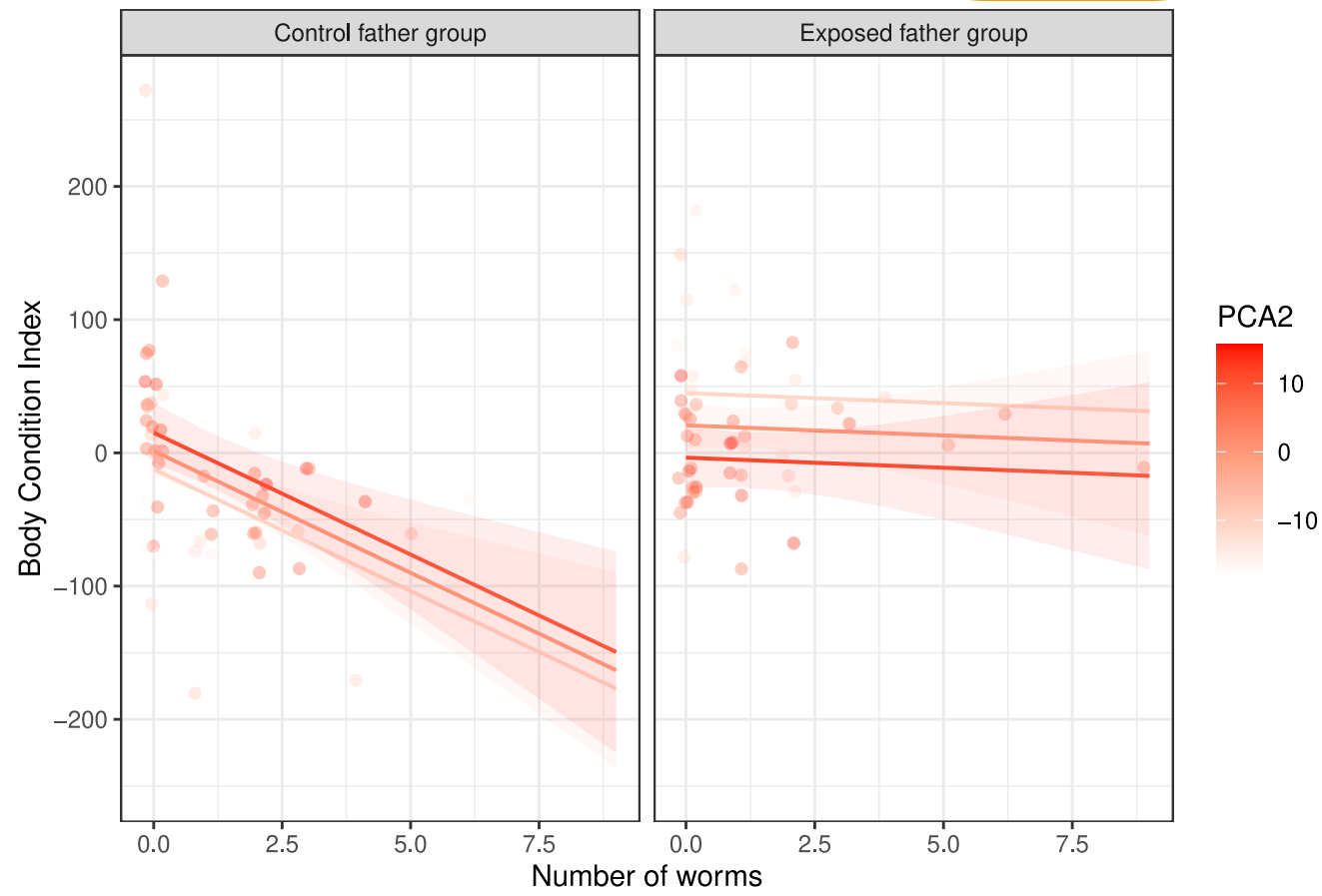


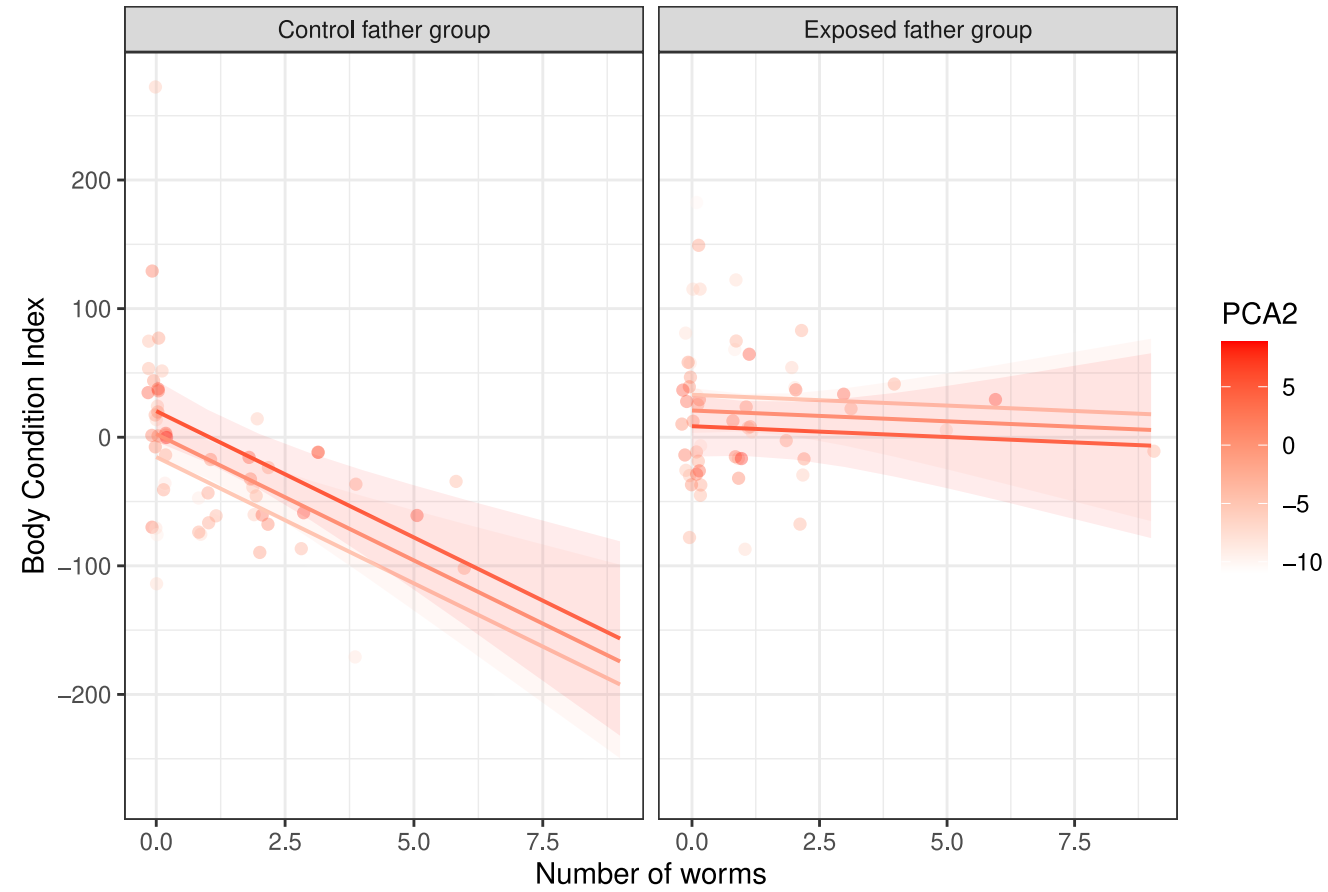
1639 DMS linked with paternal treatment only
 860 CpG sites most correlated ($p < 0.05$) with PCA1
 827 CpG sites most correlated ($p < 0.05$) with PCA2
 The chosen model is:
 $BCI \sim PCA2 + No.Worms + paternal\ treatment +$
 $PCA2:paternal\ treatment + No.Worms:paternal\ treatment +$
 $(1 | father's\ family) + (1 | Sex)$
 Backward reduced elimination with Satterthwaite method:
 $PCA2:paternal\ treatment\ F=12.46, p\text{-value}<0.001$
 $No.Worms:paternal\ treatment\ F=6.47, p\text{-value}=0.01$
 Variance in BCI was associated with:
 paternal treatment = 10.4% parasite load = 22%
 second PCA axis = 9.6%

Predicted values of Body Condition Index in offspring: **Intergenerational**

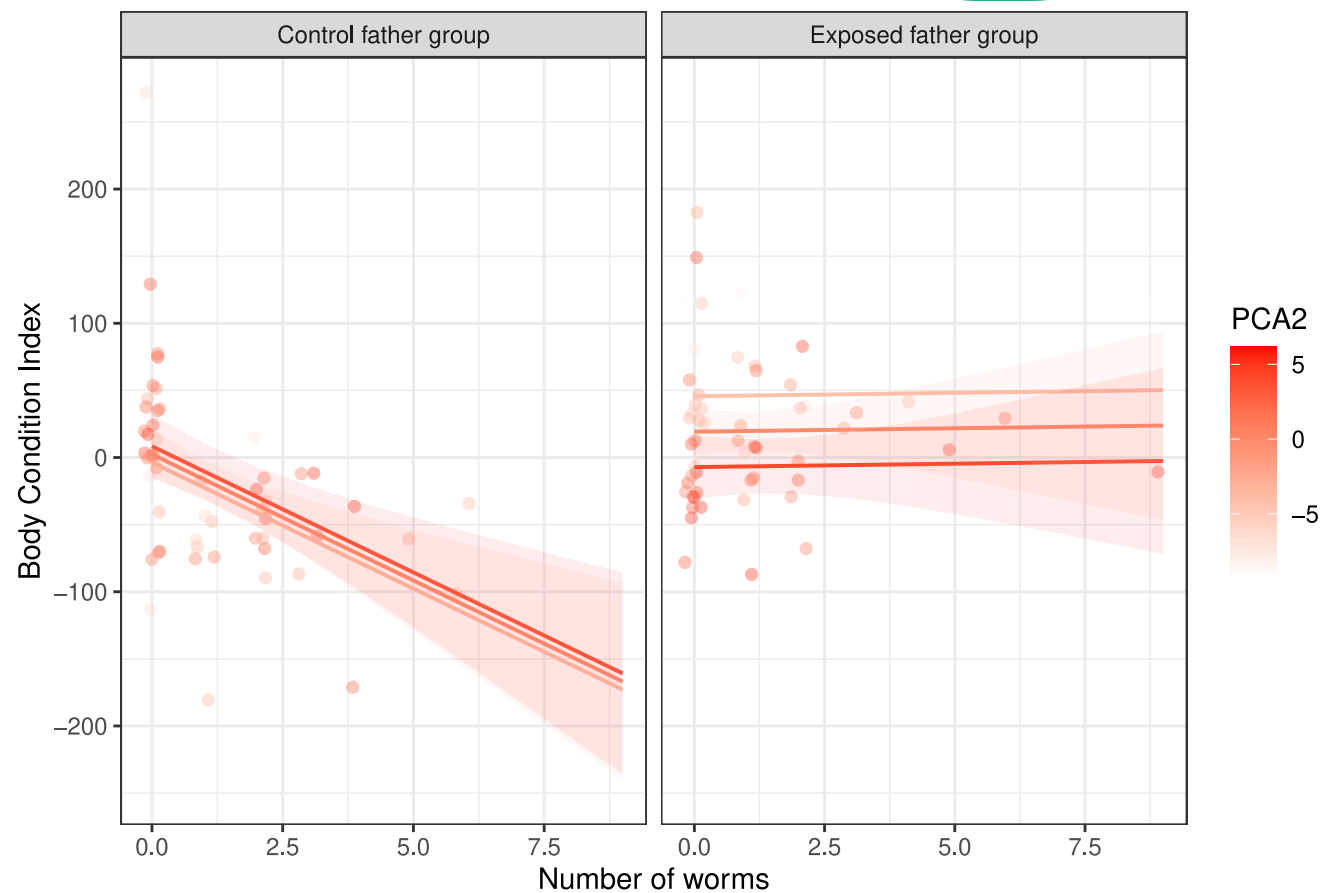


309 DMS linked with offspring treatment only
 181 CpG sites most correlated ($p < 0.05$) with PCA1
 178 CpG sites most correlated ($p < 0.05$) with PCA2
 The chosen model is:
 $BCI \sim PCA2 + No.Worms + paternal\ treatment +$
 $PCA2:paternal\ treatment + No.Worms:paternal\ treatment +$
 $(1 | father's\ family) + (1 | Sex)$
 Backward reduced elimination with Satterthwaite method:
 $PCA2:paternal\ treatment\ F=7.45, p\text{-value}<0.01$
 $No.Worms:paternal\ treatment\ F=7.08, p\text{-value}<0.01$
 Variance in BCI was associated with:
 paternal treatment = 11.8% parasite load = 18.9%
 second PCA axis = 6.1%

Predicted values of Body Condition Index in offspring: **Infection-induced**

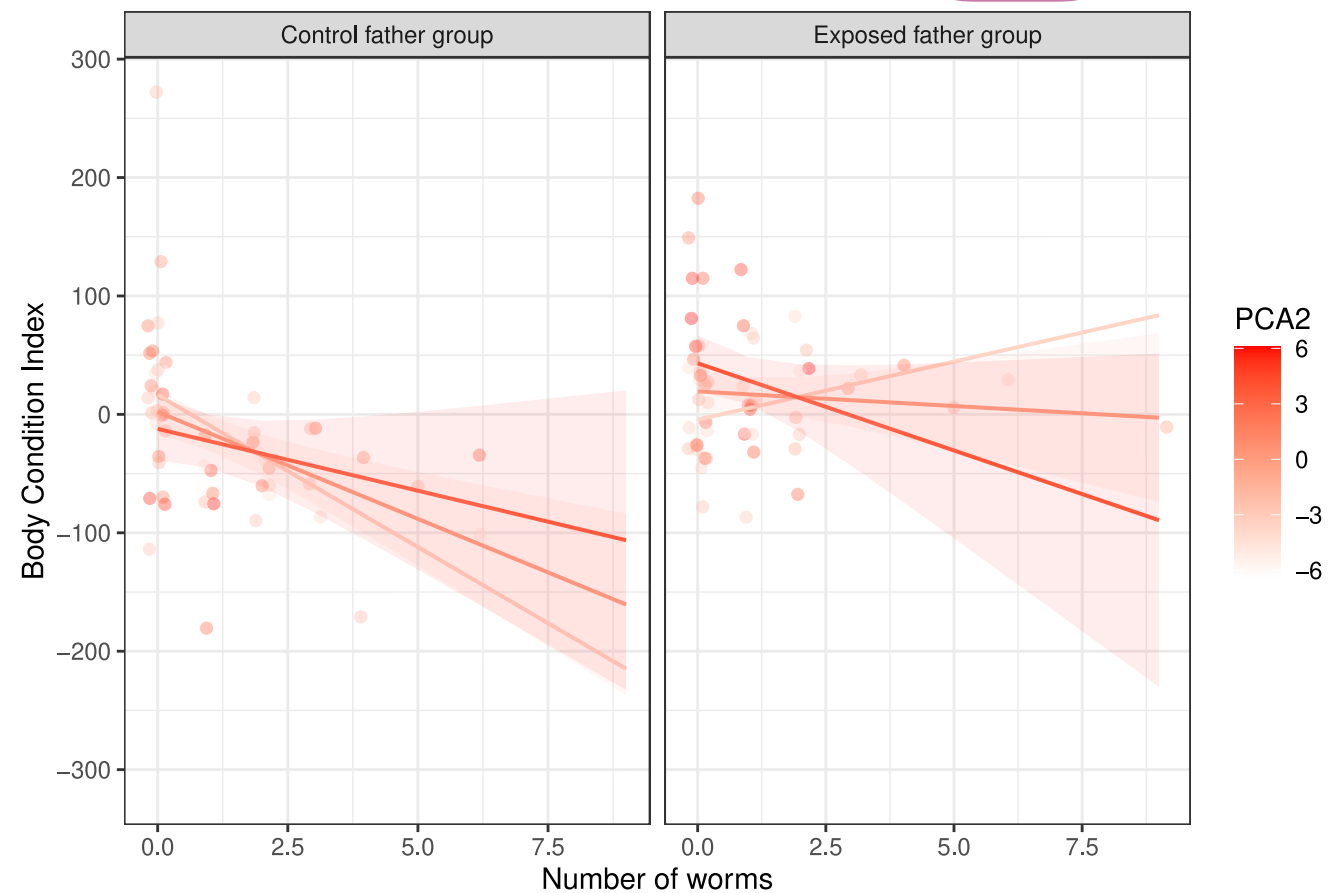


Predicted values of Body Condition Index in offspring: **Additive**



173 DMS linked with additive effects
 76 CpG sites most correlated ($p < 0.05$) with PCA1
 81 CpG sites most correlated ($p < 0.05$) with PCA2
 The chosen model is:
 $BCI \sim PCA2 + No.Worms + paternal\ treatment +$
 $PCA2:paternal\ treatment + No.Worms:paternal\ treatment +$
 $(1 | father's\ family) + (1 | Sex)$
 Backward reduced elimination with Satterthwaite method:
 $PCA2:paternal\ treatment\ F=9.0, p\text{-value}<0.01$
 $No.Worms:paternal\ treatment\ F=8.5, p\text{-value}<0.01$
 Variance in BCI was associated with:
 paternal treatment = 10.9% parasite load = 20.3%
 second PCA axis = 9.3%

Predicted values of Body Condition Index in offspring: **Interaction**



151 DMS linked with interaction effects
 72 CpG sites most correlated ($p < 0.05$) with PCA1
 54 CpG sites most correlated ($p < 0.05$) with PCA2
 The chosen model is:
 $BCI \sim PCA2 + No.Worms + paternal\ treatment +$
 $PCA2:paternal\ treatment + No.Worms:paternal\ treatment +$
 $**PCA2:No.Worms + PCA2:No.Worms:PAT**$
 $(1 | father's\ family) + (1 | Sex)$
 Backward reduced elimination with Satterthwaite method:
 $PCA2:No.Worms:paternal\ treatment\ F=4.9, p\text{-value}=0.03$
 Variance in BCI was associated with:
 paternal treatment = 14.7% parasite load = 19%
 second PCA axis = 7%