Supplementary File 10: statistics for the nutritional stress treatment excluding mothers that had died before the end of the experiment

Contents

This supplementary file contains summaries of the fitted models and corresponding fitted model coefficients and random effects. In each model summary table the number of parameters (k), log-likelihood (ll), AIC, or AICc (aic), difference between the minimal AIC/AICc and each AIC/AICc (deltaAIC), and model weights based on AIC/AICc (weights) are provided. For all tables maternal age is abbreviated to mAgeDays. Where rows contain NAs, the model in question produced a singular fit indicating overfitting. Model coefficients are only shown for models with weight > 0.

For model coefficients, the model number (modelNumber) corresponds to the model number provided in the model summary tables. For fixed effects, the fitted value (est) is given wtih the lower and upper 95% confidence intervals.

All tables are in ascending order of AIC/AICc.

Probability of abortion

Model fits

Table 1: Nutritional stress treatment: model fits for the probability of abortion

modelNumber	model	k	ll	aic	deltaAIC	weights
1	abortion ~ mAge + (1 | adults_id)	3	-173.9567	353.9133	0.000	0.999
2	abortion ~ mAge	2	-181.4703	366.9406	13.027	0.001
3	abortion ~ 1	1	-206.8581	415.7161	61.803	0.000

Model coefficients - fixed effects

Table 2: Nutritional stress treatment: model coefficients for the probability of abortion

modelNumber	parameter	lower	est	upper
2	(Intercept)	-6.0073994	-4.6722360	-3.5387132
3	(Intercept)	-4.5870214	-3.6661645	-2.8289975
2	mAge	0.0389886	0.0545193	0.0720980
3	mAge	0.0295707	0.0418104	0.0549158

Offspring wet weight

Model fits

Table 3: Nutritional stress treatment: model fits for offspring wet weight

modelNumber	fixedEffects	randomEffects	k	ll	aic	deltaAIC	weights
4	wet_weight ~ mAgeDays + I(mAgeDays^2)	~1 + mAgeDays + I(mAgeDays^2) | adults_id	9	-692.0644	1404.998	0.000	0.709
5	wet_weight ~ mAgeDays + I(mAgeDays^2)	~1 | adults_id	4	-698.9537	1408.140	3.142	0.147
2	wet_weight ~ mAgeDays + I(mAgeDays^2) + I(mAgeDays^3)	~1 | adults_id	5	-697.9581	1408.243	3.245	0.140
1	wet_weight ~ mAgeDays + I(mAgeDays^2) + I(mAgeDays^3)	~1 + mAgeDays + I(mAgeDays^2) + I(mAgeDays^3) | adults_id	14	-691.6786	1415.293	10.294	0.004
6	wet_weight ~ mAgeDays + I(mAgeDays^2)	NA	3	-715.8606	1439.876	34.877	0.000
3	wet_weight ~ mAgeDays + I(mAgeDays^2) + I(mAgeDays^3)	NA	4	-715.2057	1440.644	35.646	0.000
7	wet_weight ~ log(mAgeDays)	~1 + log(mAgeDays) | adults_id	5	-716.9634	1446.254	41.255	0.000
8	wet_weight ~ log(mAgeDays)	~1 | adults_id	3	-723.9160	1455.986	50.988	0.000
10	wet_weight ~ mAgeDays	~1 + mAgeDays | adults_id	5	-728.2934	1468.914	63.915	0.000
9	wet_weight ~ log(mAgeDays)	NA	2	-732.3760	1470.844	65.846	0.000
11	wet_weight ~ mAgeDays	~1 | adults_id	3	-735.6423	1479.439	74.441	0.000
12	wet_weight ~ mAgeDays	NA	2	-740.7594	1487.611	82.613	0.000
13	wet_weight ~ 1	~1 | adults_id	2	-753.3470	1512.786	107.788	0.000
14	wet_weight ~ 1	NA	1	-754.8966	1513.839	108.841	0.000

Model coefficients - fixed effects

Table 4: Nutritional stress treatment: model coefficients for offspring wet weight

modelNumber	parameter	lower	est.	upper
4	(Intercept)	12.0254665	14.2948696	16.5642728
5	(Intercept)	11.4649342	13.8684076	16.2718809
2	(Intercept)	5.1742485	10.4678461	15.7614436
1	(Intercept)	7.1427486	12.2185409	17.2943333
4	I(mAgeDays^2)	-0.0047239	-0.0039250	-0.0031261
5	I(mAgeDays^2)	-0.0047679	-0.0039574	-0.0031470
2	I(mAgeDays^2)	-0.0149380	-0.0085254	-0.0021129
1	I(mAgeDays^2)	-0.0129768	-0.0067259	-0.0004750
2	I(mAgeDays^3)	-0.0000107	0.0000271	0.0000648
1	I(mAgeDays^3)	-0.0000204	0.0000167	0.0000538
4	mAgeDays	0.4123995	0.5017817	0.5911640
5	mAgeDays	0.4195328	0.5111145	0.6026962
2	mAgeDays	0.4079617	0.7425370	1.0771123
1	mAgeDays	0.3192626	0.6429940	0.9667254

Random effects

Table 5: Nutritional stress treatment: random effects for offspring wet weight

modelNumber	parameter	Variance	StdDev
4	(Intercept)	2.878	1.697
5	(Intercept)	4.598	2.144
2	(Intercept)	4.634	2.153
1	(Intercept)	3.067	1.751
4	I(mAgeDays^2)	0.000	0.000
1	I(mAgeDays^2)	0.000	0.000
1	I(mAgeDays^3)	0.000	0.000
4	mAgeDays	0.002	0.048
1	mAgeDays	0.002	0.048
4	Residual	7.978	2.825
5	Residual	9.034	3.006
2	Residual	8.942	2.990
1	Residual	7.949	2.819

Offspring starvation tolerance

Model fits

Table 6: Nutritional stress treatment: model fits for days to starvation

modelNumber	fixedEffects	randomEffects	k	ll	aic	deltaAIC	weights
3	daysSurv ~ wet_weight + sex + mAgeDays + I(mAgeDays^2) + I(mAgeDays^3)	~1 | adults_id	7	-250.8302	518.6467	0.000	0.512
9	daysSurv ~ wet_weight + sex + mAgeDays + I(mAgeDays^2)	~1 | adults_id	6	-252.6985	520.1590	1.512	0.240
5	daysSurv ~ wet_weight + sex + mAgeDays + I(mAgeDays^2) + I(mAgeDays^3)	NA	6	-253.4209	521.6038	2.957	0.117
11	daysSurv ~ wet_weight + sex + mAgeDays + I(mAgeDays^2)	NA	5	-254.7793	522.1261	3.479	0.090
7	daysSurv ~ wet_weight + sex + mAgeDays + I(mAgeDays^2)	~1 + mAgeDays + I(mAgeDays^2) | adults_id	11	-249.3642	524.9256	6.279	0.022
4	daysSurv ~ wet_weight + mAgeDays + I(mAgeDays^2) + I(mAgeDays^3)	~1 | adults_id	6	-256.3963	527.5545	8.908	0.006
10	daysSurv ~ wet_weight + mAgeDays + I(mAgeDays^2)	~1 | adults_id	5	-257.7030	527.9737	9.327	0.005
12	daysSurv ~ wet_weight + mAgeDays + I(mAgeDays^2)	NA	4	-259.1909	528.7845	10.138	0.003
6	daysSurv ~ wet_weight + mAgeDays + I(mAgeDays^2) + I(mAgeDays^3)	NA	5	-258.1699	528.9073	10.261	0.003
15	daysSurv ~ wet_weight + sex + log(mAgeDays)	~1 | adults_id	5	-259.7186	532.0048	13.358	0.001
13	daysSurv ~ wet_weight + sex + log(mAgeDays)	~1 + log(mAgeDays) | adults_id	7	-257.6816	532.3496	13.703	0.001
17	daysSurv ~ wet_weight + sex + log(mAgeDays)	NA	4	-261.2484	532.8995	14.253	0.000
8	daysSurv ~ wet_weight + mAgeDays + I(mAgeDays^2)	~1 + mAgeDays + I(mAgeDays^2) | adults_id	10	-254.6865	533.2192	14.573	0.000
1	daysSurv ~ wet_weight + sex + mAgeDays + I(mAgeDays^2) + I(mAgeDays^3)	~1 + mAgeDays + I(mAgeDays^2) + I(mAgeDays^3) | adults_id	16	-247.8790	534.2252	15.578	0.000
19	daysSurv ~ wet_weight + sex + mAgeDays	~1 + mAgeDays | adults_id	7	-260.2883	537.5630	18.916	0.000
21	daysSurv ~ wet_weight + sex + mAgeDays	~1 | adults_id	5	-263.0542	538.6760	20.029	0.000
16	daysSurv ~ wet_weight + log(mAgeDays)	~1 | adults_id	4	-264.6020	539.6067	20.960	0.000
18	daysSurv ~ wet_weight + log(mAgeDays)	NA	3	-265.6708	539.6083	20.962	0.000
14	daysSurv ~ wet_weight + log(mAgeDays)	~1 + log(mAgeDays) | adults_id	6	-262.4283	539.6185	20.972	0.000
23	daysSurv ~ wet_weight + sex + mAgeDays	NA	4	-264.6308	539.6643	21.018	0.000
2	daysSurv ~ wet_weight + mAgeDays + I(mAgeDays^2) + I(mAgeDays^3)	~1 + mAgeDays + I(mAgeDays^2) + I(mAgeDays^3) | adults_id	15	-253.5718	543.0855	24.439	0.000
20	daysSurv ~ wet_weight + mAgeDays	~1 + mAgeDays | adults_id	6	-265.1636	545.0892	26.443	0.000
22	daysSurv ~ wet_weight + mAgeDays	~1 | adults_id	4	-267.8456	546.0939	27.447	0.000
24	daysSurv ~ wet_weight + mAgeDays	NA	3	-268.9762	546.2191	27.572	0.000
25	daysSurv ~ wet_weight + sex	~1 | adults_id	4	-270.6304	551.6634	33.017	0.000
26	daysSurv ~ wet_weight + sex	NA	3	-272.7174	553.7015	35.055	0.000
27	daysSurv ~ wet_weight	~1 | adults_id	3	-274.6119	557.4904	38.844	0.000
28	daysSurv ~ wet_weight	NA	2	-276.3007	558.7603	40.114	0.000
30	daysSurv ~ 1	NA	1	-320.9585	645.9960	127.349	0.000
29	daysSurv ~ 1	~1 | adults_id	2	-320.4369	647.0327	128.386	0.000

Model coefficients - fixed effects

Table 7: Nutritional stress treatment: model coefficients for days to starvation

modelNumber	parameter	lower	est.	upper
3	(Intercept)	-2.1485580	0.5578052	3.2641683
9	(Intercept)	-3.1838981	-1.7062136	-0.2285291
5	(Intercept)	-2.7452541	0.1671082	3.0794706
11	(Intercept)	-3.4060179	-1.8691120	-0.3322061
7	(Intercept)	-2.8915238	-1.4251640	0.0411958
4	(Intercept)	-3.0300701	-0.2408822	2.5483057
10	(Intercept)	-3.6914964	-2.1897205	-0.6879446
12	(Intercept)	-3.8706897	-2.3259929	-0.7812960
6	(Intercept)	-3.4810784	-0.5233826	2.4343131
15	(Intercept)	-5.3861177	-3.5555062	-1.7248947
13	(Intercept)	-5.7463749	-3.6869816	-1.6275883
3	I(mAgeDays^2)	-0.0011529	0.0020188	0.0051905
9	I(mAgeDays^2)	-0.0015290	-0.0010760	-0.0006229
5	I(mAgeDays^2)	-0.0016967	0.0017020	0.0051006
11	I(mAgeDays^2)	-0.0015297	-0.0010636	-0.0005975
7	I(mAgeDays^2)	-0.0015126	-0.0010522	-0.0005919
4	I(mAgeDays^2)	-0.0017170	0.0015852	0.0048873
10	I(mAgeDays^2)	-0.0015673	-0.0010992	-0.0006311
12	I(mAgeDays^2)	-0.0015672	-0.0010897	-0.0006121
6	I(mAgeDays^2)	-0.0021105	0.0013752	0.0048610
3	I(mAgeDays^3)	-0.0000373	-0.0000185	0.0000003
5	I(mAgeDays^3)	-0.0000366	-0.0000165	0.0000036
4	I(mAgeDays^3)	-0.0000356	-0.0000161	0.0000035
6	I(mAgeDays^3)	-0.0000353	-0.0000147	0.0000059
15	log(mAgeDays)	0.7277868	1.2317063	1.7356258
13	log(mAgeDays)	0.7955801	1.3573954	1.9192106
3	mAgeDays	-0.1751914	-0.0099789	0.1552337
9	mAgeDays	0.0914609	0.1443551	0.1972494
5	mAgeDays	-0.1727718	0.0042234	0.1812186
11	mAgeDays	0.0889558	0.1427961	0.1966364
7	mAgeDays	0.0918346	0.1439179	0.1960011
4	mAgeDays	-0.1596288	0.0123684	0.1843657
10	mAgeDays	0.0917521	0.1463342	0.2009162
12	mAgeDays	0.0900610	0.1452437	0.2004264
6	mAgeDays	-0.1597419	0.0217697	0.2032814
3	sexM	-1.0273446	-0.6498658	-0.2723871
9	sexM	-1.0054615	-0.6227119	-0.2399623
5	sexM	-1.0307363	-0.6269816	-0.2232268
11	sexM	-1.0132109	-0.6079531	-0.2026953
7	sexM	-0.9834874	-0.6182765	-0.2530655
15	sexM	-1.0476402	-0.6456615	-0.2436828
13	sexM	-1.0106683	-0.6215476	-0.2324269
3	wet_weight	0.1349961	0.1946962	0.2543964
9	wet_weight	0.1356492	0.1959144	0.2561796
5	wet_weight	0.1426444	0.2018558	0.2610672
11	wet_weight	0.1433655	0.2028822	0.2623988
7	wet_weight	0.1240940	0.1837854	0.2434769

4	wet_weight	0.1384168	0.1999803	0.2615438
10	wet_weight	0.1388495	0.2008023	0.2627551
12	wet_weight	0.1454497	0.2064301	0.2674105
6	wet_weight	0.1448184	0.2056140	0.2664096
15	wet_weight	0.1803377	0.2388576	0.2973776
13	wet_weight	0.1668088	0.2257912	0.2847737

Random effects

Table 8: Nutritional stress treatment model random effects

modelNumber	parameter	Variance	StdDev
3	(Intercept)	0.263	0.513
9	(Intercept)	0.239	0.489
7	(Intercept)	0.601	0.775
4	(Intercept)	0.231	0.480
10	(Intercept)	0.214	0.462
15	(Intercept)	0.224	0.473
13	(Intercept)	13.296	3.646
7	I(mAgeDays^2)	0.000	0.000
13	log(mAgeDays)	0.969	0.984
7	mAgeDays	0.000	0.016
3	Residual	1.274	1.129
9	Residual	1.326	1.151
7	Residual	1.048	1.024
4	Residual	1.405	1.185
10	Residual	1.444	1.202
15	Residual	1.479	1.216
13	Residual	1.252	1.119