

ESM3: Bayesian Repeated Measures ANOVA (Changes in facial shape throughout pregnancy – A computational exploratory approach)

Sexual Dimorphism

Model Comparison

Models	P(M)	P(M data)	BF _M	BF ₁₀	error %
Null model (incl. subject)	0.500	0.160	0.190	1.000	
Sexual Dimorphism	0.500	0.840	5.251	5.251	0.675

Note. All models include subject

- P(M) - prior probabilities
- P(M|data) - posterior probabilities after updating with the data
- BF_M - the change from prior odds to posterior odds (the degree to which the data changed the model)
- BF₁₀ - Bayes factors (the null model is compared against itself)
- error % - robustness (stability) of the result

Model Averaged Posterior Summary

Variable	Level	Mean	SD	95% Credible Interval	
				Lower	Upper
Intercept		1.032	0.130	0.768	1.292
Sexual Dimorphism	Trimester 1	0.132	0.064	0.007	0.261
	Trimester 2	−0.144	0.064	−0.274	−0.019
	Trimester 3	0.012	0.058	−0.105	0.129

Post Hoc Tests

Post Hoc Comparisons – Sexual Dimorphism

		Prior Odds	Posterior Odds	BF _{10, U}	error %
Trimester 1	Trimester 2	0.587	10.525	17.917	2.836e −5
	Trimester 3	0.587	0.360	0.613	0.005
Trimester 2	Trimester 3	0.587	0.624	1.062	0.010

Note. The posterior odds have been corrected for multiple testing by fixing to 0.5 the prior probability that the null hypothesis holds across all comparisons (Westfall, Johnson, & Utts, 1997). Individual comparisons are based on the default t-test with a Cauchy (0, r = 1/sqrt(2)) prior. The "U" in the Bayes factor denotes that it is uncorrected.

Asymmetry

Model Comparison

Models	P(M)	P(M data)	BF _M	BF ₁₀	error %
Null model (incl. subject)	0.500	0.338	0.511	1.000	
Asymmetry	0.500	0.662	1.957	1.957	0.972

Note. All models include subject

- P(M) - prior probabilities
- P(M|data) - posterior probabilities after updating with the data
- BF_M - the change from prior odds to posterior odds (the degree to which the data changed the model)
- BF₁₀ - Bayes factors (the null model is compared against itself)
- error % - robustness (stability) of the result

Averageness

Model Comparison

Models	P(M)	P(M data)	BF _M	BF ₁₀	error %
Null model (incl. subject)	0.500	0.609	1.559	1.000	
Averageness	0.500	0.391	0.641	0.641	0.609

Note. All models include subject

- P(M) - prior probabilities
- P(M|data) - posterior probabilities after updating with the data
- BF_M - the change from prior odds to posterior odds (the degree to which the data changed the model)
- BF₁₀ - Bayes factors (the null model is compared against itself)
- error % - robustness (stability) of the result

