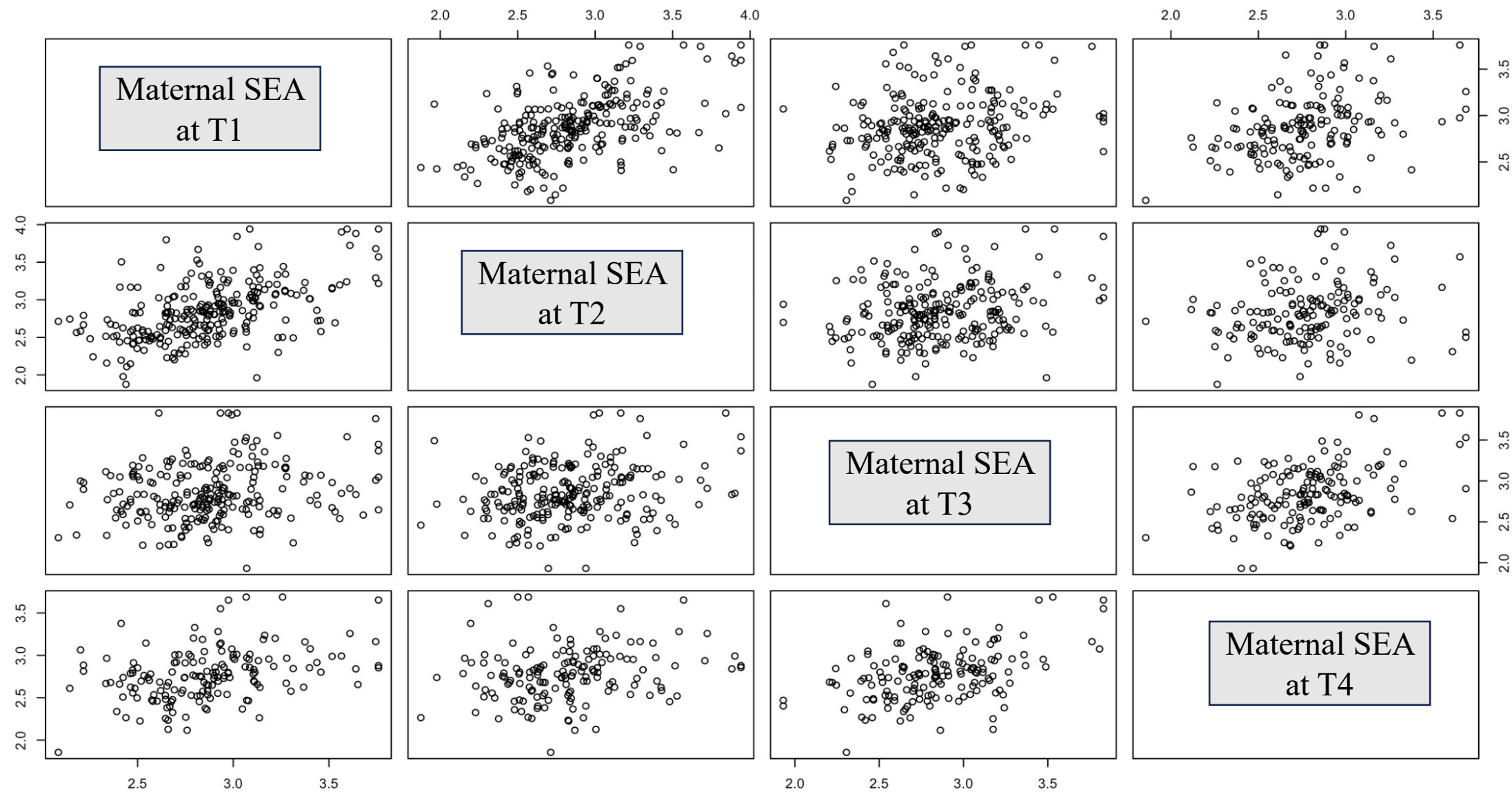
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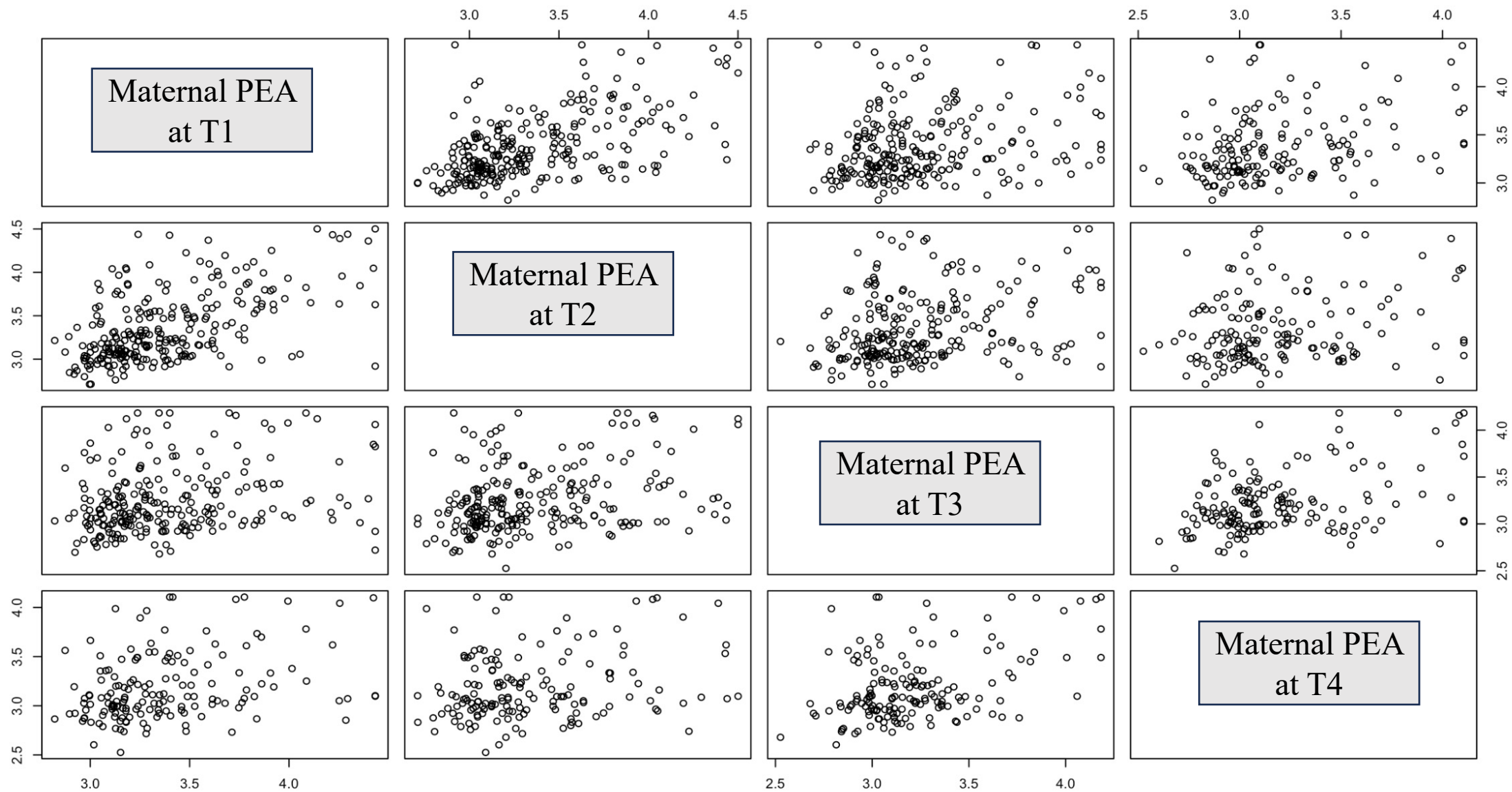
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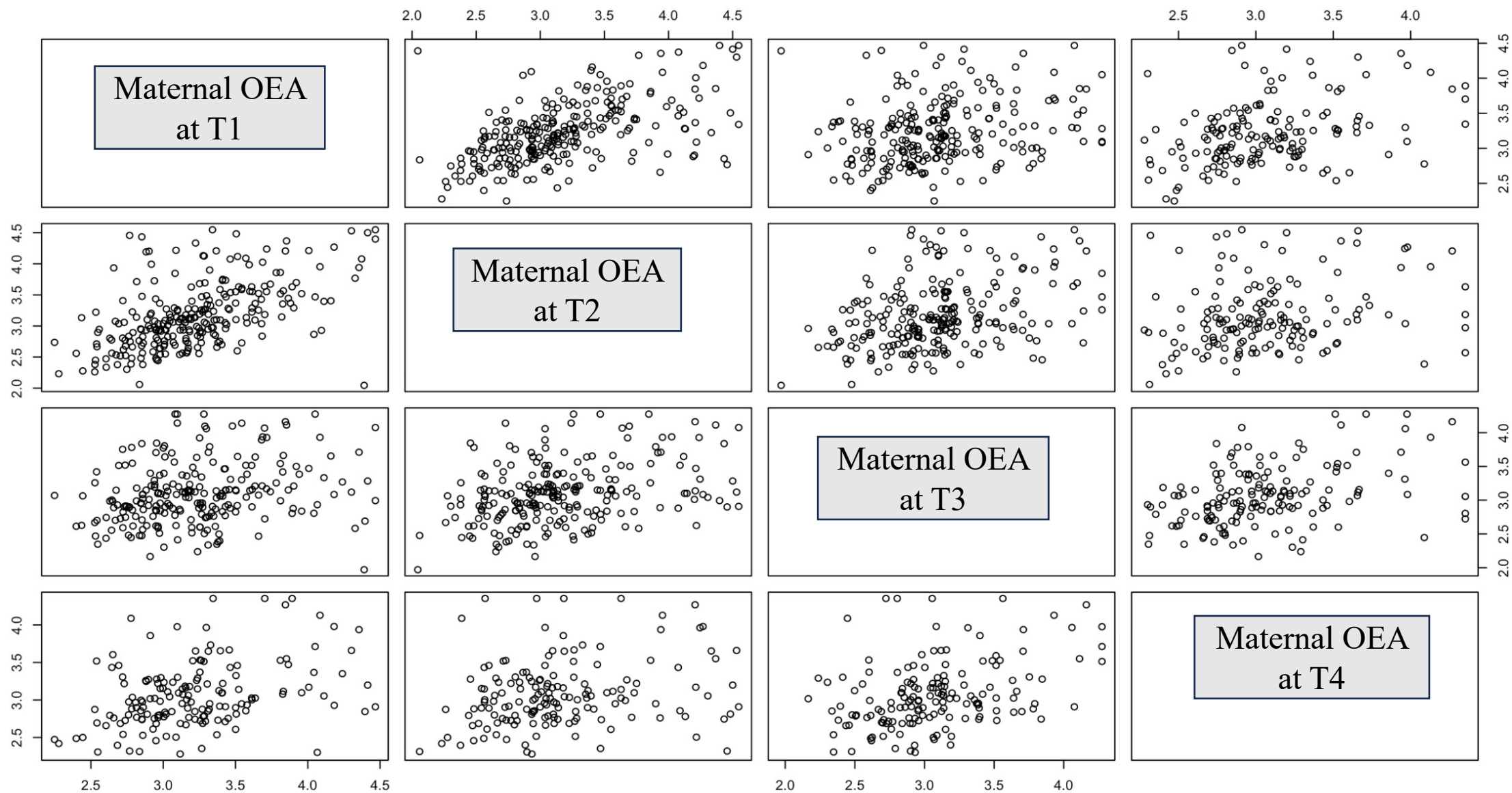
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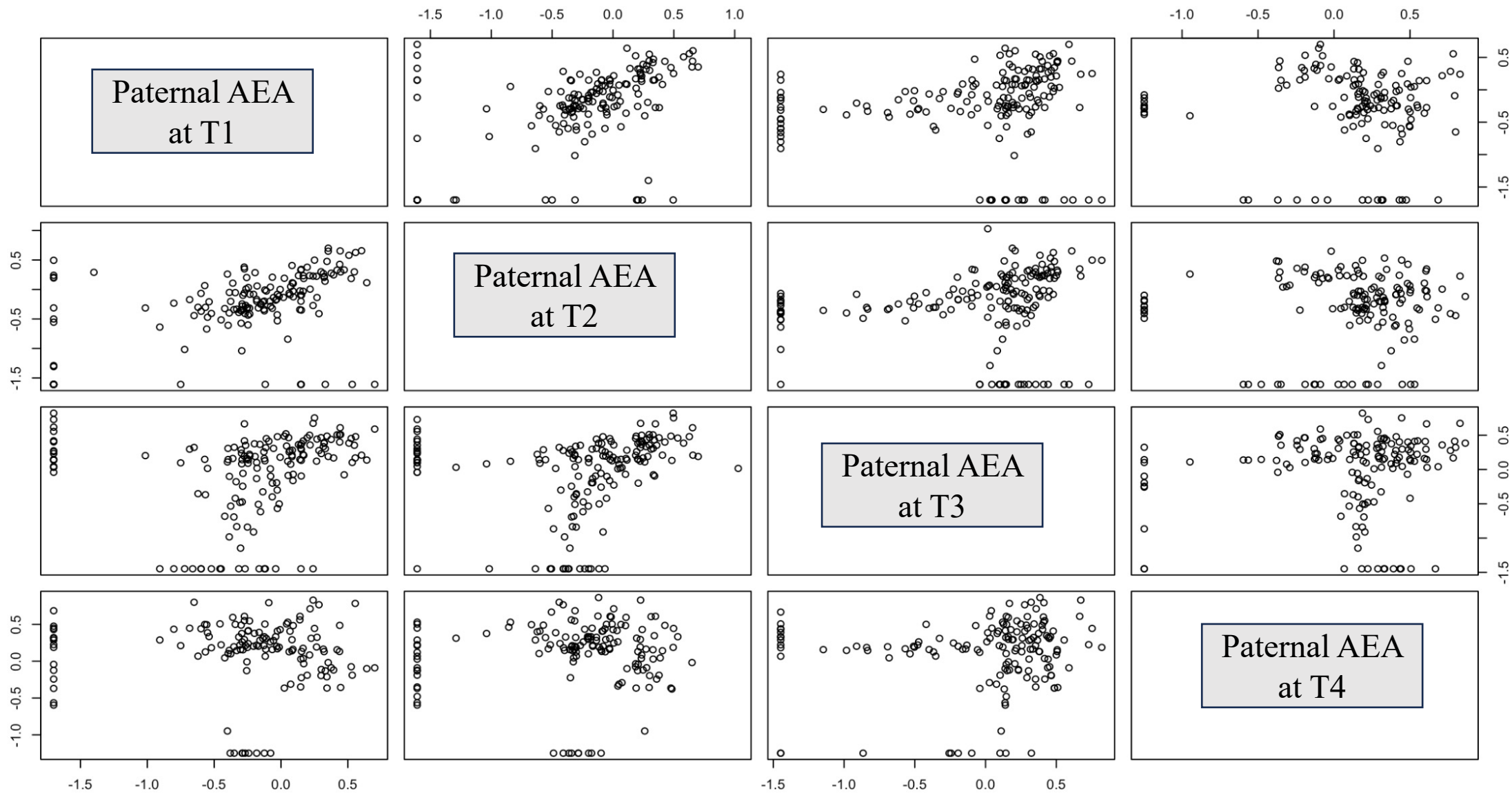
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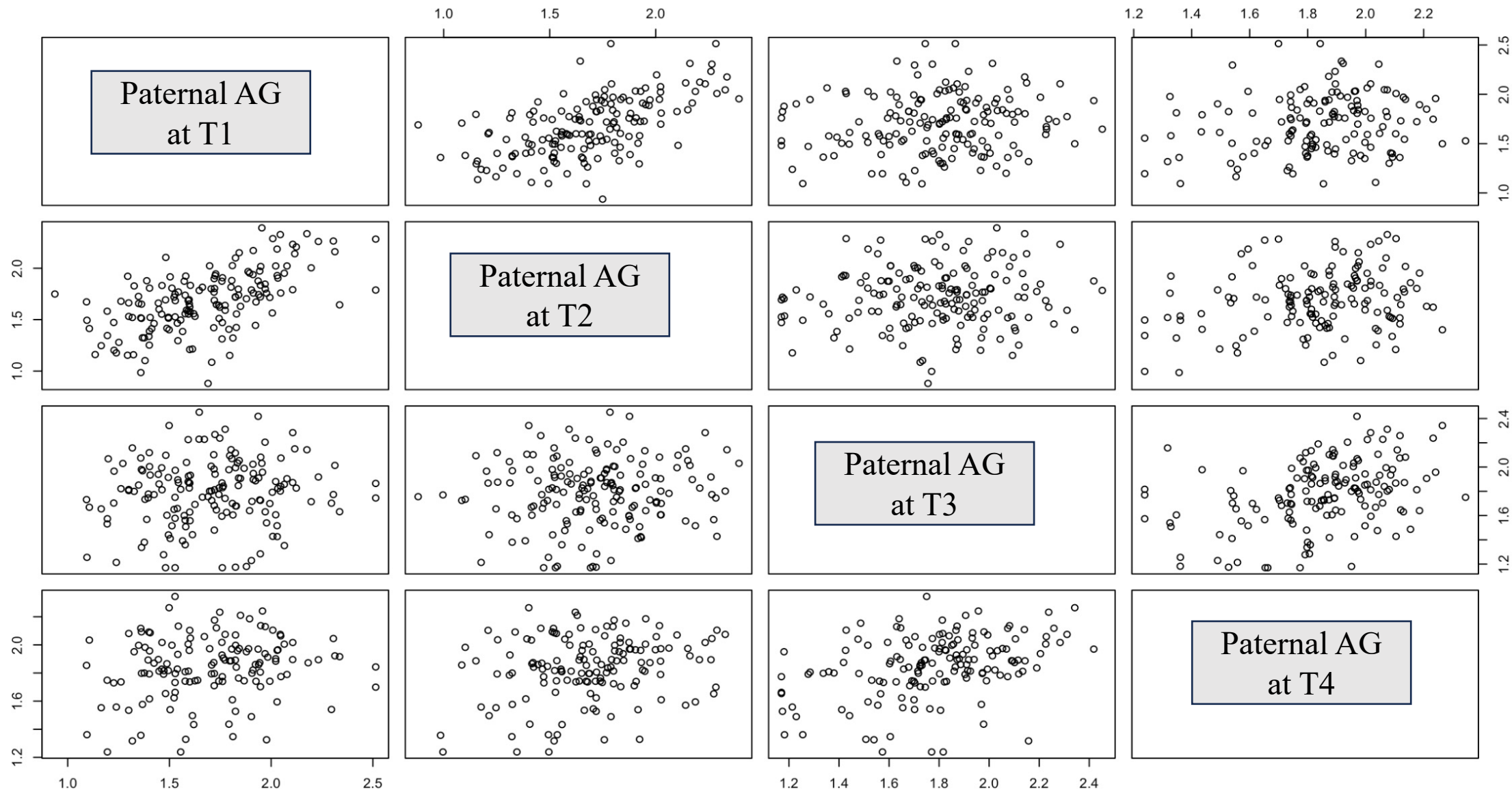
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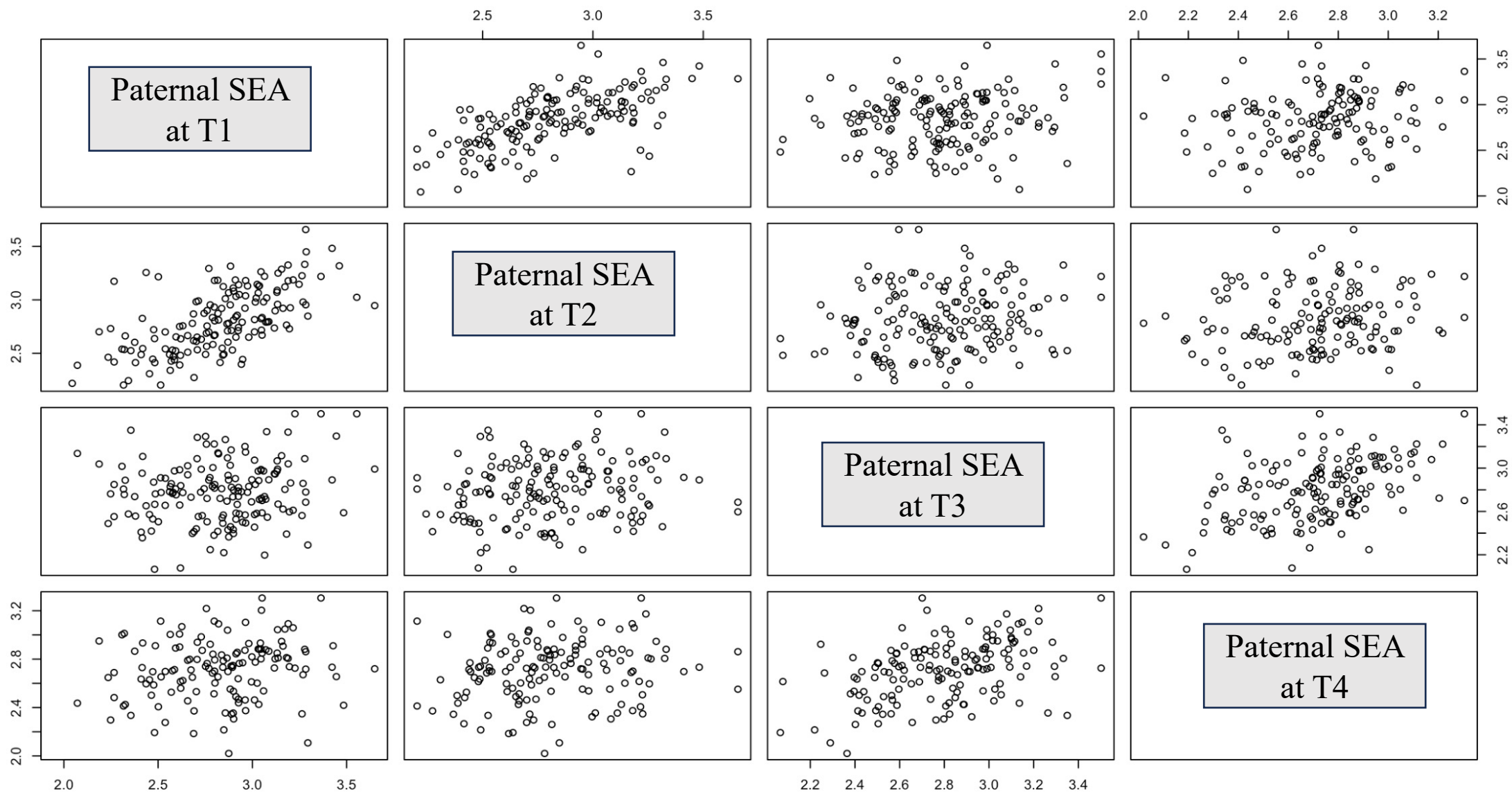
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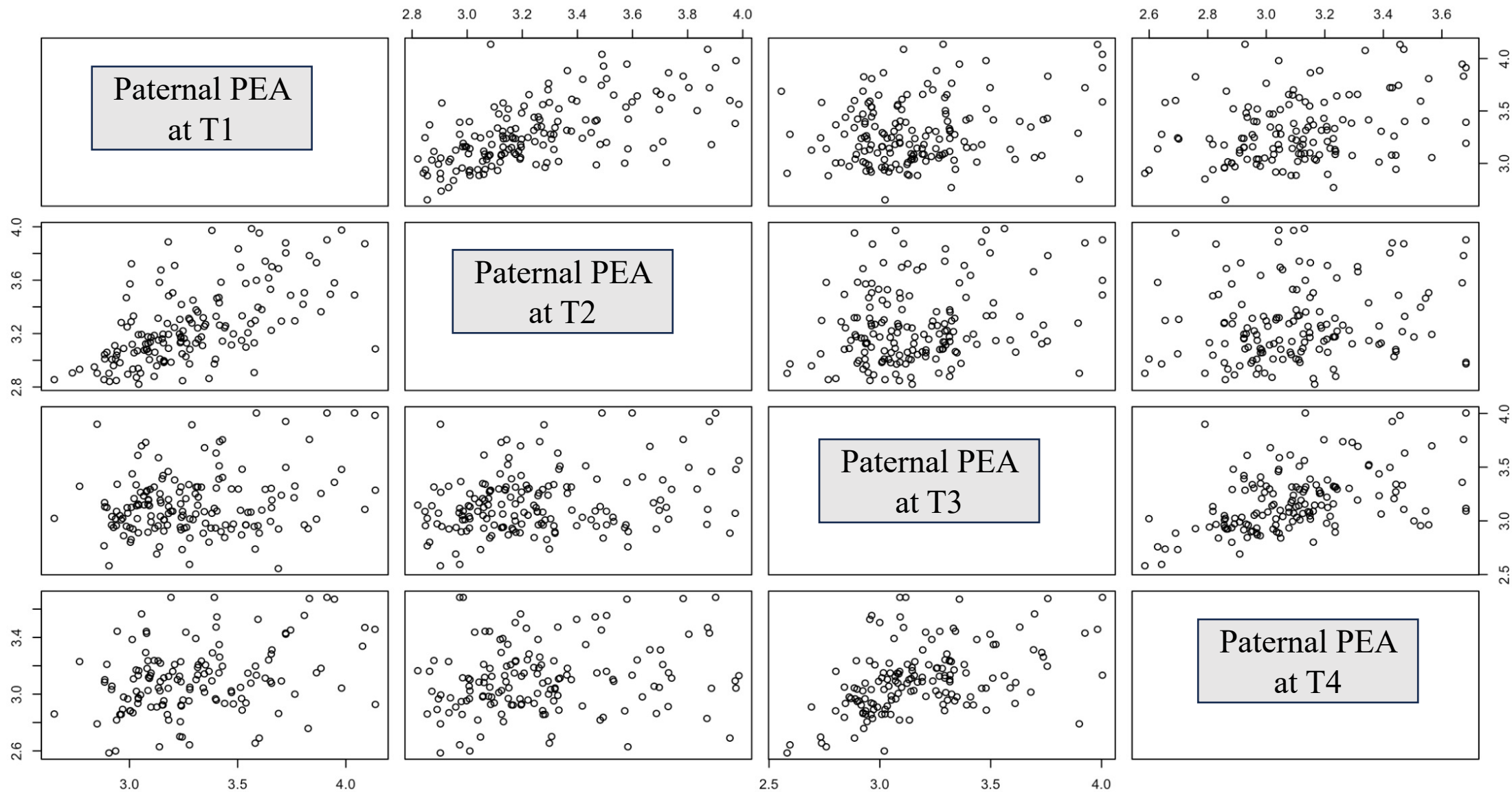
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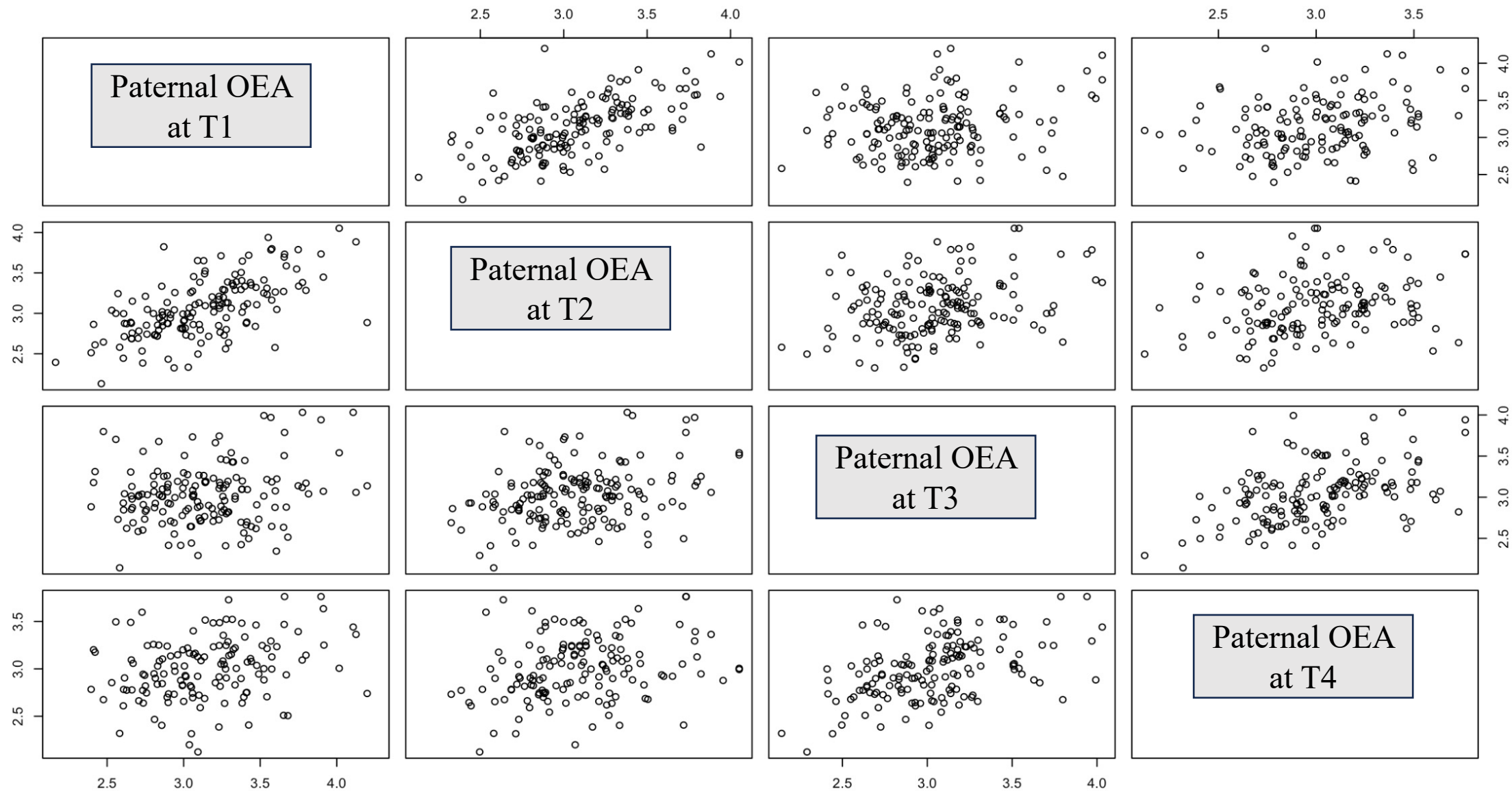
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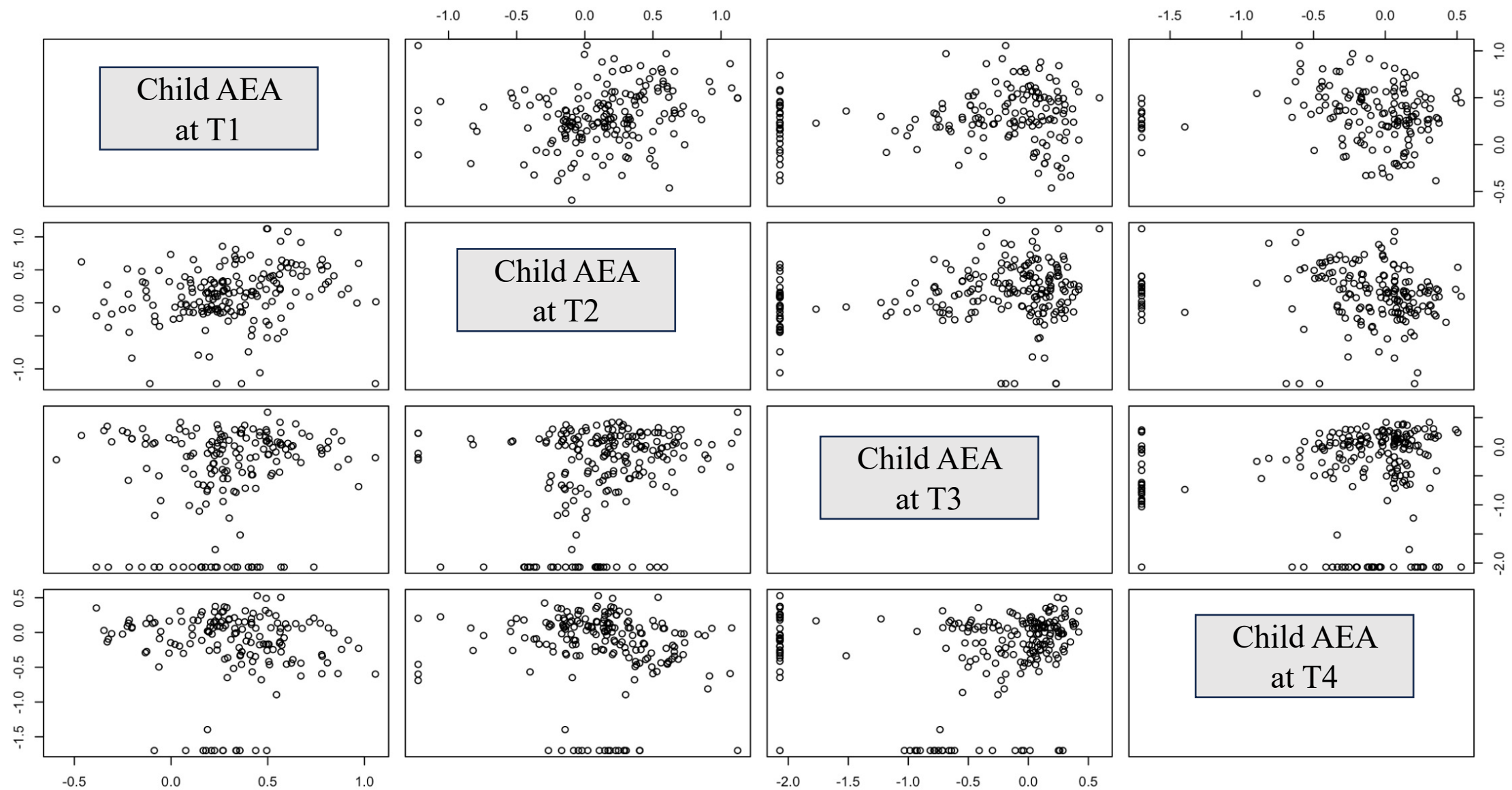
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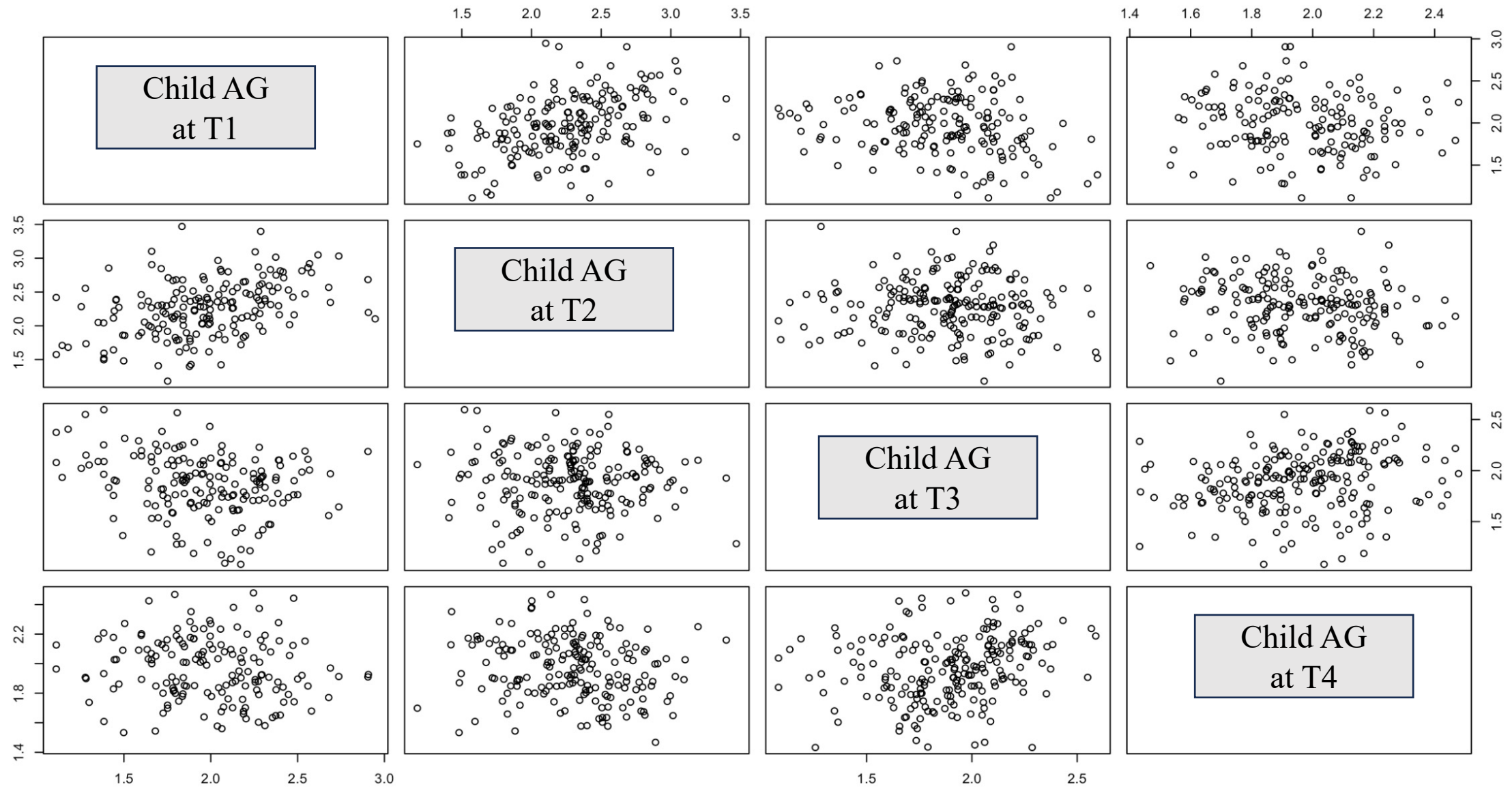
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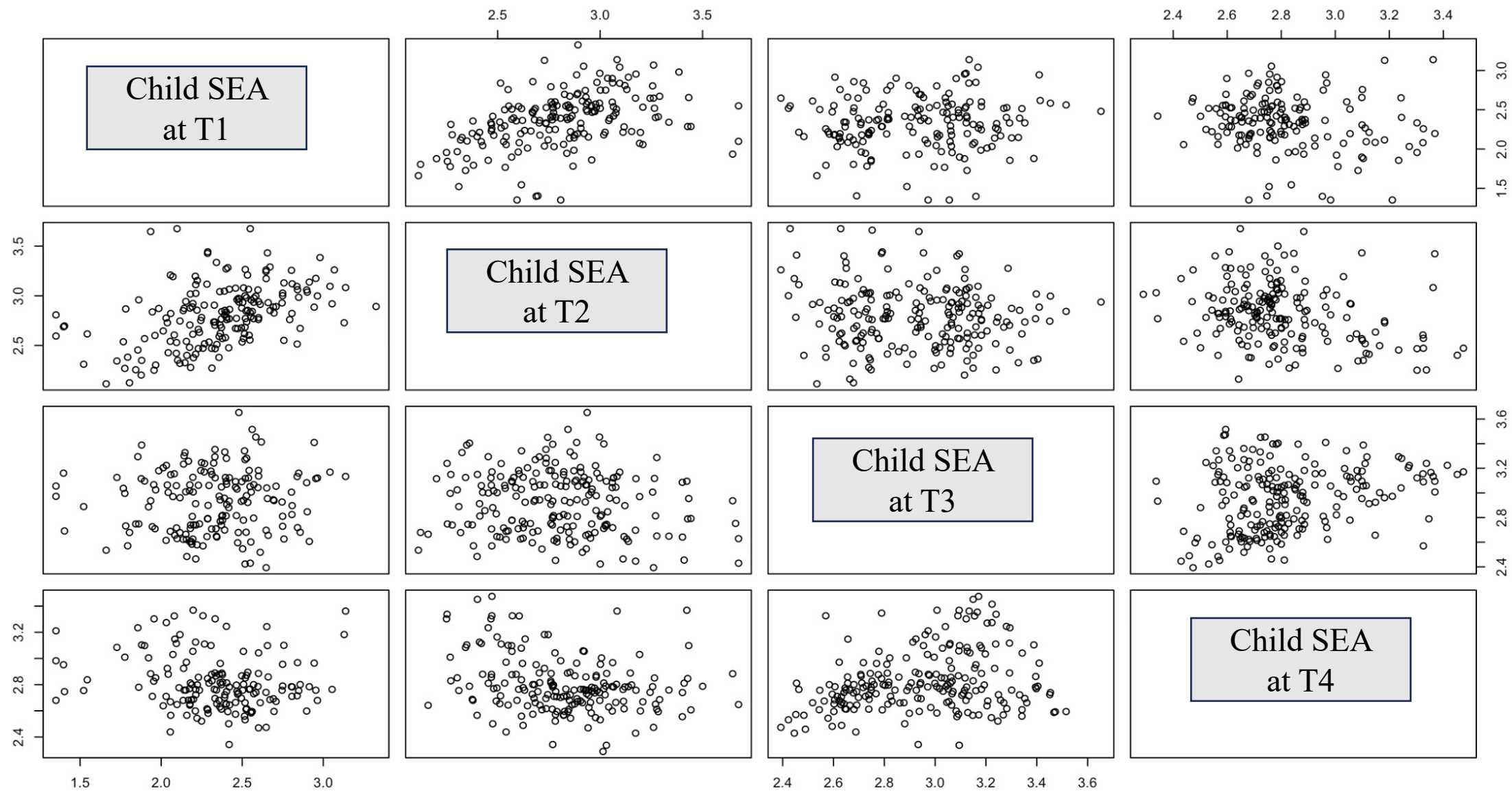
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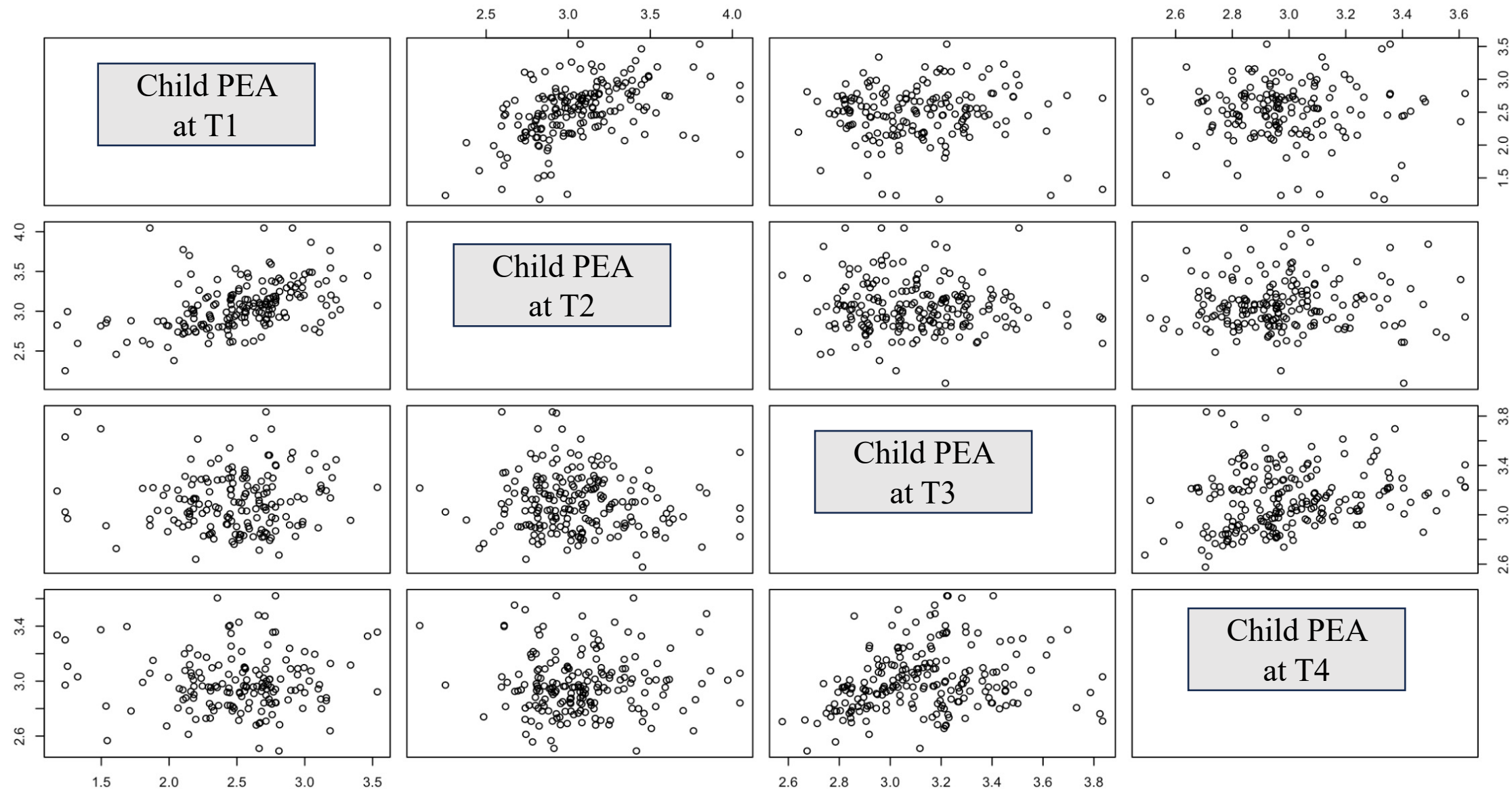
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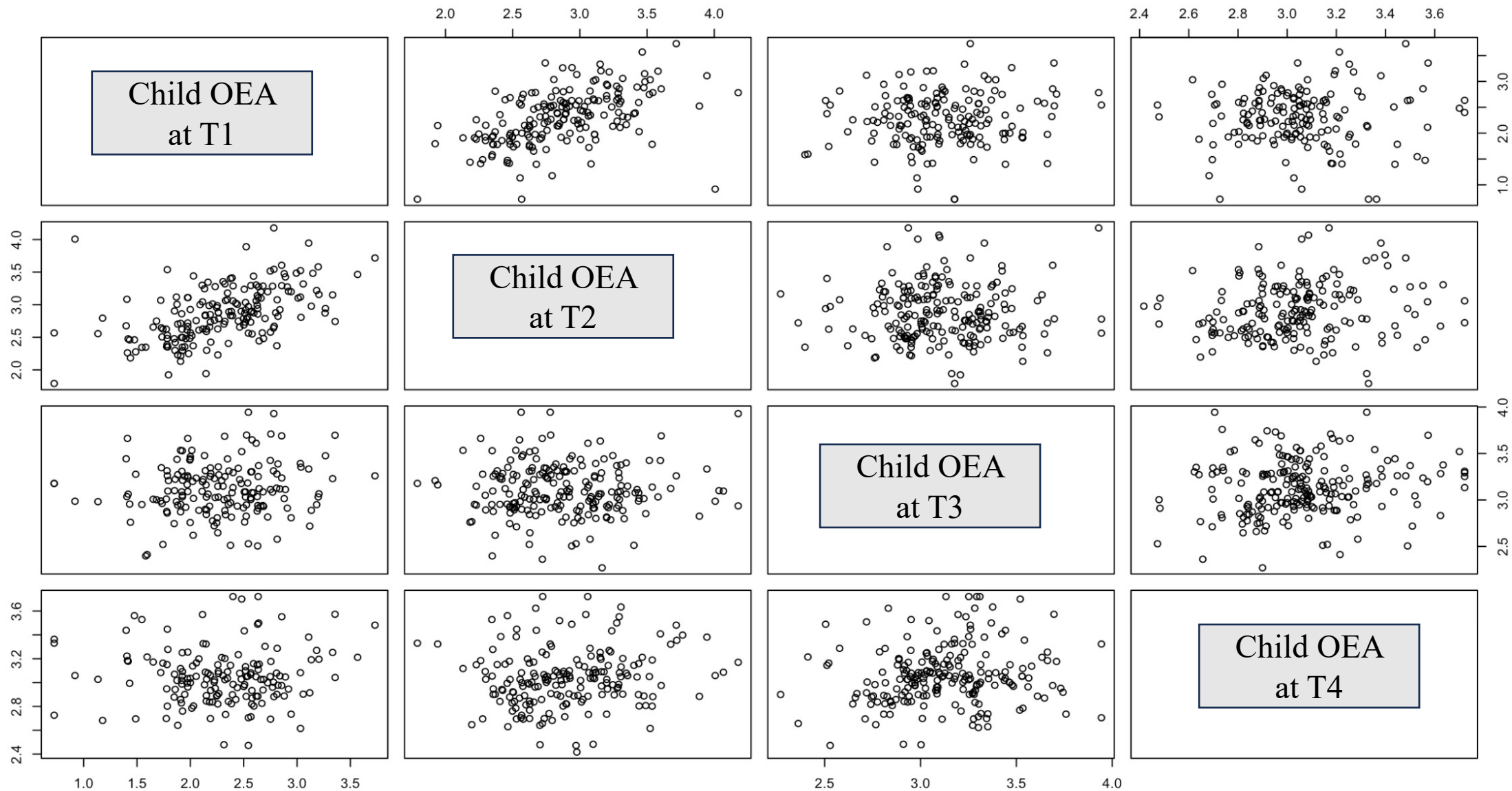
Relative Stability Children



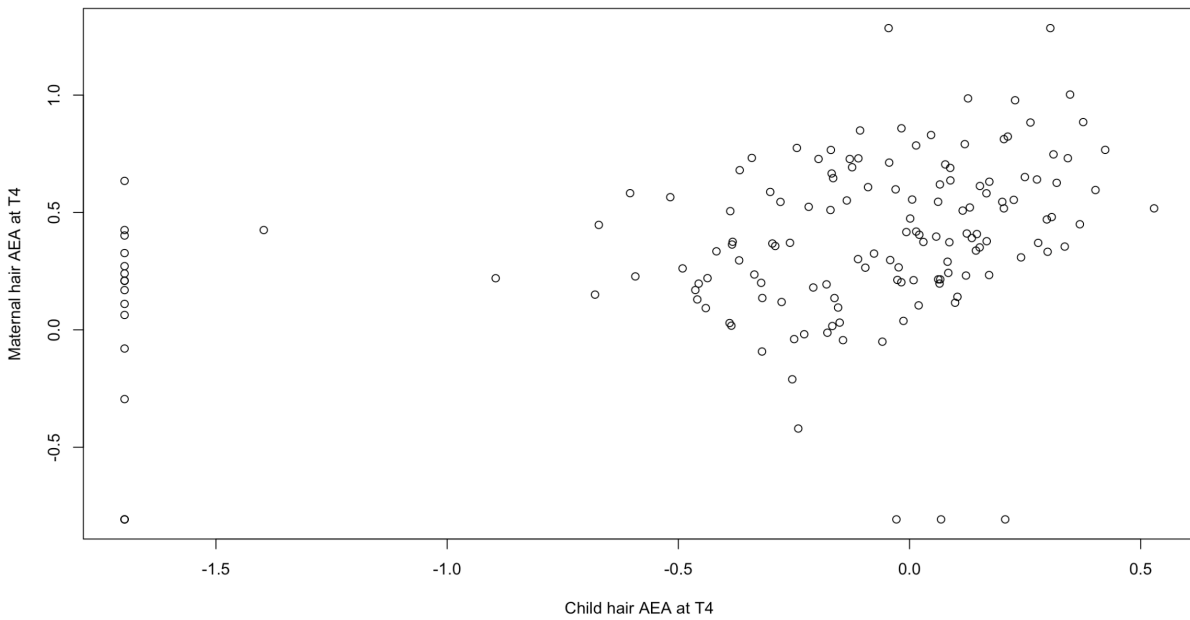
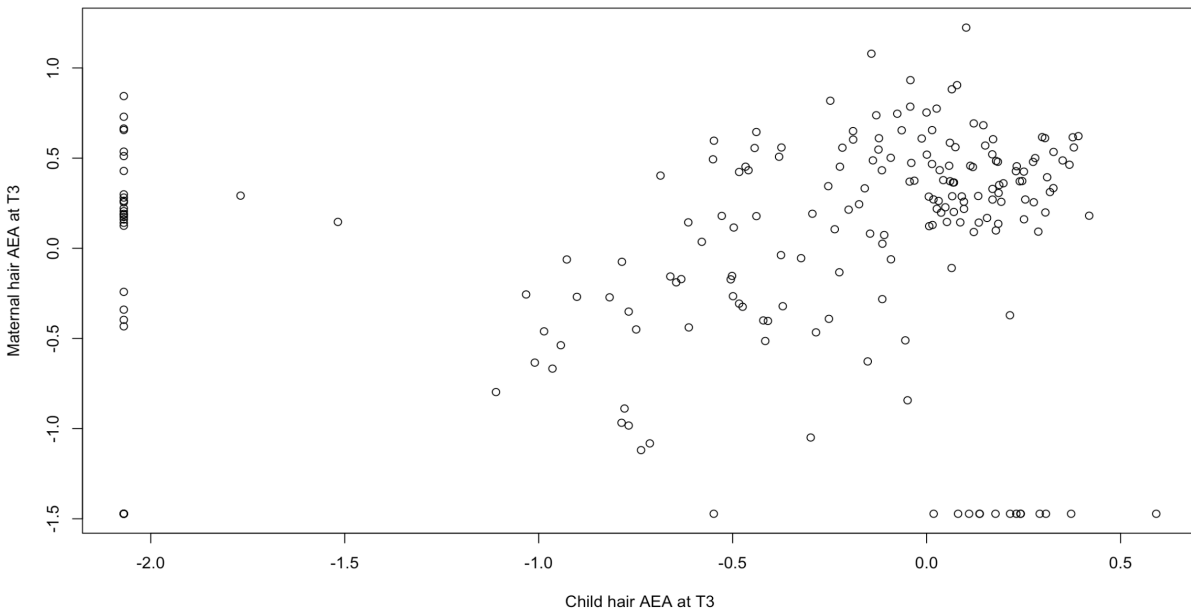
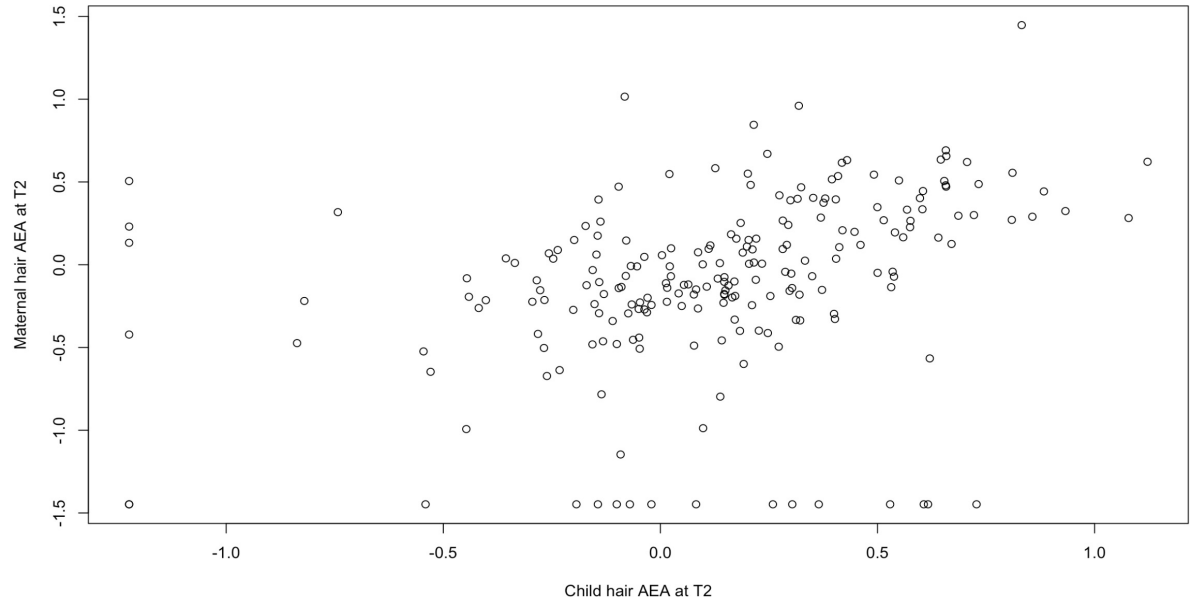
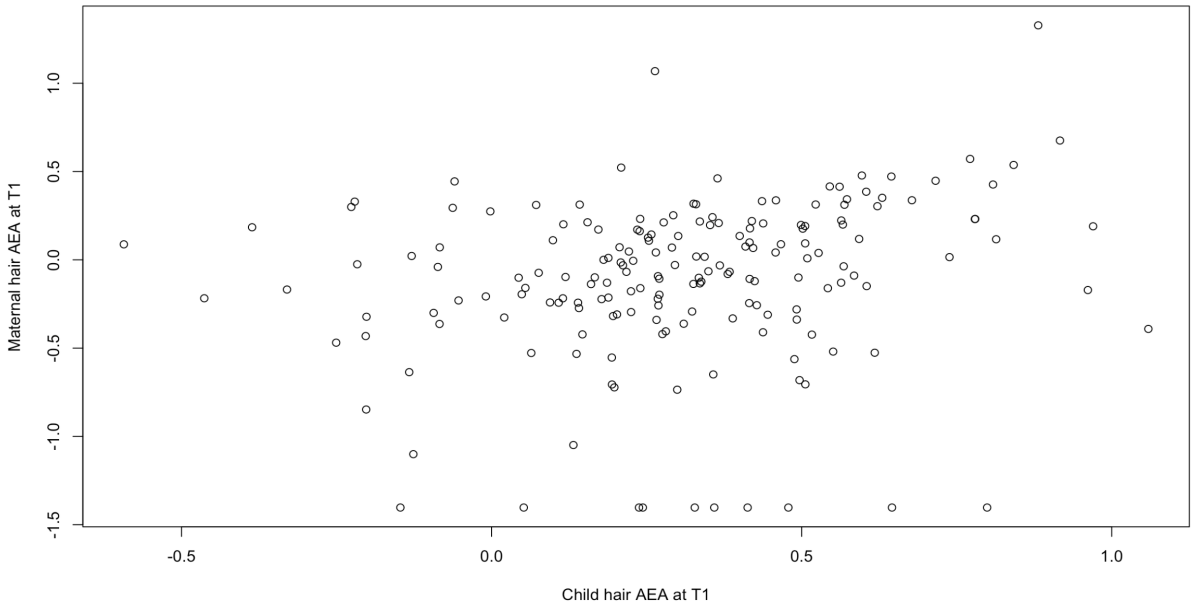
Relative Stability Children



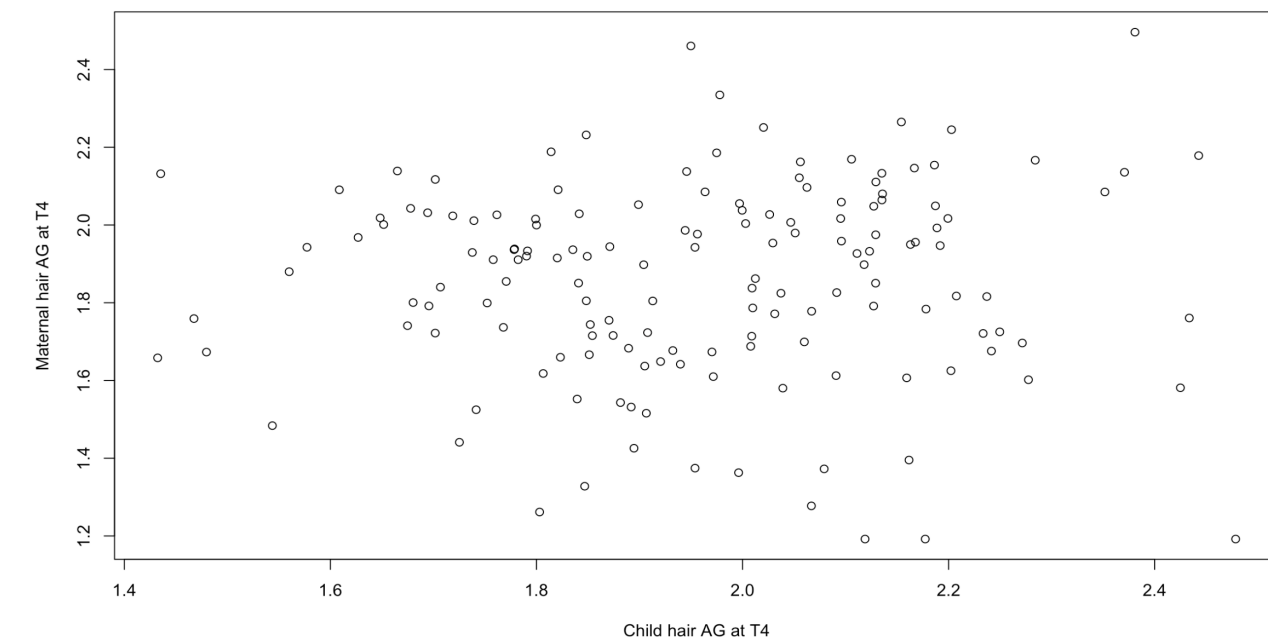
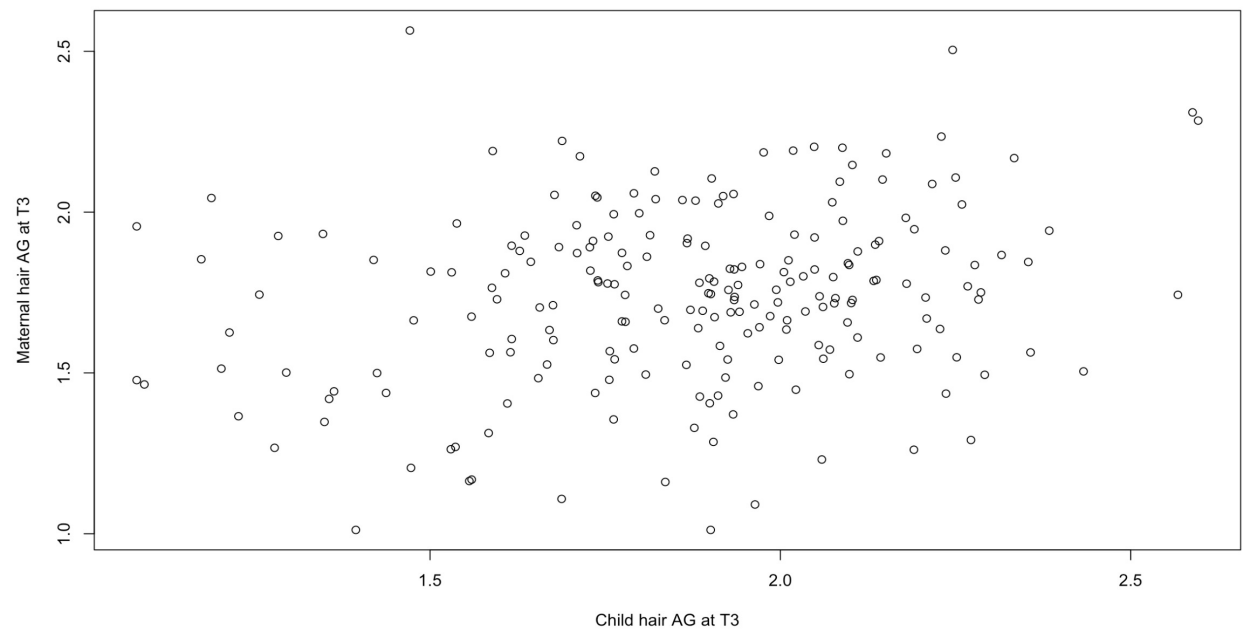
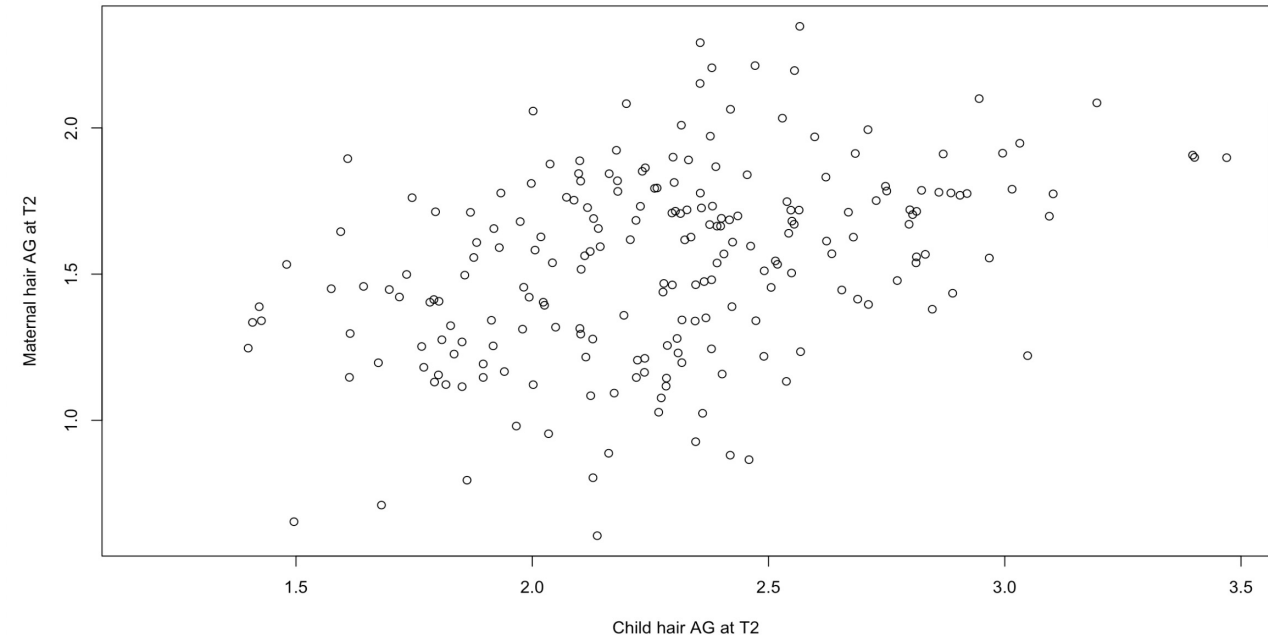
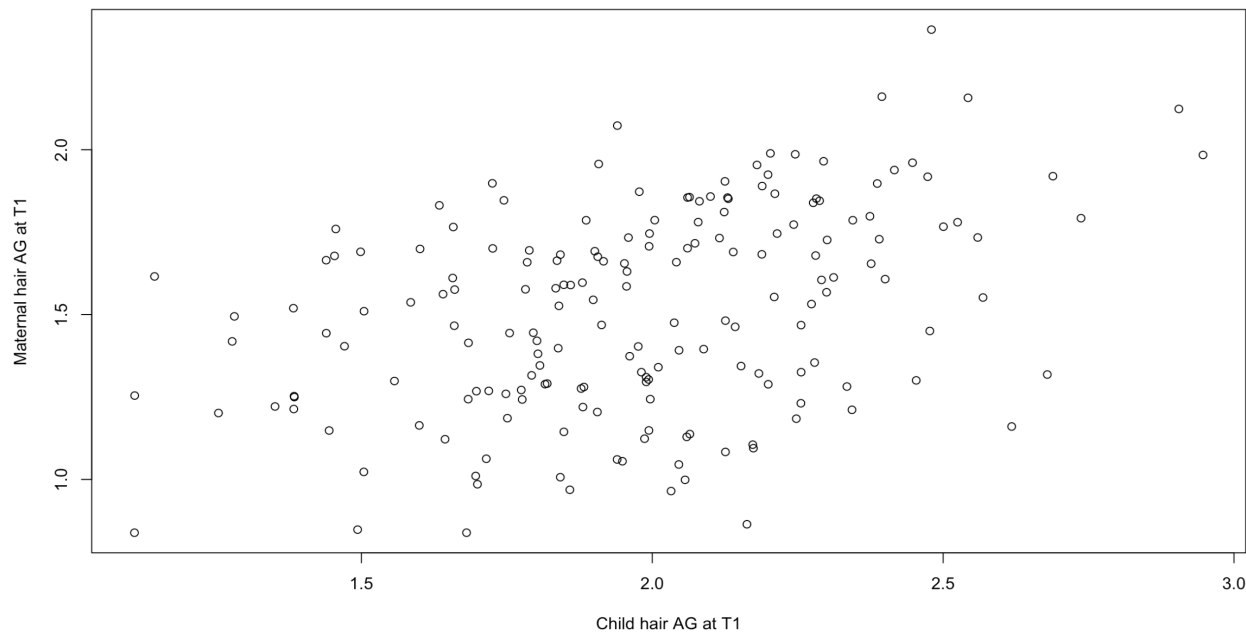
Relative Stability Children



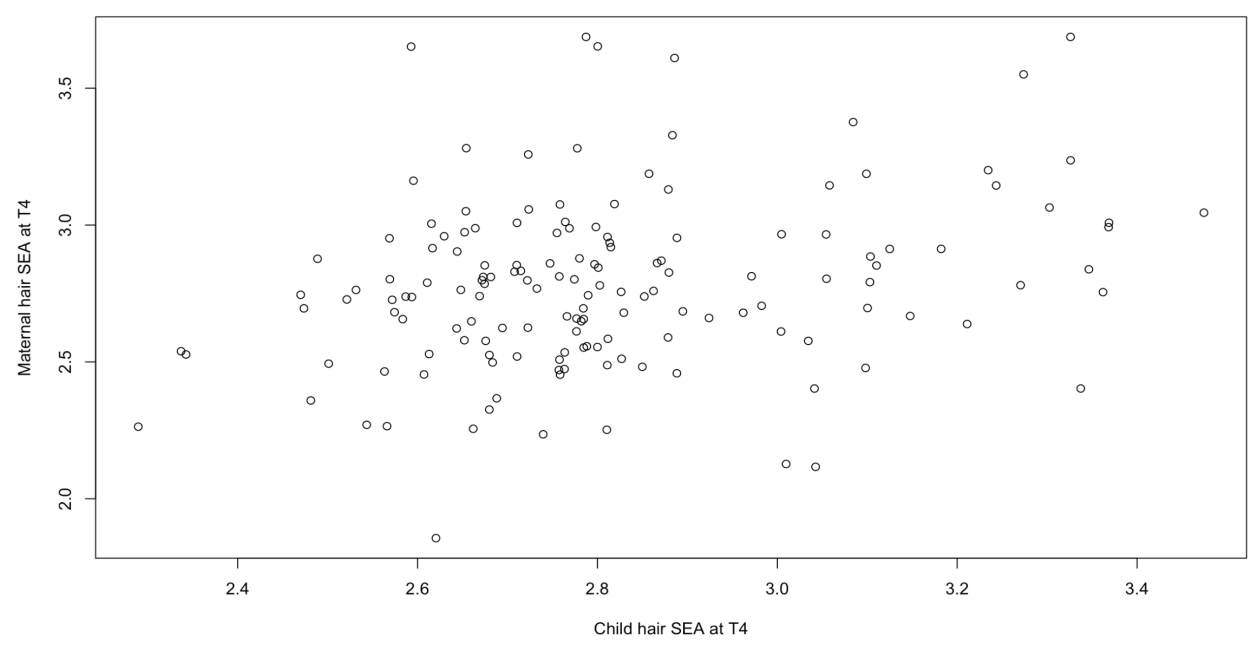
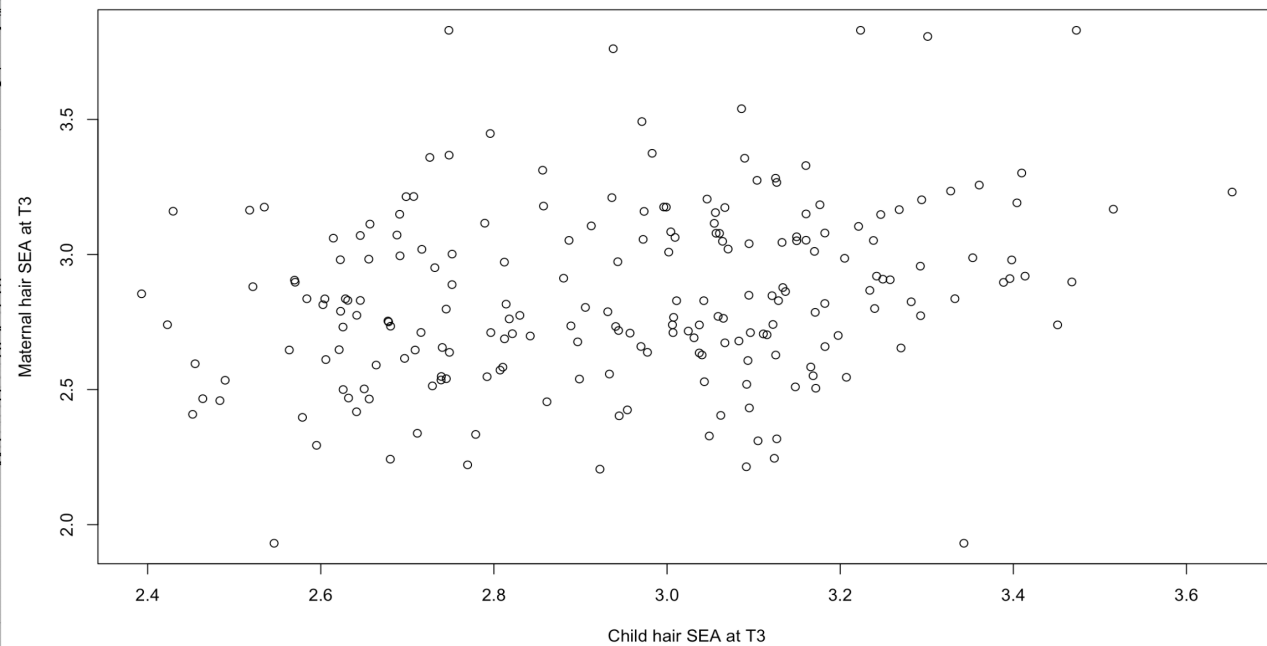
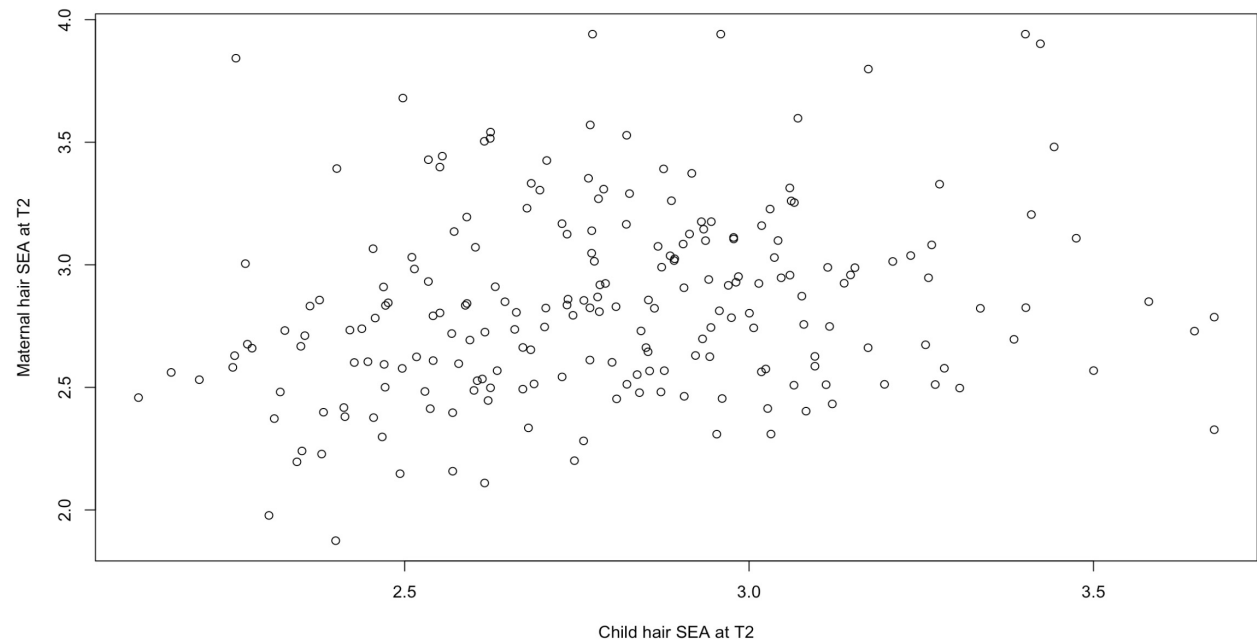
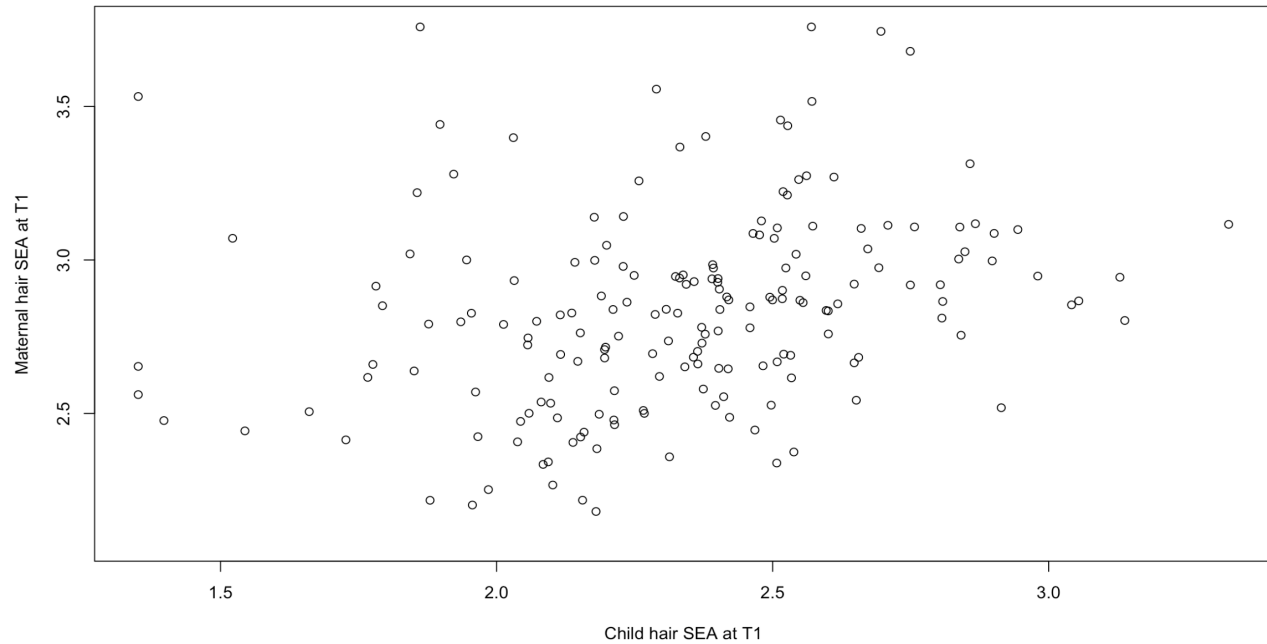
Inter-family association for hair AEA Mother-Child



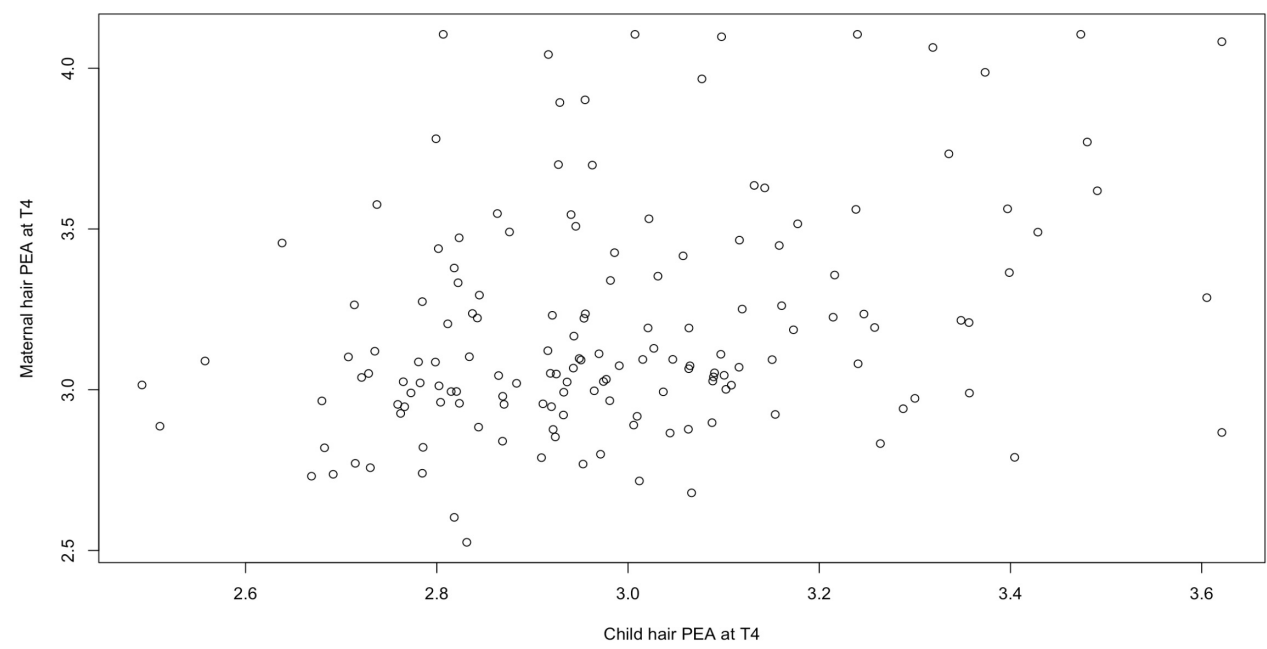
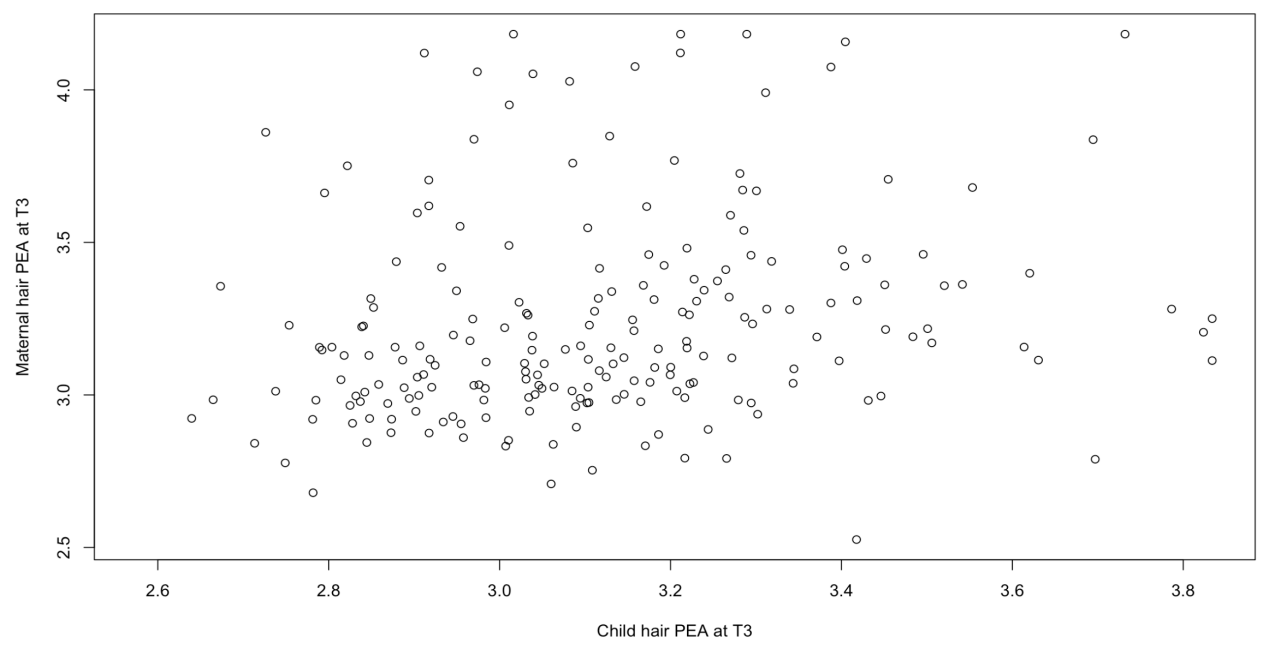
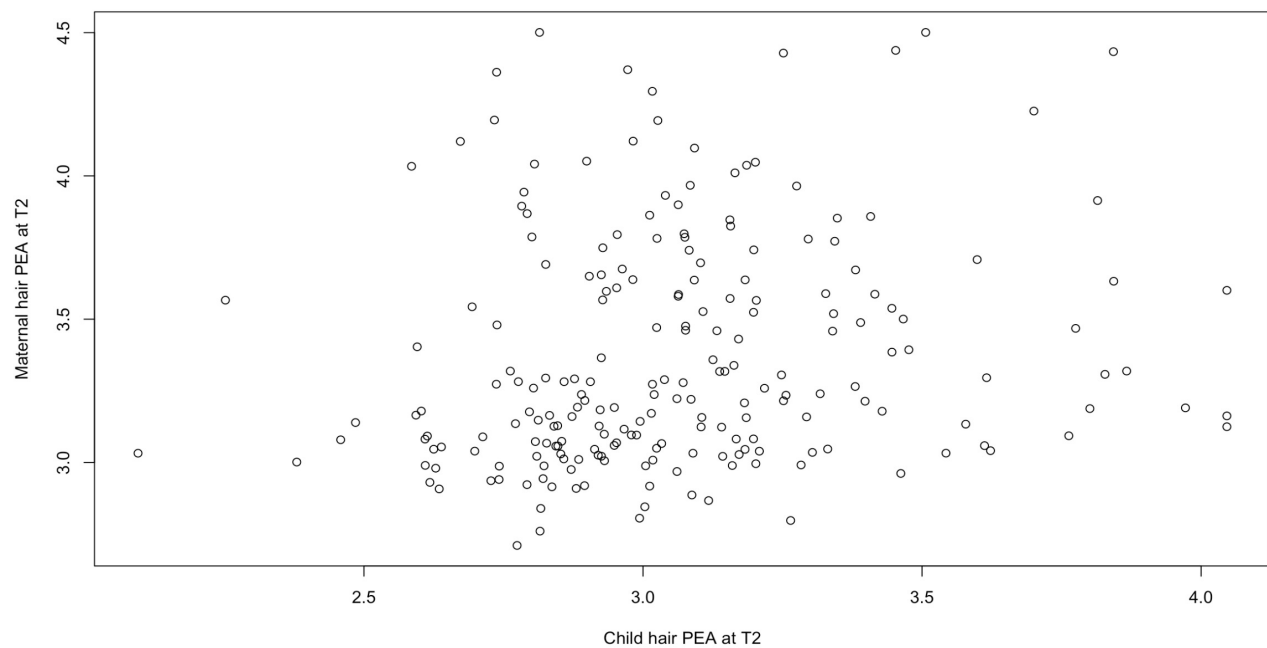
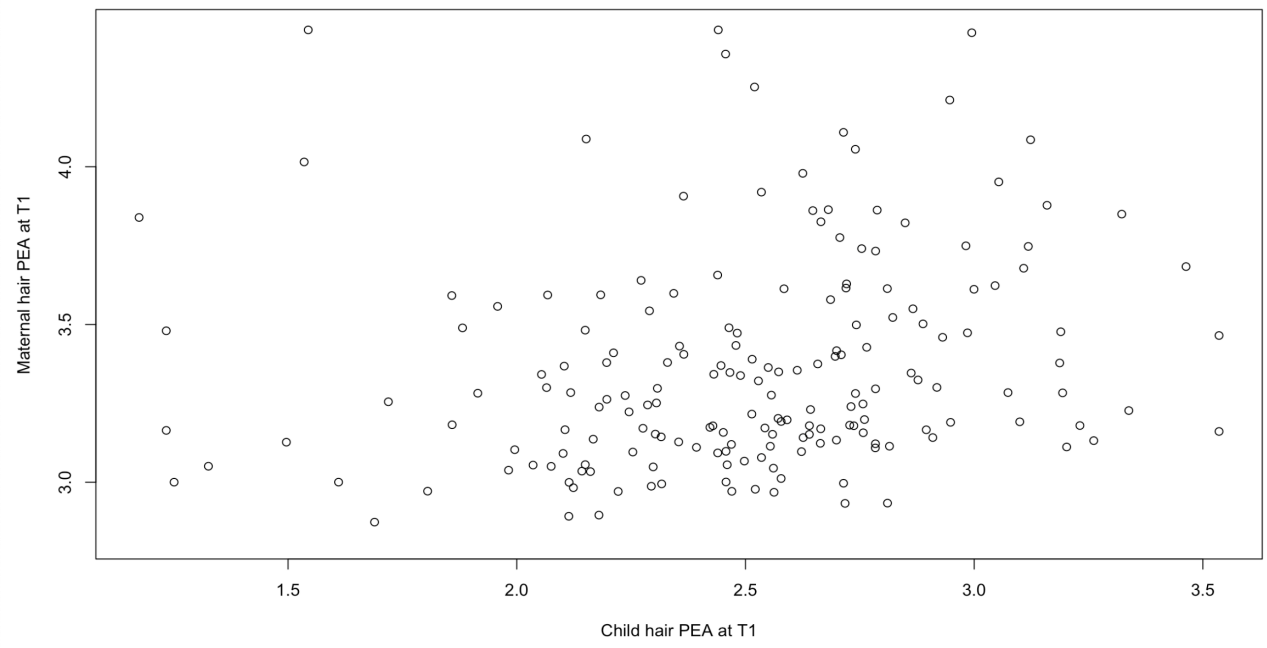
Inter-family association for hair 1-AG/2-AG Mother-Child



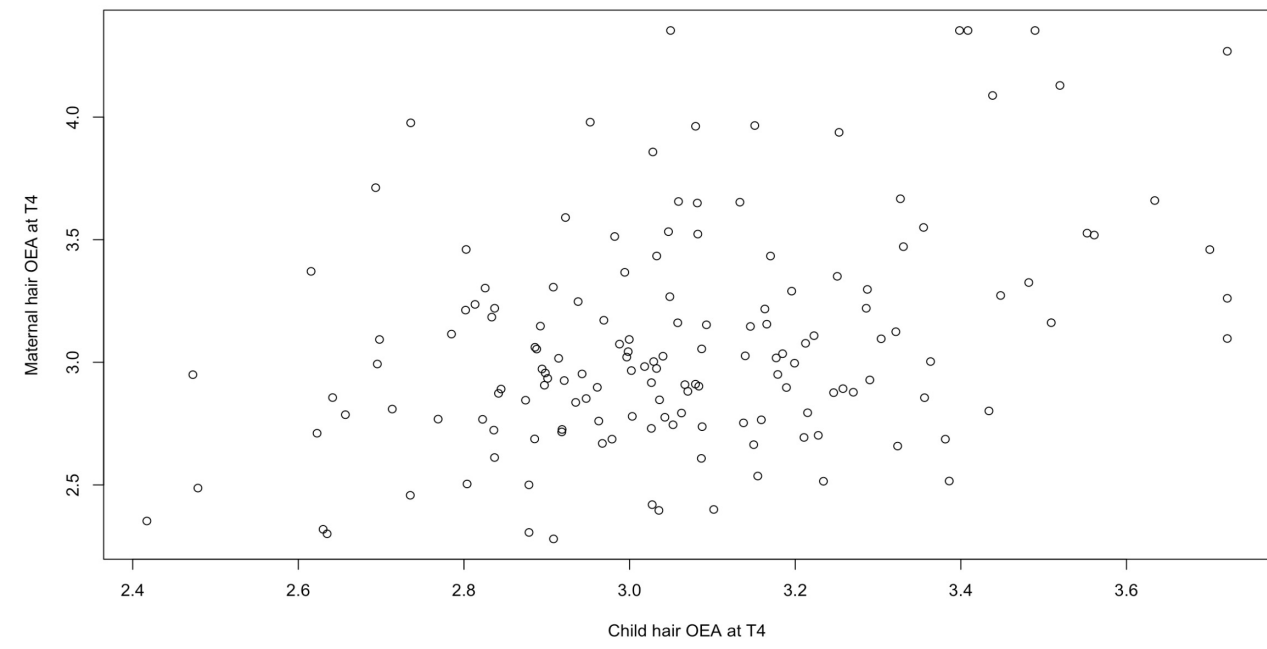
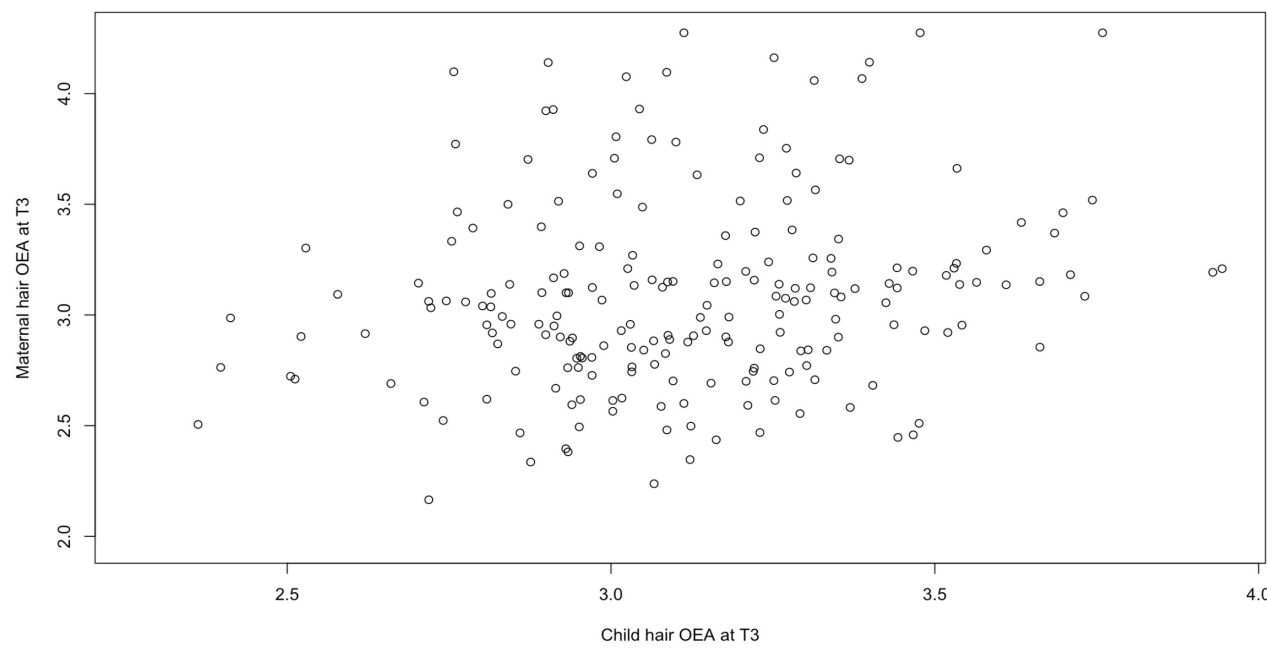
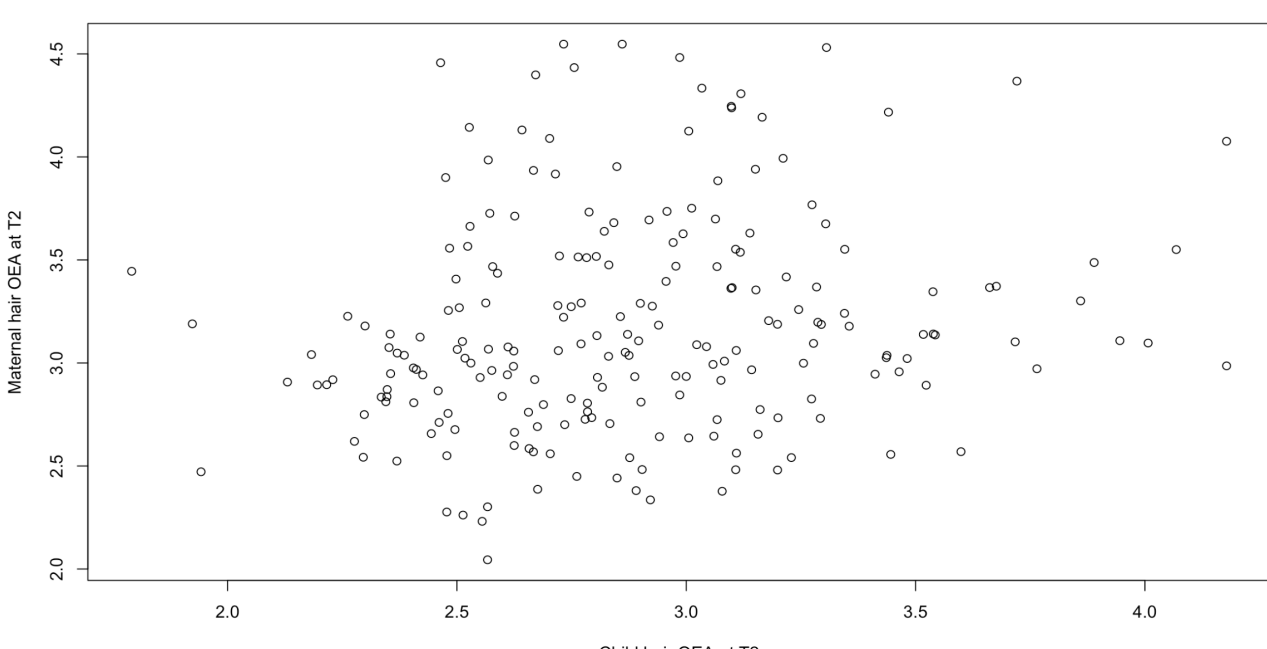
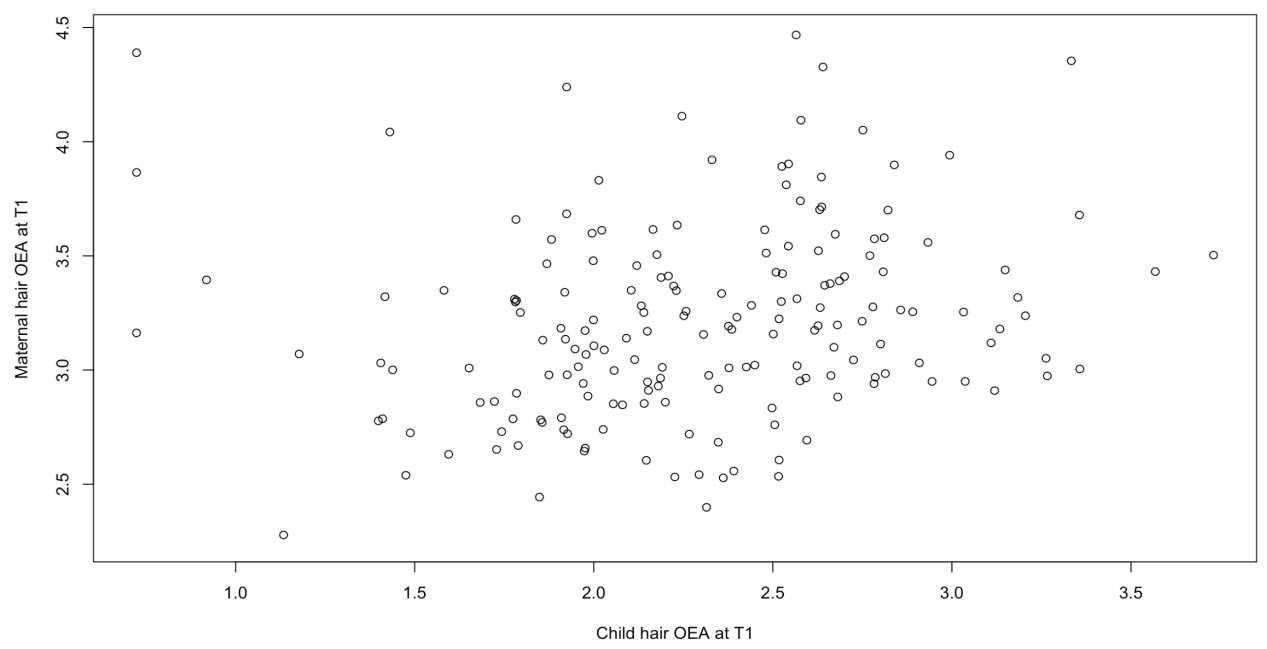
Inter-family association for hair SEA Mother-Child



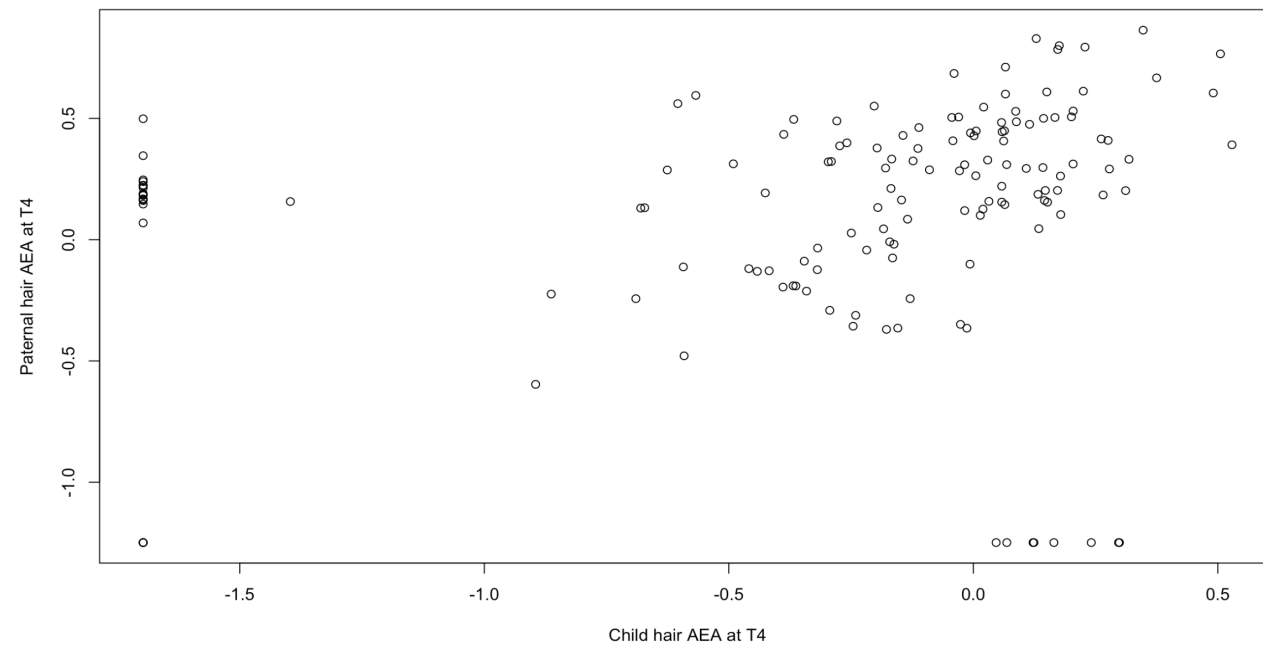
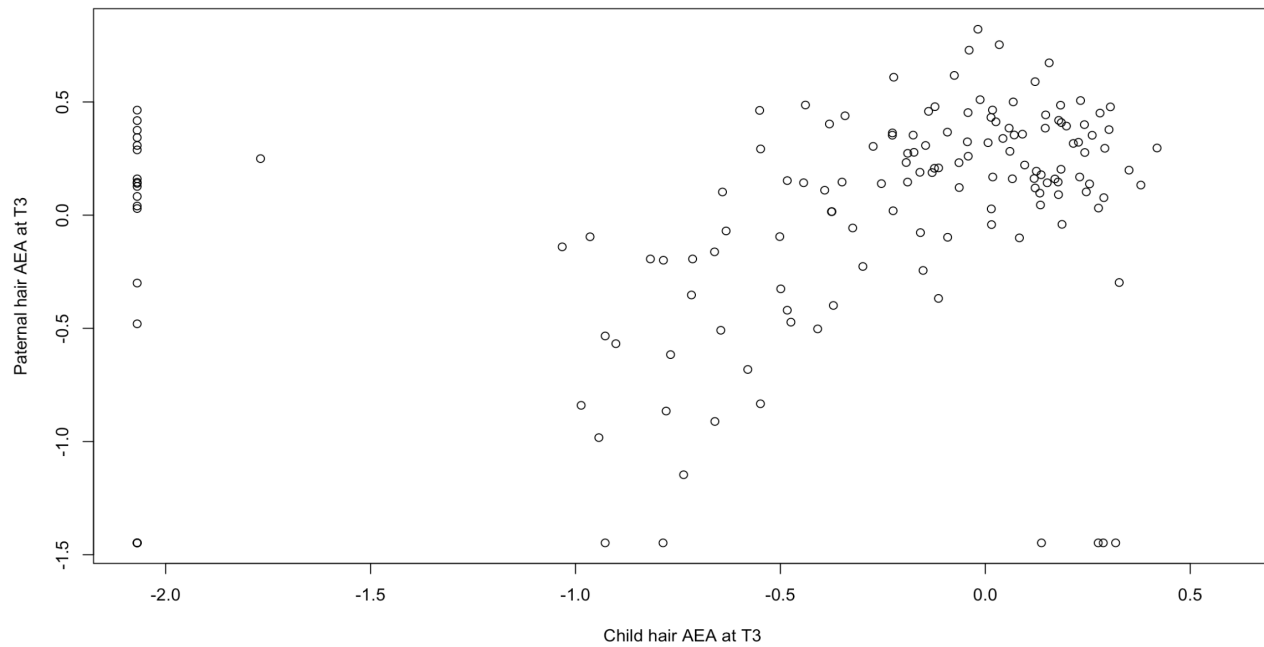
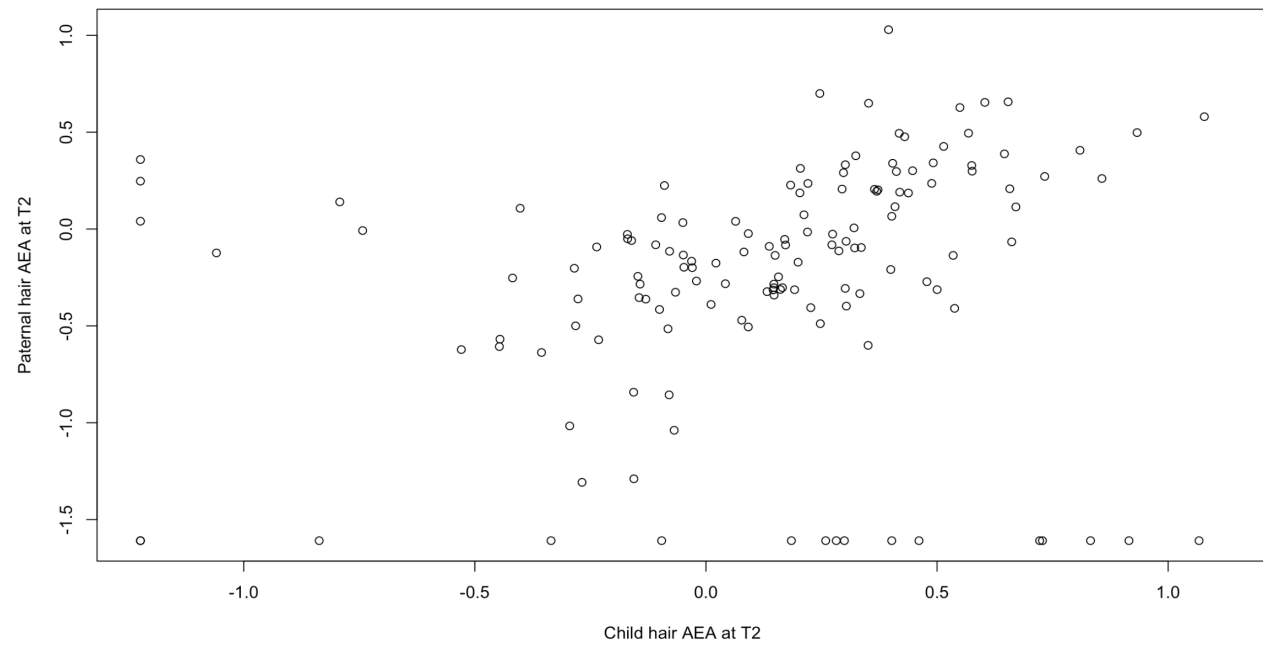
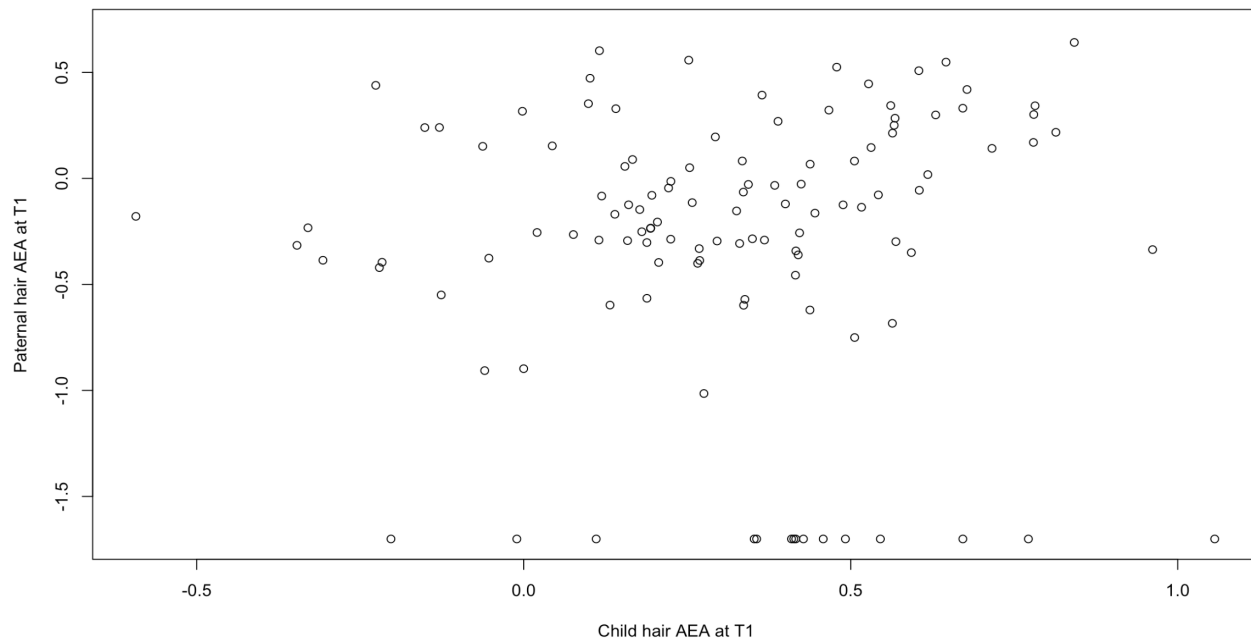
Inter-family association for hair PEA Mother-Child



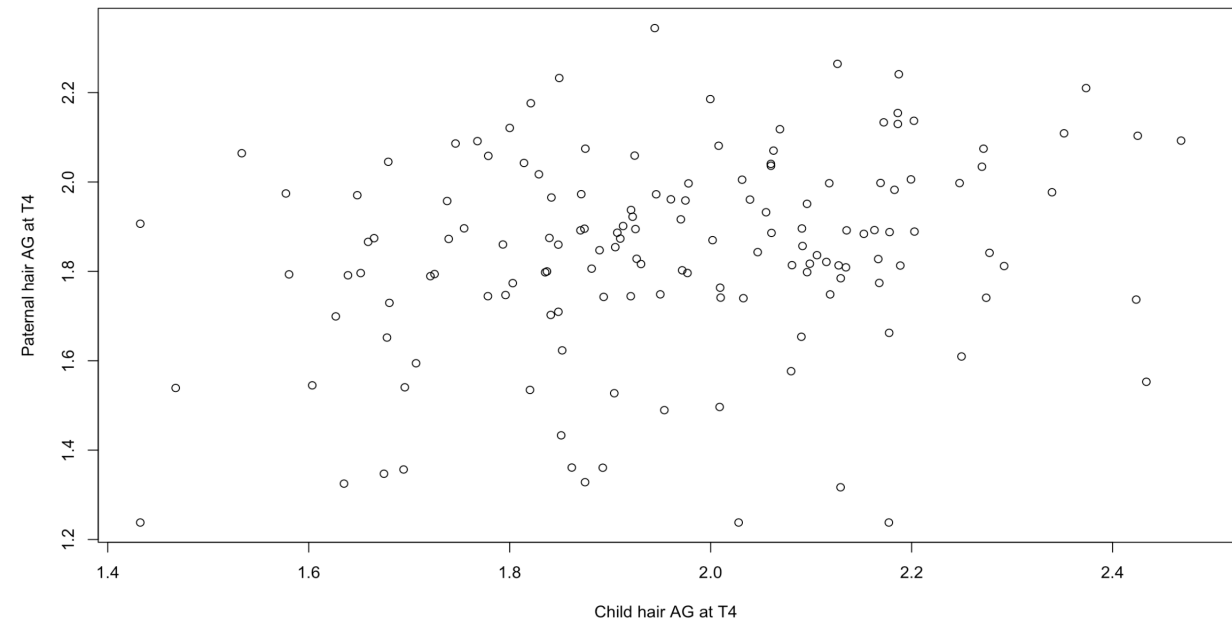
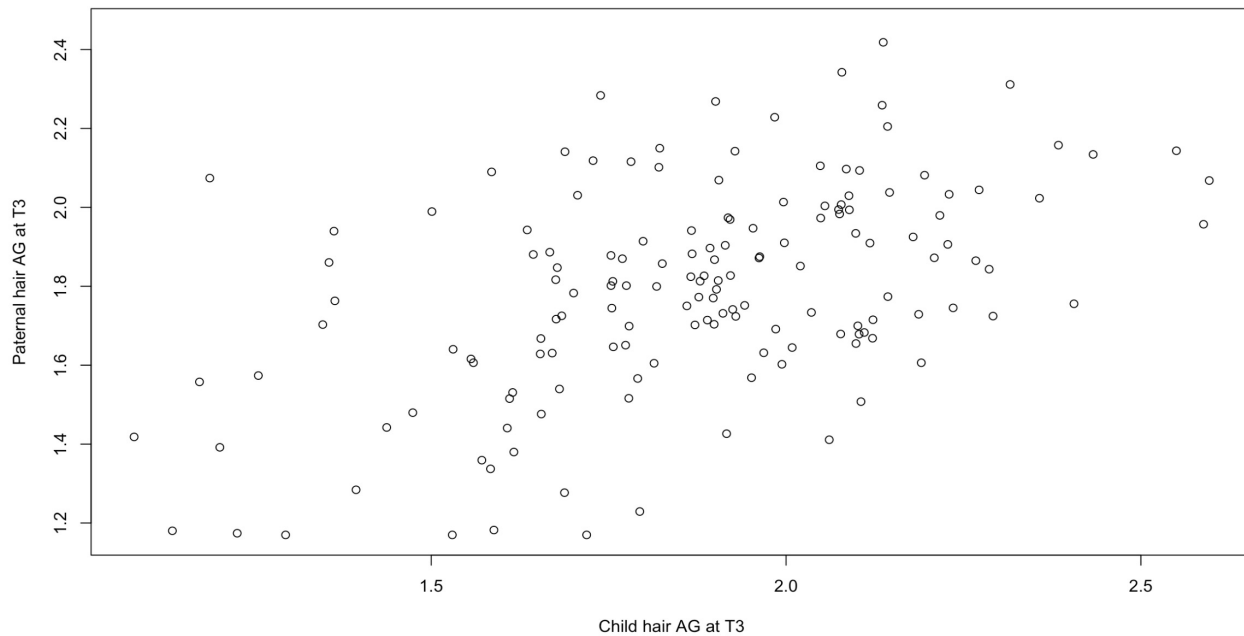
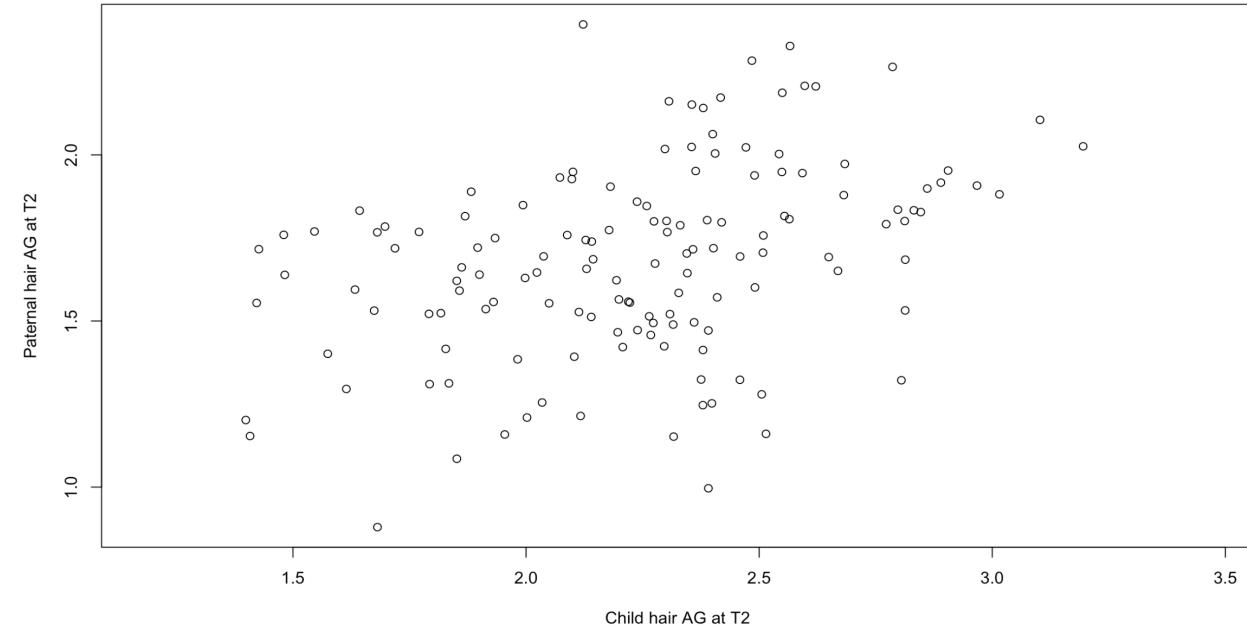
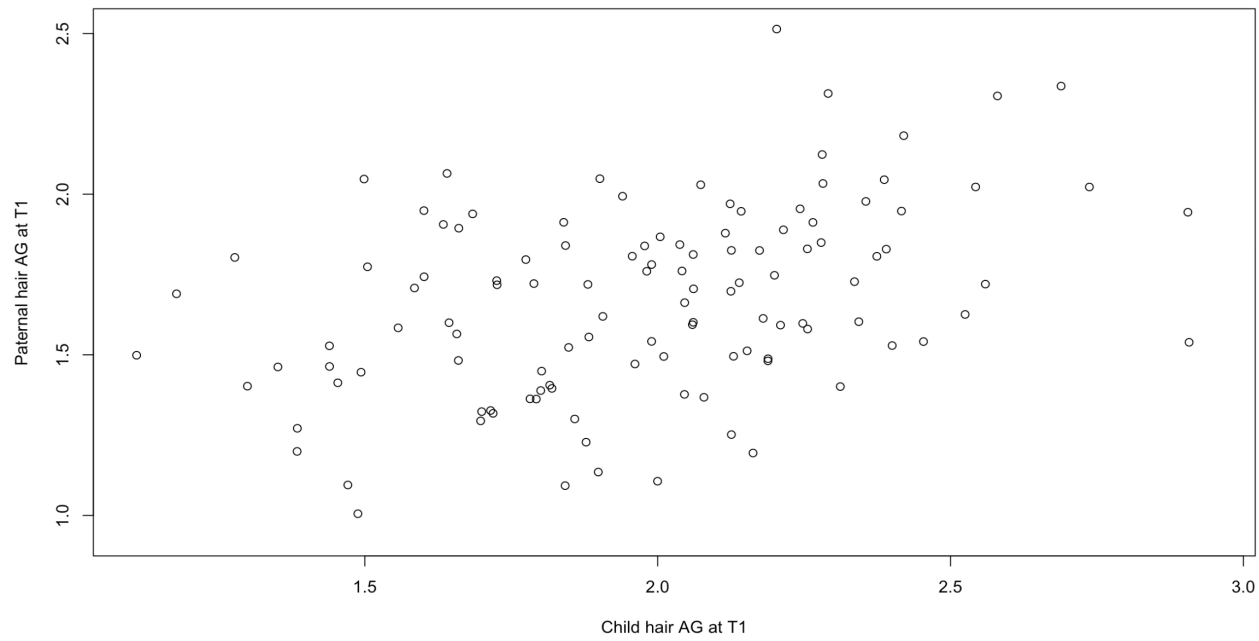
Inter-family association for hair OEA Mother-Child



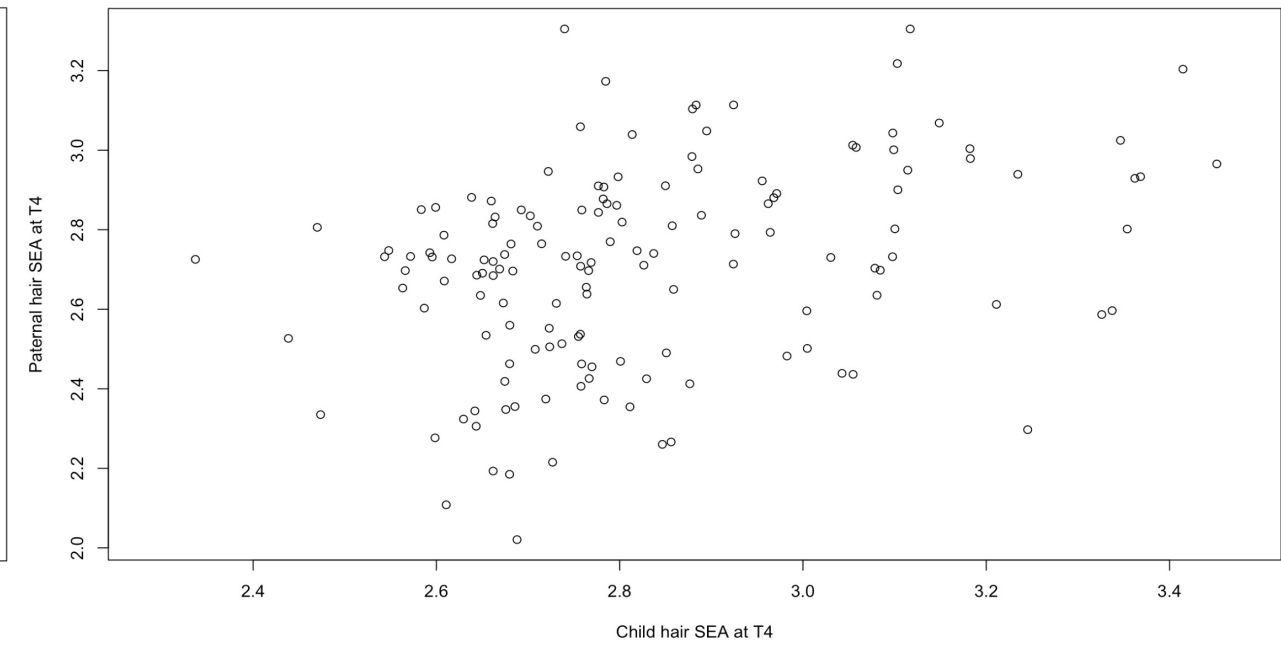
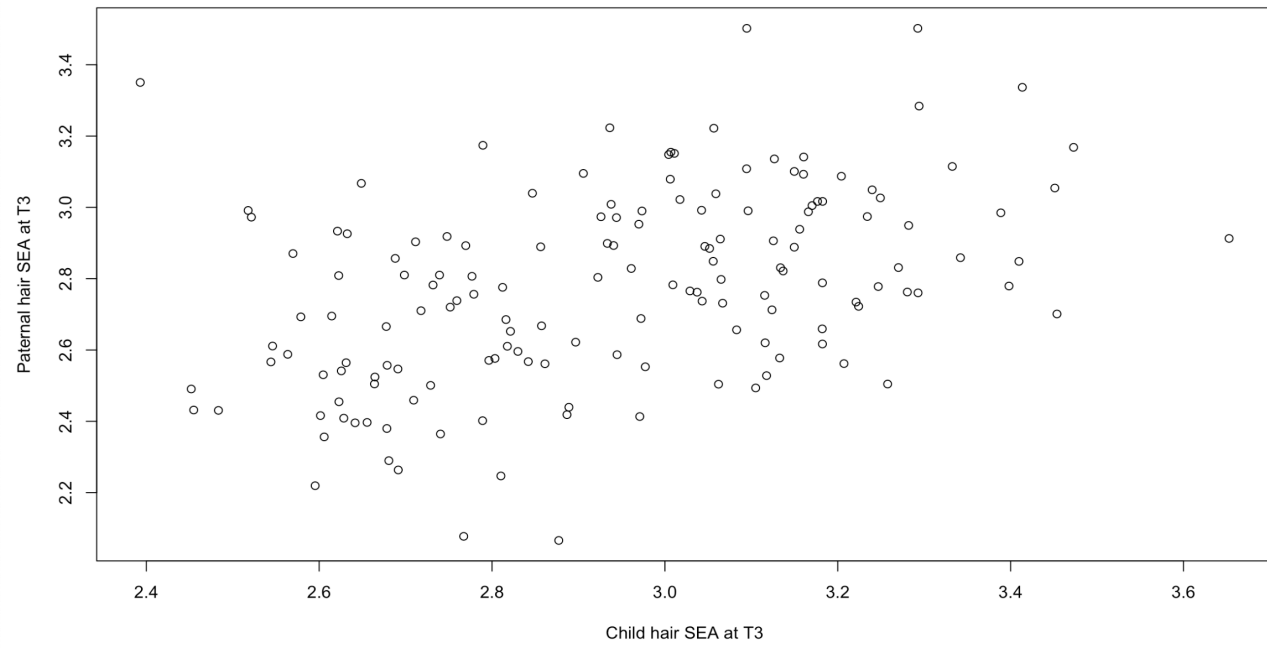
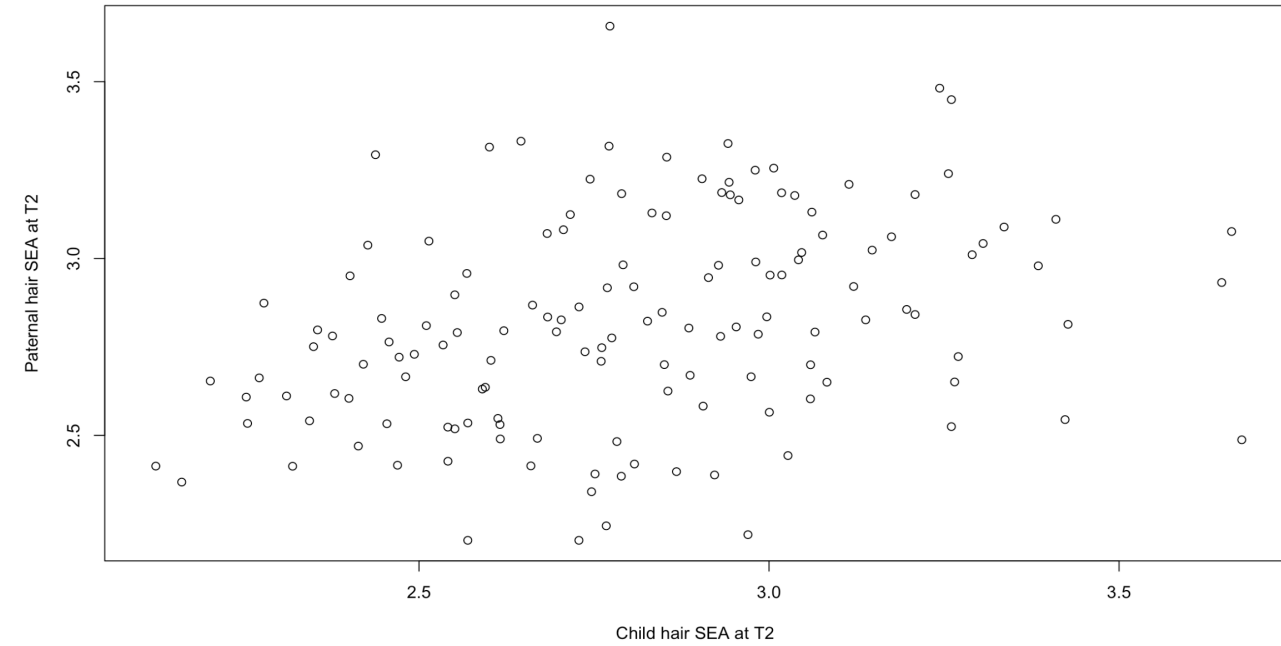
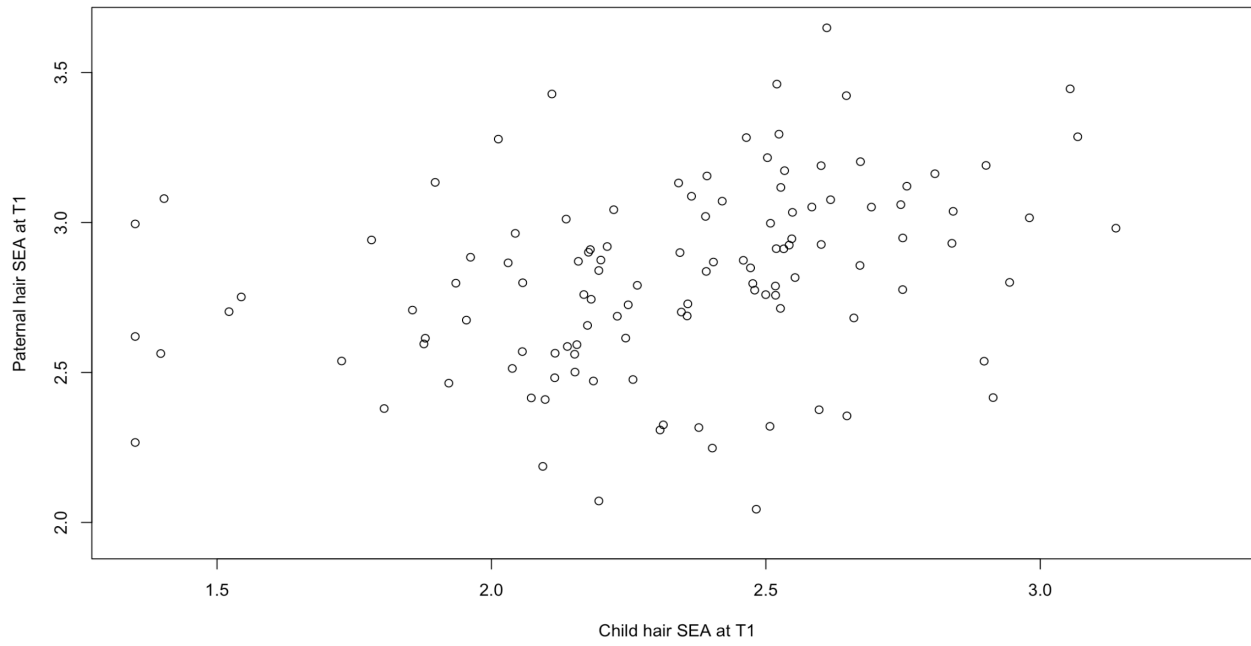
Inter-family association for hair AEA Father-Child



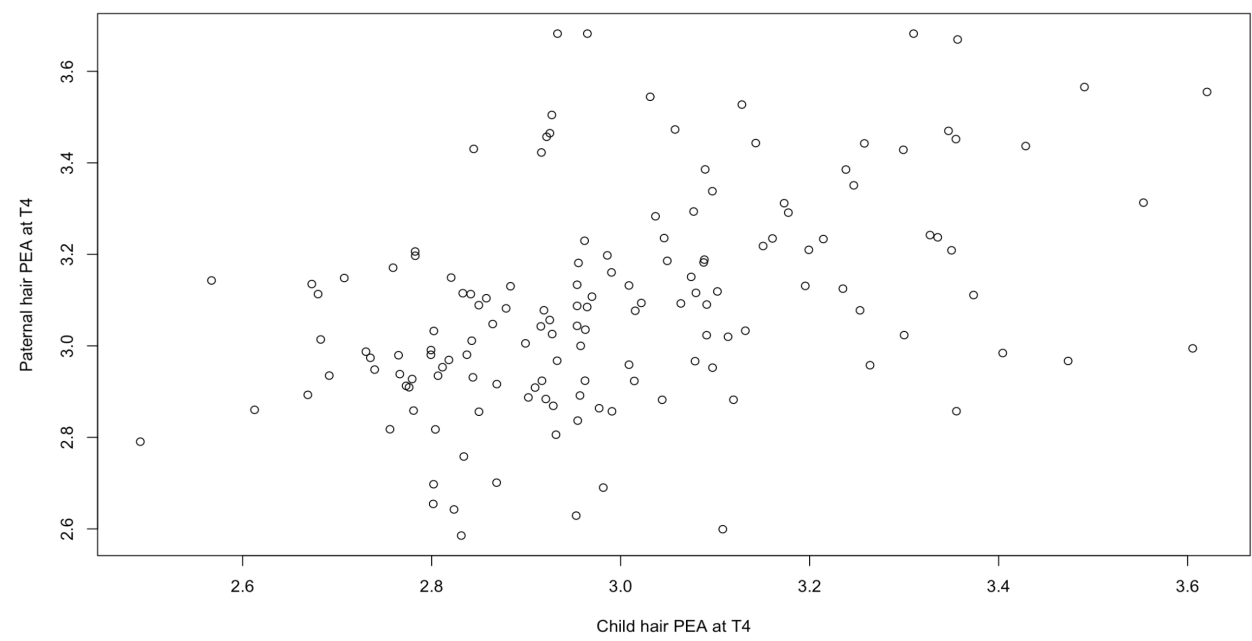
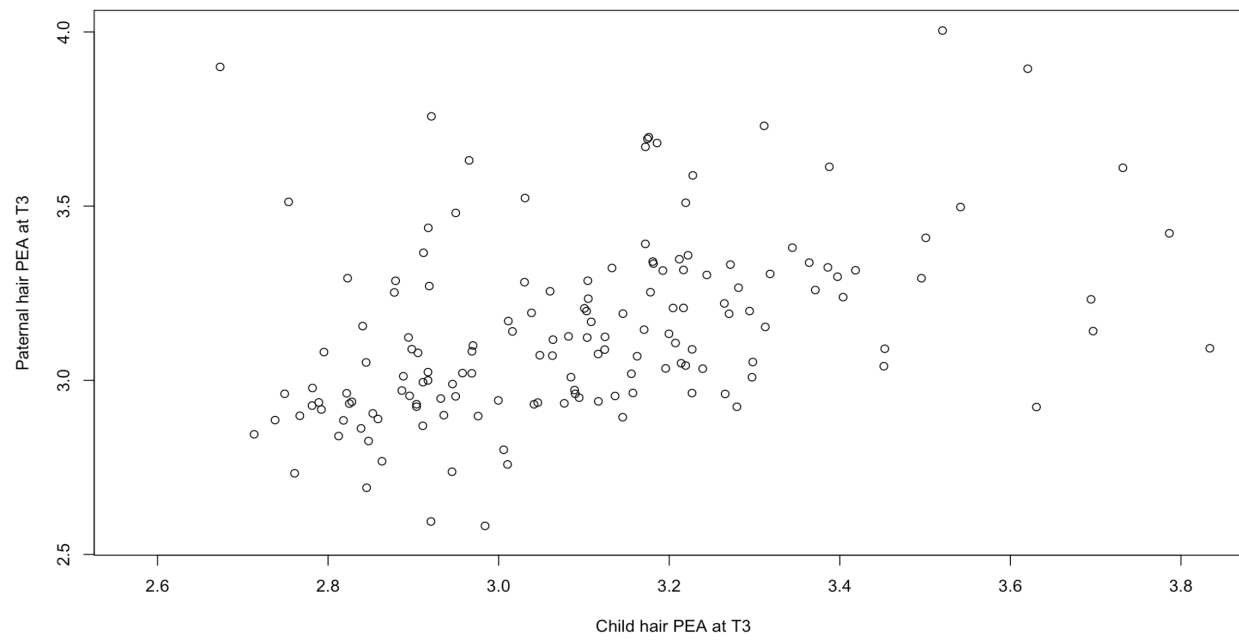
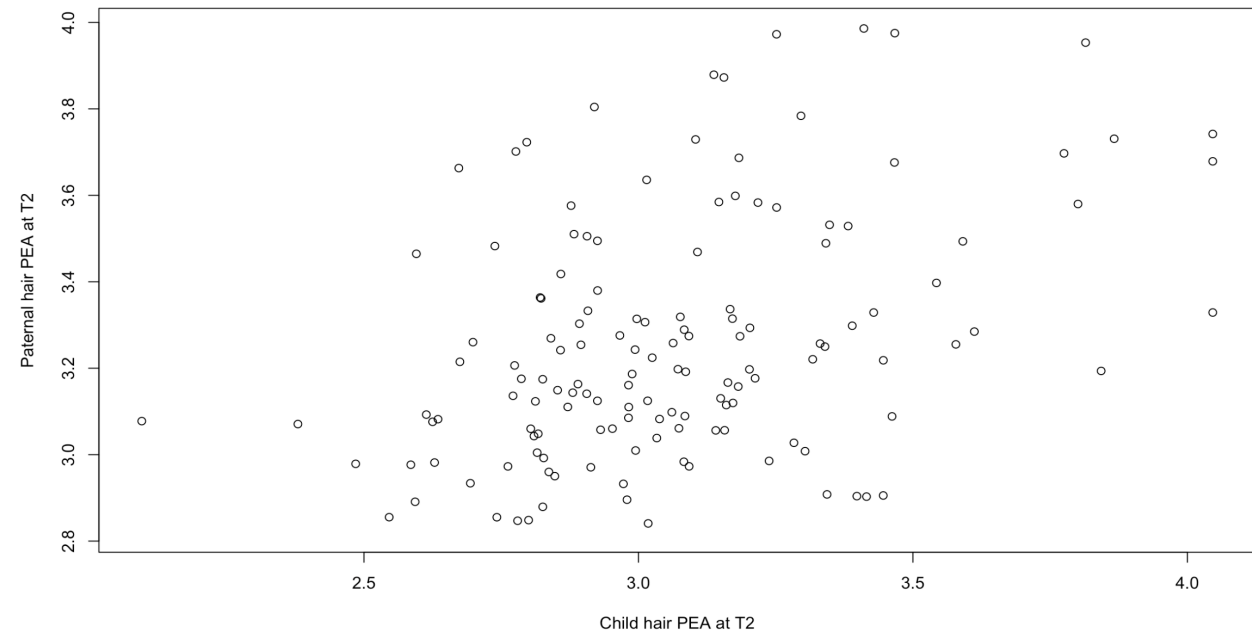
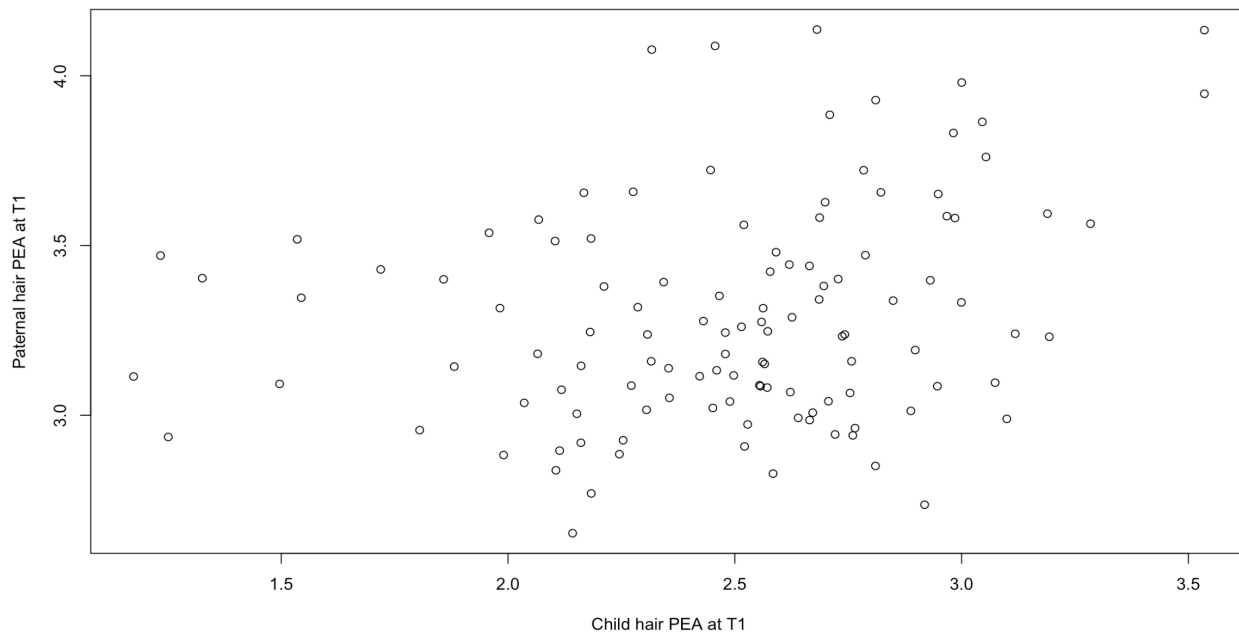
Inter-family association for hair 1-AG/2-AG Father-Child



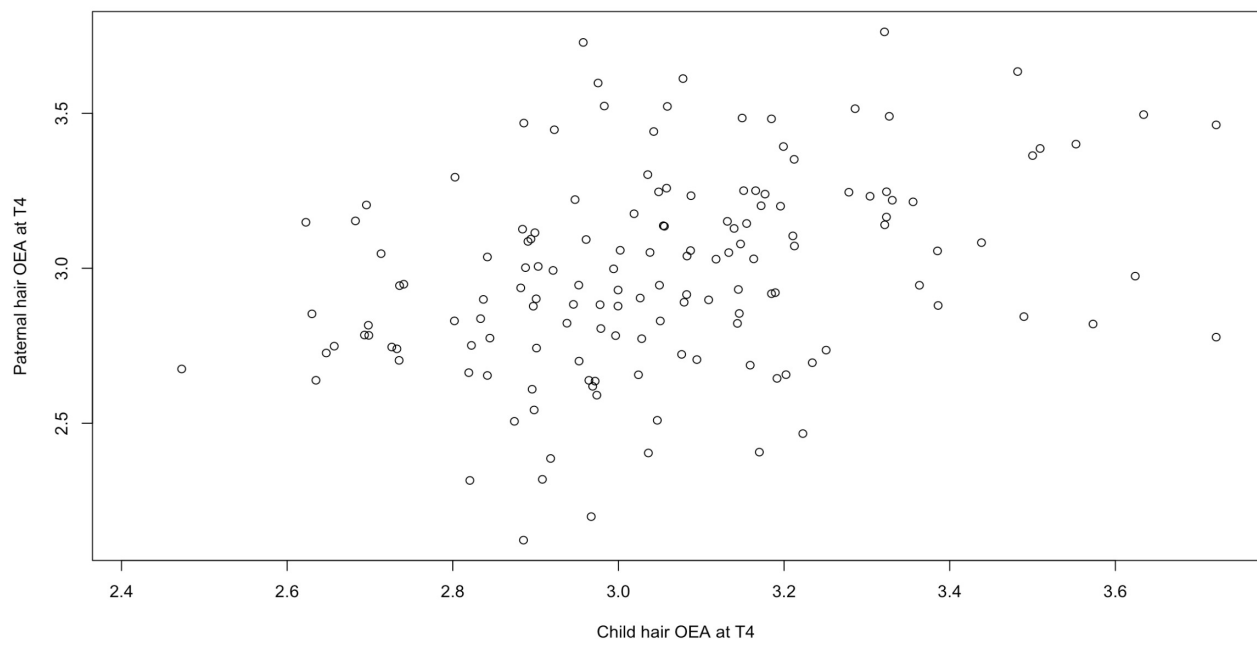
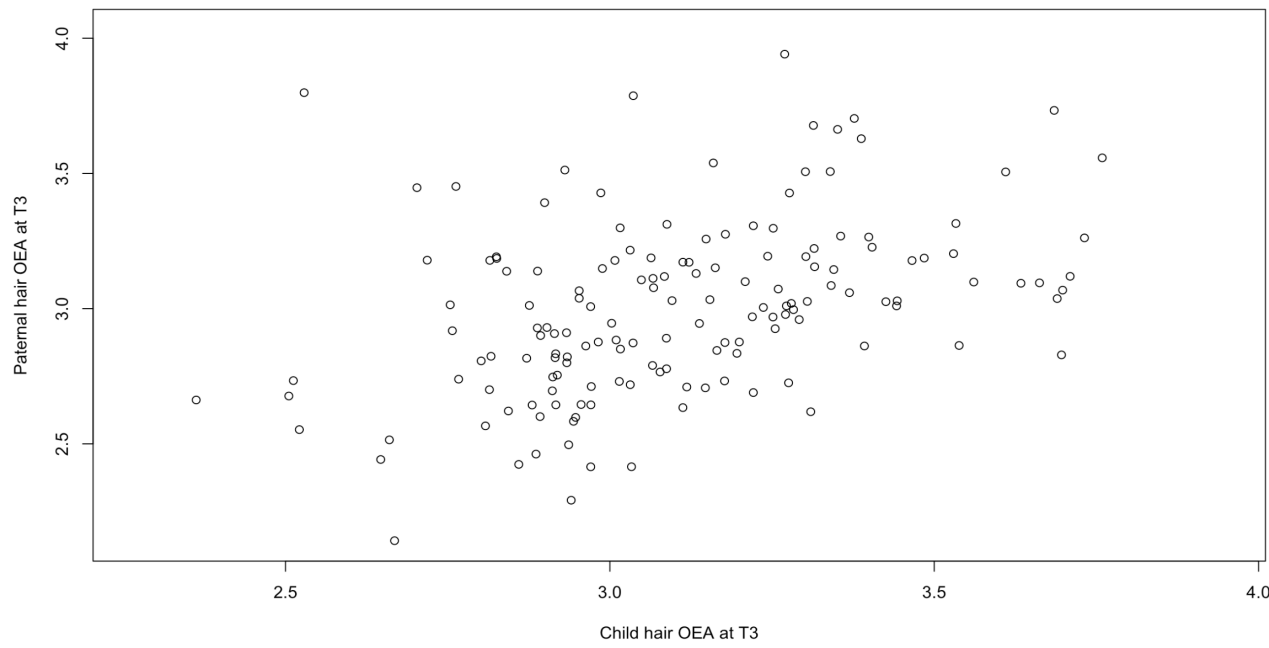
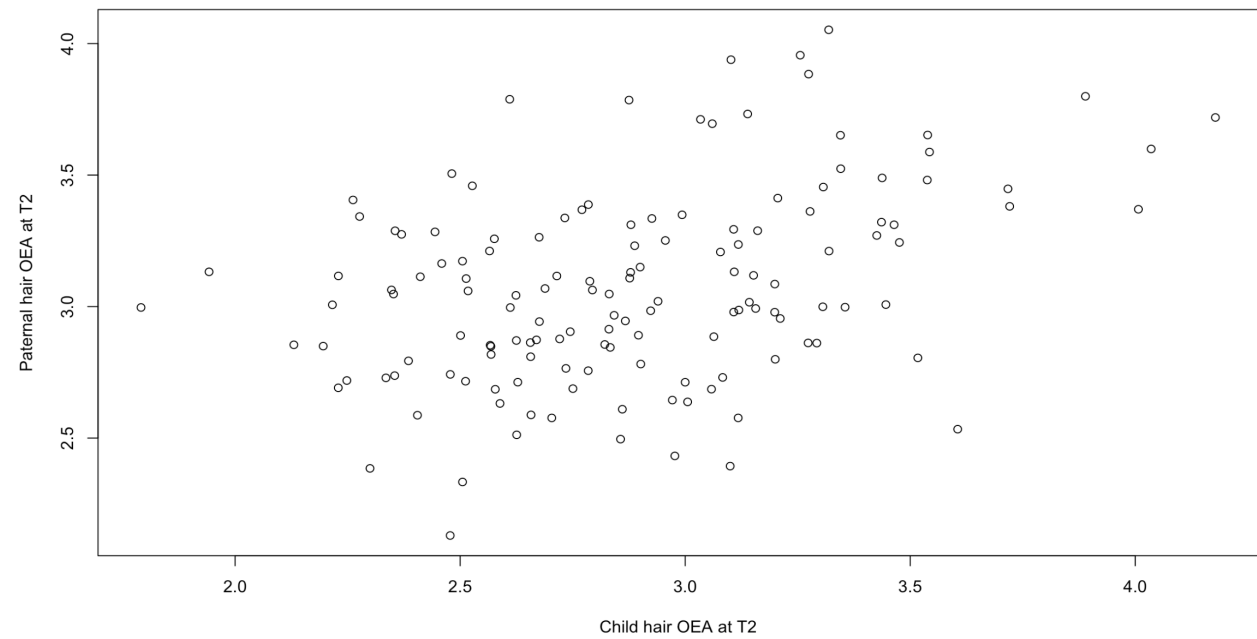
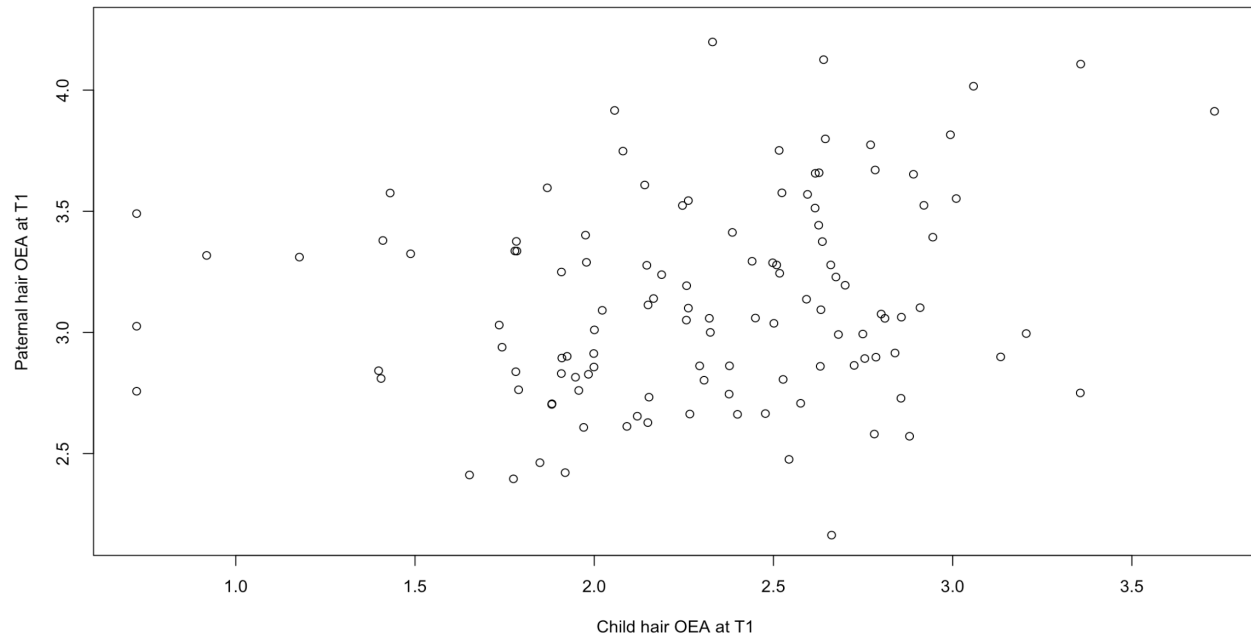
Inter-family association for hair SEA Father-Child



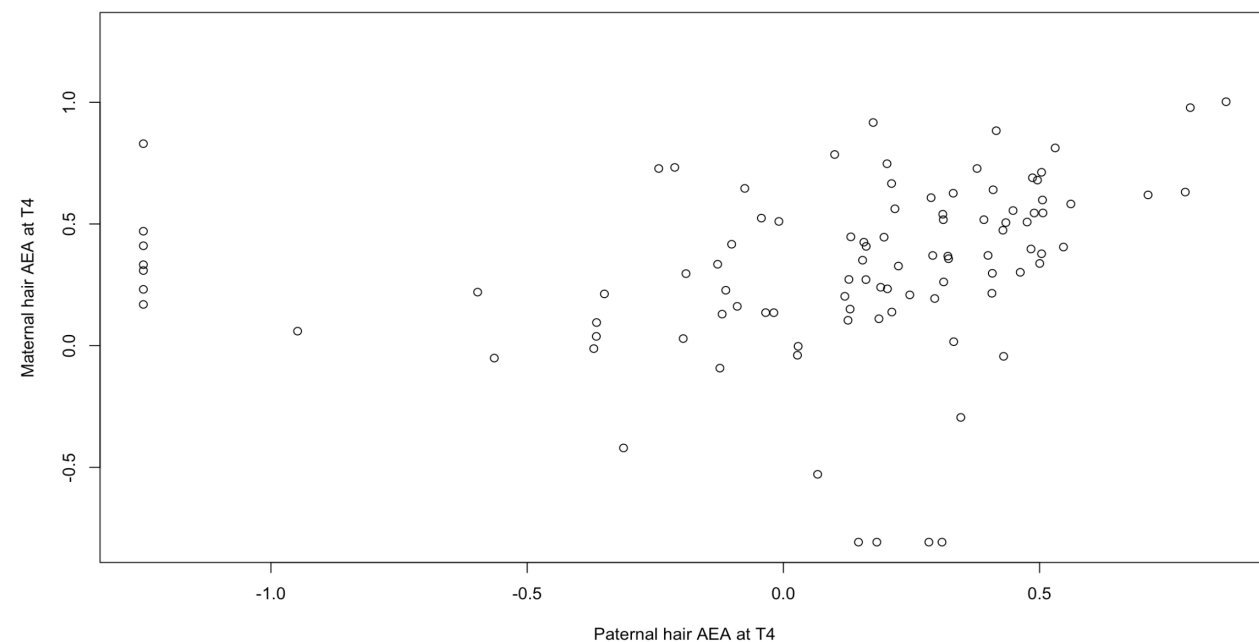
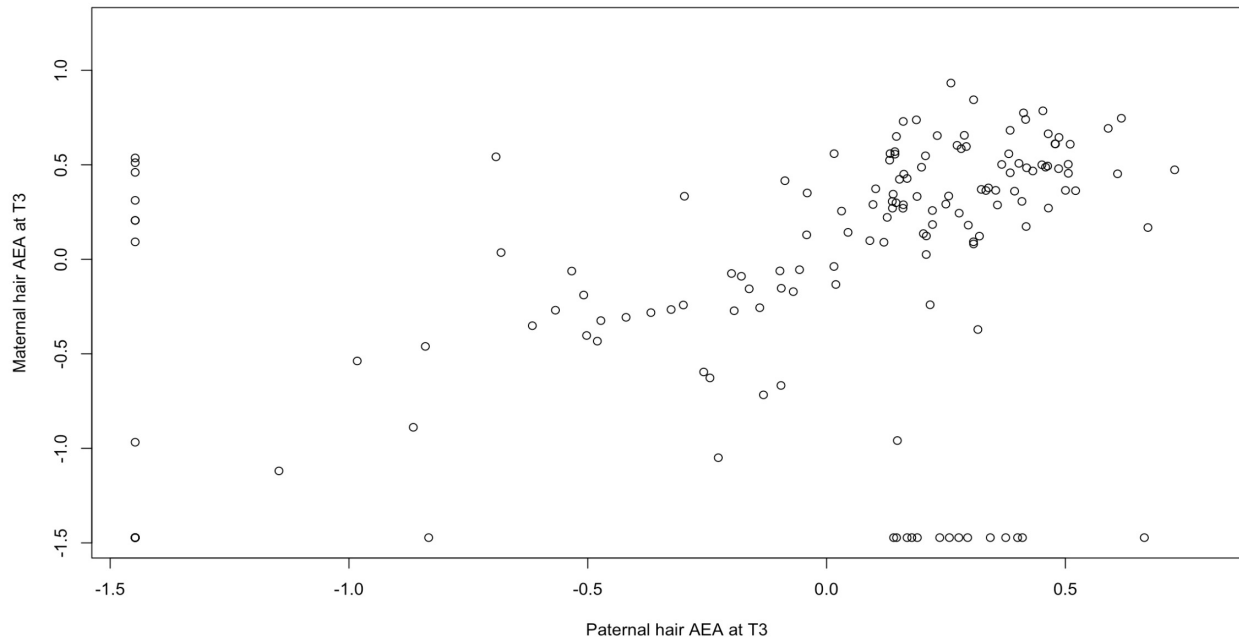
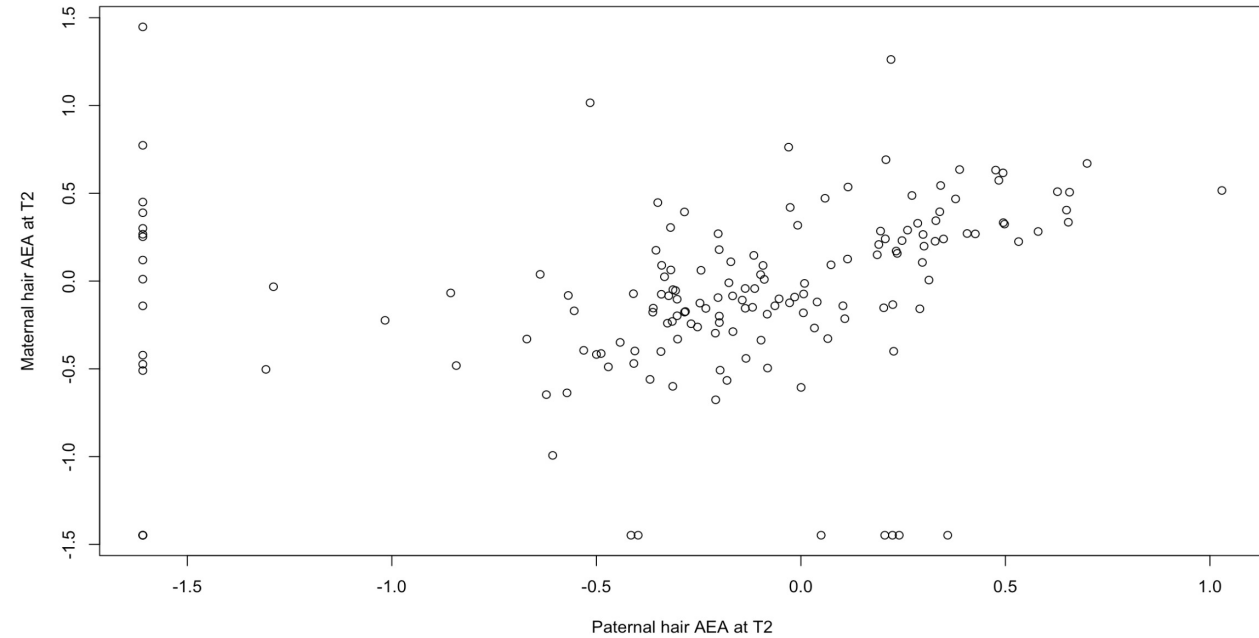
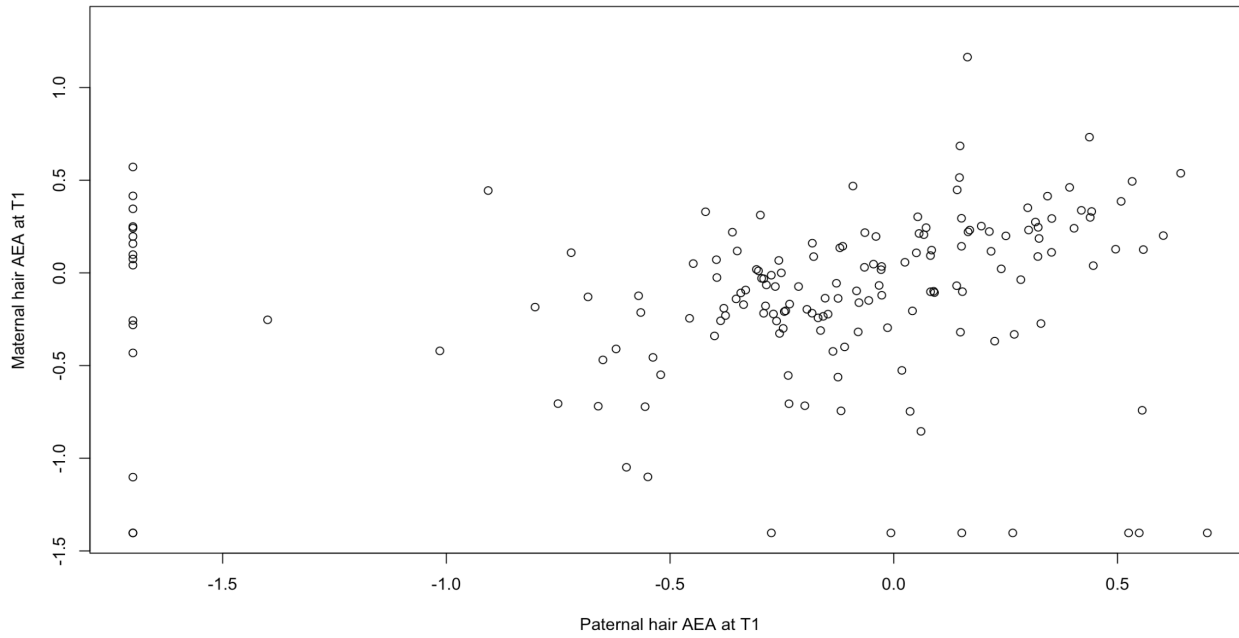
Inter-family association for hair PEA Father-Child



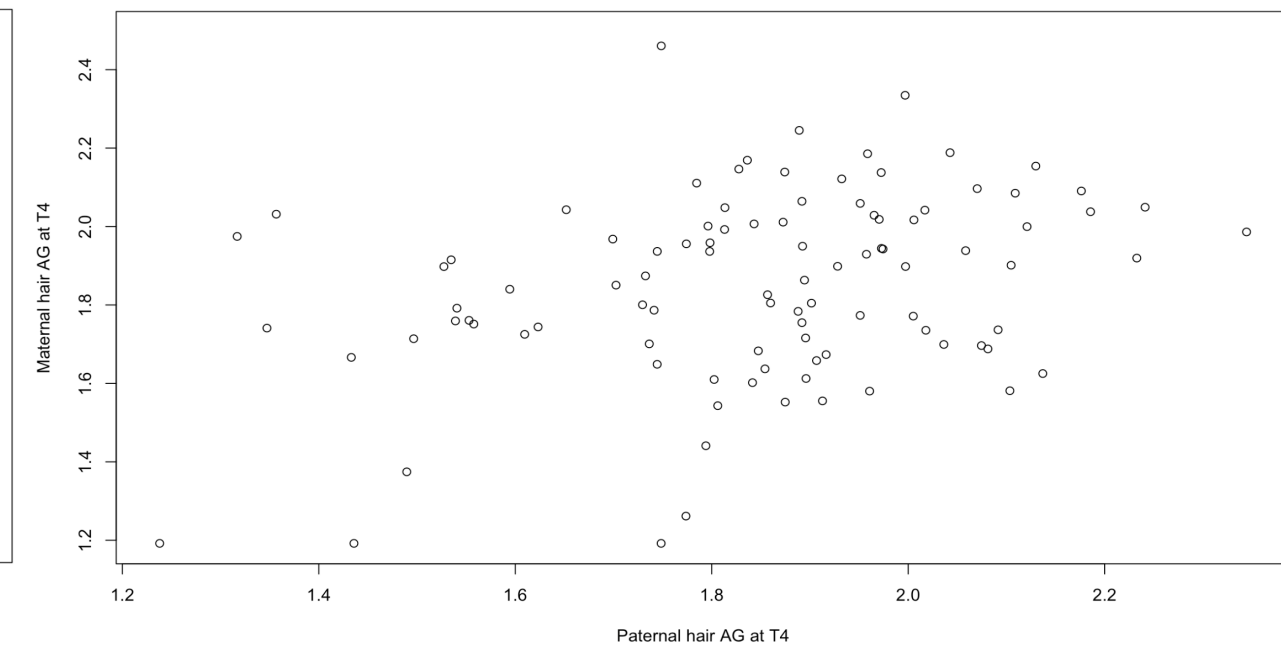
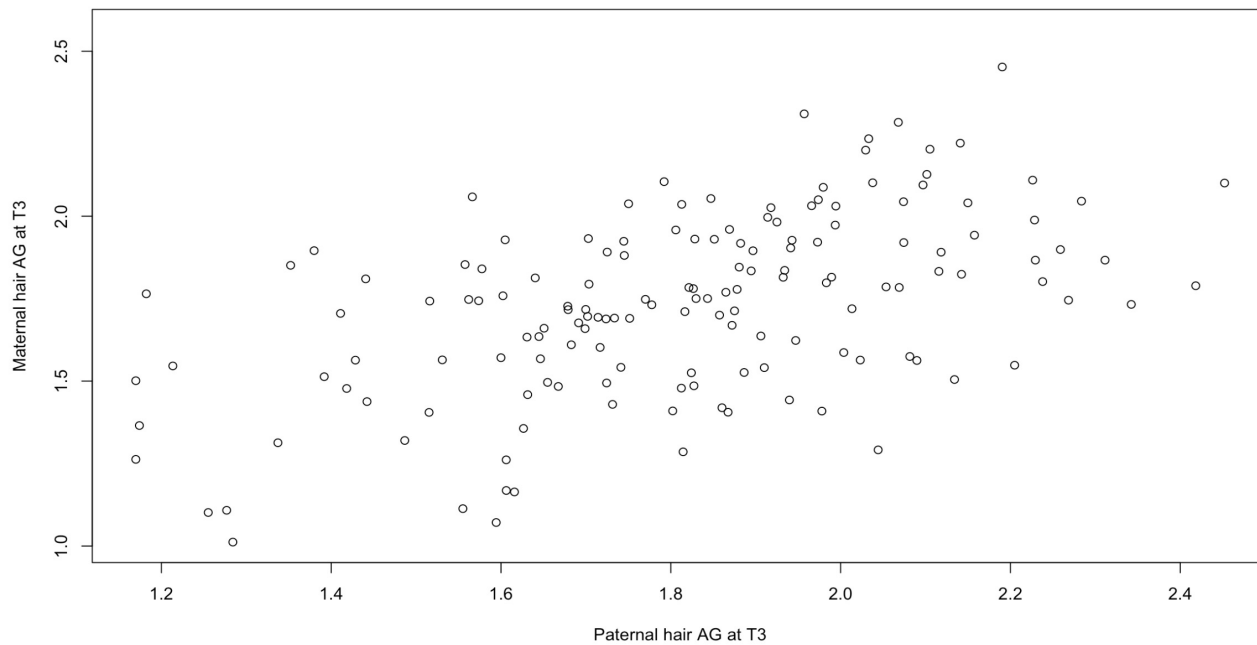
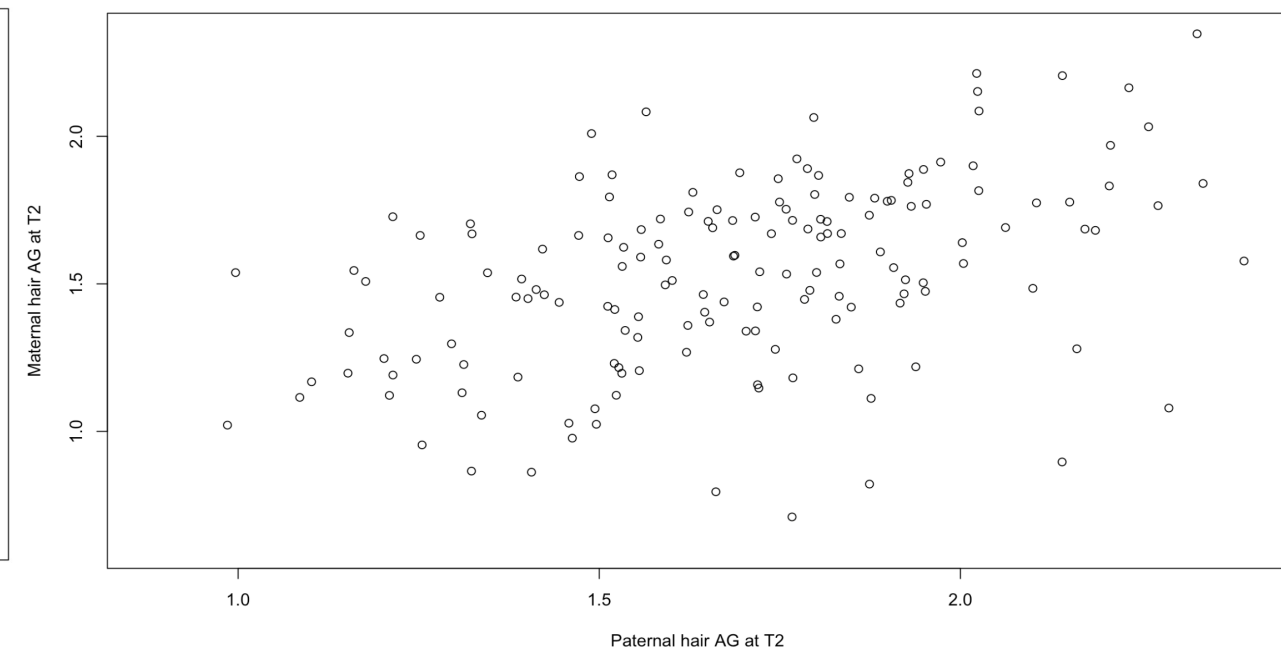
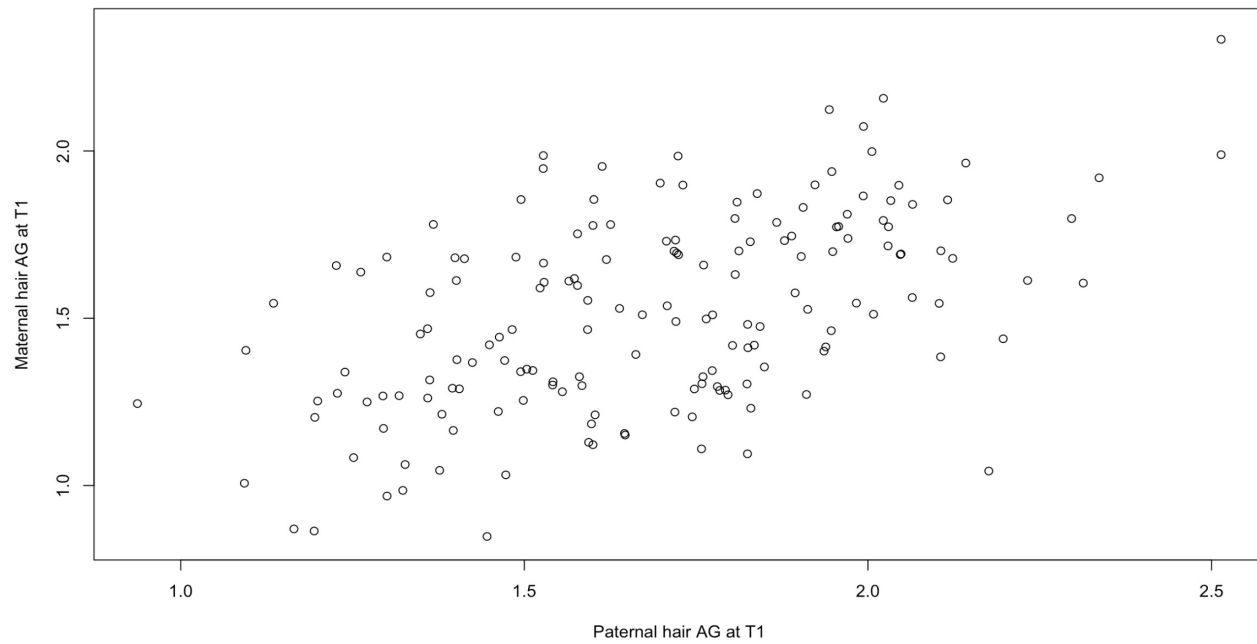
Inter-family association for hair OEA Father-Child



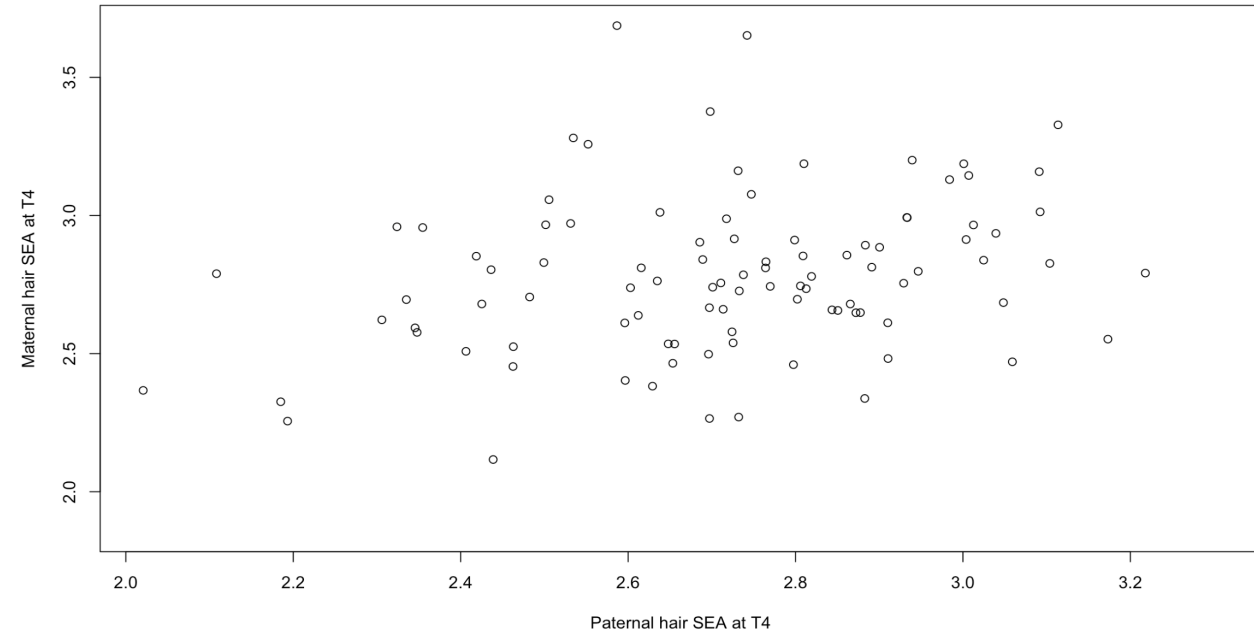
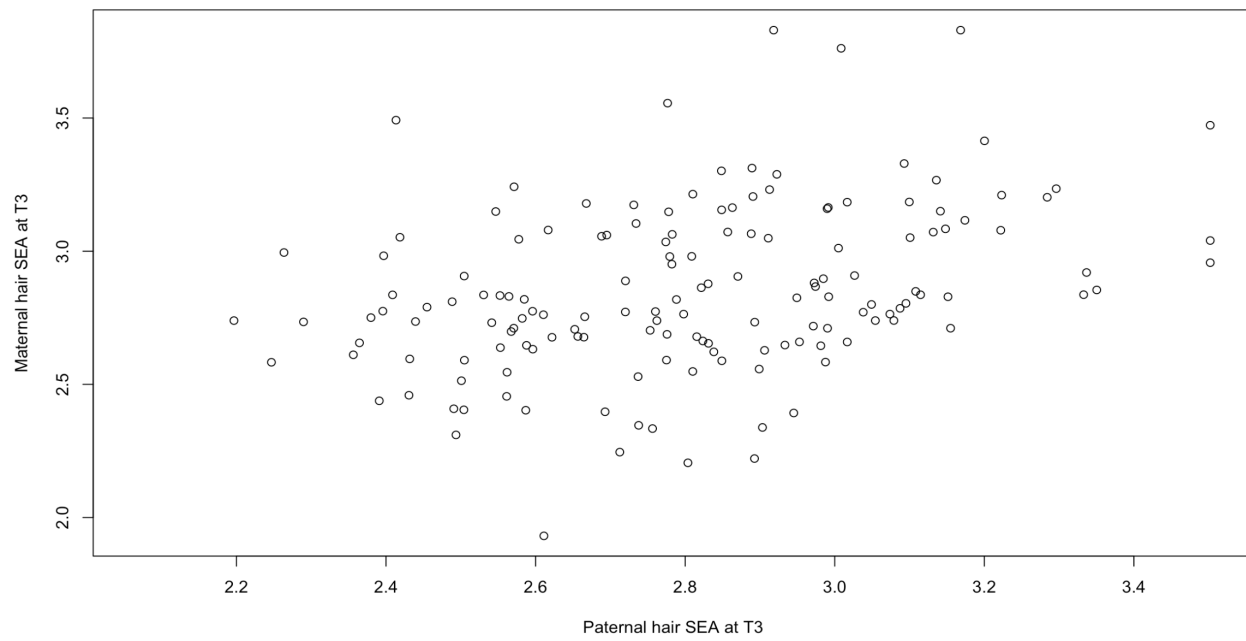
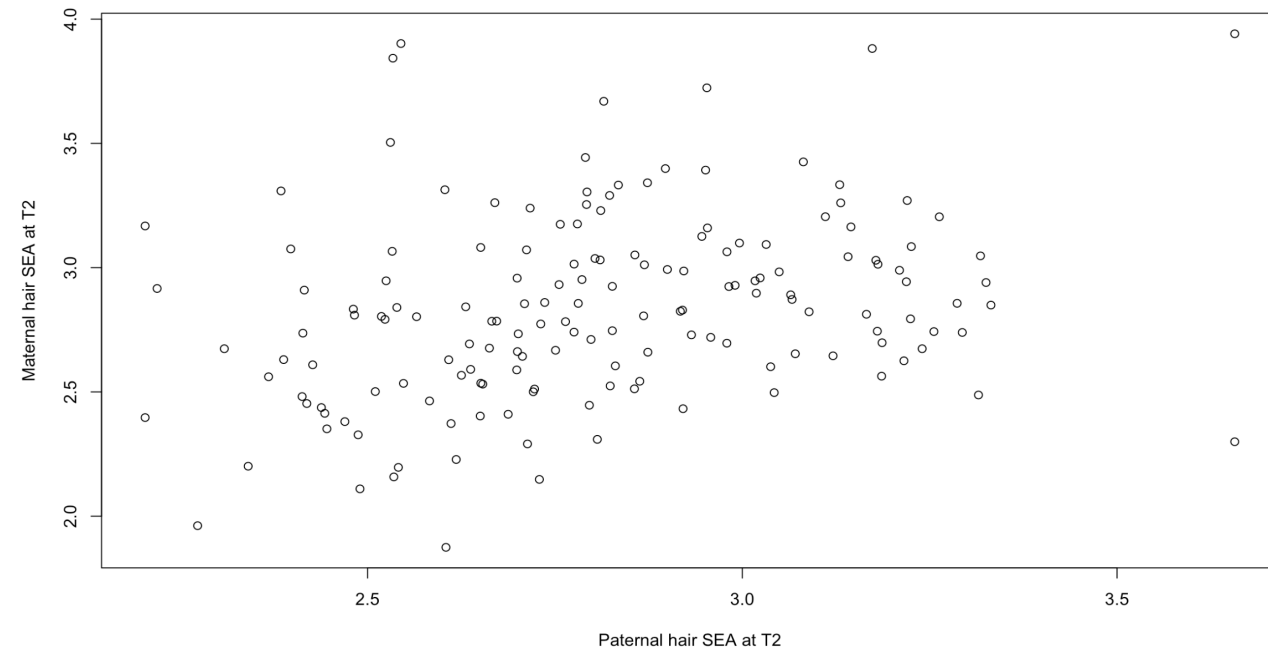
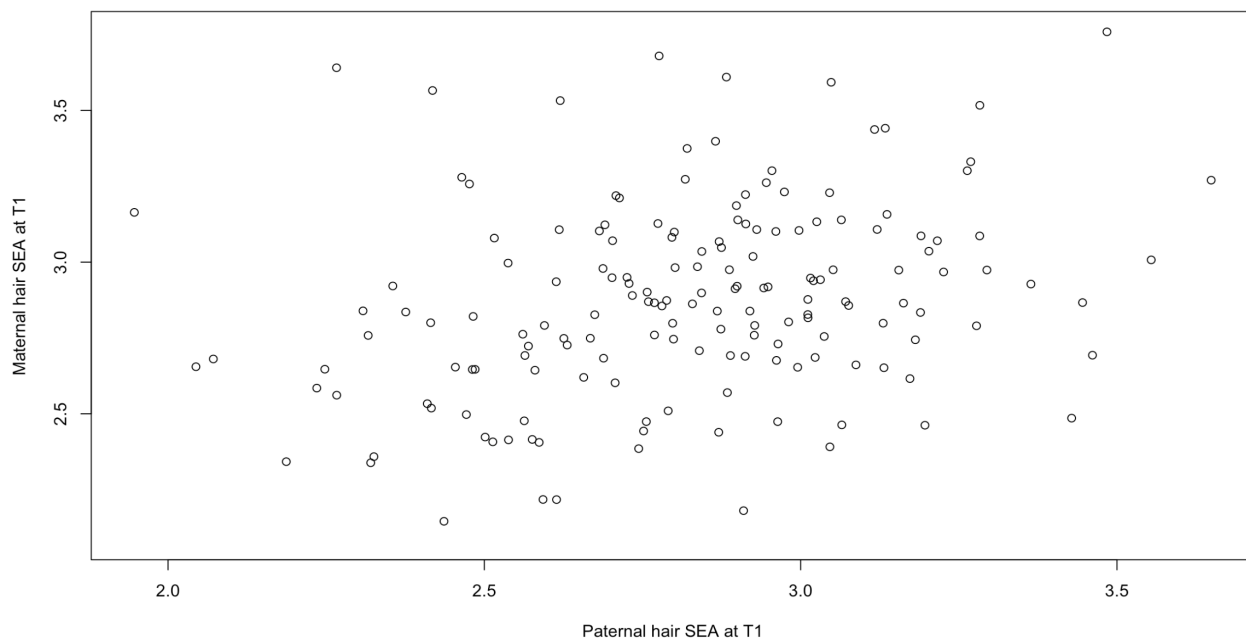
Inter-family association for hair AEA Father-Mother



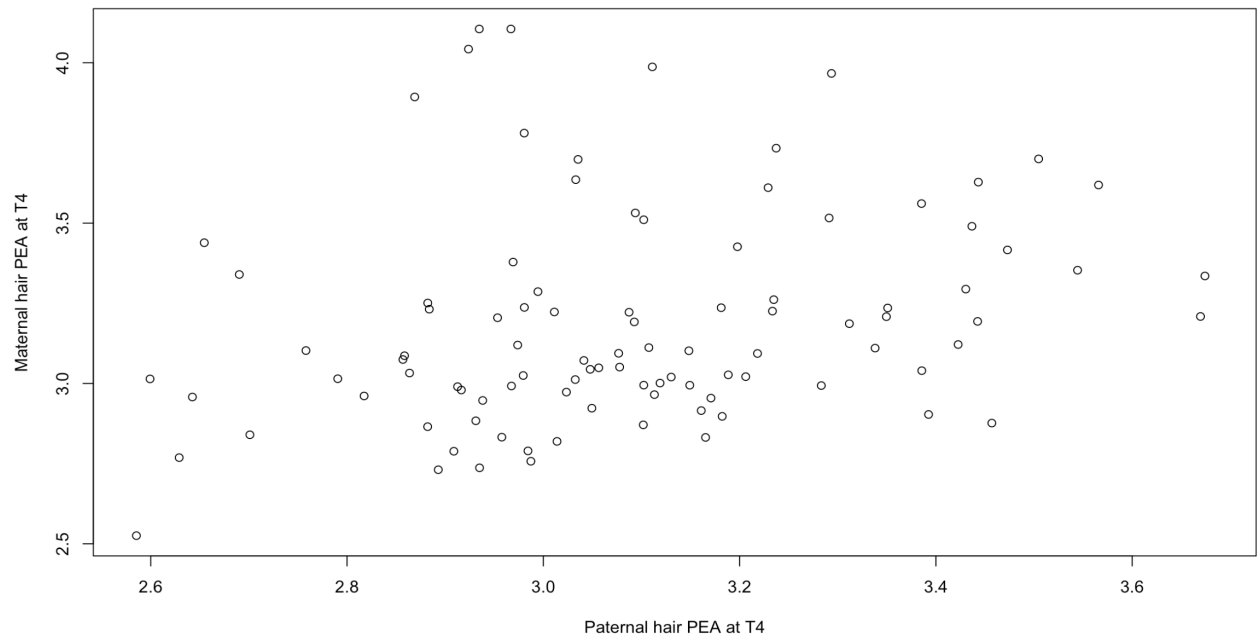
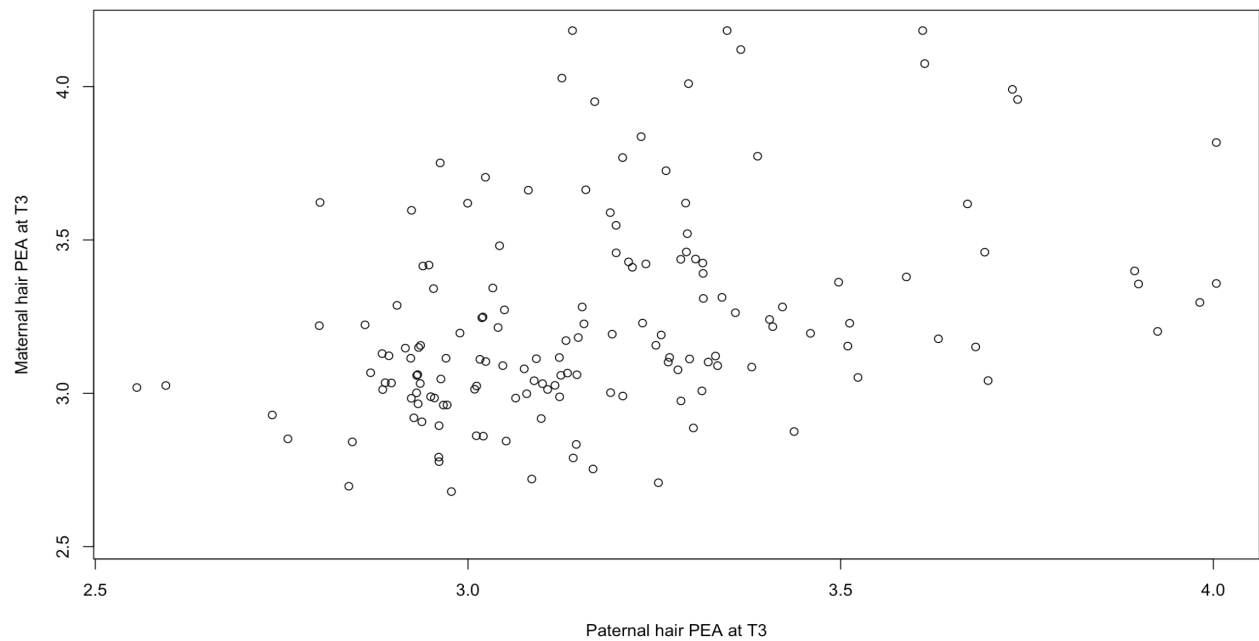
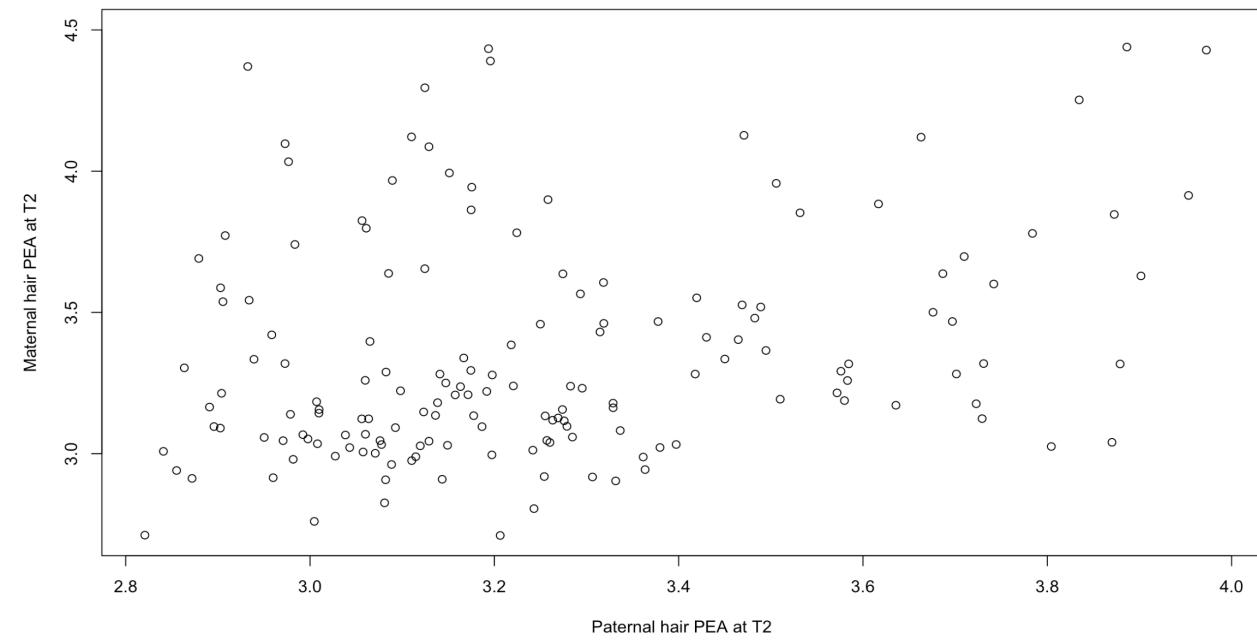
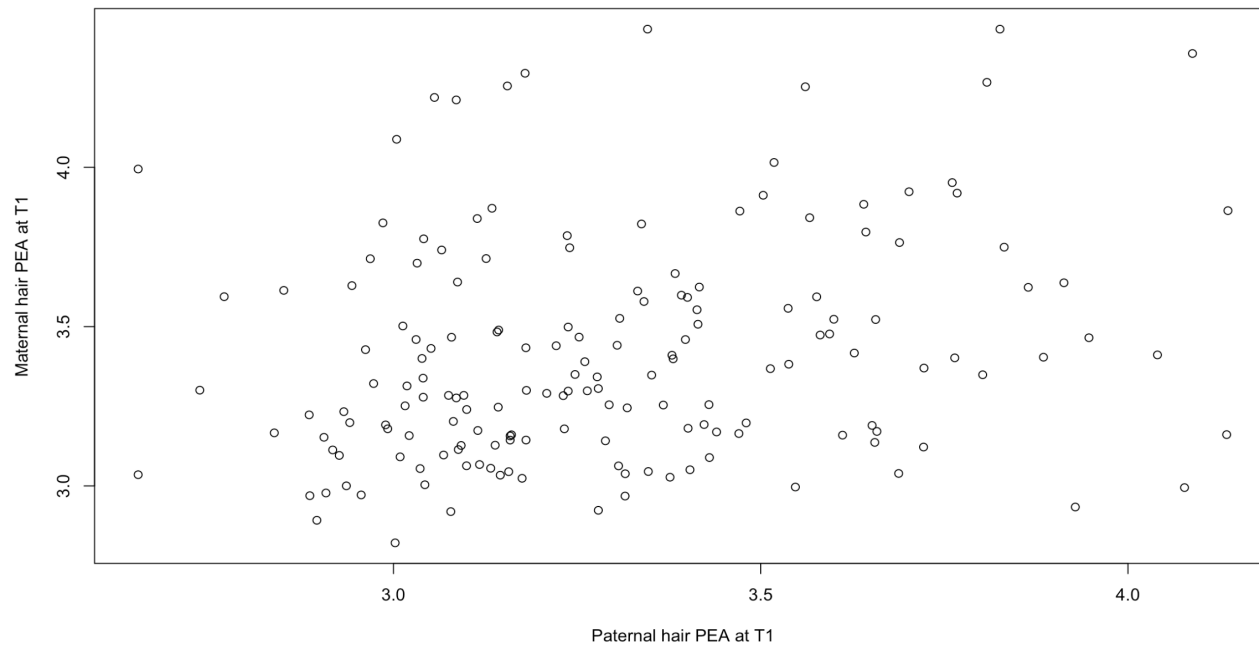
Inter-family association for hair 1-AG/2-AG Father-Mother



Inter-family association for hair SEA Father-Mother



Inter-family association for hair PEA Father-Mother



Inter-family association for hair OEA Father-Mother

