

**Appendix: test results (ANOVA + Tukey)**

Tests performed in SPSS in December 2023

			<b>ANOVA 1</b>				
Formulation_cat			Sum of Squares	df	Mean Square	F	Sig.
Reproduce	Mary	Between Groups	,734	2	,367	1,341	<b>,265</b>
		Within Groups	39,698	145	,274		
		Total	40,432	147			
	Marc	Between Groups	1,247	2	,623	,524	<b>,593</b>
		Within Groups	172,510	145	1,190		
		Total	173,757	147			
	Donor	Between Groups	,844	2	,422	,799	<b>,452</b>
		Within Groups	76,581	145	,528		
		Total	77,426	147			
	Doctor	Between Groups	3,979	2	1,990	1,296	<b>,277</b>
		Within Groups	222,582	145	1,535		
		Total	226,561	147			
Parent	Mary	Between Groups	,032	2	,016	,064	<b>,938</b>
		Within Groups	35,779	145	,247		

		Total	35,811	147			
	Marc	Between Groups	14,947	2	7,474	4,439	<b>,013</b>
		Within Groups	244,100	145	1,683		
		Total	259,047	147			
	Donor	Between Groups	20,007	2	10,004	5,958	<b>,003</b>
		Within Groups	243,473	145	1,679		
		Total	263,480	147			
	Doctor	Between Groups	,194	2	,097	,691	<b>,503</b>
		Within Groups	20,367	145	,140		
		Total	20,561	147			
Child	Mary	Between Groups	,338	2	,169	1,055	<b>,351</b>
		Within Groups	23,873	149	,160		
		Total	24,211	151			
	Marc	Between Groups	25,580	2	12,790	7,339	<b>&lt;,001</b>
		Within Groups	259,683	149	1,743		
		Total	285,263	151			
	Donor	Between Groups	41,075	2	20,537	14,515	<b>&lt;,001</b>
		Within Groups	210,820	149	1,415		
		Total	251,895	151			

Doctor	Between Groups	,482	2	,241	,986	<b>,375</b>
	Within Groups	36,406	149	,244		
	Total	36,888	151			

### Multiple Comparisons 1

#### Tukey HSD

Formulation Cat	Dependent Var.	(I) Genetic_cat	(J) Genetic_cat	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Reproduce	Mary	Unrelated	Brother	-,14286	,10571	<b>,369</b>	-,3932	,1075
			Twin	,01265	,10518	<b>,992</b>	-,2364	,2617
		Brother	Unrelated	,14286	,10571	<b>,369</b>	-,1075	,3932
			Twin	,15551	,10518	<b>,304</b>	-,0936	,4046
		Twin	Unrelated	-,01265	,10518	<b>,992</b>	-,2617	,2364
			Brother	-,15551	,10518	<b>,304</b>	-,4046	,0936
	Marc	Unrelated	Brother	,14286	,22036	<b>,794</b>	-,3790	,6647
			Twin	,22163	,21926	<b>,571</b>	-,2976	,7408
		Brother	Unrelated	-,14286	,22036	<b>,794</b>	-,6647	,3790
			Twin	,07878	,21926	<b>,931</b>	-,4404	,5980
		Twin	Unrelated	-,22163	,21926	<b>,571</b>	-,7408	,2976
			Brother	-,07878	,21926	<b>,931</b>	-,5980	,4404
Donor	Unrelated	Brother	-,18367	,14682	<b>,425</b>	-,5314	,1640	
		Twin	-,11510	,14609	<b>,711</b>	-,4610	,2308	
	Brother	Unrelated	,18367	,14682	<b>,425</b>	-,1640	,5314	

		Twin	,06857	,14609	<b>,886</b>	-,2774	,4145	
	Twin	Unrelated	,11510	,14609	<b>,711</b>	-,2308	,4610	
		Brother	-,06857	,14609	<b>,886</b>	-,4145	,2774	
	Doctor	Unrelated	Brother	-,04082	,25031	<b>,985</b>	-,6336	,5519
		Twin	,32449	,24905	<b>,396</b>	-,2653	,9143	
	Brother	Unrelated	,04082	,25031	<b>,985</b>	-,5519	,6336	
		Twin	,36531	,24905	<b>,310</b>	-,2245	,9551	
	Twin	Unrelated	-,32449	,24905	<b>,396</b>	-,9143	,2653	
		Brother	-,36531	,24905	<b>,310</b>	-,9551	,2245	
Parent	Mary	Unrelated	Brother	,02000	,09935	<b>,978</b>	-,2153	,2553
		Twin	-,01583	,10038	<b>,986</b>	-,2535	,2219	
	Brother	Unrelated	-,02000	,09935	<b>,978</b>	-,2553	,2153	
		Twin	-,03583	,10038	<b>,932</b>	-,2735	,2019	
	Twin	Unrelated	,01583	,10038	<b>,986</b>	-,2219	,2535	
		Brother	,03583	,10038	<b>,932</b>	-,2019	,2735	
	Marc	Unrelated	Brother	,42000	,25950	<b>,241</b>	-,1945	1,0345
		Twin	,78000*	,26218	<b>,010</b>	,1591	1,4009	
	Brother	Unrelated	-,42000	,25950	<b>,241</b>	-1,0345	,1945	
		Twin	,36000	,26218	<b>,358</b>	-,2609	,9809	
	Twin	Unrelated	-,78000*	,26218	<b>,010</b>	-1,4009	-,1591	
		Brother	-,36000	,26218	<b>,358</b>	-,9809	,2609	
	Donor	Unrelated	Brother	-,56000	,25916	<b>,082</b>	-1,1737	,0537
		Twin	-,89250*	,26185	<b>,002</b>	-1,5126	-,2724	
	Brother	Unrelated	,56000	,25916	<b>,082</b>	-,0537	1,1737	
		Twin	-,33250	,26185	<b>,415</b>	-,9526	,2876	
	Twin	Unrelated	,89250*	,26185	<b>,002</b>	,2724	1,5126	

			Brother	,33250	,26185	<b>,415</b>	-,2876	,9526	
	Doctor	Unrelated	Brother	,06000	,07496	<b>,703</b>	-,1175	,2375	
			Twin	-,02667	,07573	<b>,934</b>	-,2060	,1527	
			Brother	Unrelated	-,06000	,07496	<b>,703</b>	-,2375	,1175
				Twin	-,08667	,07573	<b>,488</b>	-,2660	,0927
			Twin	Unrelated	,02667	,07573	<b>,934</b>	-,1527	,2060
				Brother	,08667	,07573	<b>,488</b>	-,0927	,2660
Child	Mary	Unrelated	Brother	-,05686	,07966	<b>,756</b>	-,2455	,1317	
				Twin	,05882	,07927	<b>,739</b>	-,1288	,2465
			Brother	Unrelated	,05686	,07966	<b>,756</b>	-,1317	,2455
				Twin	,11569	,07966	<b>,317</b>	-,0729	,3043
			Twin	Unrelated	-,05882	,07927	<b>,739</b>	-,2465	,1288
				Brother	-,11569	,07966	<b>,317</b>	-,3043	,0729
		Marc	Unrelated	Brother	,92275*	,26274	<b>,002</b>	,3008	1,5447
				Twin	,80392*	,26143	<b>,007</b>	,1850	1,4228
			Brother	Unrelated	-,92275*	,26274	<b>,002</b>	-1,5447	-,3008
				Twin	-,11882	,26274	<b>,893</b>	-,7408	,5032
			Twin	Unrelated	-,80392*	,26143	<b>,007</b>	-1,4228	-,1850
				Brother	,11882	,26274	<b>,893</b>	-,5032	,7408
		Donor	Unrelated	Brother	-1,23647*	,23673	<b>&lt;,001</b>	-1,7969	-,6760
				Twin	-,88235*	,23556	<b>&lt;,001</b>	-1,4400	-,3247
			Brother	Unrelated	1,23647*	,23673	<b>&lt;,001</b>	,6760	1,7969
				Twin	,35412	,23673	<b>,296</b>	-,2063	,9145
			Twin	Unrelated	,88235*	,23556	<b>&lt;,001</b>	,3247	1,4400
				Brother	-,35412	,23673	<b>,296</b>	-,9145	,2063
	Doctor	Unrelated	Brother	-,06196	,09838	<b>,804</b>	-,2949	,1709	

	Twin	-,13725	,09789	<b>,342</b>	-,3690	,0945
Brother	Unrelated	,06196	,09838	<b>,804</b>	-,1709	,2949
	Twin	-,07529	,09838	<b>,725</b>	-,3082	,1576
Twin	Unrelated	,13725	,09789	<b>,342</b>	-,0945	,3690
	Brother	,07529	,09838	<b>,725</b>	-,1576	,3082

## ANOVA 2

Genetic_cat			Sum of Squares	df	Mean Square	F	Sig.
Unrelated	Mary	Between Groups	1,760	2	,880	3,873	<b>,023</b>
		Within Groups	33,413	147	,227		
		Total	35,173	149			
	Marc	Between Groups	134,747	2	67,374	47,663	<b>&lt;,001</b>
		Within Groups	207,793	147	1,414		
		Total	342,540	149			
	Donor	Between Groups	90,820	2	45,410	34,649	<b>&lt;,001</b>
		Within Groups	192,653	147	1,311		
		Total	283,473	149			
	Doctor	Between Groups	40,380	2	20,190	36,613	<b>&lt;,001</b>
		Within Groups	81,060	147	,551		
		Total	121,440	149			
Brother	Mary	Between Groups	,399	2	,200	,881	<b>,416</b>
		Within Groups	33,051	146	,226		
		Total	33,450	148			
	Marc	Between Groups	91,377	2	45,689	29,301	<b>&lt;,001</b>

		Within Groups	227,656	146	1,559		
		Total	319,034	148			
	Donor	Between Groups	56,307	2	28,154	27,811	<b>&lt;,001</b>
		Within Groups	147,800	146	1,012		
		Total	204,107	148			
	Doctor	Between Groups	43,297	2	21,649	31,002	<b>&lt;,001</b>
		Within Groups	101,951	146	,698		
		Total	145,248	148			
Twin	Mary	Between Groups	1,892	2	,946	4,200	<b>,017</b>
		Within Groups	32,887	146	,225		
		Total	34,779	148			
	Marc	Between Groups	71,116	2	35,558	21,555	<b>&lt;,001</b>
		Within Groups	240,844	146	1,650		
		Total	311,960	148			
	Donor	Between Groups	27,539	2	13,769	10,557	<b>&lt;,001</b>
		Within Groups	190,421	146	1,304		
		Total	217,960	148			
	Doctor	Between Groups	16,301	2	8,151	12,352	<b>&lt;,001</b>
		Within Groups	96,343	146	,660		
		Total	112,644	148			

## Multiple Comparisons 2

Tukey HSD

Genetic_cat	Dependent Variable	(I) Formulation_cat	(J) Formulation_cat	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Unrelated	Mary	Reproduce	Parent	-,24735*	,09584	<b>,029</b>	-,4743	-,0204
			Child	-,21048	,09537	<b>,073</b>	-,4363	,0153
		Parent	Reproduce	,24735*	,09584	<b>,029</b>	,0204	,4743
			Child	,03686	,09488	<b>,920</b>	-,1878	,2615
		Child	Reproduce	,21048	,09537	<b>,073</b>	-,0153	,4363
			Parent	-,03686	,09488	<b>,920</b>	-,2615	,1878
	Marc	Reproduce	Parent	-2,19837*	,23900	<b>&lt;,001</b>	-2,7642	-1,6325
			Child	-1,78111*	,23783	<b>&lt;,001</b>	-2,3442	-1,2180
		Parent	Reproduce	2,19837*	,23900	<b>&lt;,001</b>	1,6325	2,7642
			Child	,41725	,23662	<b>,186</b>	-,1430	,9775
		Child	Reproduce	1,78111*	,23783	<b>&lt;,001</b>	1,2180	2,3442
			Parent	-,41725	,23662	<b>,186</b>	-,9775	,1430
Donor	Reproduce	Parent	1,82490*	,23012	<b>&lt;,001</b>	1,2800	2,3698	
		Child	1,42137*	,22901	<b>&lt;,001</b>	,8792	1,9636	
	Parent	Reproduce	-1,82490*	,23012	<b>&lt;,001</b>	-2,3698	-1,2800	
		Child	-,40353	,22783	<b>,183</b>	-,9430	,1359	
	Child	Reproduce	-1,42137*	,22901	<b>&lt;,001</b>	-1,9636	-,8792	
		Parent	,40353	,22783	<b>,183</b>	-,1359	,9430	
Doctor	Reproduce	Parent	1,08449*	,14927	<b>&lt;,001</b>	,7311	1,4379	
		Child	1,12645*	,14855	<b>&lt;,001</b>	,7747	1,4782	
	Parent	Reproduce	-1,08449*	,14927	<b>&lt;,001</b>	-1,4379	-,7311	
		Child	,04196	,14779	<b>,957</b>	-,3080	,3919	
	Child	Reproduce	-1,12645*	,14855	<b>&lt;,001</b>	-1,4782	-,7747	
		Parent	-,04196	,14779	<b>,957</b>	-,3919	,3080	



Brother	Mary	Reproduce	Parent	-,08449	,09564	<b>,652</b>	-,3110	,1420
			Child	-,12449	,09564	<b>,397</b>	-,3510	,1020
		Parent	Reproduce	,08449	,09564	<b>,652</b>	-,1420	,3110
			Child	-,04000	,09516	<b>,907</b>	-,2653	,1853
		Child	Reproduce	,12449	,09564	<b>,397</b>	-,1020	,3510
			Parent	,04000	,09516	<b>,907</b>	-,1853	,2653
	Marc	Reproduce	Parent	-1,92122*	,25101	<b>&lt;,001</b>	-2,5156	-1,3269
			Child	-1,00122*	,25101	<b>&lt;,001</b>	-1,5956	-,4069
		Parent	Reproduce	1,92122*	,25101	<b>&lt;,001</b>	1,3269	2,5156
			Child	,92000*	,24974	<b>&lt;,001</b>	,3286	1,5114
		Child	Reproduce	1,00122*	,25101	<b>&lt;,001</b>	,4069	1,5956
			Parent	-,92000*	,24974	<b>&lt;,001</b>	-1,5114	-,3286
	Donor	Reproduce	Parent	1,44857*	,20225	<b>&lt;,001</b>	,9697	1,9275
			Child	,36857	,20225	<b>,166</b>	-,1103	,8475
		Parent	Reproduce	-1,44857*	,20225	<b>&lt;,001</b>	-1,9275	-,9697
			Child	-1,08000*	,20123	<b>&lt;,001</b>	-1,5565	-,6035
		Child	Reproduce	-,36857	,20225	<b>,166</b>	-,8475	,1103
			Parent	1,08000*	,20123	<b>&lt;,001</b>	,6035	1,5565
Doctor	Reproduce	Parent	1,18531*	,16798	<b>&lt;,001</b>	,7876	1,5831	
		Child	1,10531*	,16798	<b>&lt;,001</b>	,7076	1,5031	
	Parent	Reproduce	-1,18531*	,16798	<b>&lt;,001</b>	-1,5831	-,7876	
		Child	-,08000	,16713	<b>,881</b>	-,4757	,3157	
	Child	Reproduce	-1,10531*	,16798	<b>&lt;,001</b>	-1,5031	-,7076	
		Parent	,08000	,16713	<b>,881</b>	-,3157	,4757	
Twin	Mary	Reproduce	Parent	-,27583*	,09590	<b>,013</b>	-,5029	-,0487
			Child	-,16431	,09445	<b>,194</b>	-,3880	,0593

Marc	Parent	Reproduce	,27583*	,09590	<b>,013</b>	,0487	,5029
		Child	,11152	,09544	<b>,474</b>	-,1145	,3375
	Child	Reproduce	,16431	,09445	<b>,194</b>	-,0593	,3880
		Parent	-,11152	,09544	<b>,474</b>	-,3375	,1145
	Reproduce	Parent	-1,64000*	,25954	<b>&lt;,001</b>	-2,2545	-1,0255
		Child	-1,19882*	,25561	<b>&lt;,001</b>	-1,8041	-,5936
		Parent	1,64000*	,25954	<b>&lt;,001</b>	1,0255	2,2545
		Child	,44118	,25829	<b>,206</b>	-,1704	1,0528
Child	Reproduce	1,19882*	,25561	<b>&lt;,001</b>	,5936	1,8041	
	Parent	-,44118	,25829	<b>,206</b>	-1,0528	,1704	
	Donor	Reproduce	1,04750*	,23077	<b>&lt;,001</b>	,5011	1,5939
		Child	,65412*	,22729	<b>,013</b>	,1159	1,1923
Parent	Reproduce	-1,04750*	,23077	<b>&lt;,001</b>	-1,5939	-,5011	
	Child	-,39338	,22966	<b>,204</b>	-,9372	,1504	
	Child	Reproduce	-,65412*	,22729	<b>,013</b>	-1,1923	-,1159
		Parent	,39338	,22966	<b>,204</b>	-,1504	,9372
Doctor	Reproduce	Parent	,73333*	,16415	<b>&lt;,001</b>	,3446	1,1220
		Child	,66471*	,16167	<b>&lt;,001</b>	,2819	1,0475
	Parent	Reproduce	-,73333*	,16415	<b>&lt;,001</b>	-1,1220	-,3446
		Child	-,06863	,16336	<b>,907</b>	-,4554	,3182
	Child	Reproduce	-,66471*	,16167	<b>&lt;,001</b>	-1,0475	-,2819
		Parent	,06863	,16336	<b>,907</b>	-,3182	,4554