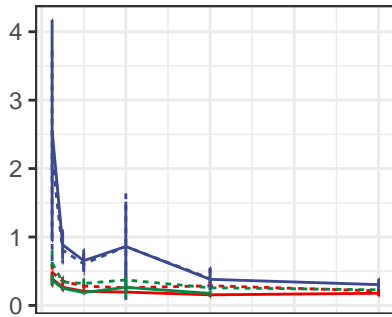
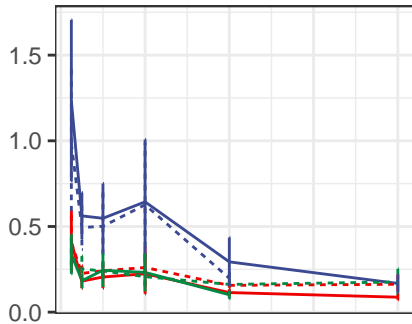
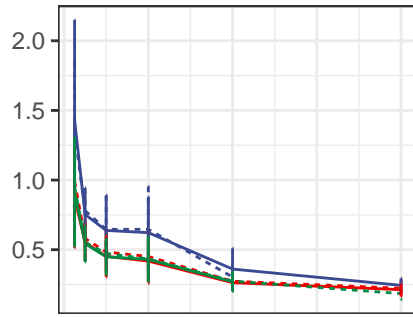
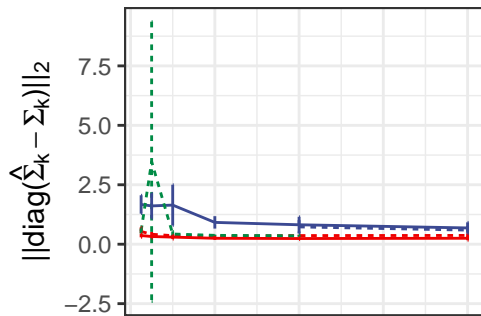
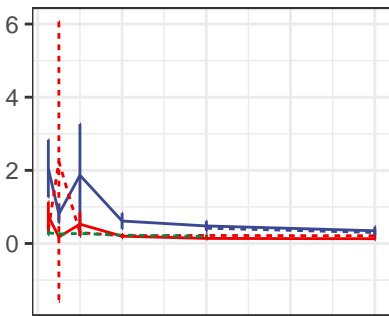
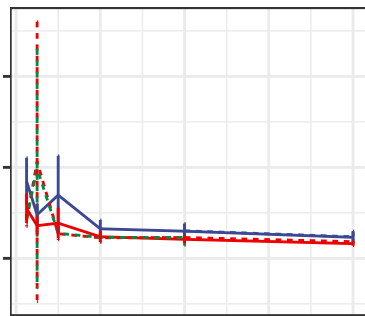
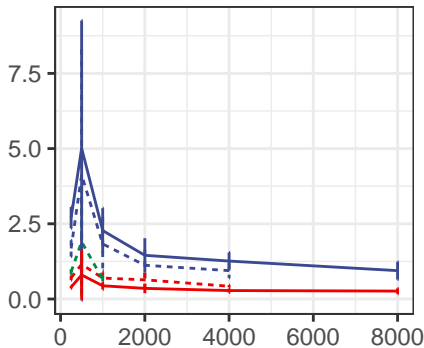
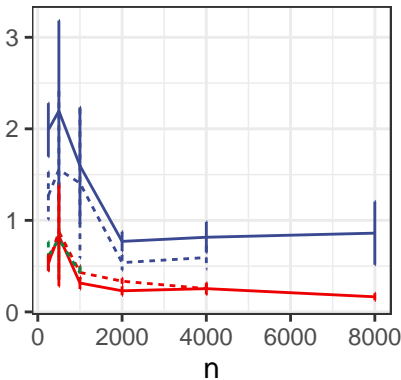
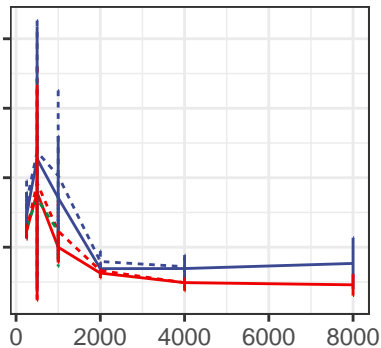


$q = 5 (\hat{\Sigma}_G)$  $q = 5 (\hat{\Sigma}_C)$  $q = 5 (\hat{\Sigma}_E)$  $q = 10 (\hat{\Sigma}_G)$  $q = 10 (\hat{\Sigma}_C)$  $q = 10 (\hat{\Sigma}_E)$  $q = 20 (\hat{\Sigma}_G)$  $q = 20 (\hat{\Sigma}_C)$  $q = 20 (\hat{\Sigma}_E)$ 

— Multivariate

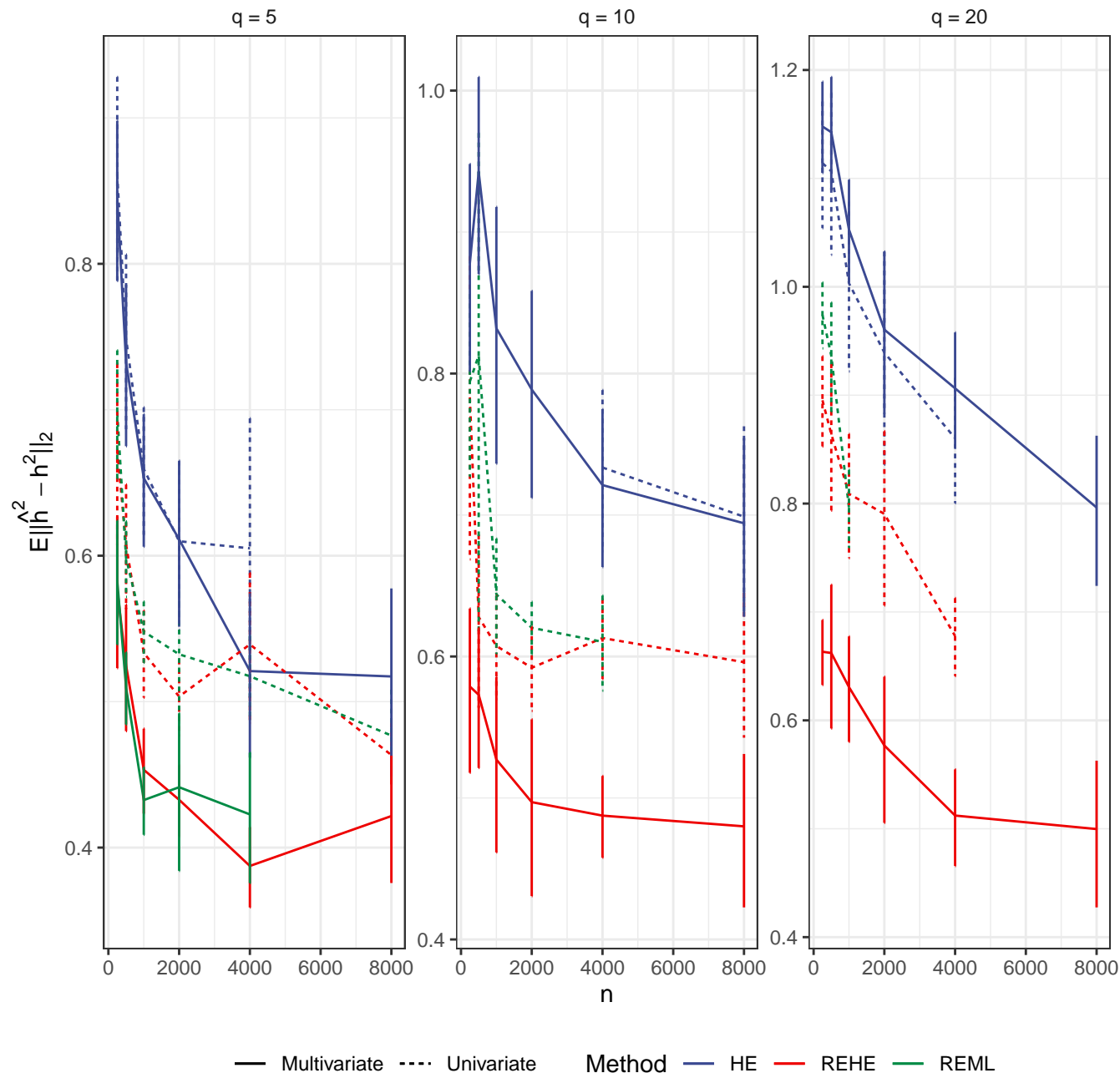
- - - Univariate

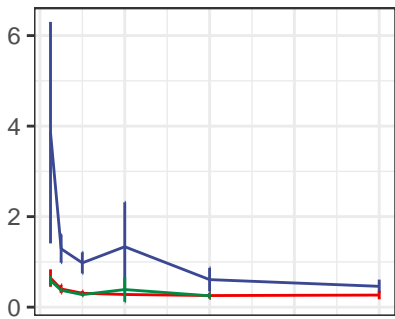
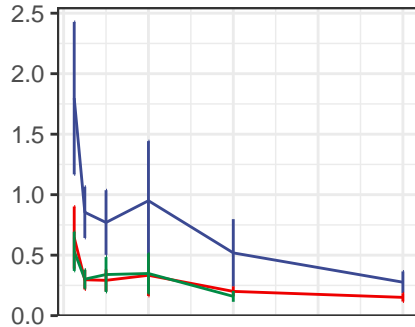
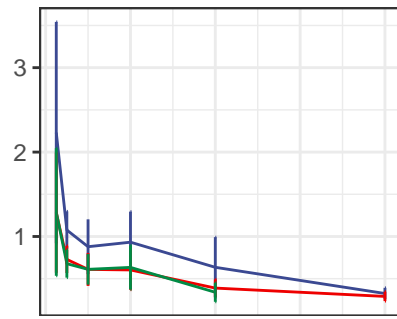
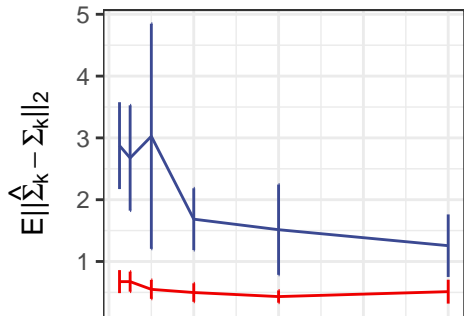
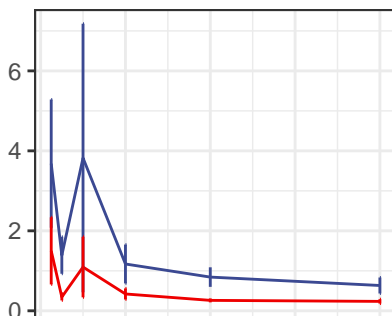
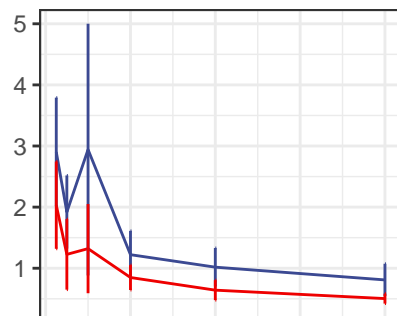
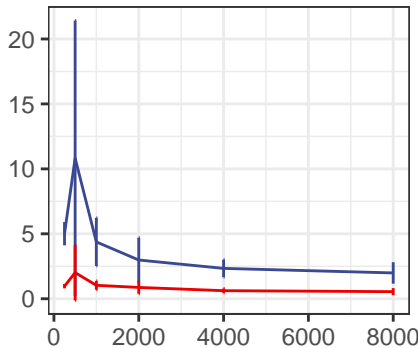
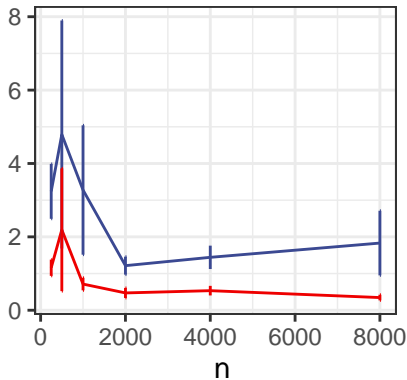
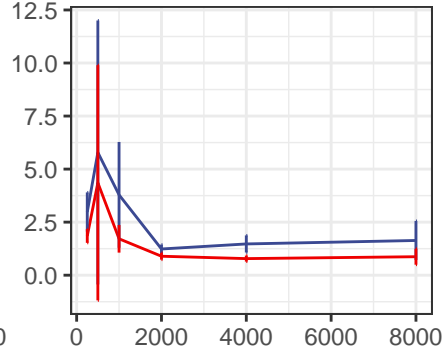
Method

— HE

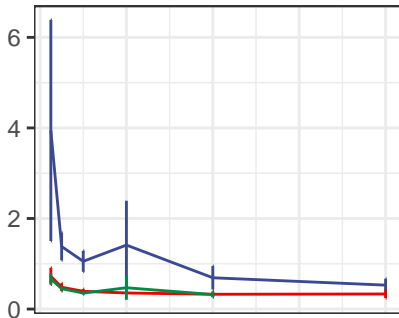
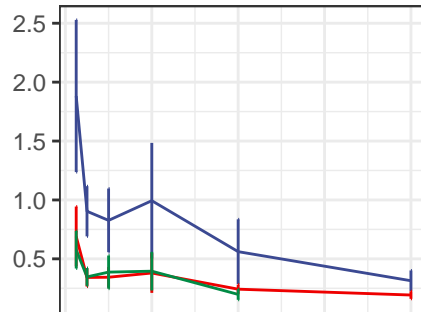
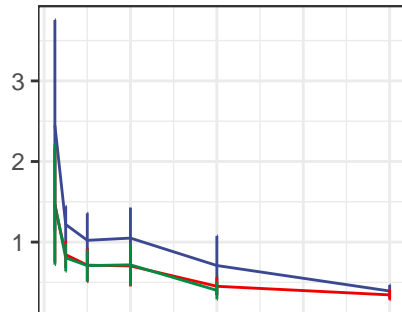
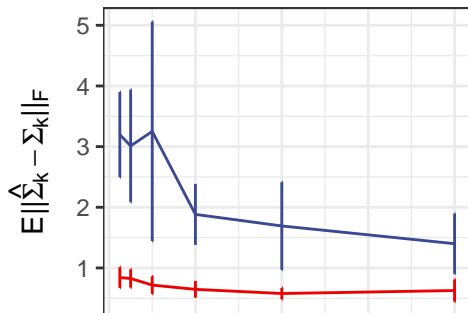
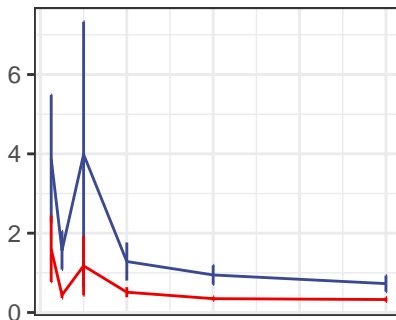
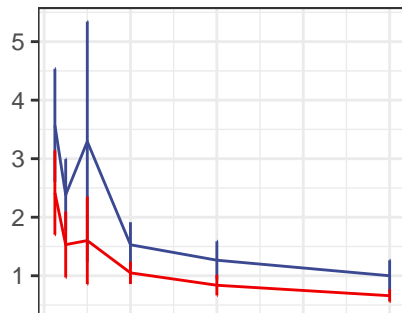
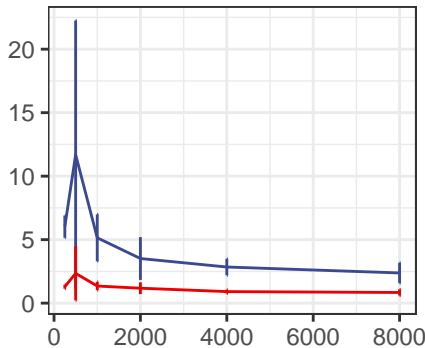
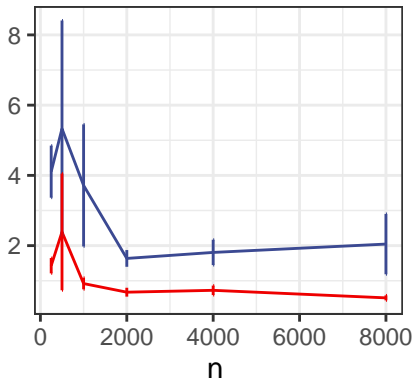
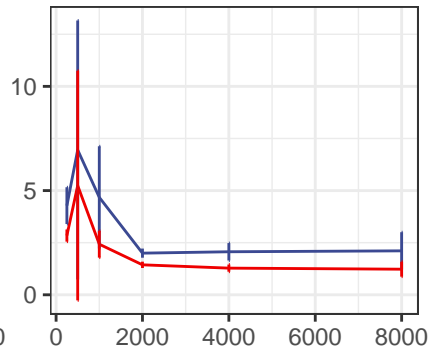
— REHE

— REML

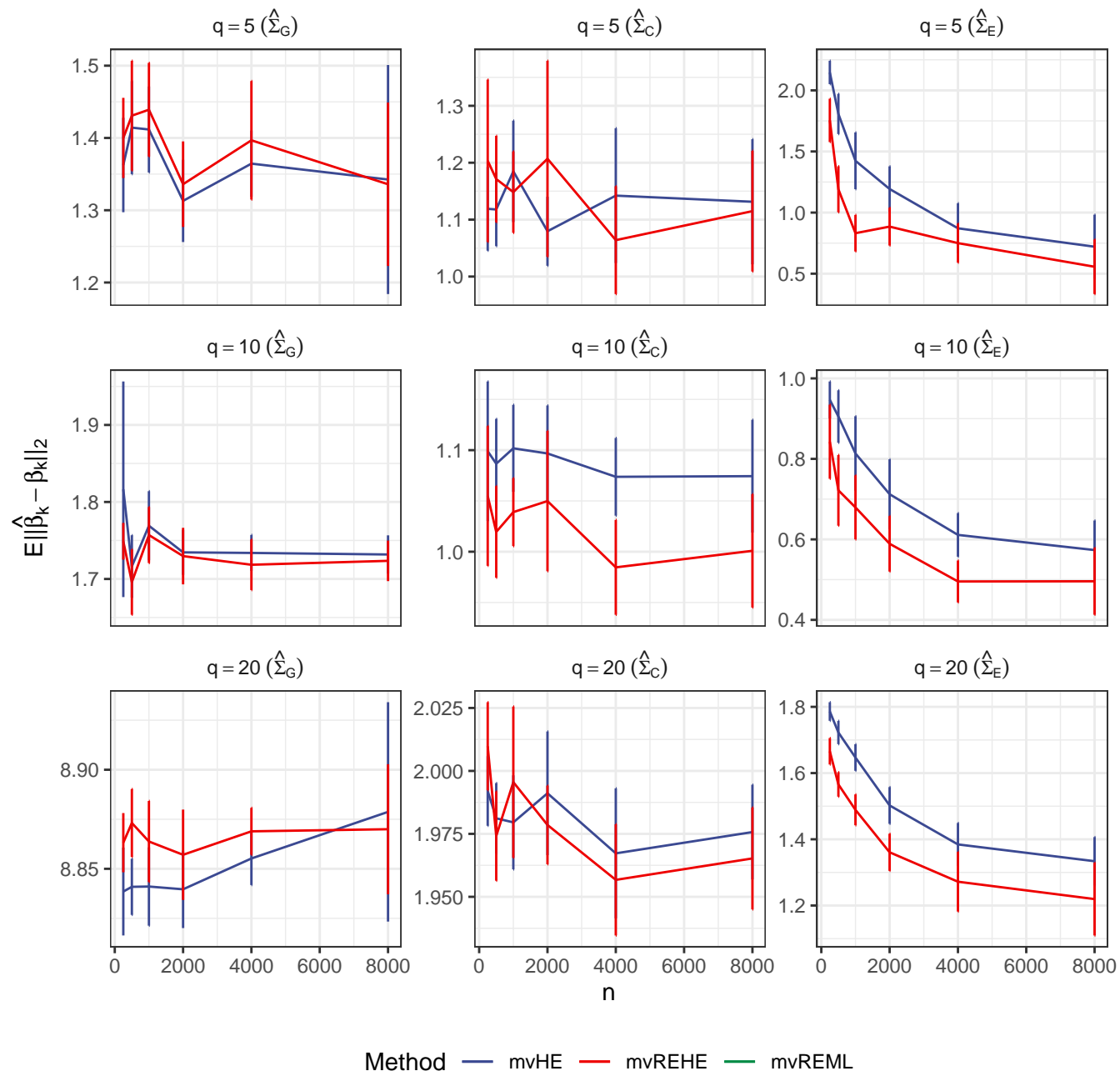


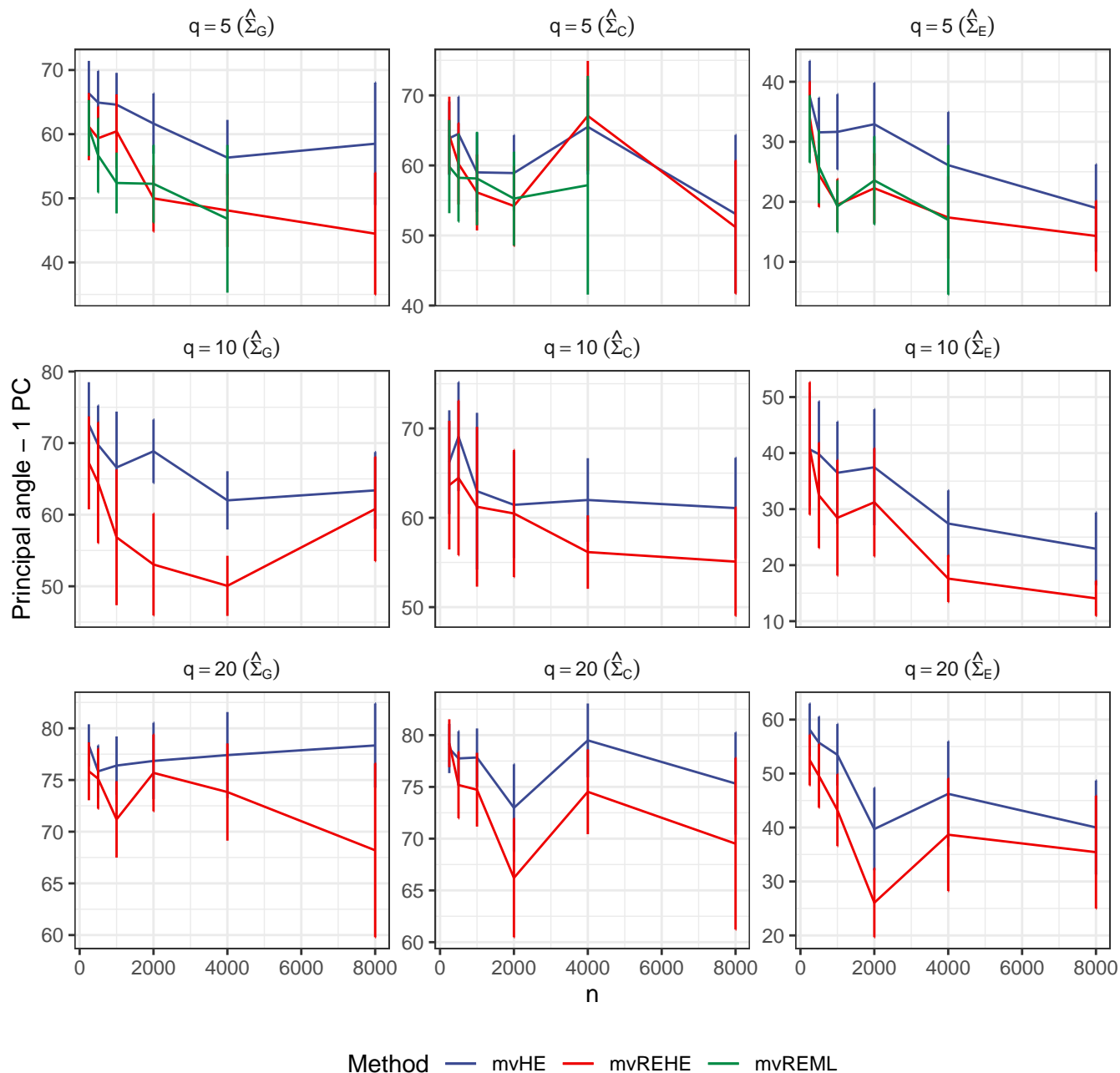
$q = 5 (\hat{\Sigma}_G)$  $q = 5 (\hat{\Sigma}_C)$  $q = 5 (\hat{\Sigma}_E)$  $q = 10 (\hat{\Sigma}_G)$  $q = 10 (\hat{\Sigma}_C)$  $q = 10 (\hat{\Sigma}_E)$  $q = 20 (\hat{\Sigma}_G)$  $q = 20 (\hat{\Sigma}_C)$  $q = 20 (\hat{\Sigma}_E)$ 

Method    mvHE    mvREHE    mvREML

$q = 5 (\hat{\Sigma}_G)$  $q = 5 (\hat{\Sigma}_C)$  $q = 5 (\hat{\Sigma}_E)$  $q = 10 (\hat{\Sigma}_G)$  $q = 10 (\hat{\Sigma}_C)$  $q = 10 (\hat{\Sigma}_E)$  $q = 20 (\hat{\Sigma}_G)$  $q = 20 (\hat{\Sigma}_C)$  $q = 20 (\hat{\Sigma}_E)$ 

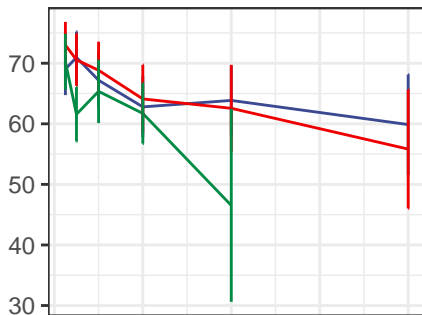
Method — mvHE — mvREHE — mvREML



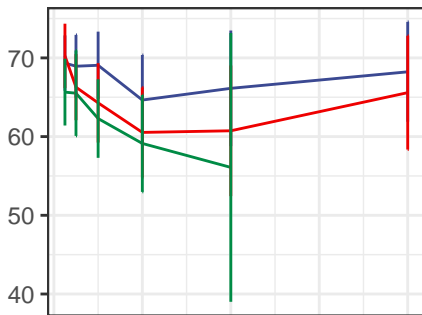


Max principal angle - 3 PCs

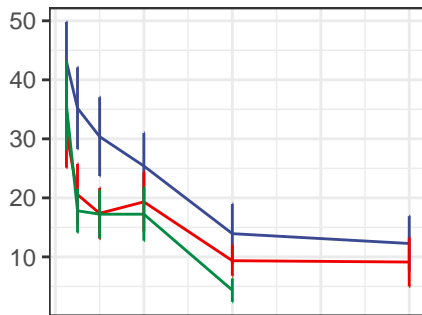
$q = 5$  ( $\hat{\Sigma}_G$ )



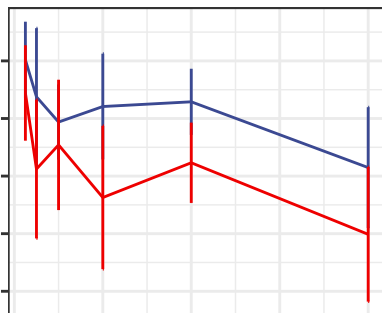
$q = 5$  ( $\hat{\Sigma}_C$ )



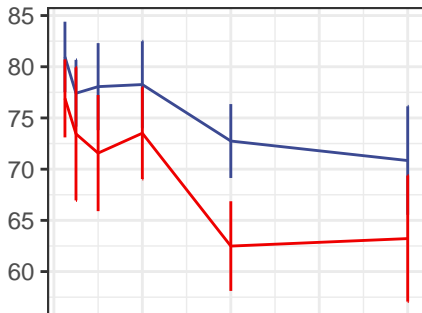
$q = 5$  ( $\hat{\Sigma}_E$ )



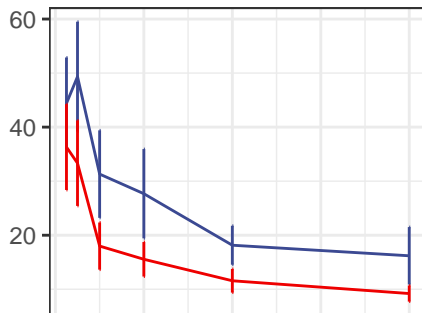
$q = 10$  ( $\hat{\Sigma}_G$ )



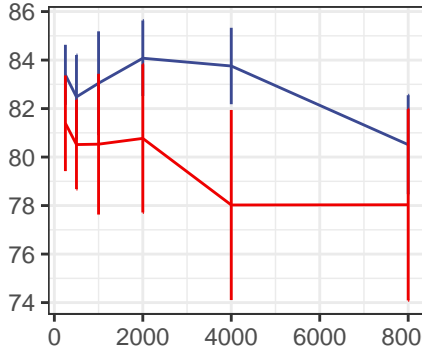
$q = 10$  ( $\hat{\Sigma}_C$ )



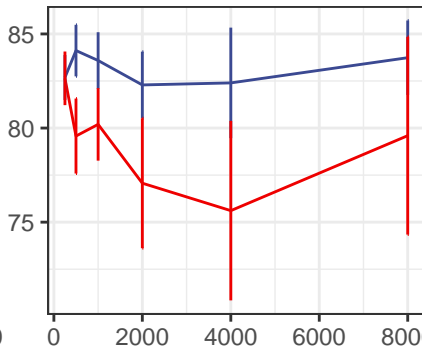
$q = 10$  ( $\hat{\Sigma}_E$ )



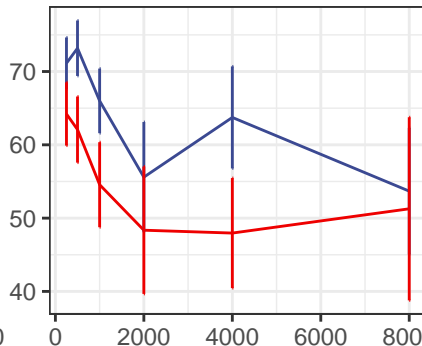
$q = 20$  ( $\hat{\Sigma}_G$ )



$q = 20$  ( $\hat{\Sigma}_C$ )



$q = 20$  ( $\hat{\Sigma}_E$ )



Method — mvHE — mvREHE — mvREML