

Table S1. Summary of linear models (LMs) and generalised linear models (GLMs) for initial differences in laying date, egg volume, sex-ratio and hatching success. All models include the experimental treatment, year and their two-way interaction as fixed factor. The two-way interaction between the experimental treatment and year was never significant and therefore, removed from full models (Laying date: $F_{1,83}=0.010$, $P=0.922$; Egg volume: $F_{1,83}=0.098$, $P=0.754$; sex-ratio: Wald $\chi^2=0.512$, $DF=1$, $P=0.474$; hatching success: Wald $\chi^2=1.042$, $DF=1$, $P=0.307$). Significant terms are highlighted in bold.

	Source of variation	Estimate	DF	F or Wald χ^2	P
Laying date	Intercept	4359.221			
	Treatment (unexposed)	-0.018	1,84	0.006	0.932
	Year (2018)	-732.804	1,84	97.83e ³	P<0.001
Egg volume	Intercept	84.123			
	Treatment (unexposed)	0.272	1,84	0.026	0.872
	Year (2018)	0.257	1,84	0.022	0.882
Sex-ratio	Intercept	0.058			
	Treatment (unexposed)	0.163	1	0.130	0.719
	Year (2018)	-0.264	1	0.321	0.571
Hatching success	Intercept	-2.198			
	Treatment (unexposed)	-0.227	1	0.102	0.749
	Year (2018)	0.227	1	0.093	0.761

Table S2. Summary of final sample sizes used in the statistical analyses. Differences in sample sizes reflect missing values owing to the death or loss of chicks and/or insufficient volume sample.

	2018		2019		Total
	unexposed	exposed	unexposed	exposed	
Egg volume	27	27	16	17	87
Plasma corticosterone	23	22	12	14	71
Telomere length (day 1)	22	23	13	15	73
Telomere length (day 5)	20	20	12	12	64
Body mass (day 1)	24	23	13	16	76
Body mass (day 5)	20	20	14	14	68

Table S3. Summary of linear models for the effect of embryo treatment [unexposed vs exposed] and covariates on telomere length and body mass in gull chicks at day 1 and 5 of age. The two- and three-way interactions between the experimental treatment, age and year were never significant and therefore, removed from full models [Telomere length model: treatment x age; $F_{1,66.32}=1.270$, $P=0.264$; treatment x year: $F_{1,13.29}=0.293$, $P=0.597$; age x year: $F_{1,65.56}=0.008$, $P=0.930$; treatment x age x year: $F_{1,64.46}=0.154$, $P=0.696$; Body mass model: treatment x age: $F_{1,73.82}=1.177$, $P=0.281$; treatment x year: $F_{1,71.59}=0.399$, $P=0.529$; age x year; $F_{1,72.78}=0.747$, $P=0.390$; treatment x age x year: $F_{1,71.63}=1.993$, $P=0.162$). Significant terms are highlighted in bold.

Source of variation	Telomere length				Body mass			
	Estimate	DF _{n,d}	F or Z	P	Estimate	DF _{n,d}	F or Z	P
Intercept	0.782				37.239			
Treatment (unexposed)	0.080	1,11.77	5.534	0.037	3.640	1,72.50	2.713	0.104
Sex (female)	-0.044	1,66.52	2.629	0.110	-3.476	1,72.98	2.327	0.131
Year (2018)	0.060	1,66.47	2.567	0.157	4.125	1,72.17	3.286	0.074
Age (day 1)	-0.012	1,67.41	0.455	0.502	41.984	1,74.79	435.953	<0.001
Egg volume	0.002	1,68.80	1.501	0.225	0.766	1,78.97	23.794	<0.001
<i>Random effects</i>								
Incubator ID	0.001		0.800	0.423	0*		-	1
Chick ID	0.006		2.656	0.008	16.200		0.856	0.392

*Parameter estimate bound at zero; hence, no Z was estimated.