**Figure S1. The sensitivity of early life adversity survival effects to age of adverse experience, related to figures 1 and 2.**
The sensitivity of the effects of early life adversity on survival in both early life (<6 years) and later life (≥6 years), shown in figures 1 and 2, to the age cut-off before which an adverse event must have been experienced in order for it to be classified as early life adversity. Confidence intervals overlapping one indicate no significant relationship between experiencing the adverse event and the risk of death. Values less than one indicate a reduced risk of dying and values greater than one indicate an increased risk of dying.
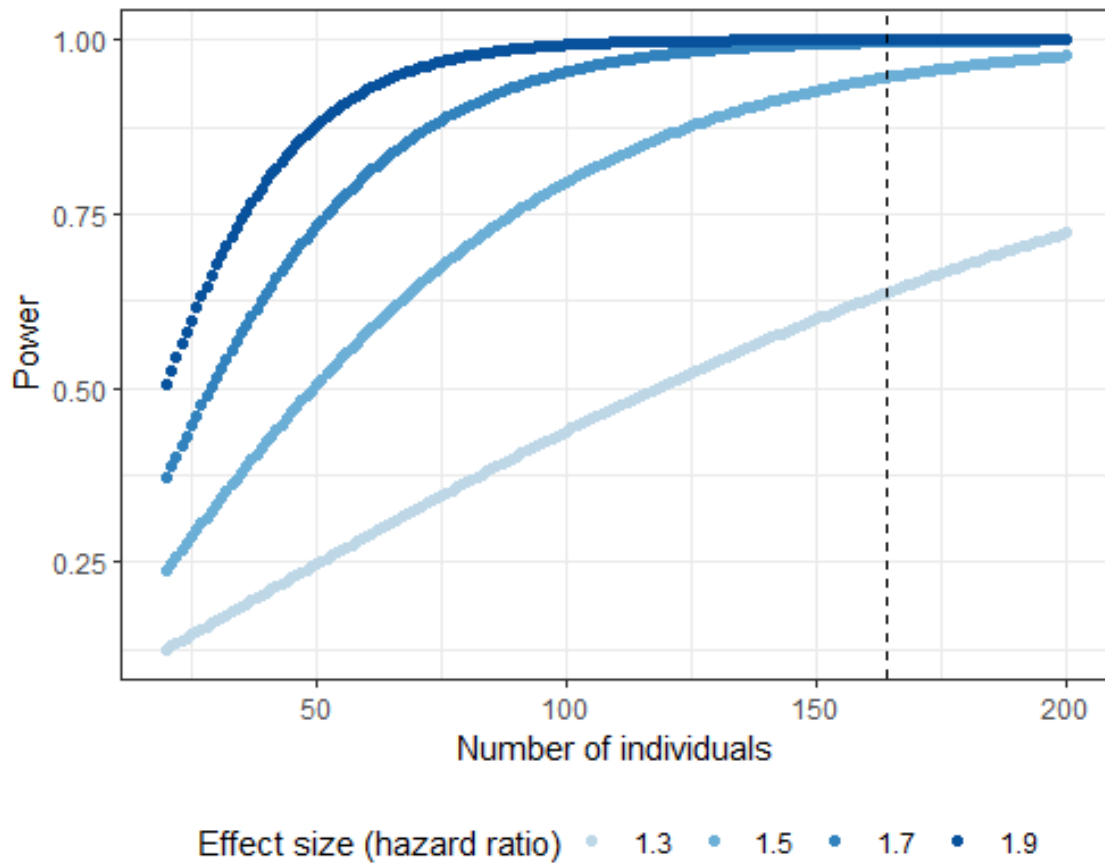
Figure S2. Power analysis for the numeric early life adversity model, related to figure 2. *The power of our numeric cumulative early life adversity model to detect different effect sizes based on sample sizes between 20 and 200 individuals. Dashed line indicates n=164, the number of individuals included in our models. A hazard ratio of 1.9 is equivalent to that identified in similar analyses on baboons[S1]. The power analysis accounted for the proportion of censored individuals, the variance in cumulative number of early life adversities experienced, and the correlation between sex and cumulative early life adversity present in our data.*
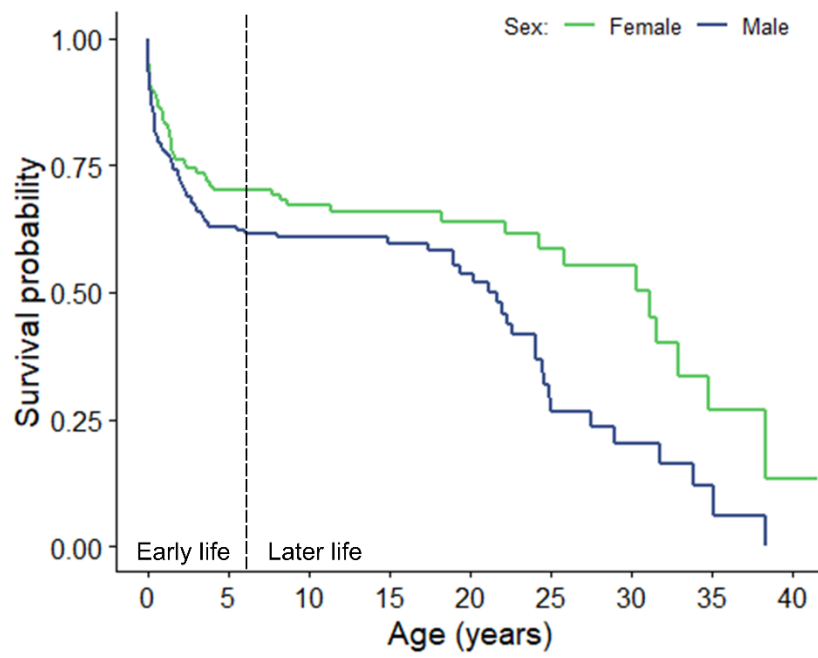
Figure S3. Kaplan-Meier survival curves for male (n=135) and female (n=118) mountain gorillas, related to figure 3.
Dashed line indicates cut-off between early life and later life (age six years, the point at which gorillas are classified as subadults).

	Competing sibling	Maternal loss	Paternal loss	Infanticide	Few age mates
Maternal loss	-0.115				
Paternal loss	-0.071	0.278			
Infanticide	0.028	0.172	0.035		
Few age mates	0.041	0.112	0.163	0.107	
Group instability	0.077	0.170	0.585	-0.092	0.168

Kappa Value	X < 0.1	0.1 ≥ X > 0.2	0.2 ≥ X > 0.4	0.4 ≥ X > 0.6	0.6 ≥ X > 0.8	0.8 ≥ X > 1
Interpretation	no agreement	slight agreement	fair agreement	moderate agreement	substantial agreement	near-perfect agreement

Table S1. Agreement between putative source of early life adversity, related to table 1. Cohen's Kappa scores for the agreement between the sources of early life adversity defined in Table 1. A score of 1 indicates complete agreement, i.e., that all individuals that suffered one source of adversity also suffered the other. A score of -1 indicates complete disagreement i.e., that none of the individuals that suffered one source of adversity also suffered the other.

A. Mortality during early life (<6 years)

A1 - Individual model			concordance = 0.615
	Hazard ratio (95% confidence interval)	**Z**	**P**
Maternal loss	1.173 (0.187 – 7.338)	0.17	0.865
Paternal loss	4.860 (2.083 – 11.342)	3.66	<0.001
Group instability	2.461 (0.986 – 6.142)	1.93	0.054
Infanticide of a group member	1.677 (0.768 – 3.665)	1.30	0.195
Competing sibling	0.420 (0.060 – 2.950)	-0.87	0.383
Few age-mates	1.829 (1.159 – 2.887)	2.60	0.009
Sex (male)	1.246 (0.798 – 1.944)	0.97	0.334
A2 - Cumulative model (ELA categories: 0, 1,2,3+)			concordance = 0.610
	Hazard ratio (95% confidence interval)	**Z**	**P**
1 ELA	1.411 (0.823 – 2.419)	1.25	0.210
2 ELAs	3.105 (1.255 – 7.677)	2.45	0.014
3+ ELAs	26.590 (10.156 – 69.613)	6.68	<0.001
Sex (male)	1.267 (0.801 – 2.003)	1.01	0.310
A3 - Cumulative model (ELA numeric)			concordance = 0.610
	Hazard ratio (95% confidence interval)	**Z**	**P**
Number of ELAs	2.202 (1.649 – 2.940)	5.35	<0.001
Sex (male)	1.252 (0.788 – 1.991)	0.95	0.340

B. Mortality in later life (>6 years)

B1 - Individual model			concordance = 0.656
	Hazard ratio (95% confidence interval)	**Z**	**P**
Maternal loss	0.637 (0.358 – 2.067)	-0.93	0.350
Paternal loss	0.126 (0.112 – 0.821)	-2.54	0.011
Group instability	5.326 (0.782 – 4.672)	2.07	0.039
Infanticide	0.777 (0.300 – 1.478)	-0.64	0.520
Competing sibling	0.342 (0.074 – 1.032)	-2.07	0.038
Few age-mates	1.609 (0.256 – 2.254)	0.83	0.410
Sex (male)	2.571 (1.532 – 6.819)	2.60	0.009
B2 - Cumulative model (ELA categories: 0, 1,2,3+)			concordance = 0.599
	Hazard ratio (95% confidence interval)	**Z**	**P**
1 ELA	0.420 (0.175 – 1.012)	-1.93	0.053
2 ELAs	0.675 (0.274 – 1.659)	-0.86	0.390
3+ ELAs	0.305 (0.105 – 0.885)	-2.18	0.029
Sex (male)	2.550 (1.264 – 5.144)	2.61	0.009
B3 - Cumulative model (ELA numeric)			concordance = 0.593
	Hazard ratio (95% confidence interval)	**Z**	**P**
Number of ELAs	0.798 (0.605 – 1.054)	-1.59	0.110
Sex (male)	2.725 (1.366 – 5.437)	2.85	0.004

Table S2. The effect of early life adversity on mortality, related to figures 1 and 2. *Model output for cox proportional hazards models plotted in Figures 1 and 2, predicting mortality in A) early life (0-6 years) and B) later life (>6 years) based on early life adversities (ELAs) and sex.*

A) Individual predictors

Early life		Hazard ratio (95% CI)	Z	P
Individual ELAs	Maternal loss	1.173 (0.187 – 7.338)	0.170	0.865
(all six)	Paternal loss	4.860 (2.083 – 11.342)	3.657	<0.001*
	Group instability	2.461 (0.986 – 6.142)	1.931	0.054
	Infanticide	1.677 (0.768 – 3.665)	1.297	0.195
	Competing sibling	0.420 (0.060 – 2.950)	-0.872	0.383
	Few age-mates	1.829 (1.159 – 2.887)	2.596	0.009*
Individual ELAs	Maternal loss	1.323 (0.243 – 7.194)	0.324	0.746
(no paternal loss)	Group instability	4.593 (1.820 – 11.593)	3.228	0.001*
	Infanticide	1.958 (0.856 – 4.479)	1.591	0.112
	Competing sibling	0.361 (0.053 – 2.439)	-1.045	0.296
	Few age-mates	1.781 (1.114 – 2.848)	2.410	0.016*
Individual ELAs	Maternal loss	1.254 (0.198 – 7.931)	0.240	0.810
(no competing sibling)	Paternal loss	4.972 (2.129 – 11.612)	3.706	<0.001*
	Group instability	2.447 (0.986 – 6.073)	1.930	0.054
	Infanticide	1.651 (0.760 – 3.587)	1.267	0.205
	Few age-mates	1.802 (1.142 – 2.843)	2.529	0.011*
Individual ELAs	Maternal loss	1.440 (0.267 – 7.761)	0.424	0.672
(no paternal loss or competing sibling)	Group instability	4.604 (1.848 – 11.472)	3.278	0.001
	Infanticide	1.926 (0.853 – 4.352)	1.577	0.115
	Few age-mates	1.761 (1.103 – 2.812)	2.371	0.018*
Later life		**Hazard ratio (95% CI)**	**Z**	**P**
Individual ELAs	Maternal loss	0.637 (0.358 – 2.067)	-0.93	0.350
(all six)	Paternal loss	0.126 (0.112 – 0.821)	-2.54	0.011*
	Group instability	5.326 (0.782 – 4.672)	2.07	0.039*
	Infanticide	0.777 (0.300 – 1.478)	-0.64	0.520
	Competing sibling	0.342 (0.074 – 1.032)	-2.07	0.038*
	Few age-mates	1.609 (0.256 – 2.254)	0.83	0.410
Individual ELAs	Maternal loss	0.637 (0.242 – 1.676)	-0.91	0.360
(no paternal loss)	Group instability	0.848 (0.379 – 1.895)	-0.40	0.690
	Infanticide	0.844 (0.390 – 1.831)	-0.43	0.670
	Competing sibling	0.516 (0.207 – 1.285)	-1.42	0.160
	Few age-mates	1.241 (0.388 – 3.968)	0.36	0.720
Individual ELAs	Maternal loss	0.855 (0.356 – 2.056)	-0.35	0.730
(no competing sibling)	Paternal loss	0.194 (0.043 – 0.886)	-2.12	0.034*
	Group instability	3.545 (0.769 – 16.352)	1.62	0.100
	Infanticide	0.874 (0.410 – 1.864)	-0.35	0.730
	Few age-mates	1.272 (0.435 – 3.717)	0.44	0.660
Individual ELAs	Maternal loss	0.751 (0.356 – 2.056)	-0.61	0.540
(no paternal loss or competing sibling)	Group instability	0.827 (0.769 – 16.352)	-0.47	0.640
	Infanticide	0.876 (0.410 – 1.864)	-0.33	0.740
	Few age-mates	1.107 (0.435 – 3.717)	0.18	0.860

B) Cumulative categorical

Early life		Hazard ratio (95% CI)	Z	P
Cumulative number of ELAs	1	1.411 (0.823 – 2.419)	1.25	0.210
(all six)	2	3.105 (1.255 – 7.677)	2.45	0.014*
	3+	26.590 (10.156 – 69.613)	6.68	<0.001*
Cumulative number of ELAs	1	1.530 (0.909 – 2.575)	1.60	0.110
(Five; no paternal loss)	2	4.815 (2.163 – 10.720)	3.85	0.001*
	3+	8.664 (1.697 – 44.229)	2.60	0.009*
Cumulative number of ELAs	1	1.329 (0.768 – 2.300)	1.02	0.310
(Five; no competing sibling)	2	3.707 (1.485 – 9.259)	2.81	0.005*
	3+	32.952 (12.630 – 75.885)	7.14	<0.001*
Cumulative number of ELAs	1	1.476 (0.875 – 2.489)	1.46	0.140
(Four; no paternal loss or competing sibling)	2	6.039 (2.706– 13.481)	4.39	<0.001*
	3+	14.747(2.866– 85.977)	3.22	0.001*
Later life		**Hazard ratio (95% CI)**	**Z**	**P**
Cumulative number of ELAs	1	0.420 (0.175, 1.012)	-1.93	0.053
(all six)	2	0.675 (0.274, 1.659)	-0.86	0.390
	3+	0.305 (0.105, 0.885)	-2.18	0.029*
Cumulative number of ELAs	1	0.658 (0.313, 1.382)	-1.10	0.270
(Five; no paternal loss)	2	0.592 (0.167, 2.103)	-0.81	0.420
	3+	0.512 (0.184, 1.426)	-1.28	0.200
Cumulative number of ELAs	1	0.890 (0.403, 1.966)	-0.29	0.770
(Five; no competing sibling)	2	0.879 (0.388, 1.991)	-0.31	0.760
	3+	0.428 (0.141, 1.302)	-1.50	0.130
Cumulative number of ELAs	1	1.030 (0.504, 2.104)	0.08	0.940
(Four; no paternal loss or competing sibling)	2	0.660 (0.217, 2.012)	-0.73	0.470
	3+	0.747 (0.239, 2.333)	-0.50	0.620

C) Cumulative numeric

Early life	Hazard ratio (95% CI)	Z	P
Cumulative number of ELAs (all six)	2.202 (1.649,2.940)	5.35	P<0.001
Cumulative number of ELAs (Five; no paternal loss)	1.924 (1.383, 2.679)	3.88	P<0.001
Cumulative number of ELAs (Five; no competing sibling)	2.344 (1.751, 3.138)	5.72	P<0.001
Cumulative number of ELAs (Four; no paternal loss or competing sibling)	2.112 (1.504, 2.964)	4.32	P<0.001
Later life	**Hazard ratio (95% confidence interval)**	**Z**	**P**
Cumulative number of ELAs (all six)	0.798 (0.605, 1.054)	-1.59	0.110
Cumulative number of ELAs (Five; no paternal loss)	0.819 (0.591, 1.135)	-1.20	0.230
Cumulative number of ELAs (Five; no competing sibling)	0.848 (0.649, 1.107)	-1.21	0.220
Cumulative number of ELAs (Four; no paternal loss or competing sibling)	0.882 (0.637, 1.224)	-0.75	0.450

Table S3. Robustness of the effects of early life adversity on mortality, related to figures 1 and 2. *The robustness of the survival model predictions shown in figures 1 and 2, to the exclusion of correlated forms of adversity (paternal loss, which overlaps with both maternal loss and group instability; see Supp. Table 1 and main text) as well as one linked with potential fitness benefits (competing younger sibling, which may be indicative of a particularly high-quality or healthy mother, faster development, and/or more social support from relatives). Model output for individual predictors, cumulative categorical and cumulative numeric cox proportional hazards models predicting mortality in early life (0-6 years) and later life (>6 years), when all ELAs are included, when paternal loss is excluded, when competing sibling is excluded, and when both paternal loss and competing sibling are excluded. Predictors in red indicate adversities whose effects are not robust to the exclusion of some other predictors, i.e. that gain or lose significance when either paternal loss, competing sibling or both are not considered forms of adversity.*indicates significant p-values.*

Supplemental Reference

S1.   Tung, J., Archie, E.A., Altmann, J., and Alberts, S.C. (2016). Cumulative early life adversity predicts longevity in wild baboons. Nat. Commun. 10.1038/ncomms11181.