Additional file 2 for "Mixed messages: wild female bonobos show high variability in the timing of ovulation in relation to sexual swelling patterns"

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Table S1. Results from the model of Interswelling Interval (ISI) duration. (A GLMM with female ID as a random effect.)

Term	Estimate	SE	χ^2	Df	P	Lower CL	Upper CL
intercept	3.698	0.079	[4]	[4]	[4]	3.302	4.064
parity - nulliparous[1]	-0.031	0.435	0.373[5]	2	0.830[5]	-0.839	0.877
parity - primiparous[1]	0.075	0.283				-0.444	0.644
reproductive state[2]	0.031	0.092	0.115	1	0.735	-0.145	0.231
female rank[3]	-0.046	0.158	0.086	1	0.769	-0.389	0.235

[1] dummy coded with multiparous being the reference level

[2] 0 = cycling; 1 = early lactation (0–24 months since parturition)

[3] z-transformed to a mean of zero and a standard deviation (SD) of one (Mean and SD for the original variable were 3.270 and 2.256, respectively.)

[4] not indicated because of not having a meaningful interpretation

[5] the test results shown here indicate the overall significance of parity

Table S2. Results from the first model of MSP duration. (A LMM with female ID as a random effect, and random slopes of days since parturition as well as the two season effects within female ID.)

Term	Estimate	SE	χ^2	Df	P	Lower CL	Upper CL
intercept	2.728	0.681	[5]	[5]	[5]	1.332	4.205
parity[1]	-0.934	0.693	1.341	1	0.247	-2.307	0.423
days since parturition	0.034	0.017	4.215	1	0.040	-0.003	0.070
reproductive state[2]	-0.630	0.400	2.398	1	0.122	-1.448	0.153
female rank[3]	0.277	0.312	0.643	1	0.423	-0.344	0.905
sin(season)[4]	0.326	0.258	1.978	2	0.372	-0.189	0.808
cos(season)[4]	-0.109	0.210				-0.520	0.340

[1] 0 = multiparous; 1 = primiparous

[2] 0 = not cycling; 1 = cycling

[3] z-transformed to a mean of zero and a standard deviation (SD) of one (Mean and SD for the original variable were 2.415 and 1.622, respectively.)

[4] the test results shown in the row sin(season) indicate the overall significance of season, obtained from comparing the full model with a reduced model lacking the two effects

[5] not indicated because of not having a meaningful interpretation

Table S3. Results from the second model of MSP duration. (A LMM with female ID as a random effect, and random slopes of days since parturition as well as the two season effects within female ID.)

Term	Estimate	SE	χ^2	Df	P	Lower CL	Upper CL
intercept	2.436	0.688	[4]	[4]	[4]	0.924	3.932
days since parturition	0.032	0.019	2.879	1	0.090	-0.007	0.072
reproductive state[1]	-0.574	0.392	1.970	1	0.160	-1.397	0.321
female rank[2]	-0.076	0.196	0.149	1	0.699	-0.515	0.324
sin(season)[3]	0.318	0.254	2.131	2	0.345	-0.195	0.834
cos(season)[3]	-0.135	0.209				-0.578	0.299

[1] 0 = not cycling; 1 = cycling

[2] z-transformed to a mean of zero and a standard deviation (SD) of one (Mean and SD for the original variable were 2.415 and 1.622, respectively.)

[3] the test results shown in the row sin(season) indicate the overall significance of season, obtained from comparing the full model with a reduced model lacking the two effects

[4] not indicated because of not having a meaningful interpretation

Table S4. Results from the third model of MSP duration. (A LMM with female ID as a random effect, and random slopes of days since parturition as well as the two season effects within female ID.)

Term	Estimate	SE	χ^2	Df	P	Lower CL	Upper CL
intercept	2.551	0.681	[4]	[4]	[4]	1.082	3.95
parity[1]	-0.408	0.422	0.847	1	0.357	-1.288	0.376
days since parturition	0.034	0.018	3.380	1	0.066	-0.003	0.073
reproductive state[2]	-0.589	0.393	2.114	1	0.146	-1.424	0.226
sin(season)[3]	0.317	0.255	2.135	2	0.344	-0.203	0.839
cos(season)[3]	-0.139	0.207				-0.552	0.251

[1] 0 = multiparous; 1 = primiparous

[2] 0 = not cycling; 1 = cycling

[3] the test results shown in the row sin(season) indicate the overall significance of season, obtained from comparing the full model with a reduced model lacking the two effects

[4] not indicated because of not having a meaningful interpretation

Table S5. Results from the model of occurrence of ovulation. (A GLMM with female ID as a random effect.)

Term	Estimate	SE	χ^2	Df	P	Lower CL	Upper CL
intercept	1.448	0.661	[3]	[3]	[3]	0.488	7.141
female rank[1]	0.173	0.529	0.110	1	0.740	-0.937	1.958
reproductive state[2]	-0.494	0.950	0.272	1	0.602	-3.535	14.709

[1] z-transformed to a mean of zero and a standard deviation (SD) of one (Mean and SD for the original variable were 2.971 and 1.696, respectively.)

[2] 0 = cycling; 1 = early lactation

[3] not indicated because of not having a meaningful interpretation

Table S6. Results from the model of timing of ovulation. (A GLMM with female ID as a random effect.)

Term	Estimate	SE	χ^2	Df	P	Lower CL	Upper CL
intercept	1.348	0.586	[3]	[3]	[3]	0.513	8.975
female rank[1]	0.607	0.524	1.482	1	0.223	-0.391	4.304
reproductive state[2]	-1.447	0.983	2.211	1	0.137	-17.410	0.787

[1] z-transformed to a mean of zero and a standard deviation (SD) of one (Mean and SD for the original variable were 3.038 and 1.886, respectively.)

[2] 0 = cycling; 1 = early lactation

[3] not indicated because of not having a meaningful interpretation