

g007.sas: Two random effects per study
Two random effects per study

The NLMIXED Procedure

Specifications	
Data Set	WORK.A
Dependent Variable	y00
Distribution for Dependent Variable	General
Random Effects	u1 u2
Distribution for Random Effects	Normal
Subject Variable	id
Optimization Technique	Dual Quasi-Newton
Integration Method	Adaptive Gaussian Quadrature

Dimensions	
Observations Used	25
Observations Not Used	0
Total Observations	25
Subjects	25
Max Obs per Subject	1
Parameters	5
Quadrature Points	25

Initial Parameters					
					Negative Log Likelihood
beta1	beta2	beta3	log_g11	log_g22	
2.331	1.8631	0.006937	0.8691	0.3527	445.78095

Iteration History					
Iteration	Calls	Negative Log Likelihood	Difference	Maximum Gradient	Slope
1	6	431.4405	14.34048	0.14127	-97.6492
2	8	431.4320	0.00848	0.047674	-0.01329
3	10	431.4313	0.00069	0.075716	-0.00236
4	13	431.4310	0.000331	0.013210	-0.00121
5	15	431.4309	0.000038	0.005018	-0.00009
6	18	431.4309	1.309E-6	0.002780	-6.03E-6
7	20	431.4309	3.707E-7	0.002147	-2.14E-6

NOTE: GCONV convergence criterion satisfied.

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Fit Statistics	
-2 Log Likelihood	862.9
AIC (smaller is better)	872.9
AICC (smaller is better)	876.0
BIC (smaller is better)	879.0

Parameter Estimates								
Parameter	Estimate	Standard Error	DF	t Value	Pr > t	95% Confidence Limits		Gradient
beta1	2.2966	0.4706	23	4.88	<.0001	1.3232	3.2701	0.001414
beta2	1.8441	0.3521	23	5.24	<.0001	1.1158	2.5725	0.000551
beta3	1.4772	0.2784	23	5.31	<.0001	0.9014	2.0530	0.000062
log_g11	0.8284	0.5373	23	1.54	0.1368	-0.2831	1.9399	-0.00215
log_g22	0.3186	0.4918	23	0.65	0.5235	-0.6988	1.3360	-0.00100

Covariance Matrix of Parameter Estimates					
	beta1	beta2	beta3	log_g11	log_g22
beta1	0.2214	0.01156	-0.00436	0.1387	0.01238
beta2	0.01156	0.1240	-0.00248	0.009334	0.08267
beta3	-0.00436	-0.00248	0.07748	-0.00544	-0.00450
log_g11	0.1387	0.009334	-0.00544	0.2887	0.01619
log_g22	0.01238	0.08267	-0.00450	0.01619	0.2419

Correlation Matrix of Parameter Estimates					
	beta1	beta2	beta3	log_g11	log_g22
beta1	1.0000	0.0698	-0.0333	0.5484	0.0535
beta2	0.0698	1.0000	-0.0253	0.0493	0.4774
beta3	-0.0333	-0.0253	1.0000	-0.0364	-0.0328
log_g11	0.5484	0.0493	-0.0364	1.0000	0.0612
log_g22	0.0535	0.4774	-0.0328	0.0612	1.0000

Additional Estimates								
Label	Estimate	Standard Error	DF	t Value	Pr > t	Alpha	Lower	Upper
g11:	2.2896	1.2302	23	1.86	0.0756	0.05	-0.2553	4.8346
g22:	1.3752	0.6764	23	2.03	0.0537	0.05	-0.02395	2.7744

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*Covariance Matrix of
Additional Estimates*

<i>Label</i>	<i>Cov1</i>	<i>Cov2</i>
g11:	1.5135	0.05096
g22:	0.05096	0.4575

*Correlation Matrix of
Additional Estimates*

<i>Label</i>	<i>Corr1</i>	<i>Corr2</i>
g11:	1.0000	0.0612
g22:	0.0612	1.0000

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Obs	id	y11	y10	y01	y00	n	eta1	StdErrPred	DF	tValue	Probt	Alpha	eta1l	eta1u
1	Anzellotti 2010	1	0	0	0	1	2.44122	1.48548	23	1.64339	0.11390	0.05	-0.63173	5.51417
2	Song 2006	2	0	0	0	2	2.55972	1.41931	23	1.80350	0.08443	0.05	-0.37633	5.49578
3	Wang 2007	2	0	0	0	2	2.55972	1.41931	23	1.80350	0.08443	0.05	-0.37633	5.49578
4	Tavares 2017	3	0	0	0	3	2.66043	1.37097	23	1.94054	0.06467	0.05	-0.17564	5.49650
5	Weaver 2013	3	0	1	0	4	1.46246	1.00757	23	1.45147	0.16015	0.05	-0.62186	3.54677
6	Gnanadas 2017	4	1	1	0	6	1.87251	0.94131	23	1.98926	0.05869	0.05	-0.07474	3.81975
7	Morgan 2003	6	0	0	0	6	2.89597	1.27850	23	2.26513	0.03323	0.05	0.25119	5.54075
8	Stufflebeam 2011	5	0	1	0	6	1.74923	0.94623	23	1.84863	0.07741	0.05	-0.20820	3.70666
9	Zhao 2019	6	0	0	0	6	2.89597	1.27850	23	2.26513	0.03323	0.05	0.25119	5.54075
10	vanHoudt 2015	7	0	0	0	7	2.95961	1.25733	23	2.35389	0.02749	0.05	0.35863	5.56060
11	Jann 2008	8	0	0	0	8	3.01800	1.23906	23	2.43572	0.02302	0.05	0.45481	5.58118
12	Kang 2003	7	1	0	0	8	3.09206	1.22290	23	2.52846	0.01877	0.05	0.56230	5.62183
13	Hunyadi 2014	4	3	3	0	10	1.17307	0.66077	23	1.77531	0.08908	0.05	-0.19384	2.53998
14	Yang 2015	9	2	0	0	11	3.26158	1.17814	23	2.76841	0.01093	0.05	0.82440	5.69875
15	Hunyadi 2015b	9	3	0	0	12	3.31993	1.16433	23	2.85136	0.00903	0.05	0.91133	5.72854
16	Hunyadi 2015a	4	7	7	0	18	0.68788	0.47339	23	1.45311	0.15970	0.05	-0.29139	1.66716
17	Su 2015	21	0	0	0	21	3.52183	1.11505	23	3.15844	0.00439	0.05	1.21517	5.82849
18	Barron 2014	21	2	0	0	23	3.62751	1.09687	23	3.30716	0.00308	0.05	1.35847	5.89655
19	Lee 2014	21	2	5	1	29	1.41393	0.44788	23	3.15693	0.00441	0.05	0.48742	2.34045
20	Reyes 2016	28	3	3	0	34	2.31387	0.56272	23	4.11196	0.00043	0.05	1.14980	3.47793
21	Boerwinkle 2017	27	7	2	0	36	2.74853	0.64148	23	4.28469	0.00028	0.05	1.42153	4.07553
22	Chen 2017	30	2	6	4	42	1.22641	0.35775	23	3.42813	0.00230	0.05	0.48635	1.96646
23	Bettus 2010	16	10	6	12	44	0.48260	0.30399	23	1.58756	0.12604	0.05	-0.14625	1.11145
24	Khoo 2019	16	8	7	18	49	0.07670	0.28254	23	0.27146	0.78846	0.05	-0.50779	0.66119
25	Boerwinkle 2019	22	3	1	38	64	-0.33239	0.25258	23	-1.31596	0.20115	0.05	-0.85490	0.19012

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Obs	id	y11	y10	y01	y00	n	eta2	StdErrPred	DF	tValue	Probt	Alpha	eta2l	eta2u
1	Anzellotti 2010	1	0	0	0	1	1.98960	1.15233	23	1.72659	0.09765	0.05	-0.39418	4.37338
2	Song 2006	2	0	0	0	2	2.10788	1.10411	23	1.90912	0.06880	0.05	-0.17615	4.39190
3	Wang 2007	2	0	0	0	2	2.10788	1.10411	23	1.90912	0.06880	0.05	-0.17615	4.39190
4	Tavares 2017	3	0	0	0	3	2.20791	1.06883	23	2.06572	0.05030	0.05	-0.00314	4.41896
5	Weaver 2013	3	0	1	0	4	2.38387	1.02500	23	2.32572	0.02921	0.05	0.26349	4.50425
6	Gnanadas 2017	4	1	1	0	6	1.75175	0.82560	23	2.12179	0.04484	0.05	0.04387	3.45963
7	Morgan 2003	6	0	0	0	6	2.44070	1.00124	23	2.43766	0.02293	0.05	0.36946	4.51193
8	Stufflebeam 2011	5	0	1	0	6	2.51129	0.99064	23	2.53502	0.01850	0.05	0.46200	4.56058
9	Zhao 2019	6	0	0	0	6	2.44070	1.00124	23	2.43766	0.02293	0.05	0.36946	4.51193
10	vanHoudt 2015	7	0	0	0	7	2.50340	0.98576	23	2.53956	0.01832	0.05	0.46420	4.54261
11	Jann 2008	8	0	0	0	8	2.56087	0.97240	23	2.63356	0.01485	0.05	0.54931	4.57244
12	Kang 2003	7	1	0	0	8	1.84543	0.79793	23	2.31277	0.03003	0.05	0.19479	3.49608
13	Hunyadi 2014	4	3	3	0	10	1.17226	0.62585	23	1.87308	0.07382	0.05	-0.12240	2.46693
14	Yang 2015	9	2	0	0	11	1.55625	0.67036	23	2.32149	0.02947	0.05	0.16949	2.94300
15	Hunyadi 2015b	9	3	0	0	12	1.23472	0.60352	23	2.04586	0.05237	0.05	-0.01376	2.48320
16	Hunyadi 2015a	4	7	7	0	18	0.70806	0.46301	23	1.52927	0.13984	0.05	-0.24974	1.66587
17	Su 2015	21	0	0	0	21	3.05583	0.88186	23	3.46523	0.00210	0.05	1.23157	4.88009
18	Barron 2014	21	2	0	0	23	2.16663	0.61155	23	3.54282	0.00174	0.05	0.90153	3.43172
19	Lee 2014	21	2	5	1	29	2.11357	0.53606	23	3.94276	0.00065	0.05	1.00464	3.22250
20	Reyes 2016	28	3	3	0	34	2.23513	0.52775	23	4.23516	0.00031	0.05	1.14338	3.32687
21	Boerwinkle 2017	27	7	2	0	36	1.46070	0.40207	23	3.63293	0.00139	0.05	0.62895	2.29245
22	Chen 2017	30	2	6	4	42	1.81550	0.41529	23	4.37160	0.00022	0.05	0.95640	2.67460
23	Bettus 2010	16	10	6	12	44	0.13842	0.29593	23	0.46776	0.64436	0.05	-0.47375	0.75060
24	Khoo 2019	16	8	7	18	49	0.01415	0.28097	23	0.05035	0.96028	0.05	-0.56708	0.59537
25	Boerwinkle 2019	22	3	1	38	64	-0.44104	0.25486	23	-1.73053	0.09693	0.05	-0.96826	0.08618

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Prediction

<i>Obs</i>	<i>id</i>	<i>n</i>	<i>p1</i>	<i>p2</i>	<i>p1l</i>	<i>p1u</i>	<i>p2l</i>	<i>p2u</i>
1	Anzellotti 2010	1	0.91992	0.87970	0.34712	0.99599	0.40271	0.98755
2	Song 2006	2	0.92822	0.89167	0.40701	0.99591	0.45608	0.98777
3	Wang 2007	2	0.92822	0.89167	0.40701	0.99591	0.45608	0.98777
4	Tavares 2017	3	0.93465	0.90096	0.45620	0.99592	0.49921	0.98810
5	Weaver 2013	4	0.81191	0.91559	0.34936	0.97199	0.56549	0.98906
6	Gnanadas 2017	6	0.86675	0.85217	0.48132	0.97854	0.51096	0.96952
7	Morgan 2003	6	0.94765	0.91988	0.56247	0.99609	0.59133	0.98914
8	Stufflebeam 2011	6	0.85186	0.92493	0.44814	0.97603	0.61349	0.98965
9	Zhao 2019	6	0.94765	0.91988	0.56247	0.99609	0.59133	0.98914
10	vanHoudt 2015	7	0.95072	0.92438	0.58871	0.99617	0.61401	0.98947
11	Jann 2008	8	0.95338	0.92830	0.61178	0.99625	0.63398	0.98977
12	Kang 2003	8	0.95656	0.86359	0.63698	0.99640	0.54854	0.97058
13	Hunyadi 2014	10	0.76370	0.76355	0.45169	0.92690	0.46944	0.92179
14	Yang 2015	11	0.96309	0.82581	0.69517	0.99666	0.54227	0.94993
15	Hunyadi 2015b	12	0.96511	0.77464	0.71327	0.99676	0.49656	0.92296
16	Hunyadi 2015a	18	0.66550	0.66997	0.42766	0.84120	0.43789	0.84102
17	Su 2015	21	0.97130	0.95503	0.77121	0.99707	0.77409	0.99246
18	Barron 2014	23	0.97411	0.89721	0.79551	0.99726	0.71126	0.96868
19	Lee 2014	29	0.80439	0.89222	0.61950	0.91217	0.73197	0.96167
20	Reyes 2016	34	0.91002	0.90336	0.75947	0.97005	0.75830	0.96534
21	Boerwinkle 2017	36	0.93983	0.81164	0.80558	0.98330	0.65225	0.90825
22	Chen 2017	42	0.77319	0.86002	0.61925	0.87723	0.72240	0.93551
23	Bettus 2010	44	0.61836	0.53455	0.46350	0.75240	0.38373	0.67931
24	Khoo 2019	49	0.51917	0.50354	0.37571	0.65953	0.36191	0.64460
25	Boerwinkle 2019	64	0.41766	0.39149	0.29841	0.54739	0.27523	0.52153