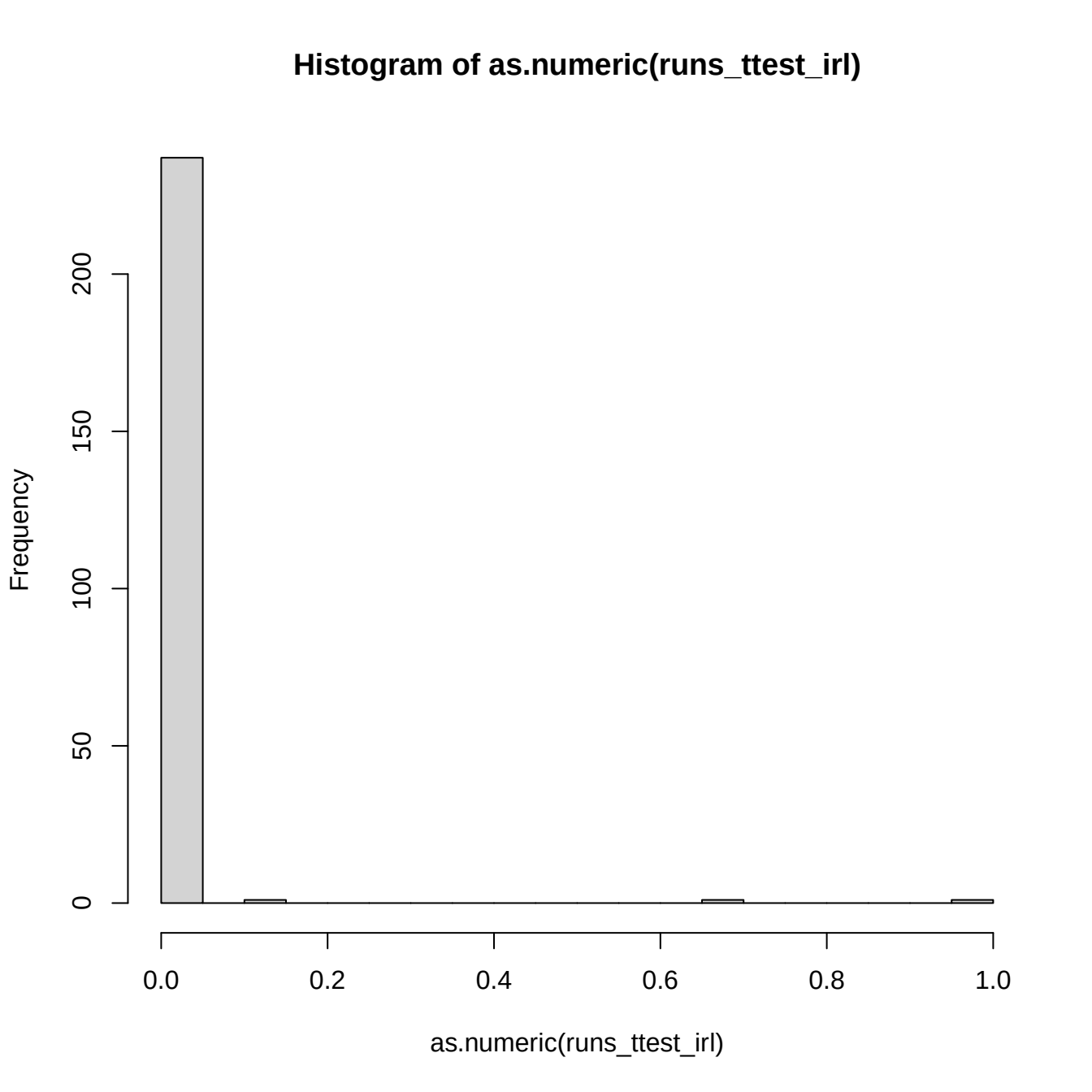
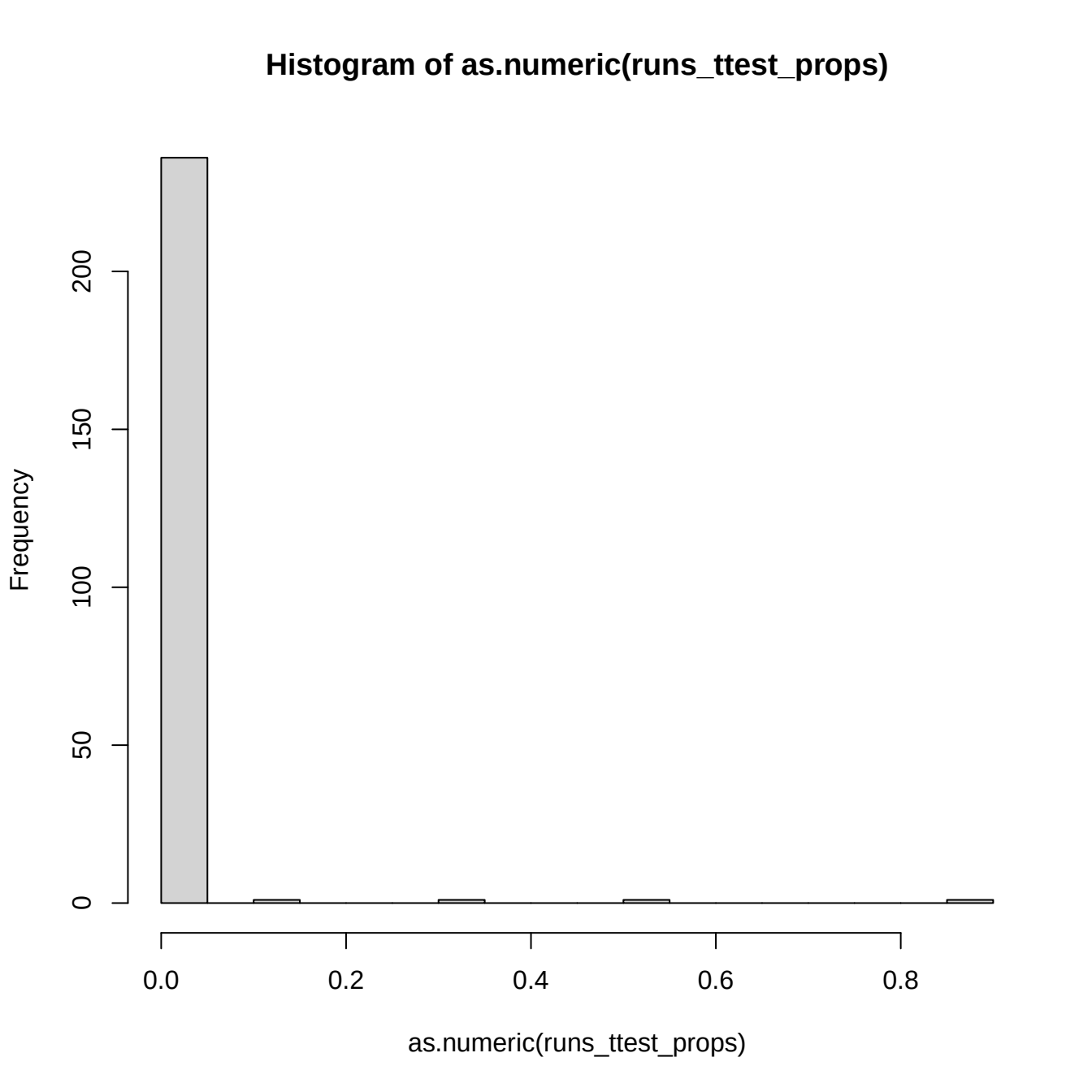
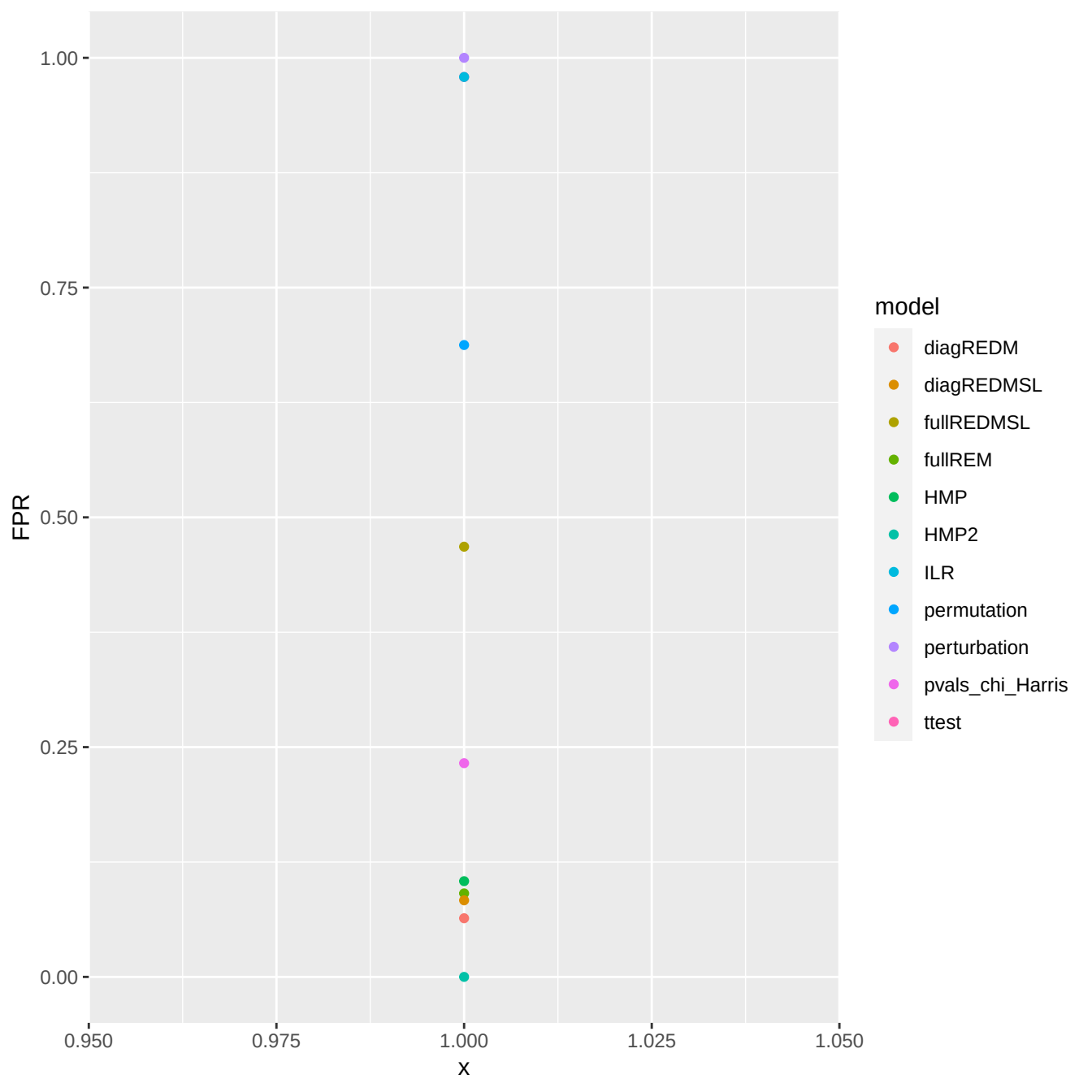
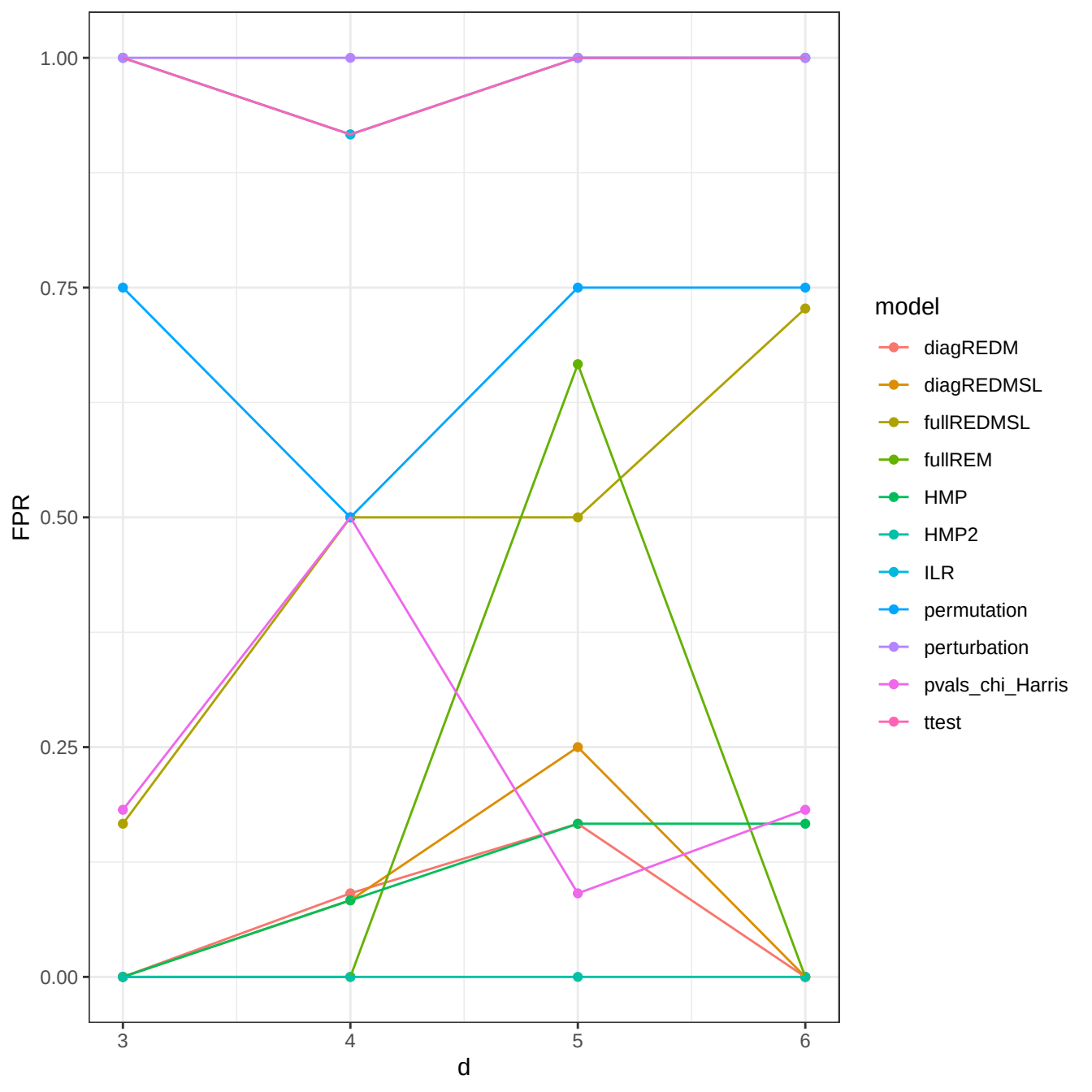
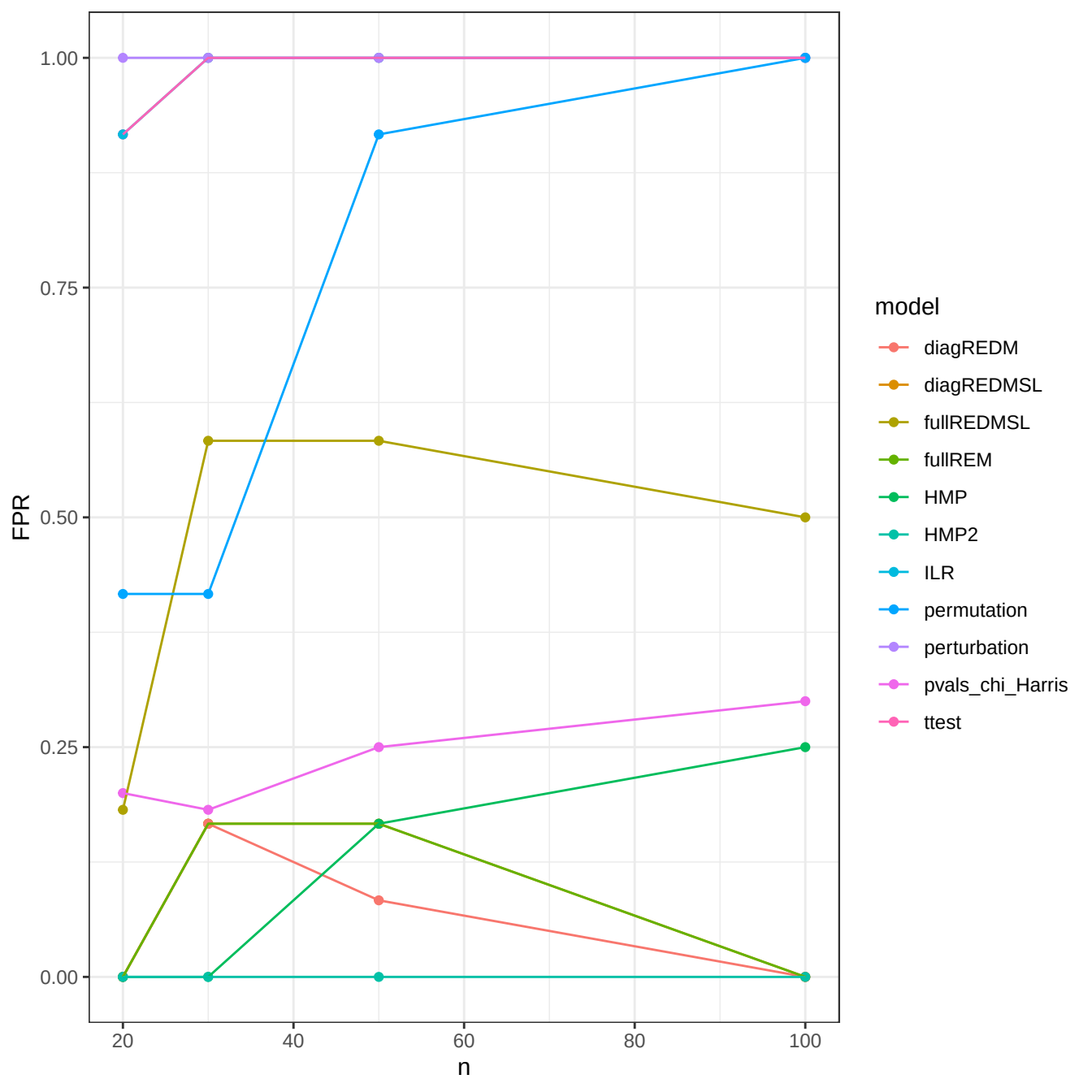
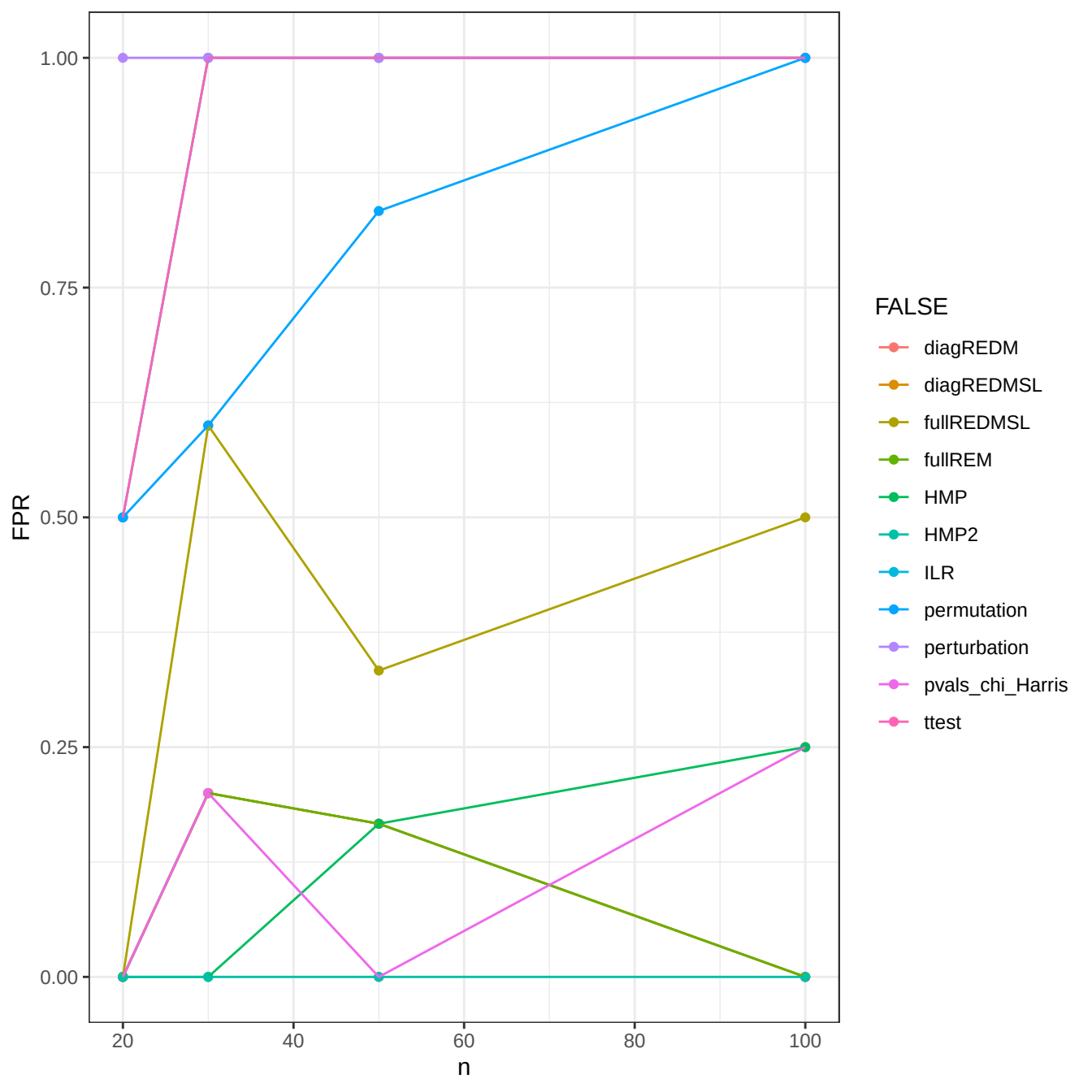

Histogram of as.numeric(runs_ttest_irl)
Frequency
0
50
100
150
200
0.0
0.2
0.4
0.6
0.8
1.0
as.numeric(runs_ttest_irl)

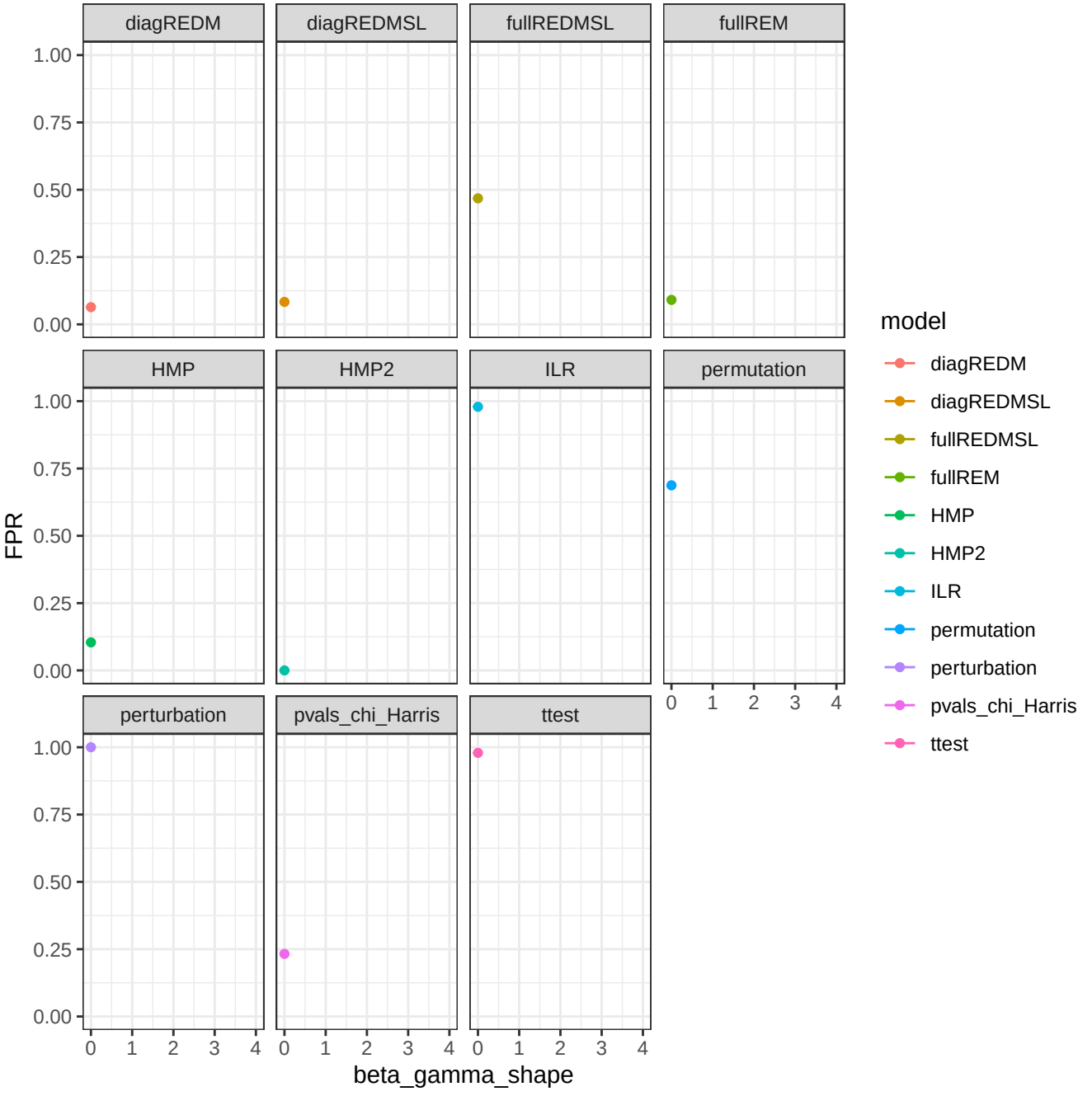

Histogram of as.numeric(runs_ttest_props)
Frequency
0
50
100
150
200
0.0
0.2
0.4
0.6
0.8
as.numeric(runs_ttest_props)

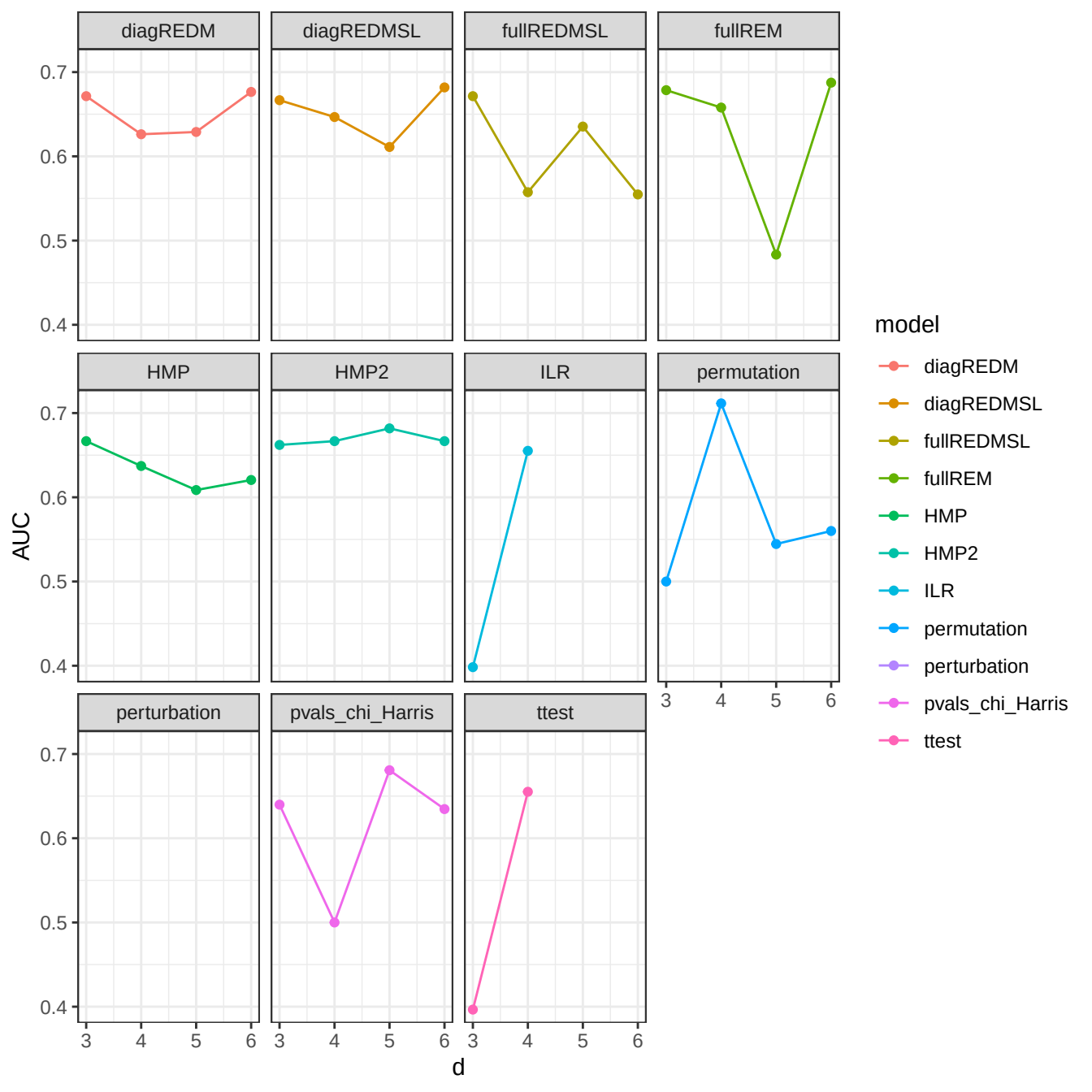

1.00
0.75
0.50
0.25
0.00
FPR
0.950
0.975
1.000
1.025
1.050
x
model
diagREDM
diagREDMSL
fullREDMSL
fullREM
HMP
HMP2
ILR
permutation
perturbation
pvals_chi_Harris
ttest

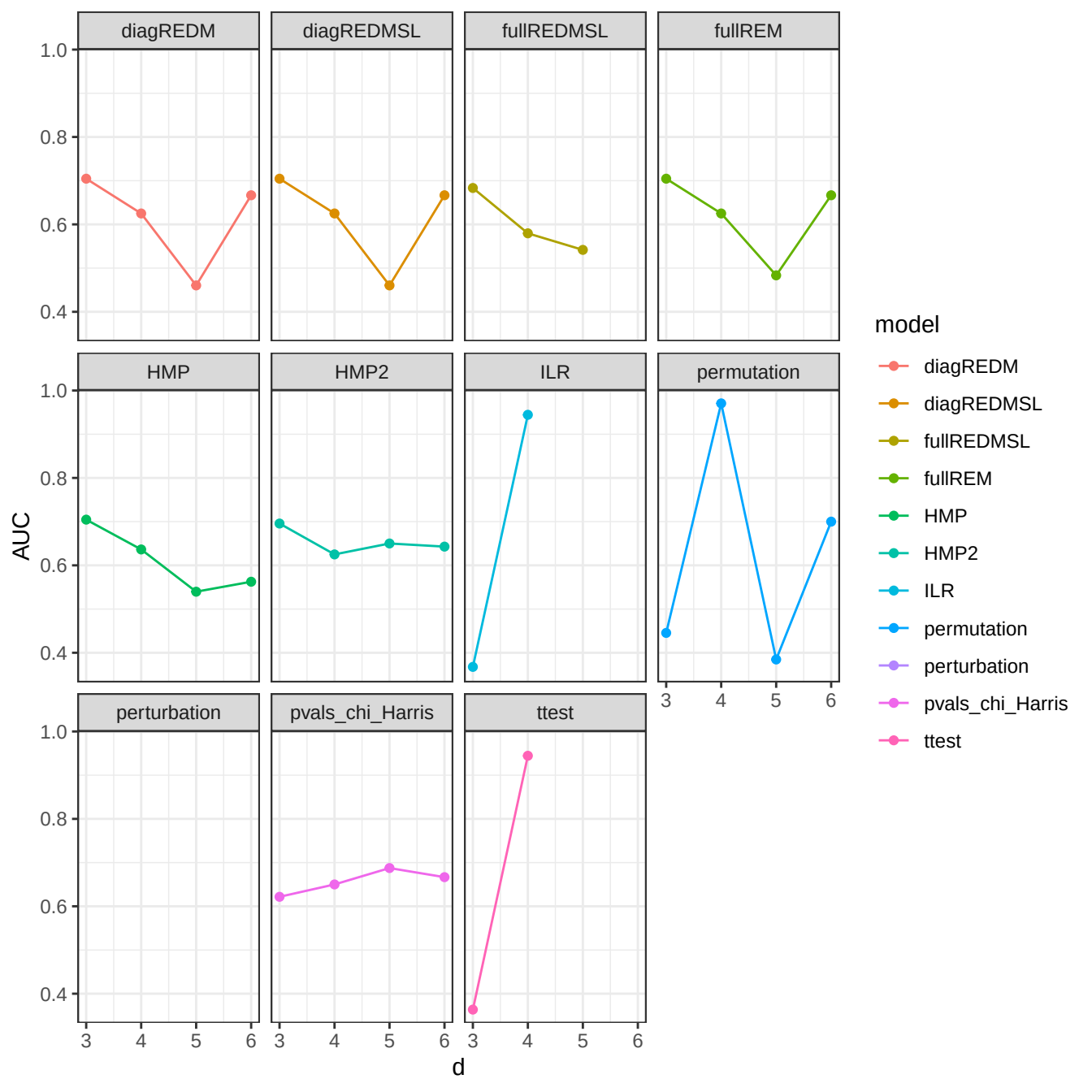

1.00
0.75
0.50
0.25
0.00
FPR
3
4
5
6
d
model
diagREDM
diagREDMSL
fullREDMSL
fullREM
HMP
HMP2
ILR
permutation
perturbation
pvals_chi_Harris
ttest

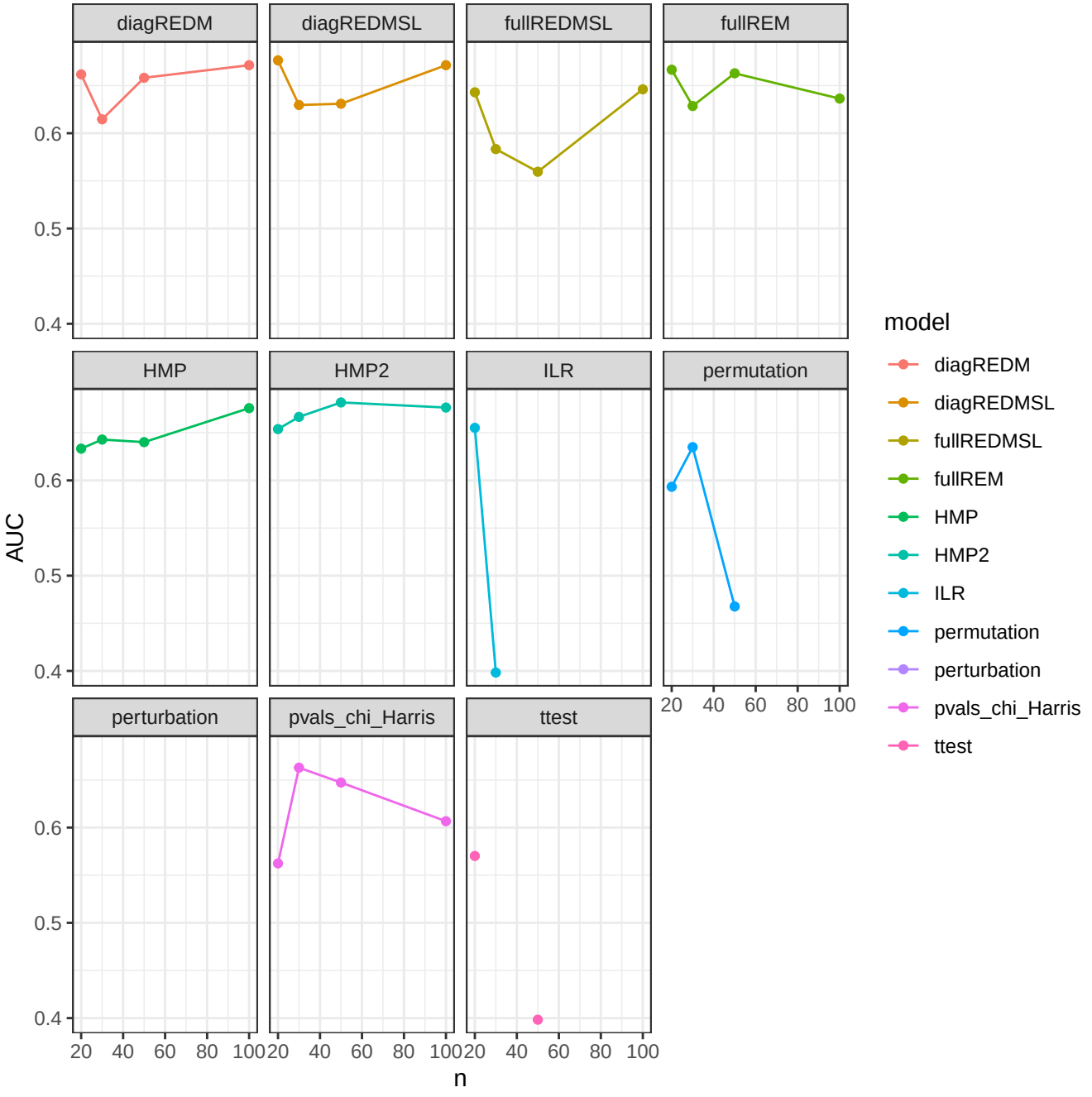

1.00
0.75
0.50
0.25
0.00
FPR
20
40
60
80
100
n
model
diagREDM
diagREDMSL
fullREDMSL
fullREM
HMP
HMP2
ILR
permutation
perturbation
pvals_chi_Harris
ttest

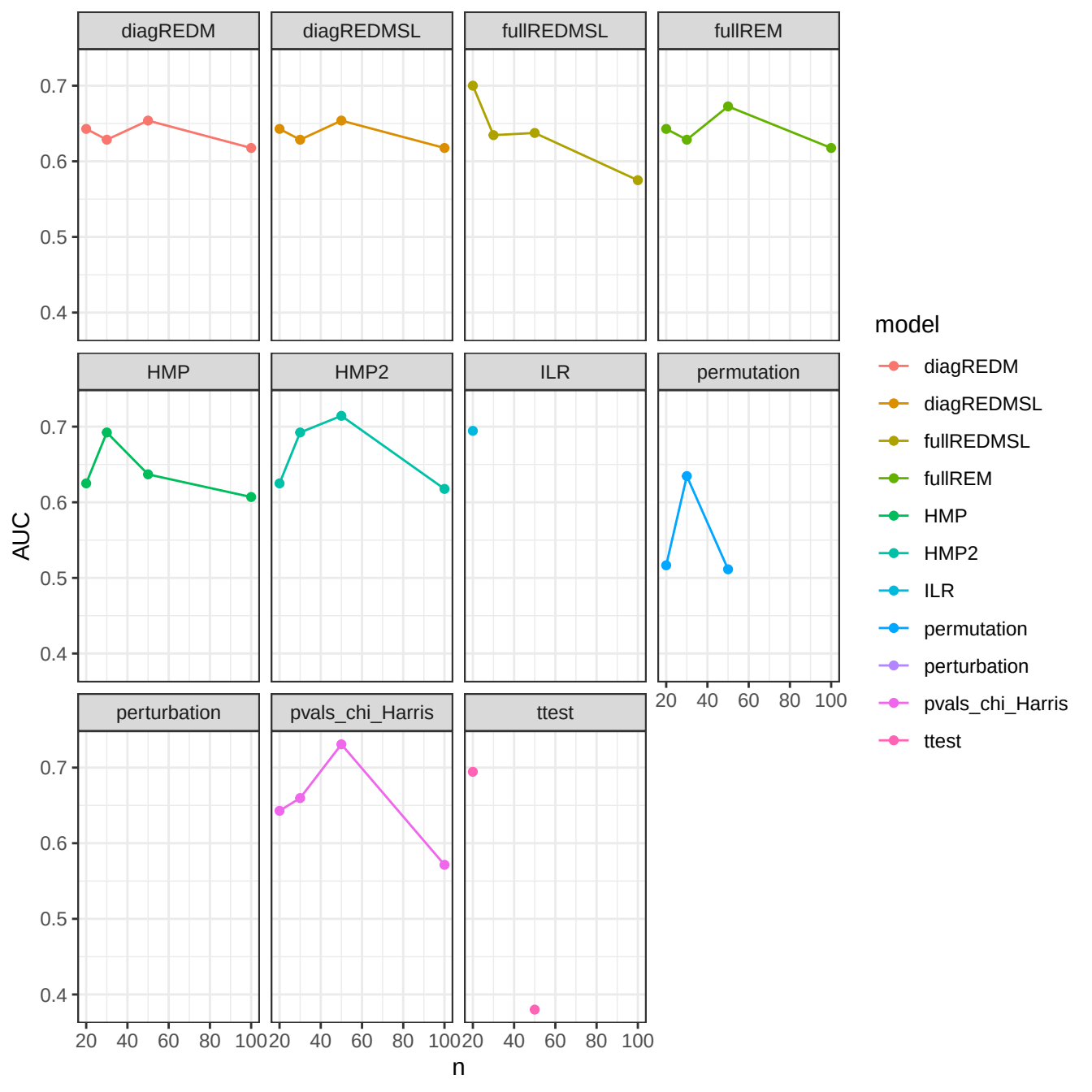

1.00
0.75
0.50
0.25
0.00
FPR
20
40
60
80
100
n
FALSE
diagREDM
diagREDMSL
fullREDMSL
fullREM
HMP
HMP2
ILR
permutation
perturbation
pvals_chi_Harris
ttest

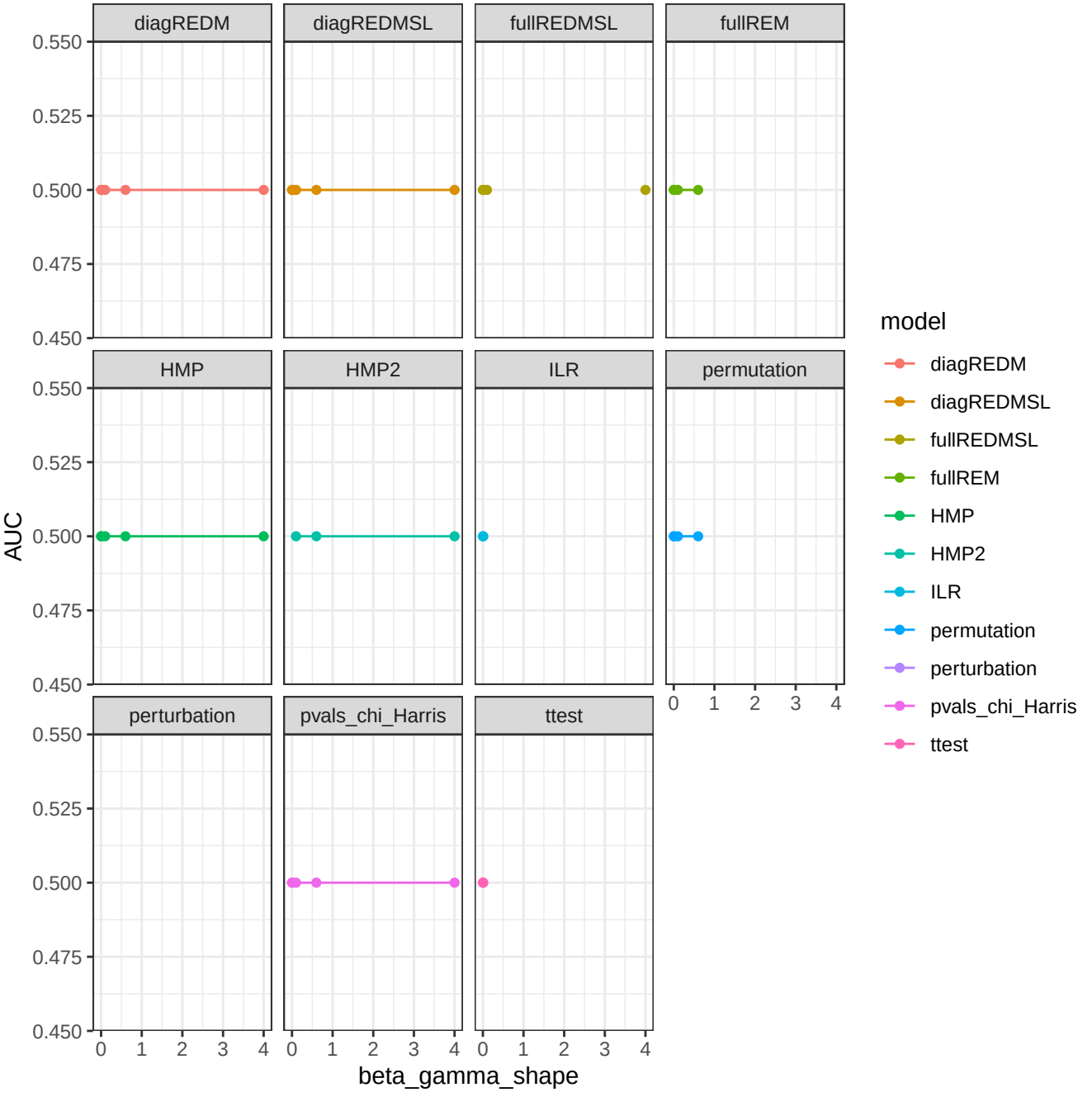

diagREDM
diagREDMSL
fullREDMSL
fullREM
HMP
HMP2
ILR
permutation
perturbation
pvals_chi_Harris
ttest
FPR
0.00
0.25
0.50
0.75
1.00
0
1
2
3
4
beta_gamma_shape
model
diagREDM
diagREDMSL
fullREDMSL
fullREM
HMP
HMP2
ILR
permutation
perturbation
pvals_chi_Harris
ttest

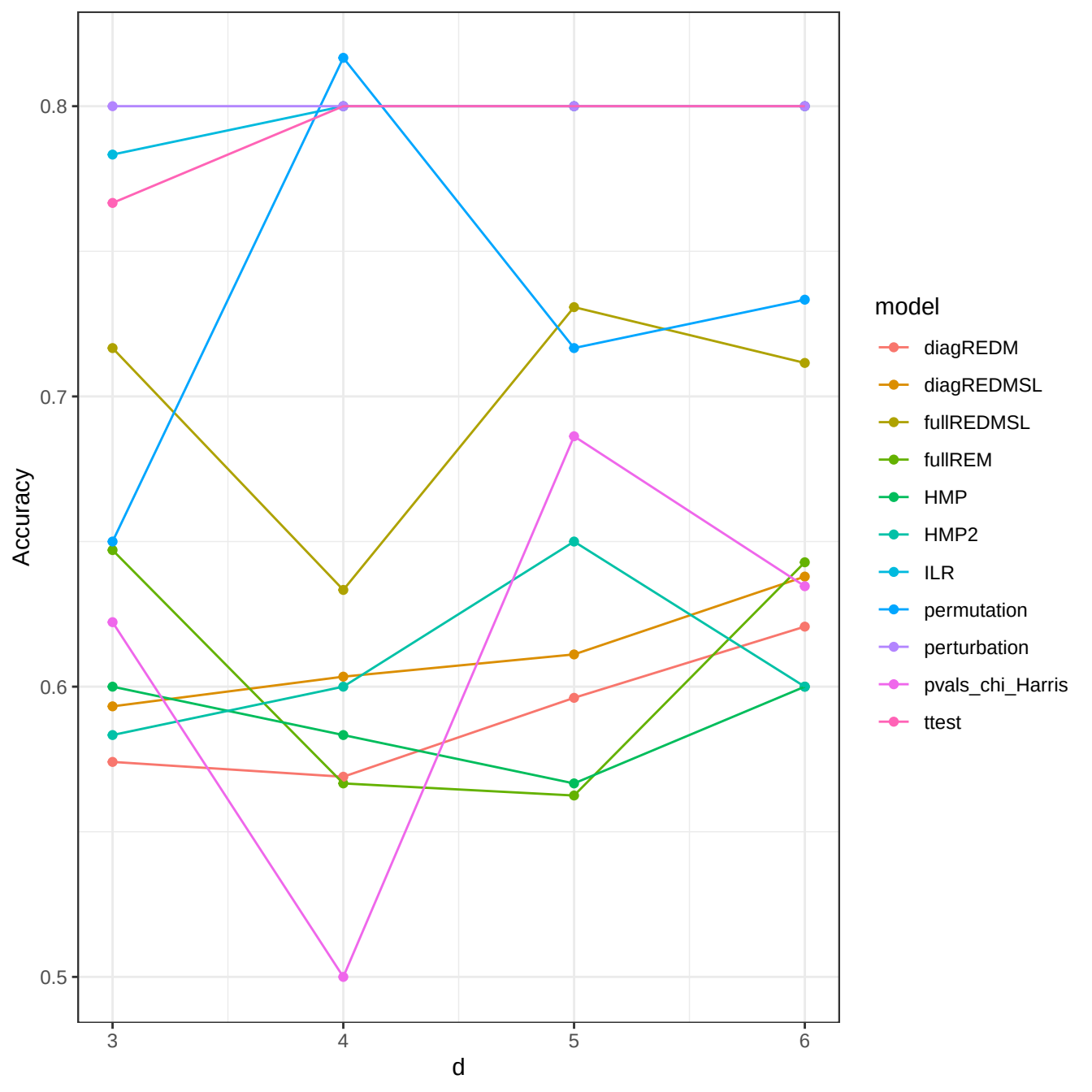

diagREDM
diagREDMSL
fullREDMSL
fullREM
HMP
HMP2
ILR
permutation
perturbation
pvals_chi_Harris
ttest
AUC
d
0.4
0.5
0.6
0.7
3
4
5
6
model
diagREDM
diagREDMSL
fullREDMSL
fullREM
HMP
HMP2
ILR
permutation
perturbation
pvals_chi_Harris
ttest

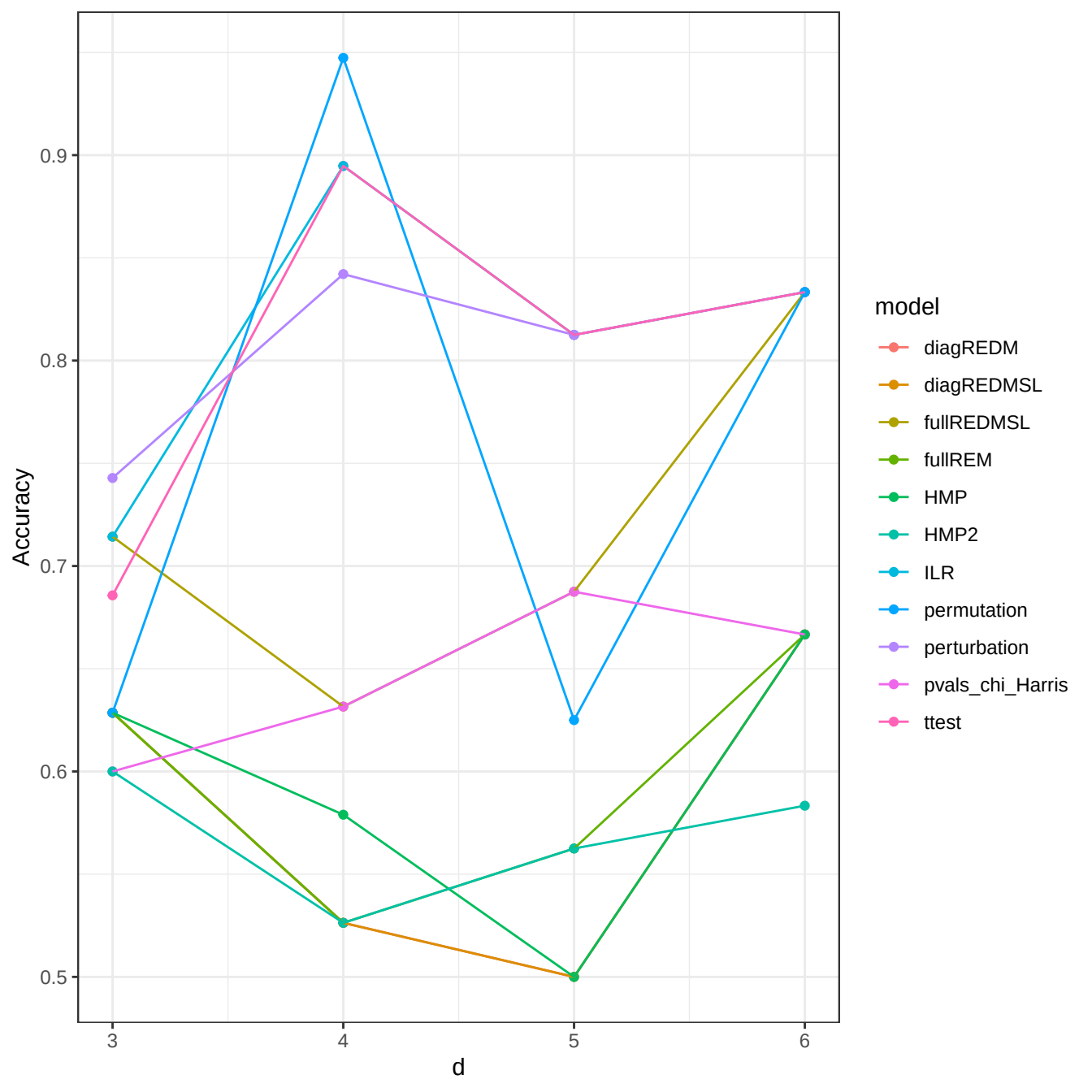

diagREDM
diagREDMSL
fullREDMSL
fullREM
HMP
HMP2
ILR
permutation
perturbation
pvals_chi_Harris
ttest
AUC
d
model
diagREDM
diagREDMSL
fullREDMSL
fullREM
HMP
HMP2
ILR
permutation
perturbation
pvals_chi_Harris
ttest

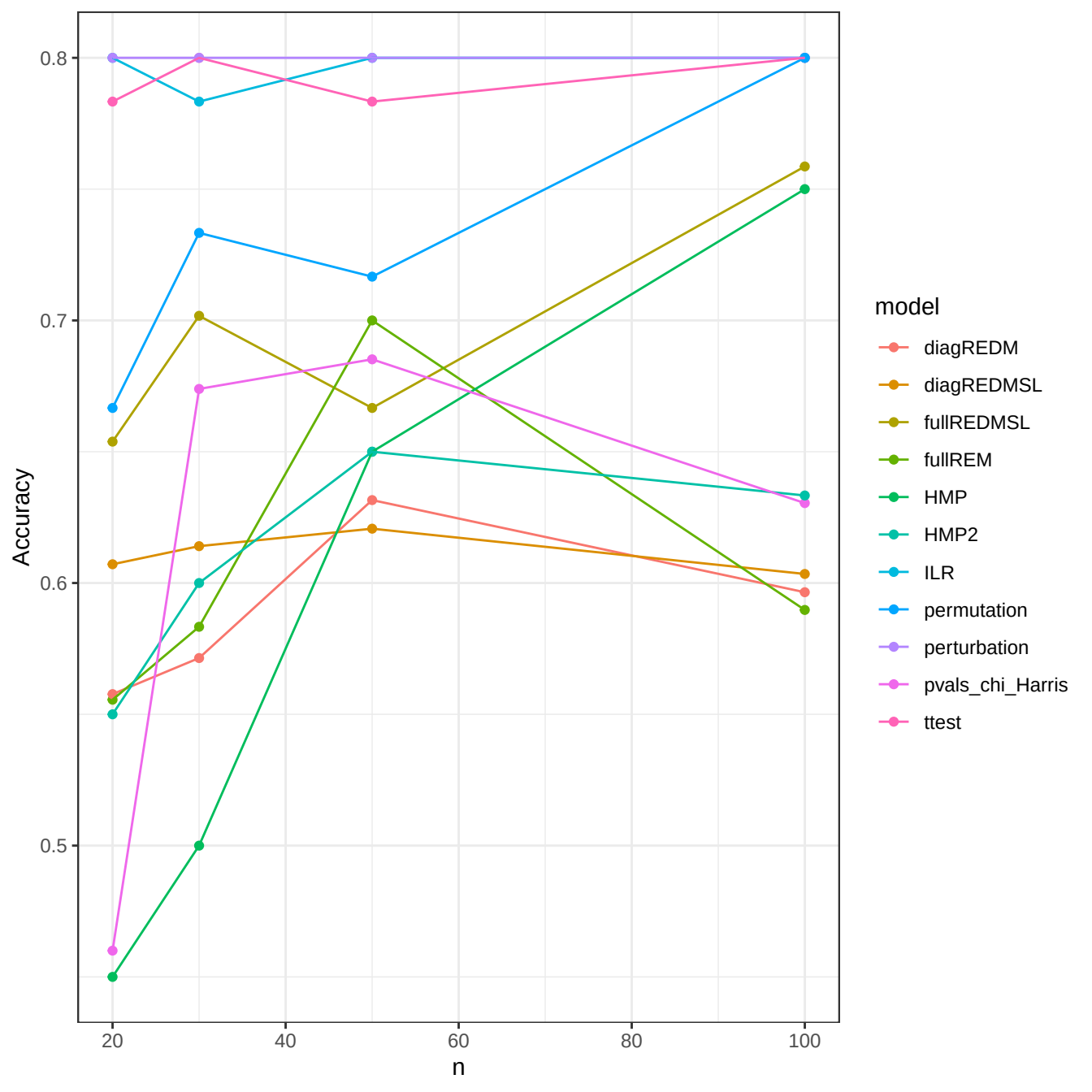

diagREDM
diagREDMSL
fullREDMSL
fullREM
HMP
HMP2
ILR
permutation
perturbation
pvals_chi_Harris
ttest
AUC
0.4
0.5
0.6
20
40
60
80
100
n
model
diagREDM
diagREDMSL
fullREDMSL
fullREM
HMP
HMP2
ILR
permutation
perturbation
pvals_chi_Harris
ttest

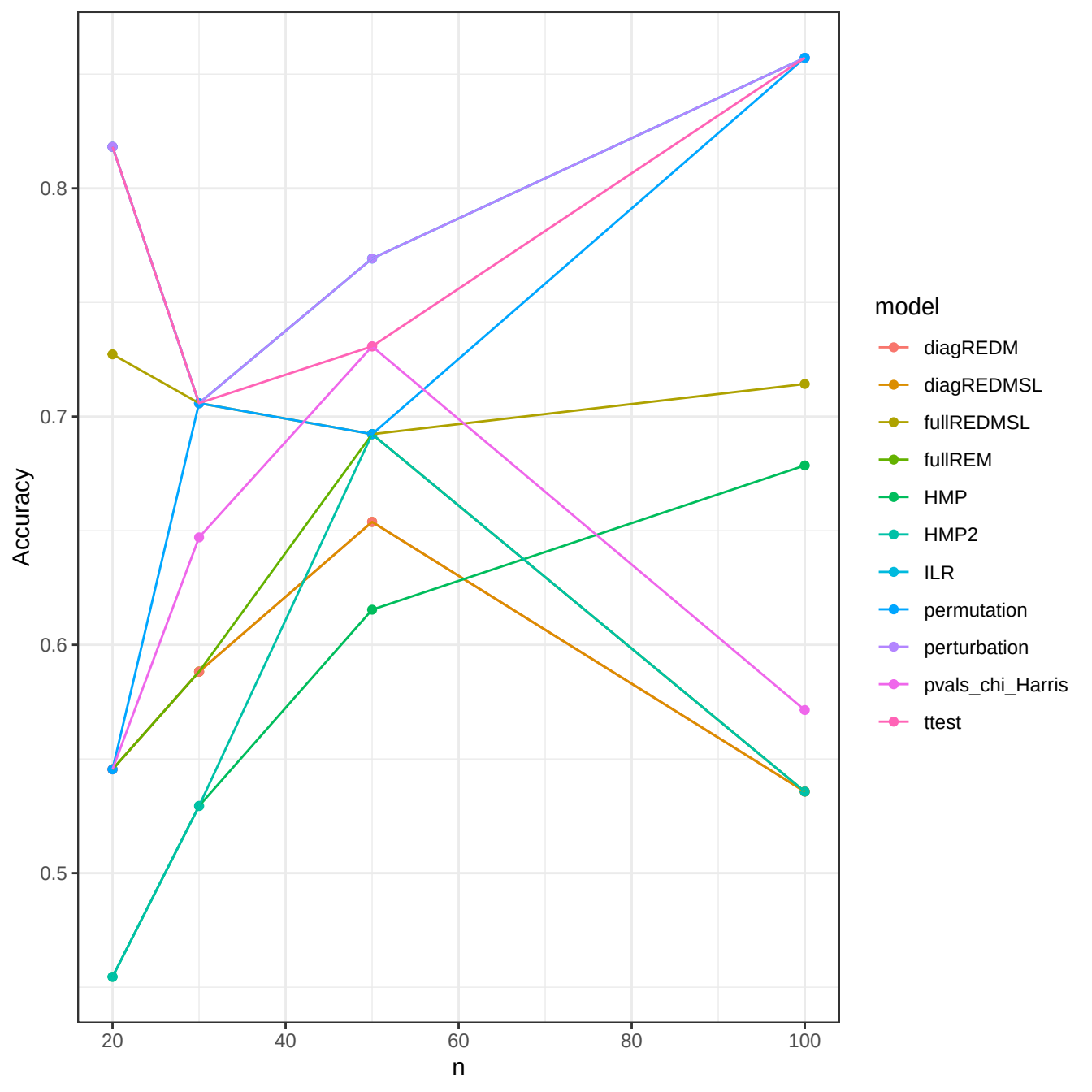

diagREDM
diagREDMSL
fullREDMSL
fullREM
HMP
HMP2
ILR
permutation
perturbation
pvals_chi_Harris
ttest
AUC
n
0.4
0.5
0.6
0.7
20
40
60
80
100
model
diagREDM
diagREDMSL
fullREDMSL
fullREM
HMP
HMP2
ILR
permutation
perturbation
pvals_chi_Harris
ttest

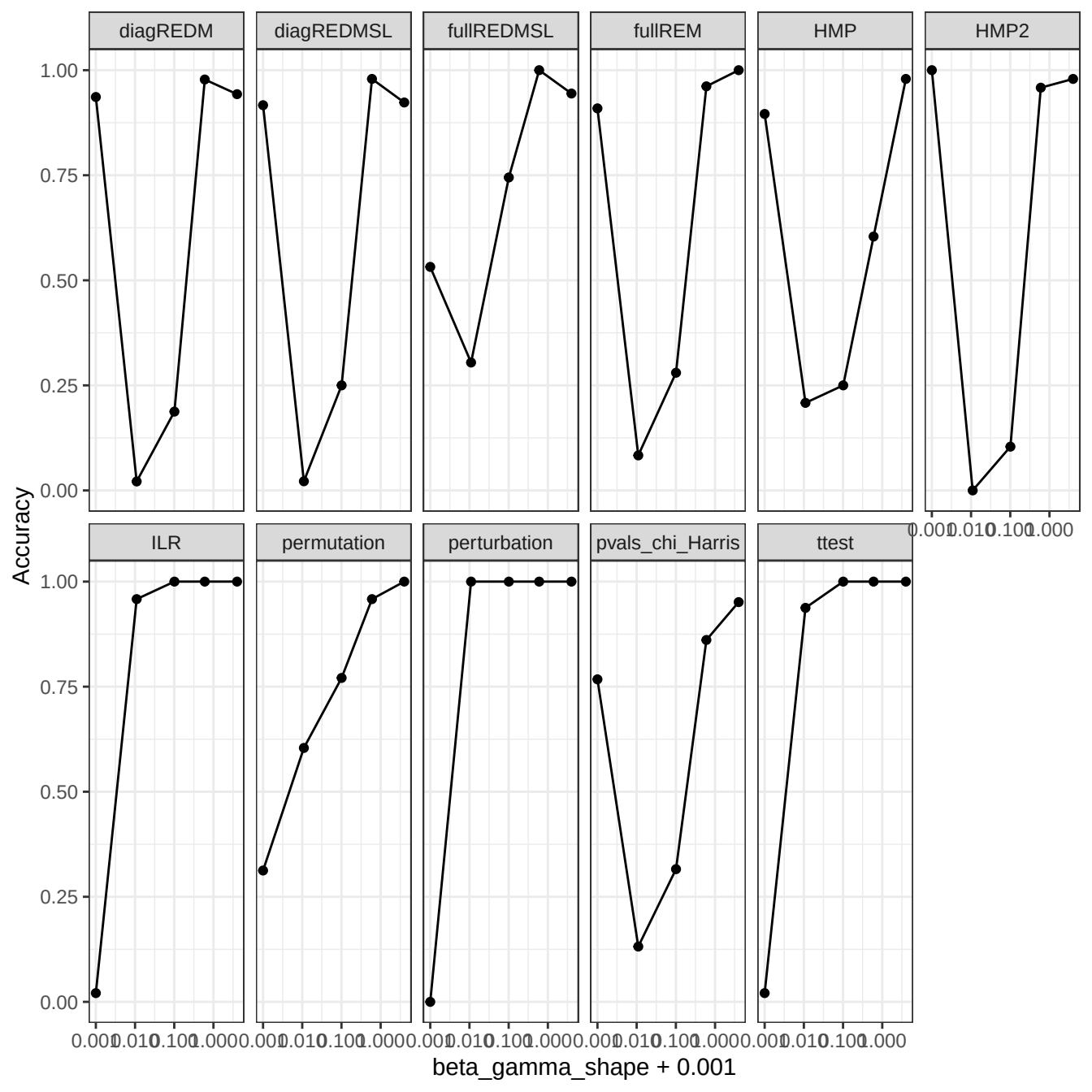

diagREDM
diagREDMSL
fullREDMSL
fullREM
HMP
HMP2
ILR
permutation
perturbation
pvals_chi_Harris
ttest
AUC
0.550
0.525
0.500
0.475
0.450
0
1
2
3
4
beta_gamma_shape
model
diagREDM
diagREDMSL
fullREDMSL
fullREM
HMP
HMP2
ILR
permutation
perturbation
pvals_chi_Harris
ttest

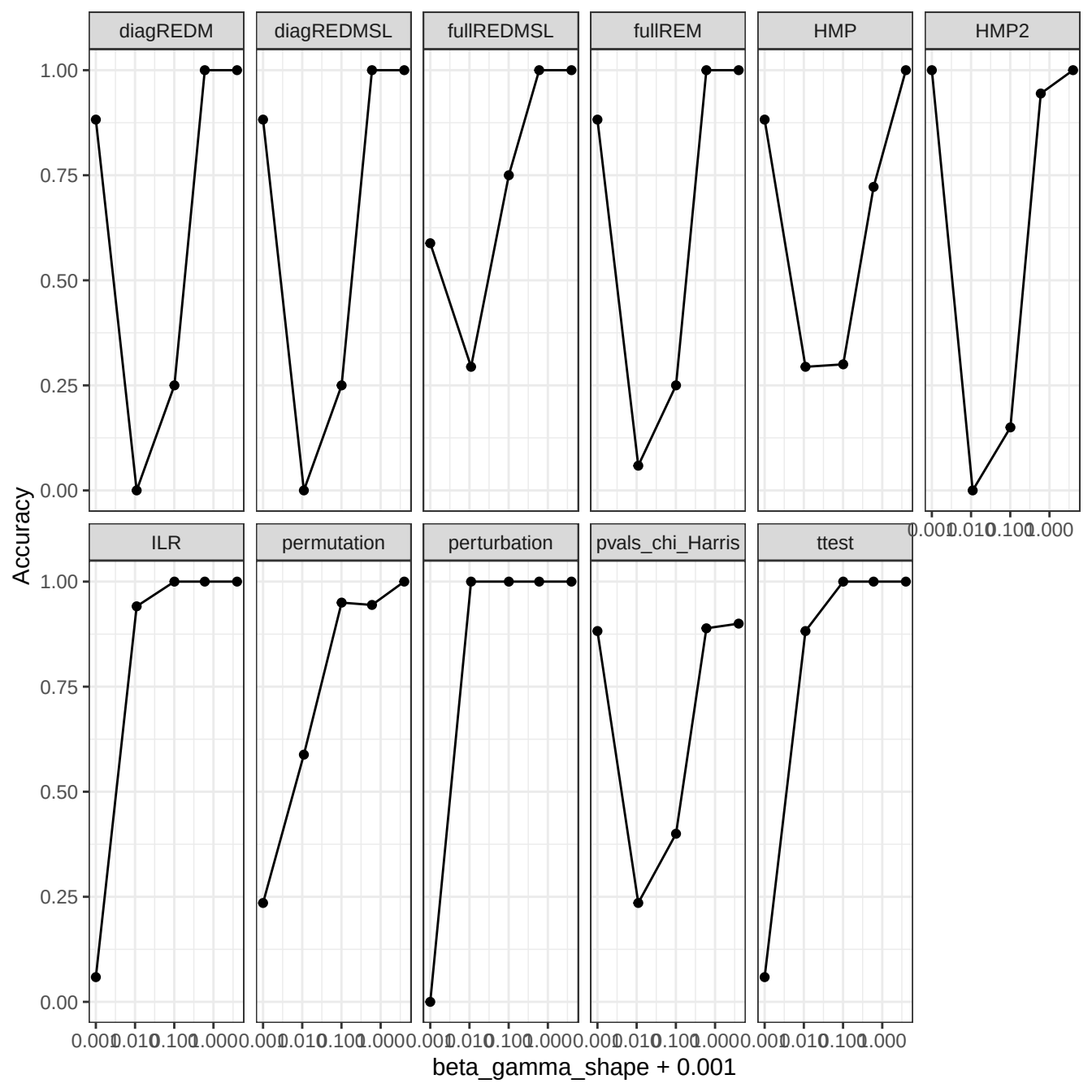

0.8
0.7
0.6
0.5
Accuracy
3
4
5
6
d
model
diagREDM
diagREDMSL
fullREDMSL
fullREM
HMP
HMP2
ILR
permutation
perturbation
pvals_chi_Harris
ttest

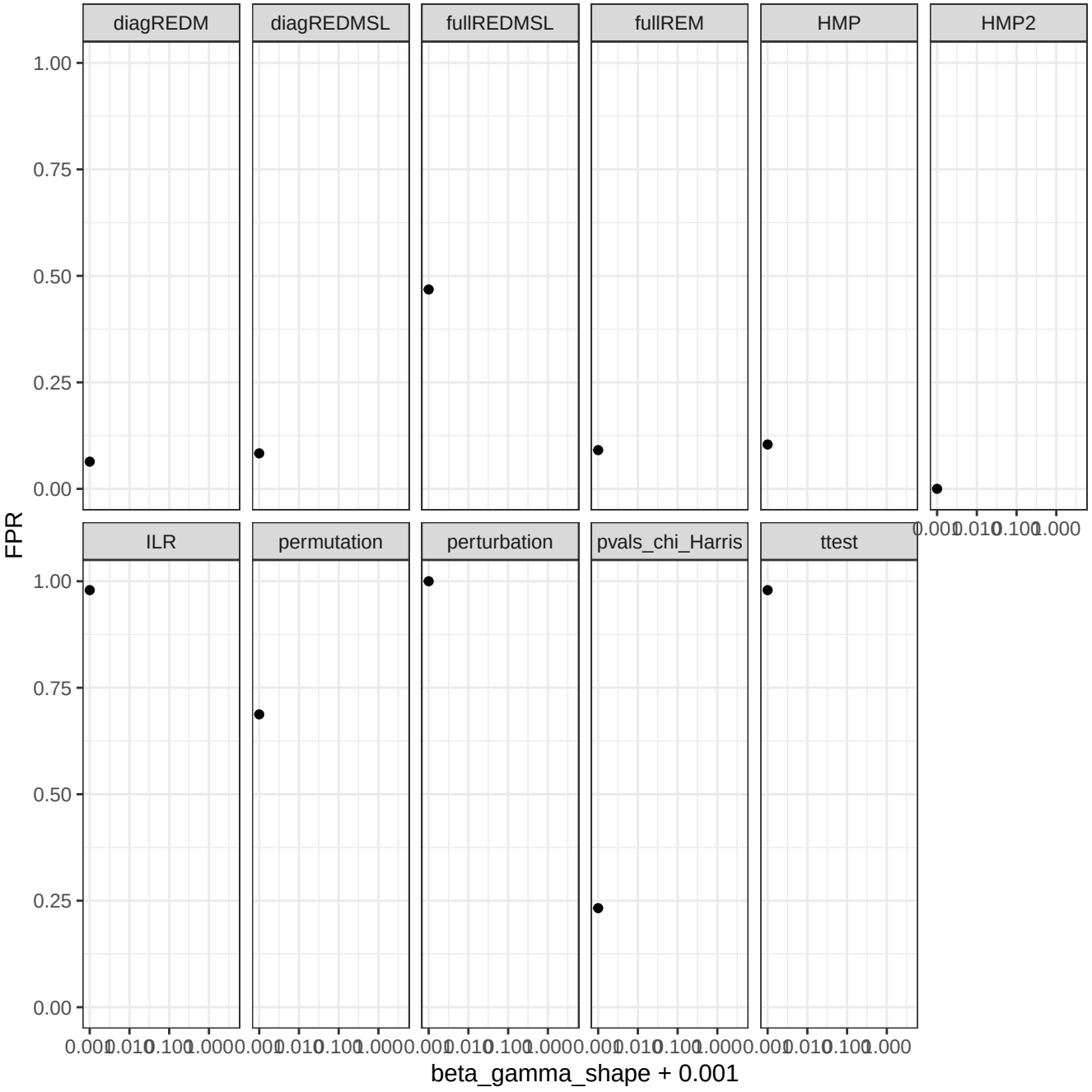

Accuracy
0.9
0.8
0.7
0.6
0.5
3
4
5
6
d
model
diagREDM
diagREDMSL
fullREDMSL
fullREM
HMP
HMP2
ILR
permutation
perturbation
pvals_chi_Harris
ttest

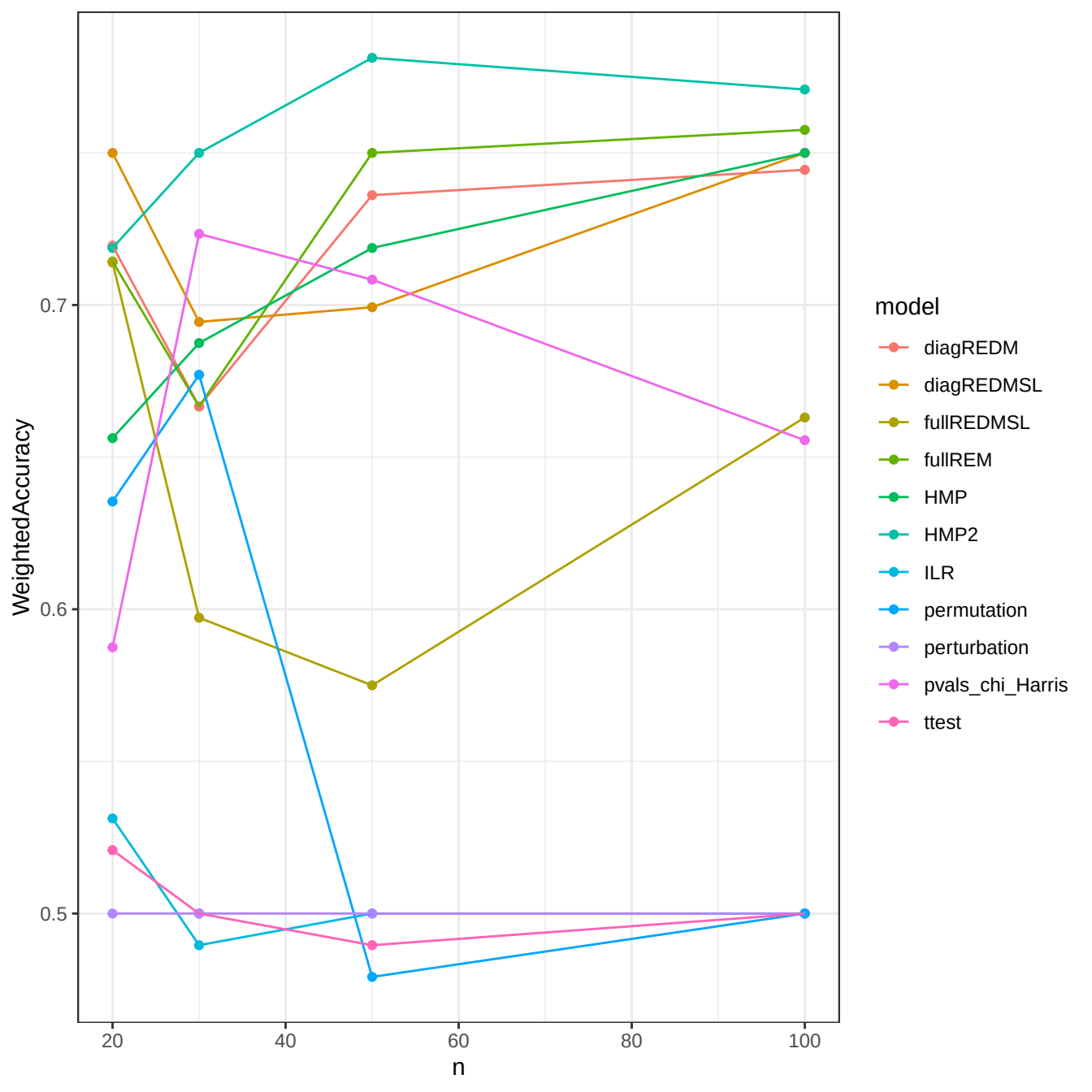

0.8
0.7
0.6
0.5
Accuracy
20
40
60
80
100
n
model
diagREDM
diagREDMSL
fullREDMSL
fullREM
HMP
HMP2
ILR
permutation
perturbation
pvals_chi_Harris
ttest

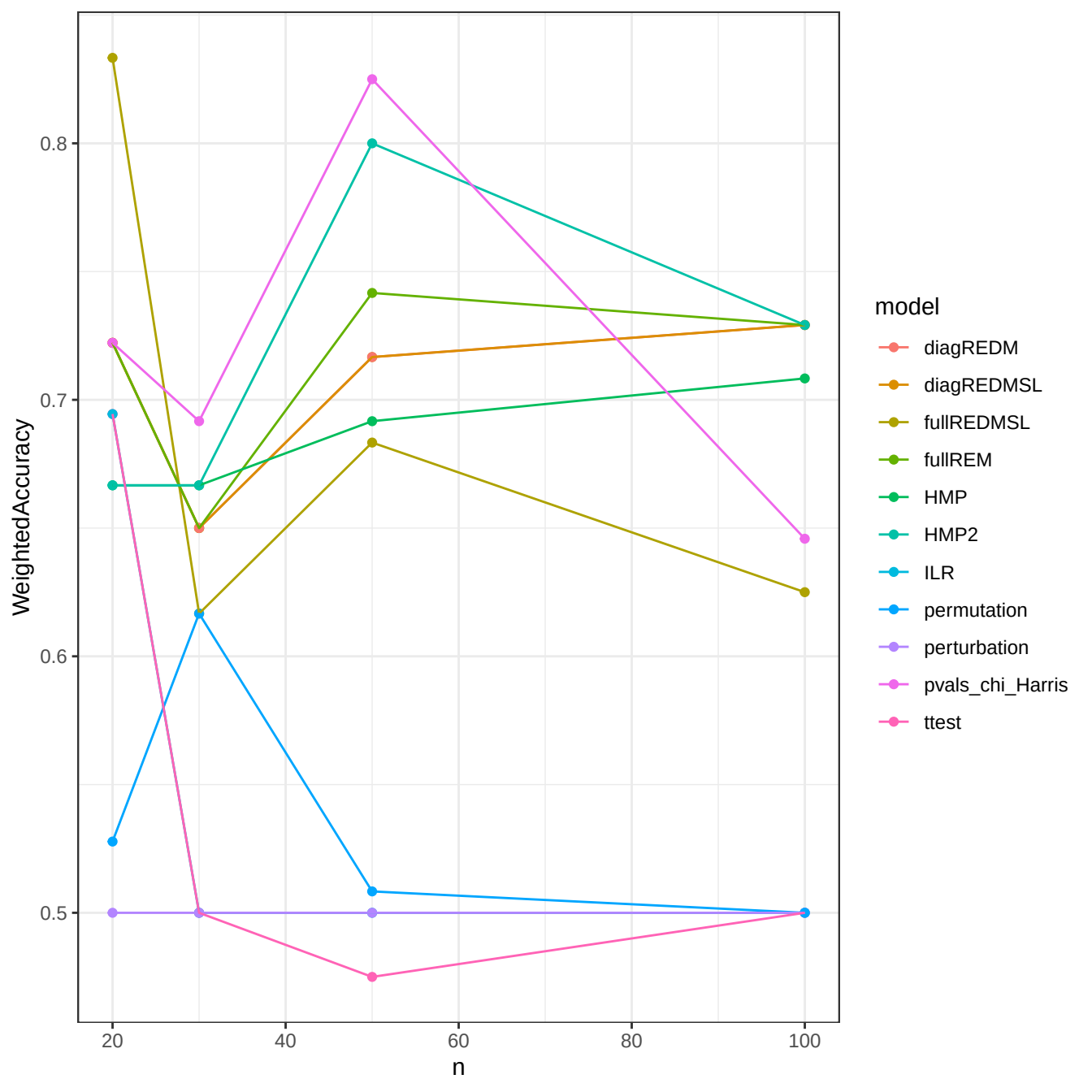

Accuracy
0.8
0.7
0.6
0.5
20
40
60
80
100
n
model
diagREDM
diagREDMSL
fullREDMSL
fullREM
HMP
HMP2
ILR
permutation
perturbation
pvals_chi_Harris
ttest


diagREDM
diagREDMSL
fullREDMSL
fullREM
HMP
HMP2
ILR
permutation
perturbation
pvals_chi_Harris
ttest
Accuracy
1.00
0.75
0.50
0.25
0.00
0.001
0.010
0.100
1.000
beta_gamma_shape + 0.001

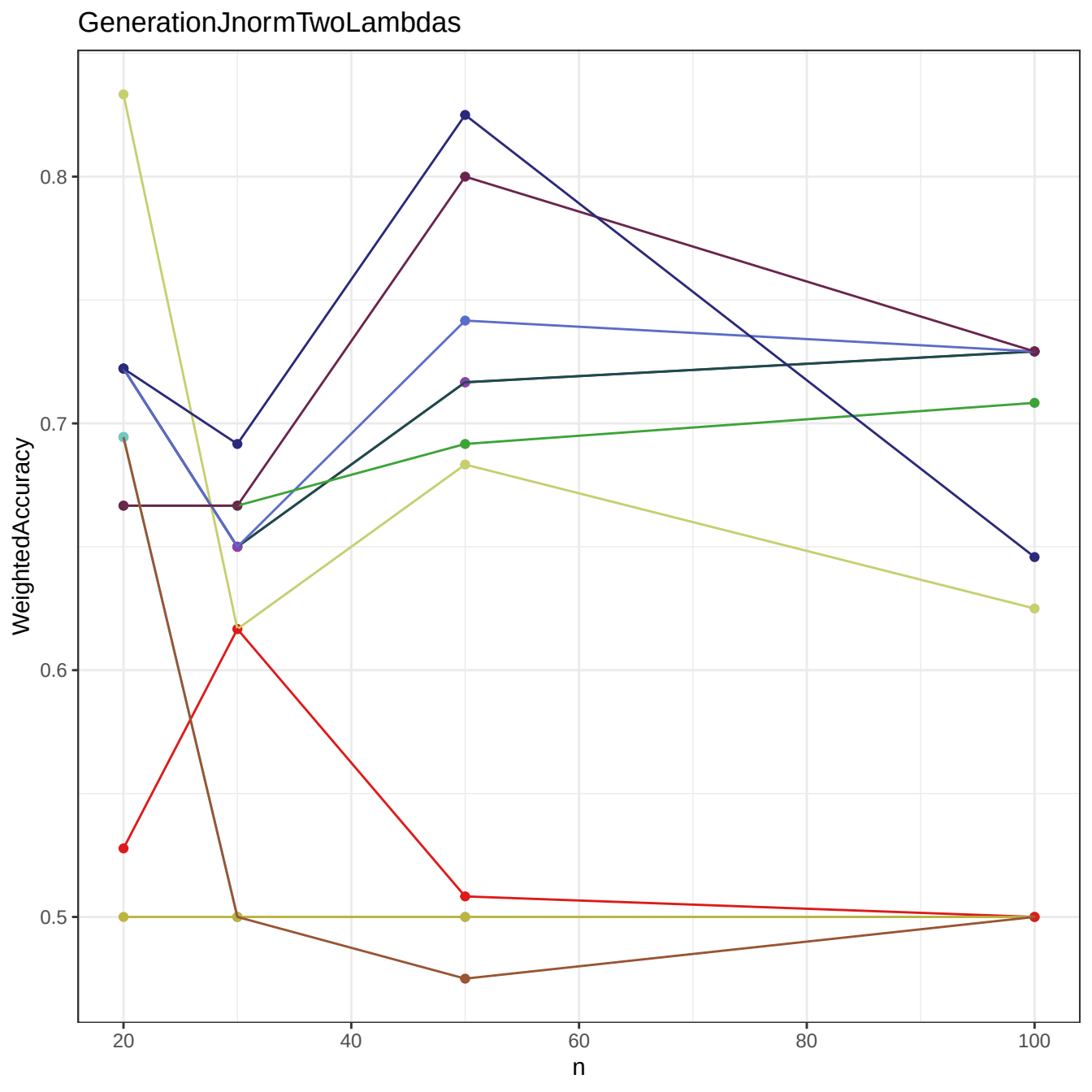

diagREDM
diagREDMSL
fullREDMSL
fullREM
HMP
HMP2
ILR
permutation
perturbation
pvals_chi_Harris
ttest
Accuracy
1.00
0.75
0.50
0.25
0.00
0.001
0.010
0.100
1.000
beta_gamma_shape + 0.001

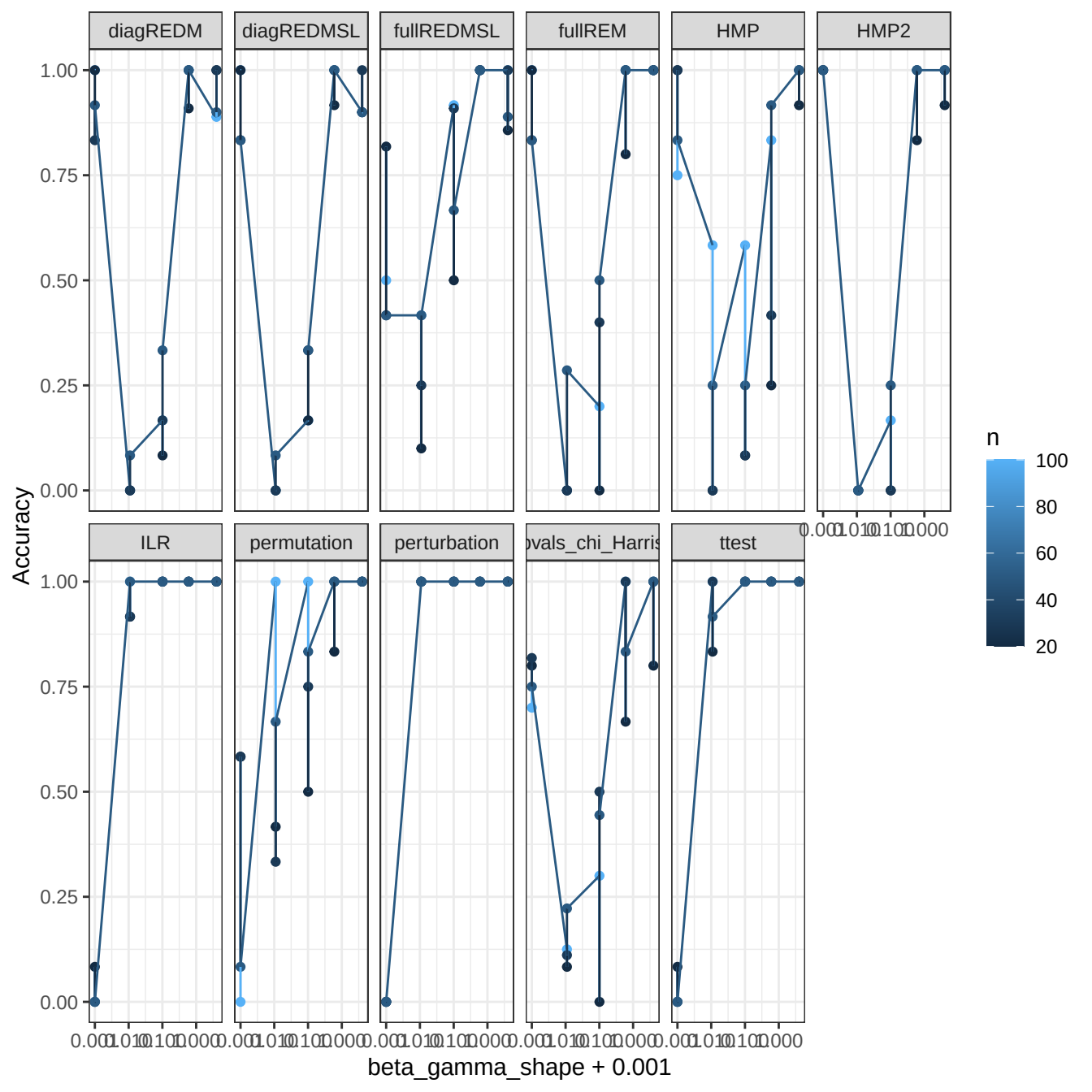

diagREDM
diagREDMSL
fullREDMSL
fullREM
HMP
HMP2
ILR
permutation
perturbation
pvals_chi_Harris
ttest
FPR
1.00
0.75
0.50
0.25
0.00
0.001
0.010
0.100
1.000
beta_gamma_shape + 0.001

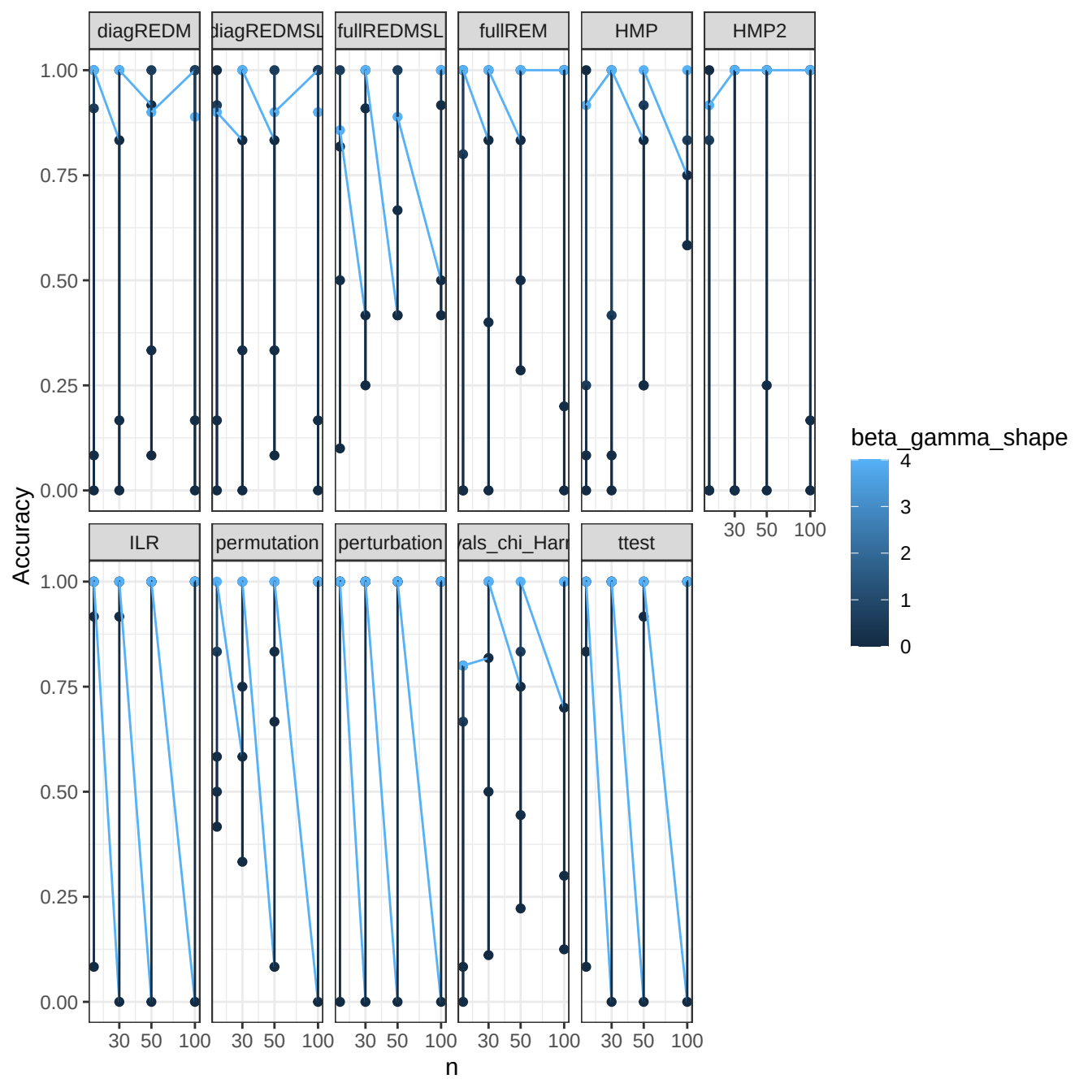

WeightedAccuracy
0.7
0.6
0.5
20
40
60
80
100
n
model
diagREDM
diagREDMSL
fullREDMSL
fullREM
HMP
HMP2
ILR
permutation
perturbation
pvals_chi_Harris
ttest

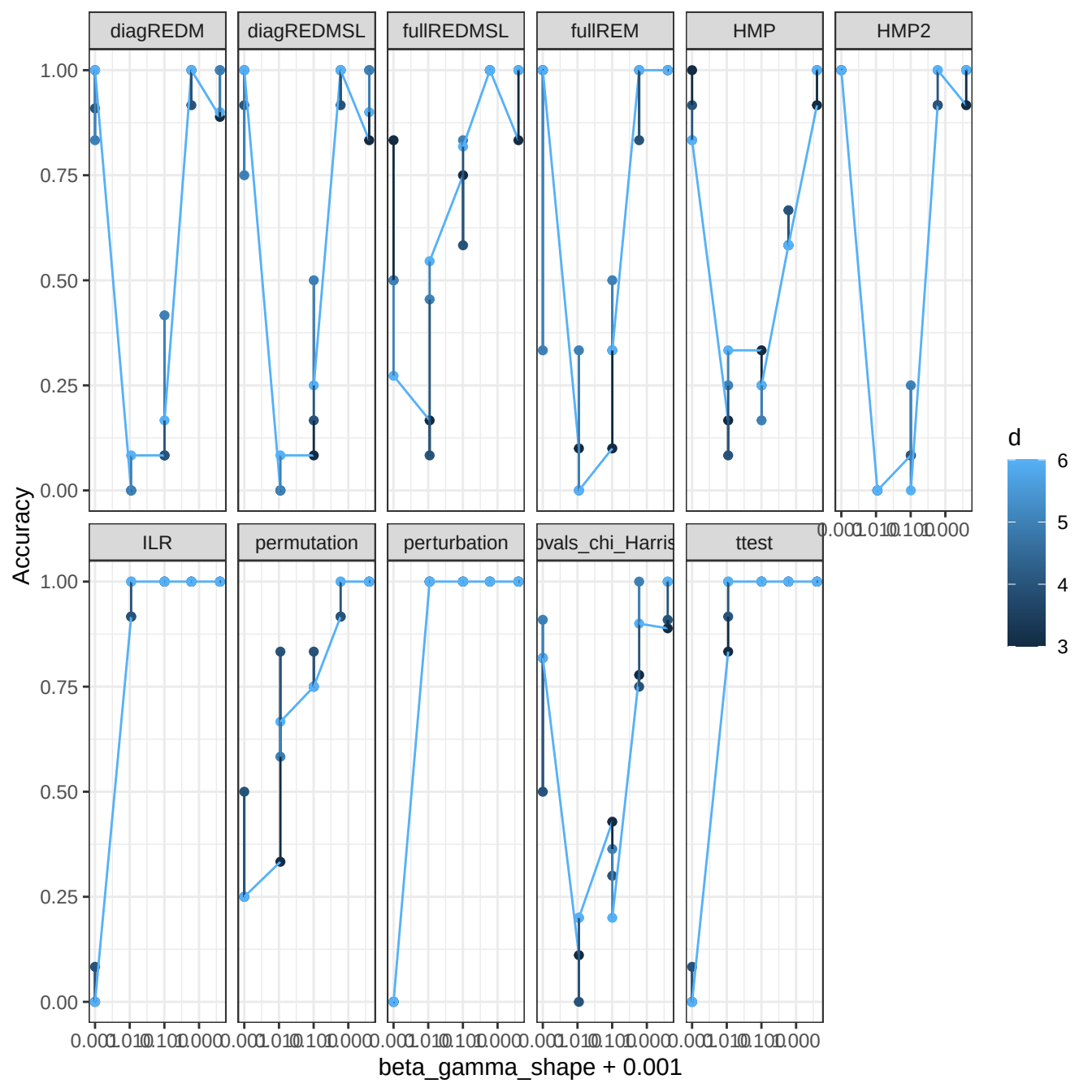

WeightedAccuracy
0.8
0.7
0.6
0.5
20
40
60
80
100
n
model
diagREDM
diagREDMSL
fullREDMSL
fullREM
HMP
HMP2
ILR
permutation
perturbation
pvals_chi_Harris
ttest

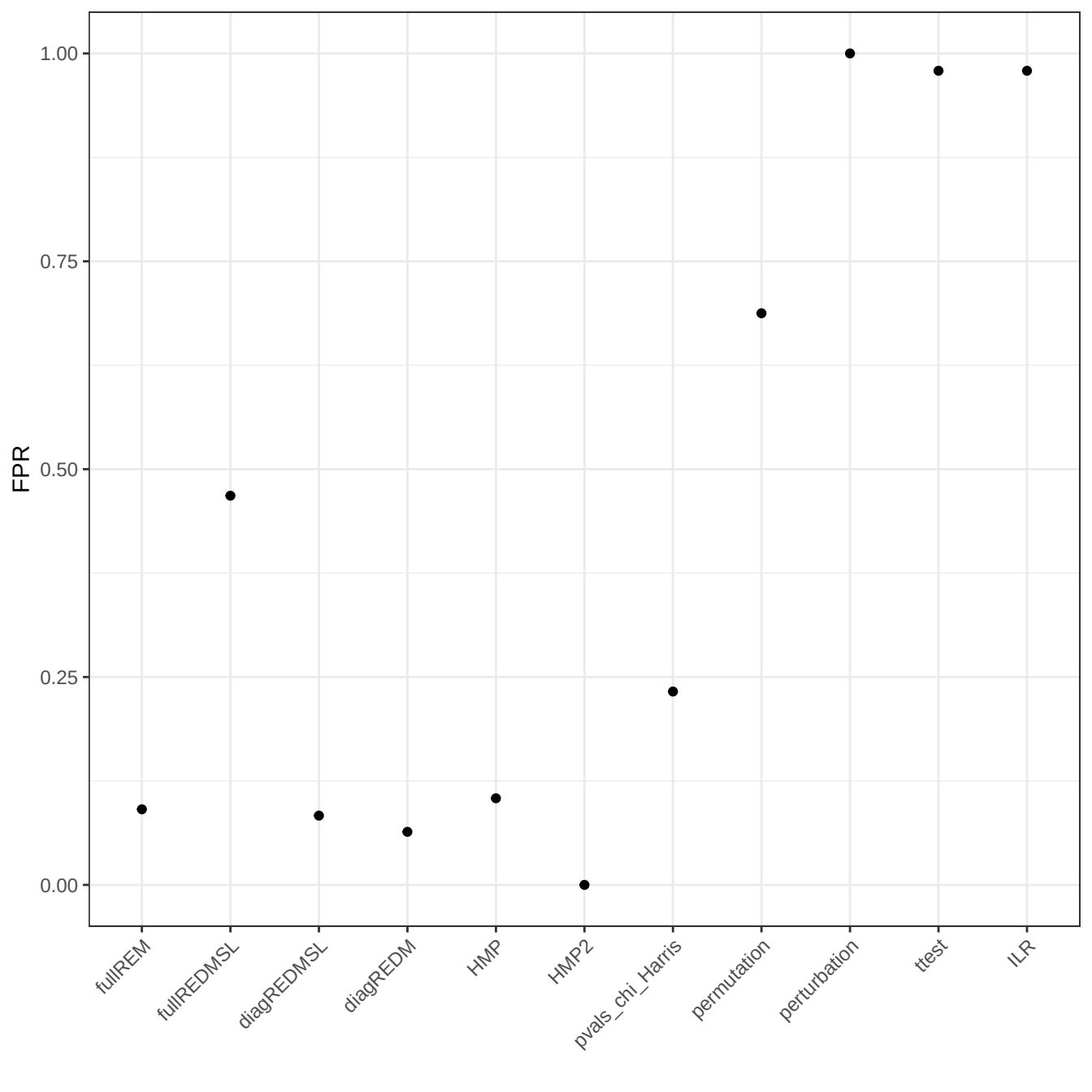
derate_violet
dark_cyan
desaturated_yellow
derate_blue
derate_lime_green
dark_pink
desaturated_cyan
ximum_red
derate_yellow
moderate_blue
oderate_orange
soft_magenta

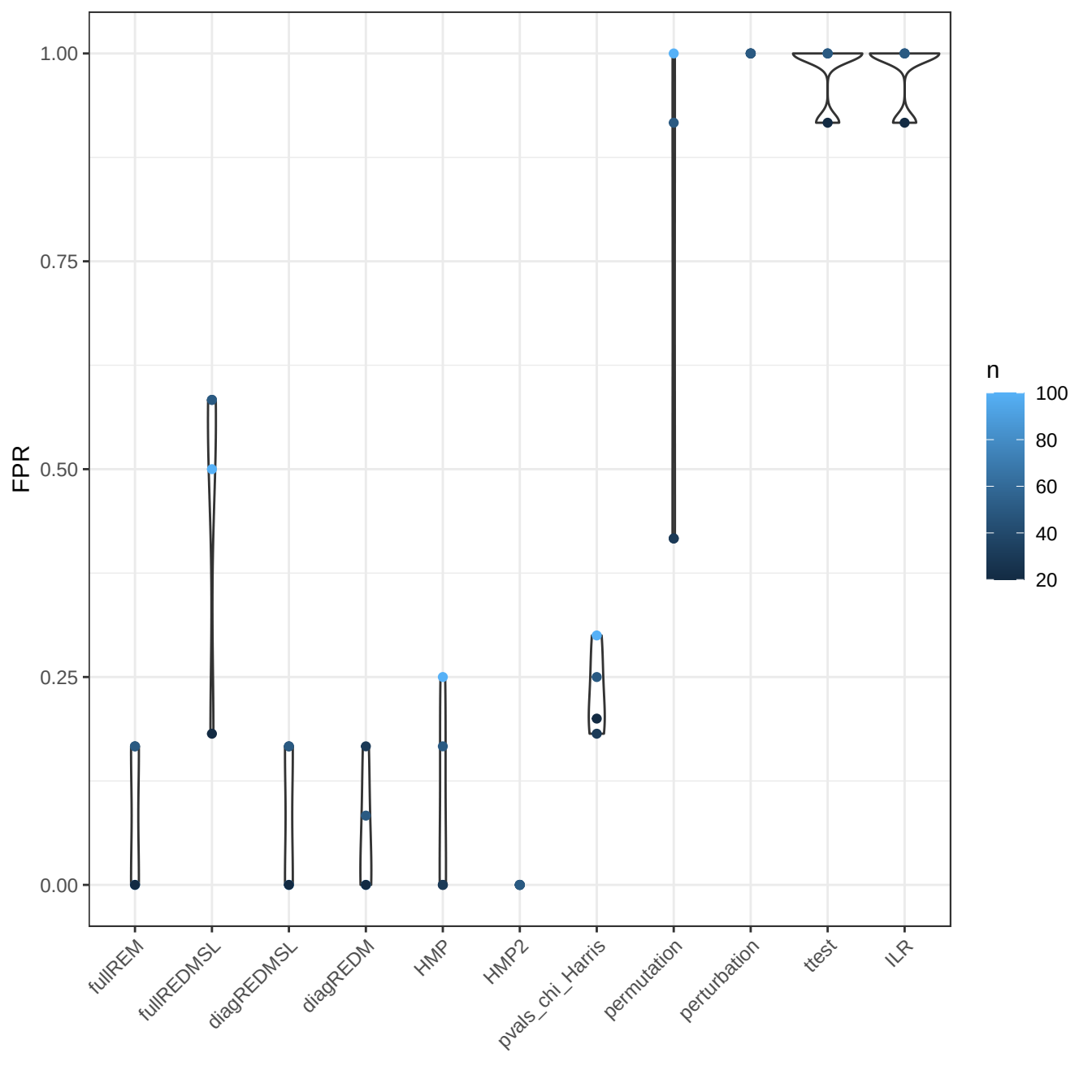

GenerationJnormTwoLambdas
WeightedAccuracy
0.8
0.7
0.6
0.5
20
40
60
80
100
n

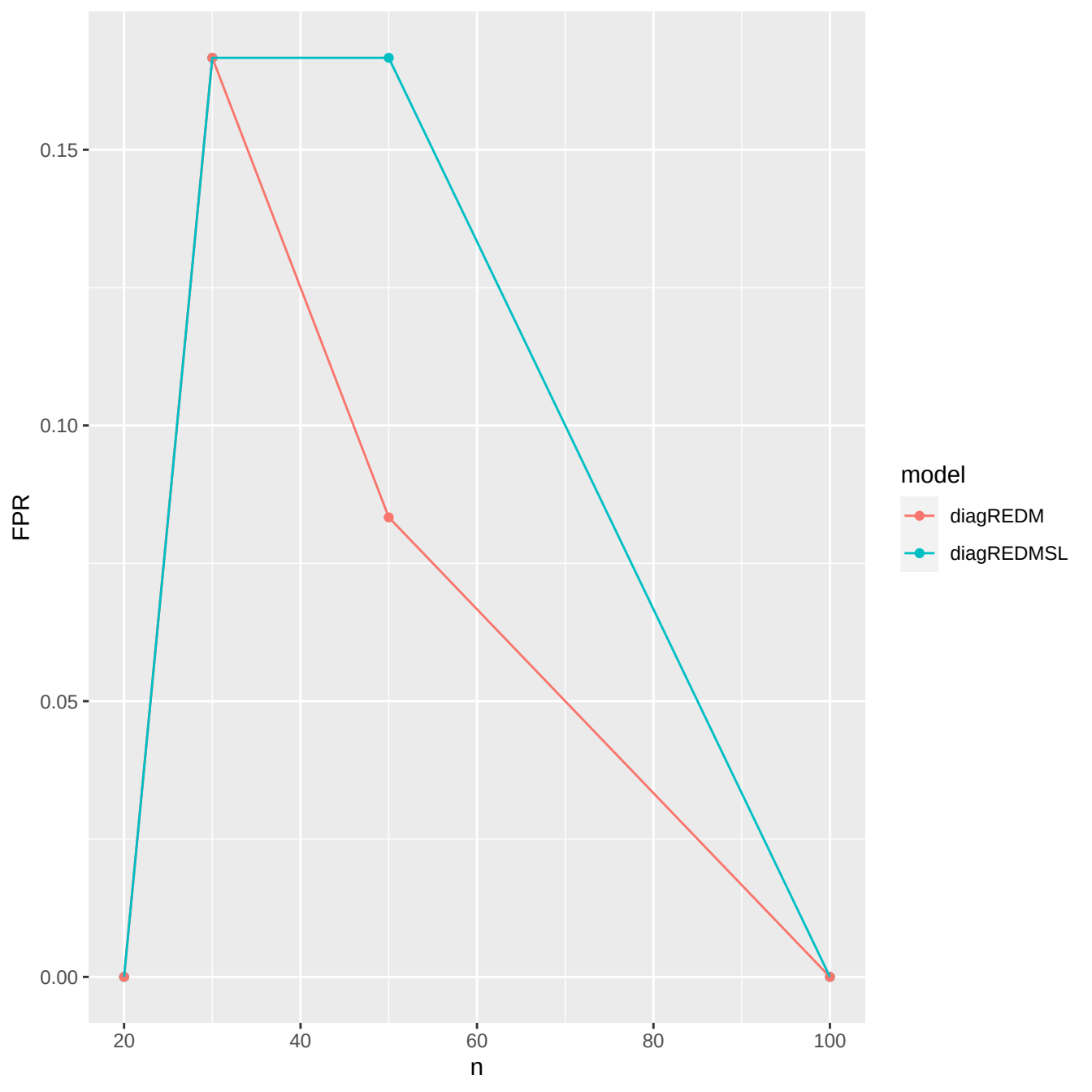

diagREDM
diagREDMSL
fullREDMSL
fullREM
HMP
HMP2
ILR
permutation
perturbation
ttest
Accuracy
1.00
0.75
0.50
0.25
0.00
0.001
0.010
0.100
1.000
beta_gamma_shape + 0.001
n
100
80
60
40
20

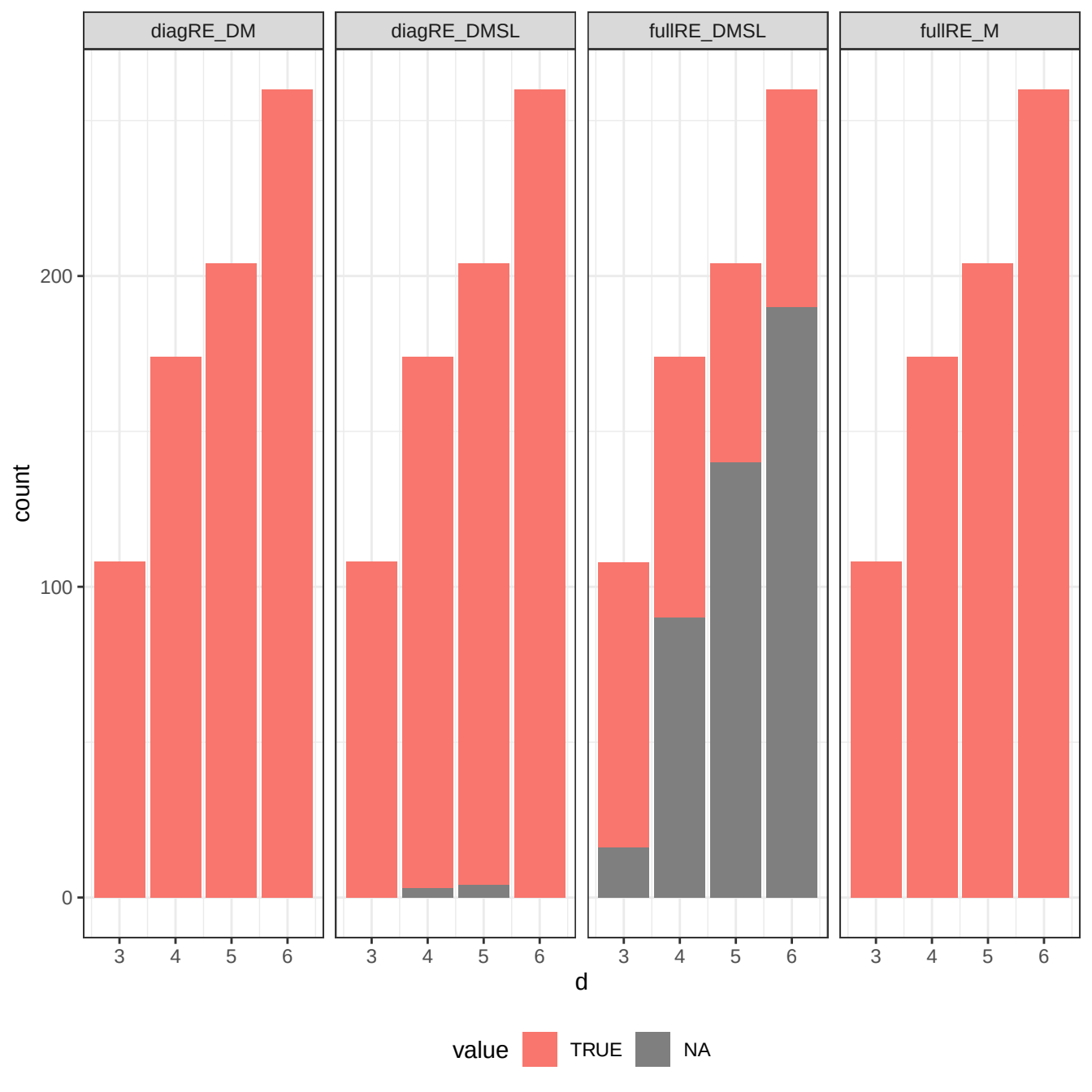

diagREDM
diagREDMSL
fullREDMSL
fullREM
HMP
HMP2
ILR
permutation
perturbation
als_chi_Harr
ttest
Accuracy
1.00
0.75
0.50
0.25
0.00
30
50
100
n
beta_gamma_shape
4
3
2
1
0

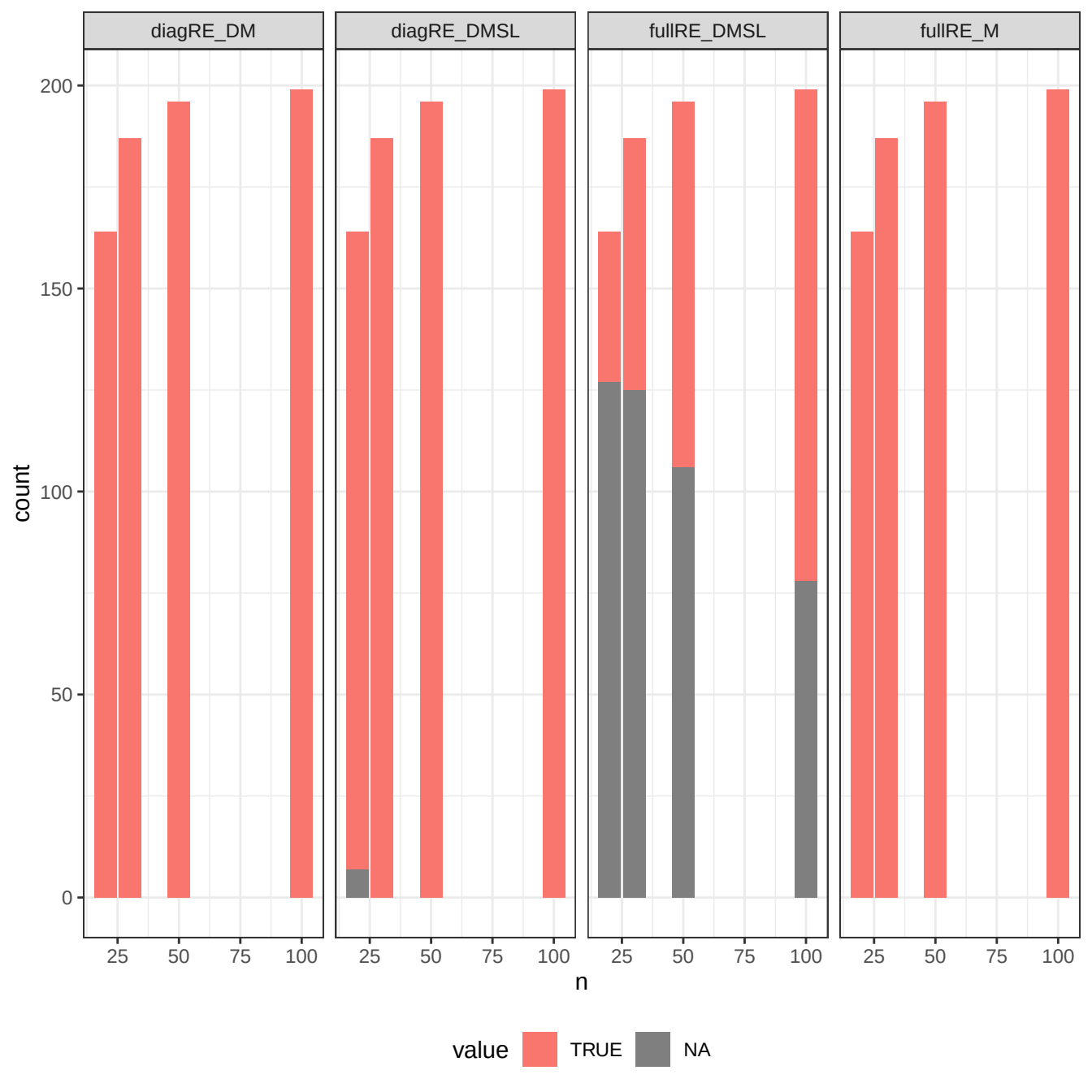

diagREDM
diagREDMSL
fullREDMSL
fullREM
HMP
HMP2
ILR
permutation
perturbation
ovals_chi_Harris
ttest
Accuracy
1.00
0.75
0.50
0.25
0.00
0.001
0.010
0.100
1.000
beta_gamma_shape + 0.001
d
6
5
4
3

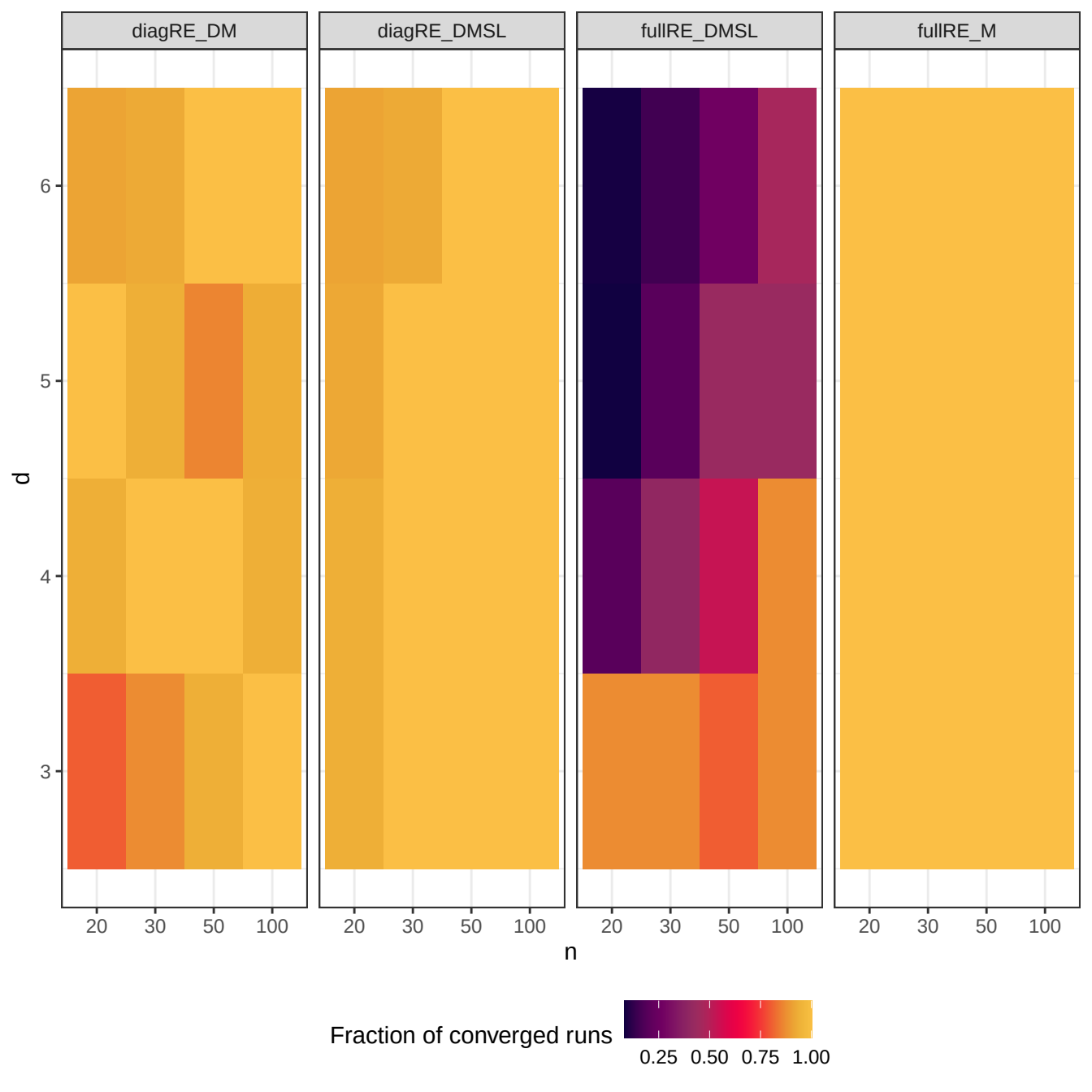

FPR
1.00
0.75
0.50
0.25
0.00
fullREM
fullREDMSL
diagREDMSL
diagREDM
HMP
HMP2
pvals_chi_Harris
permutation
perturbation
ttest
ILR

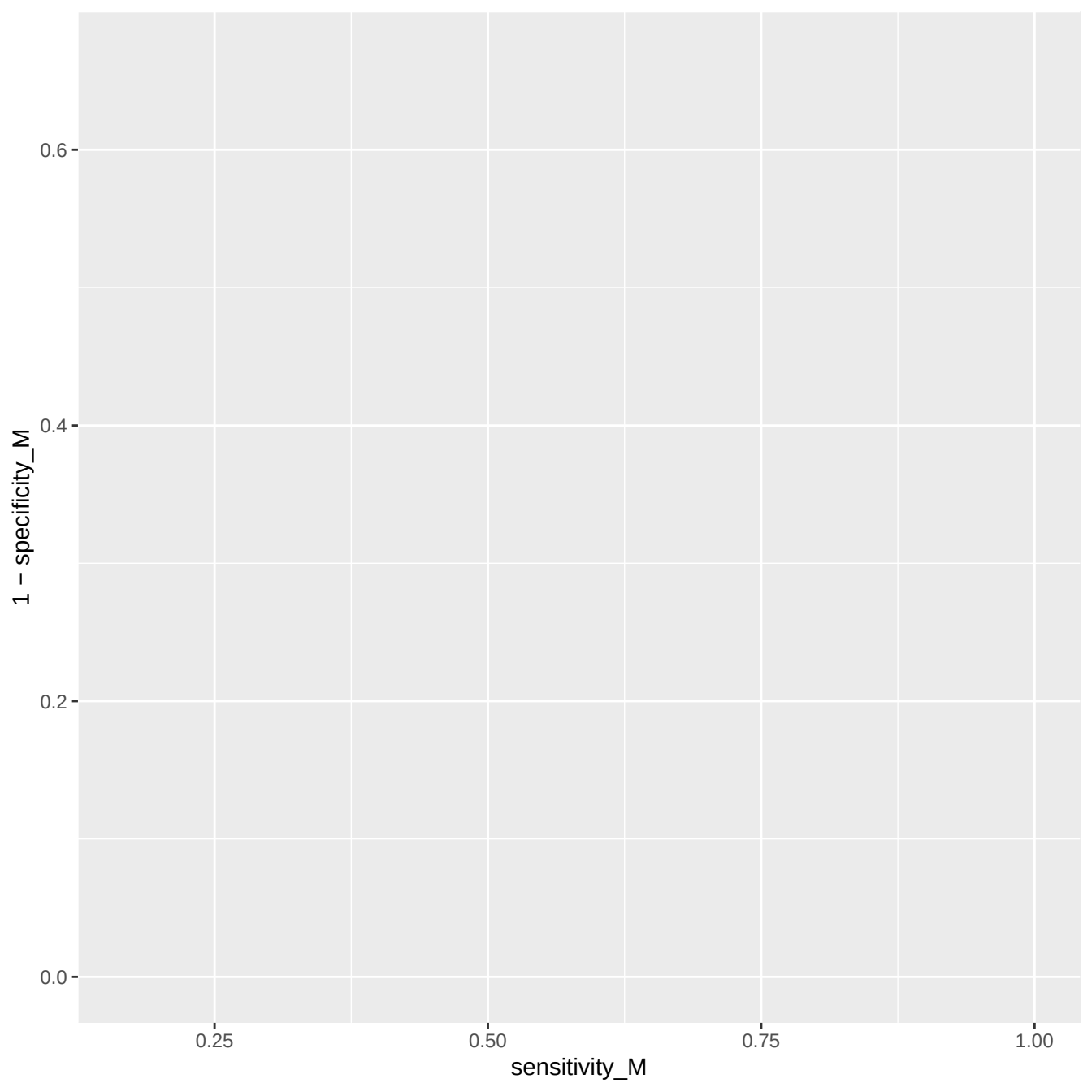

FPR
1.00
0.75
0.50
0.25
0.00
fullREM
fullREDMSL
diagREDMSL
diagREDM
HMP
HMP2
pvals_chi_Harris
permutation
perturbation
ttest
ILR
n
100
80
60
40
20

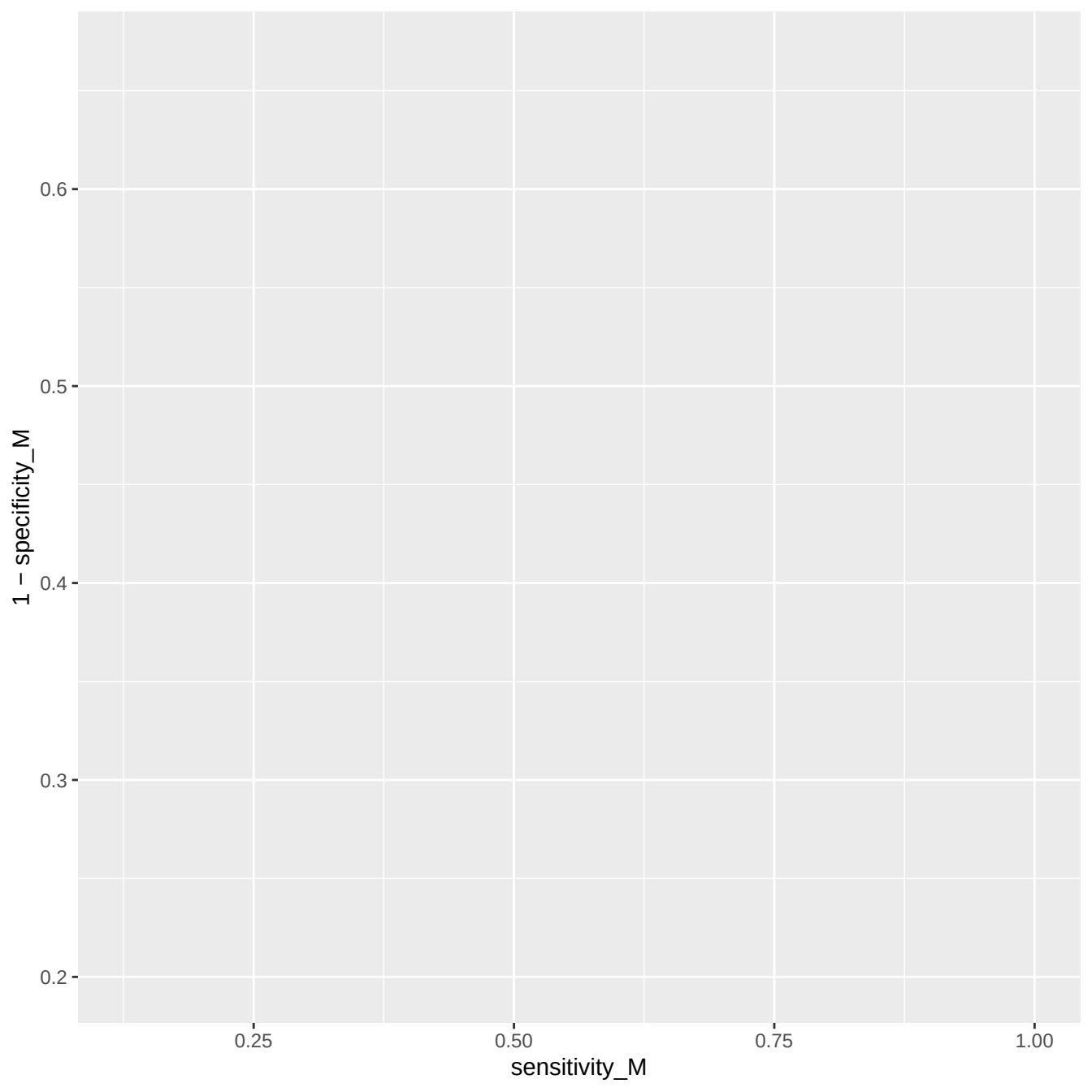

0.15
0.10
0.05
0.00
FPR
20
40
60
80
100
n
model
diagREDM
diagREDMSL

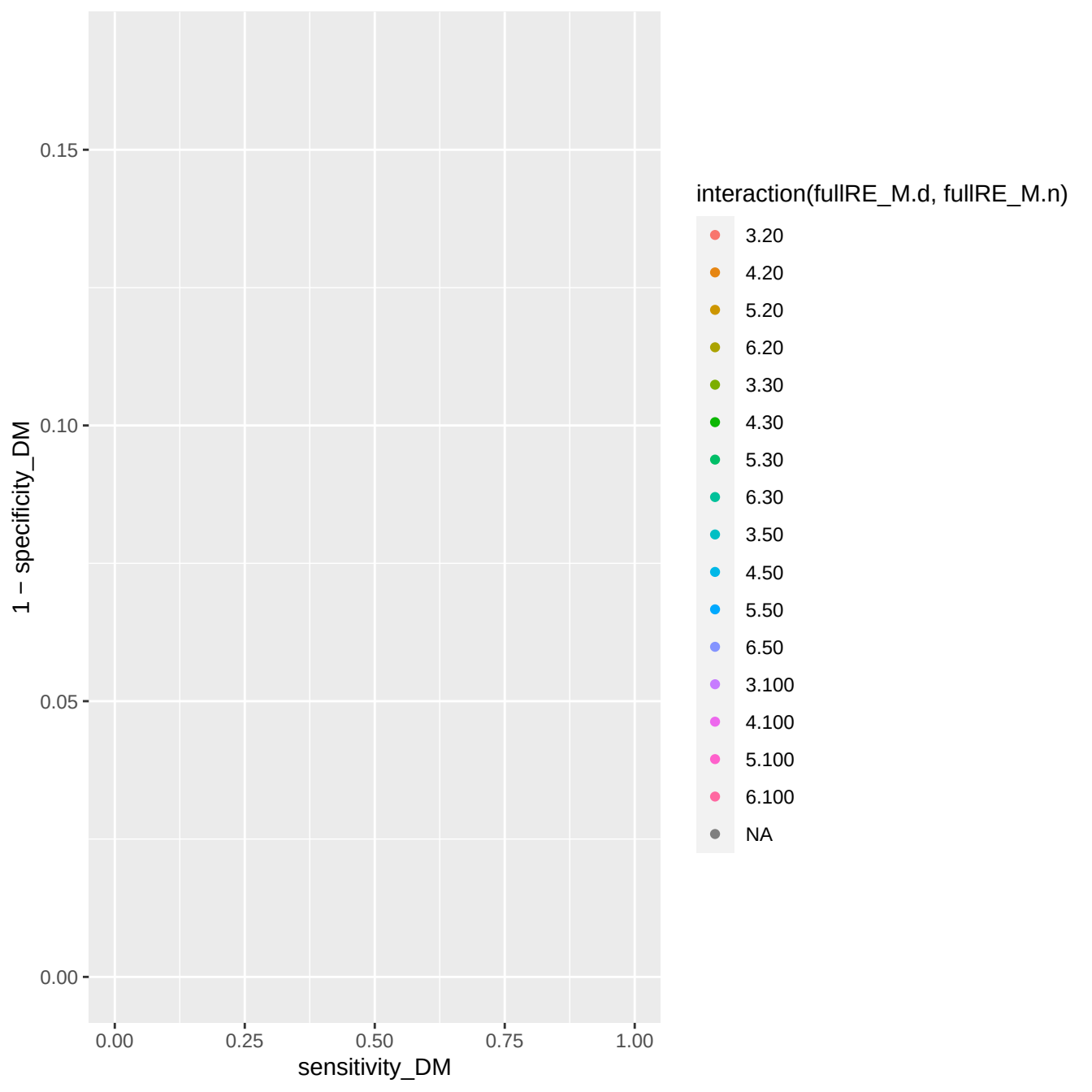

diagRE_DM
diagRE_DMSL
fullRE_DMSL
fullRE_M
count
0
100
200
3
4
5
6
d
value
TRUE
NA

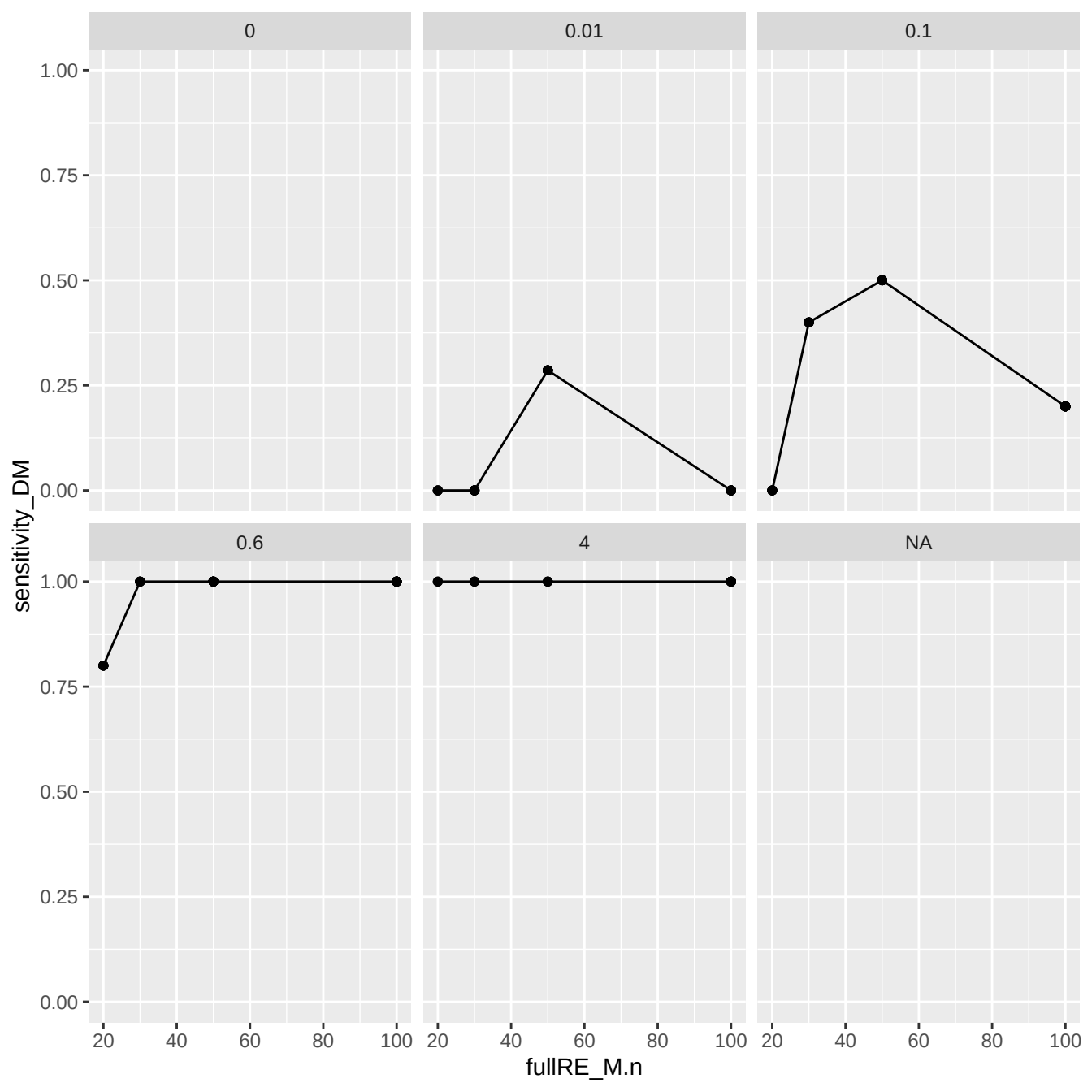

diagRE_DM
diagRE_DMSL
fullRE_DMSL
fullRE_M
count
200
150
100
50
0
25
50
75
100
n
value
TRUE
NA

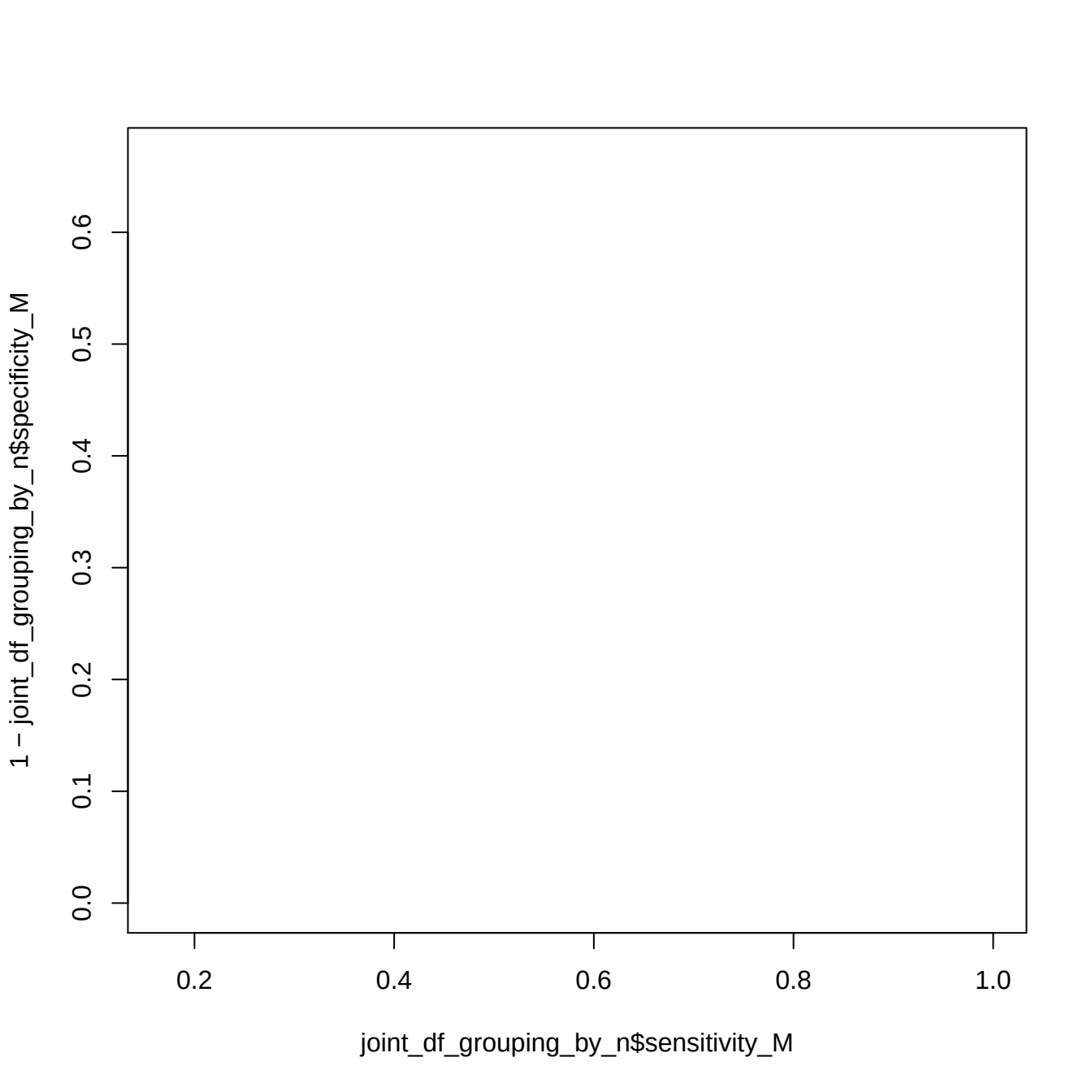

diagRE_DM
diagRE_DMSL
fullRE_DMSL
fullRE_M
d
6
5
4
3
20
30
50
100
n
Fraction of converged runs
0.25
0.50
0.75
1.00

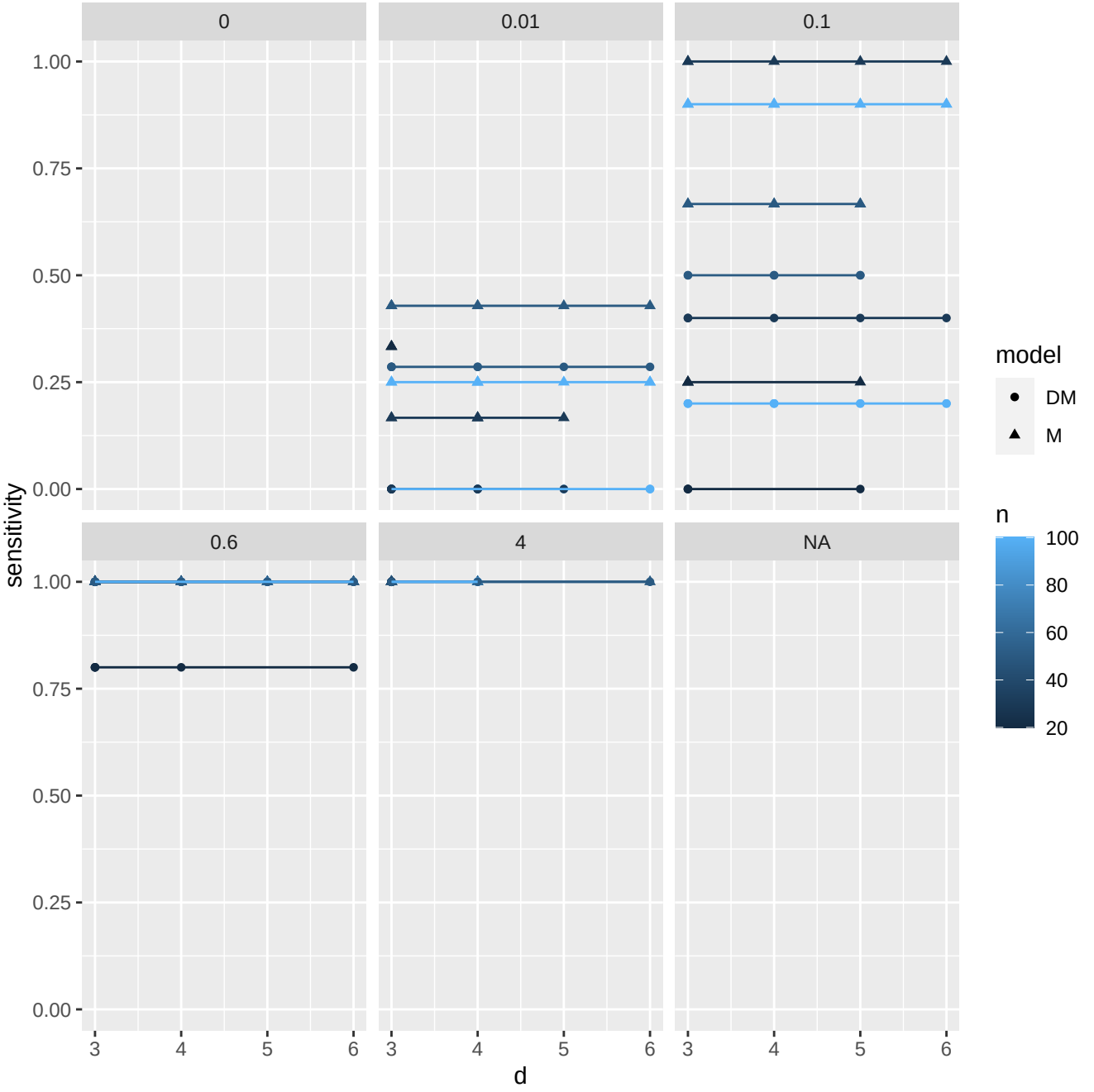

0.6
0.4
0.2
0.0
1 − specificity_M
0.25
0.50
0.75
1.00
sensitivity_M

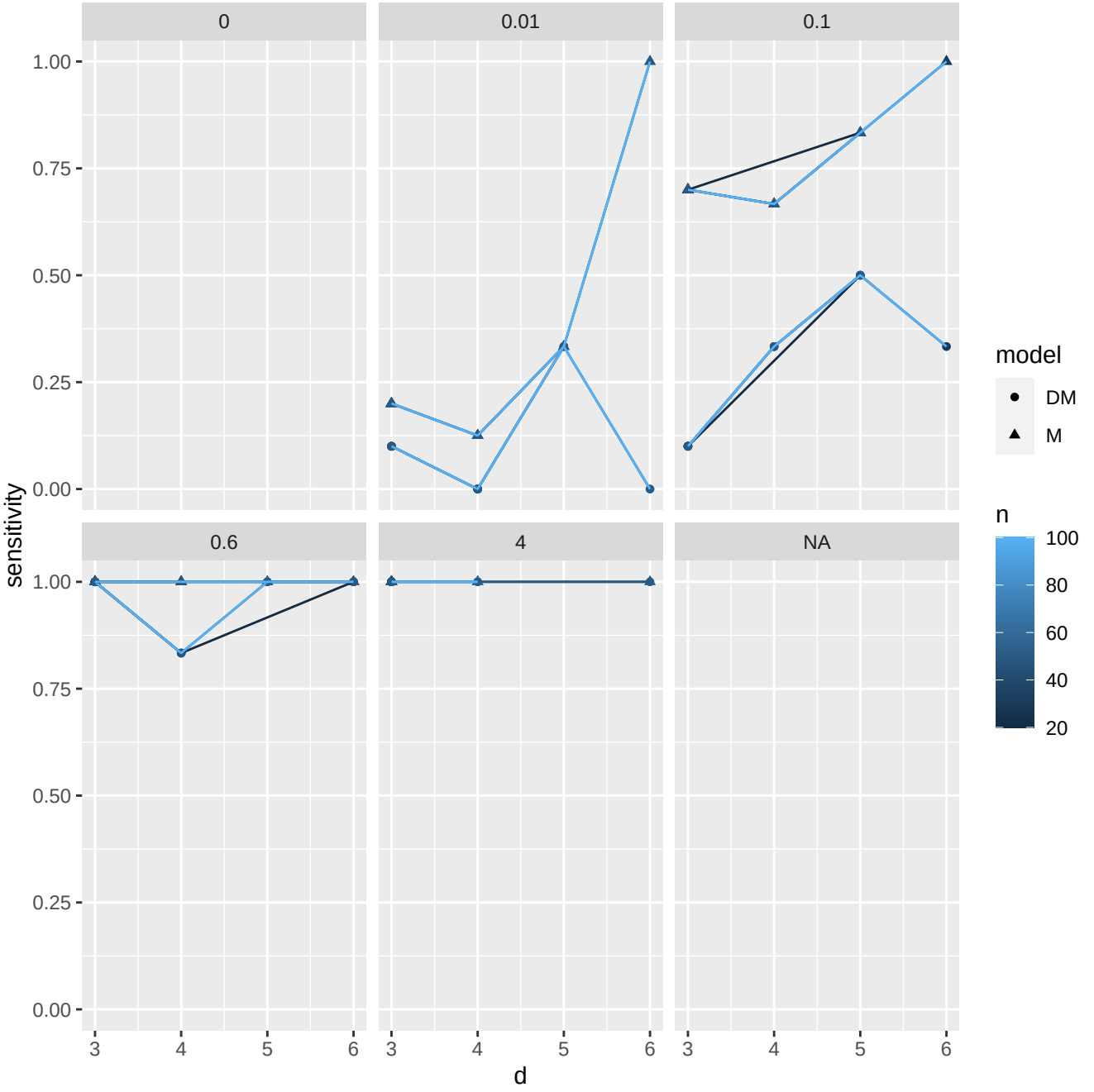

0.6
0.5
0.4
0.3
0.2
1 − specificity_M
0.25
0.50
0.75
1.00
sensitivity_M

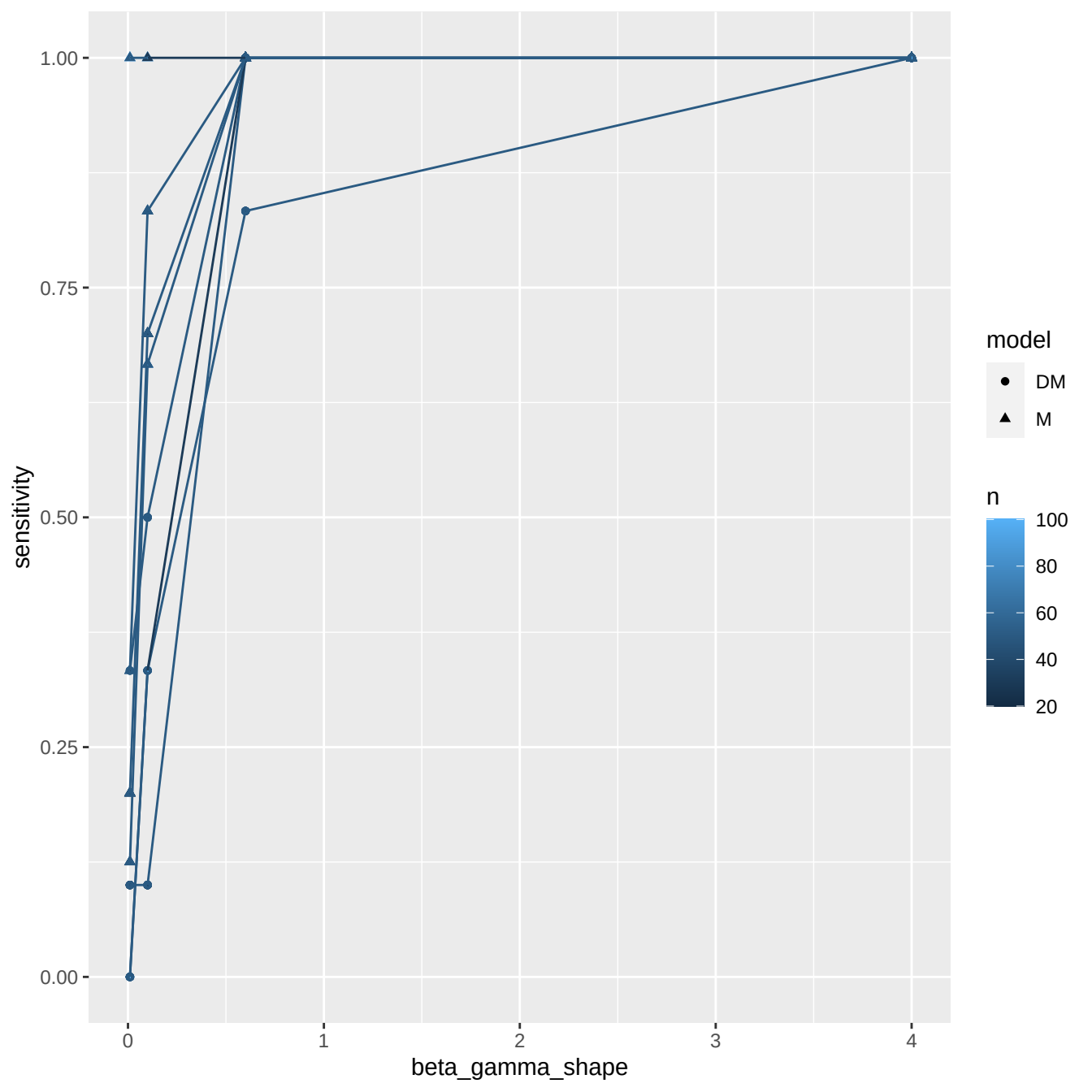

0.15
0.10
0.05
0.00
1 − specificity_DM
0.00
0.25
0.50
0.75
1.00
sensitivity_DM
interaction(fullRE_M.d, fullRE_M.n)
3.20
4.20
5.20
6.20
3.30
4.30
5.30
6.30
3.50
4.50
5.50
6.50
3.100
4.100
5.100
6.100
NA

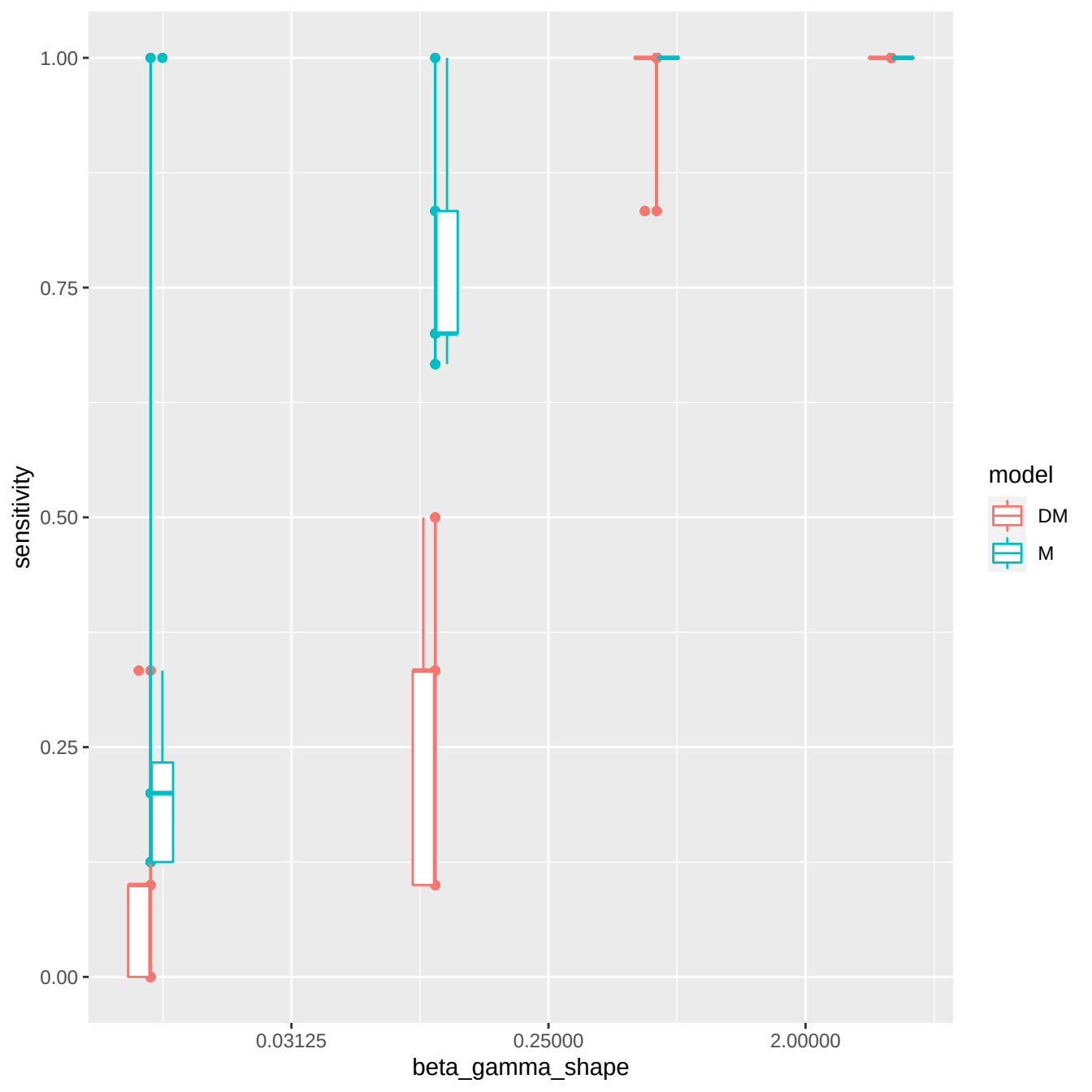

0
0.01
0.1
0.6
4
NA
sensitivity_DM
fullRE_M.n
1.00
0.75
0.50
0.25
0.00
20
40
60
80
100

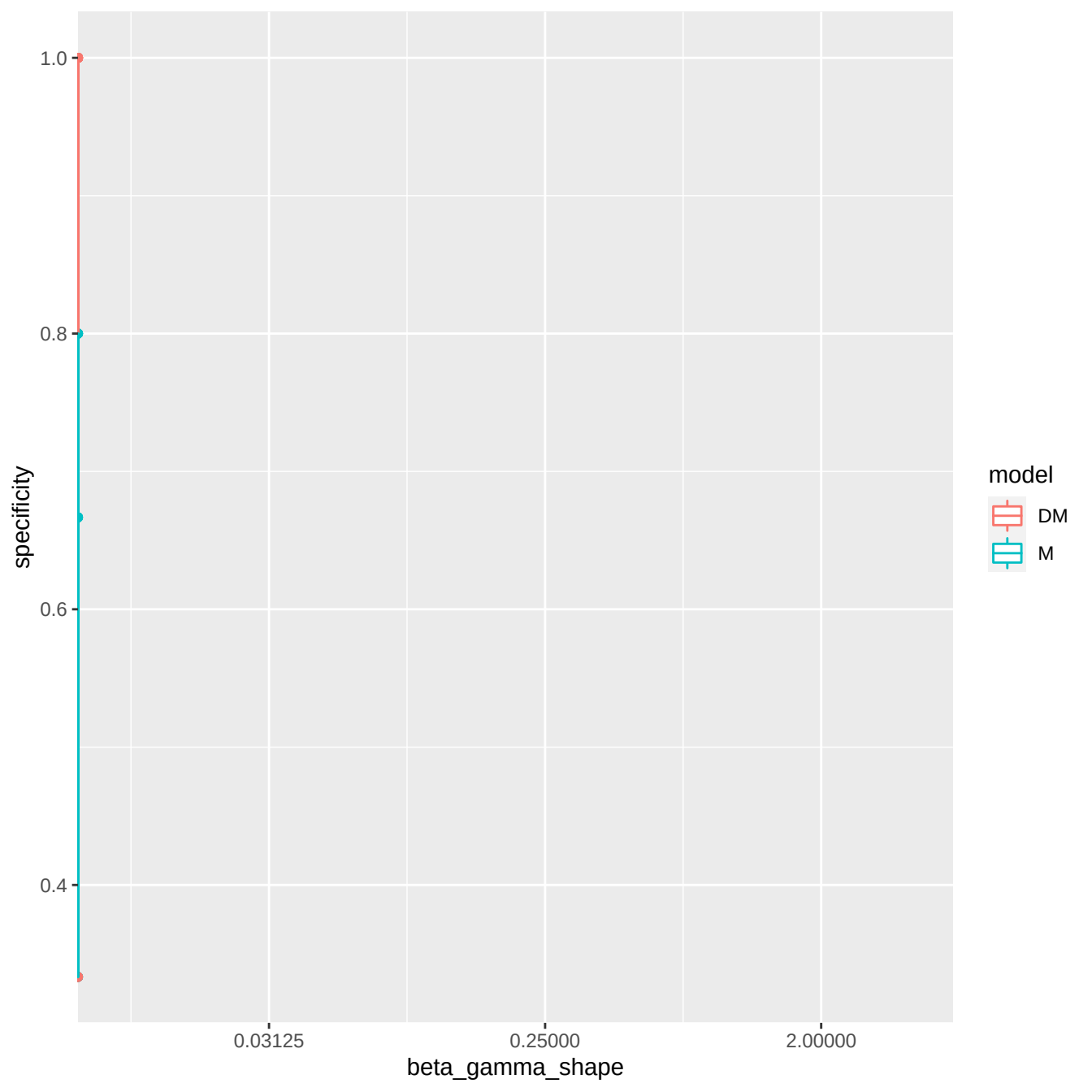

1 – joint_df_grouping_by_n$specificity_M
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.2
0.4
0.6
0.8
1.0
joint_df_grouping_by_n$sensitivity_M

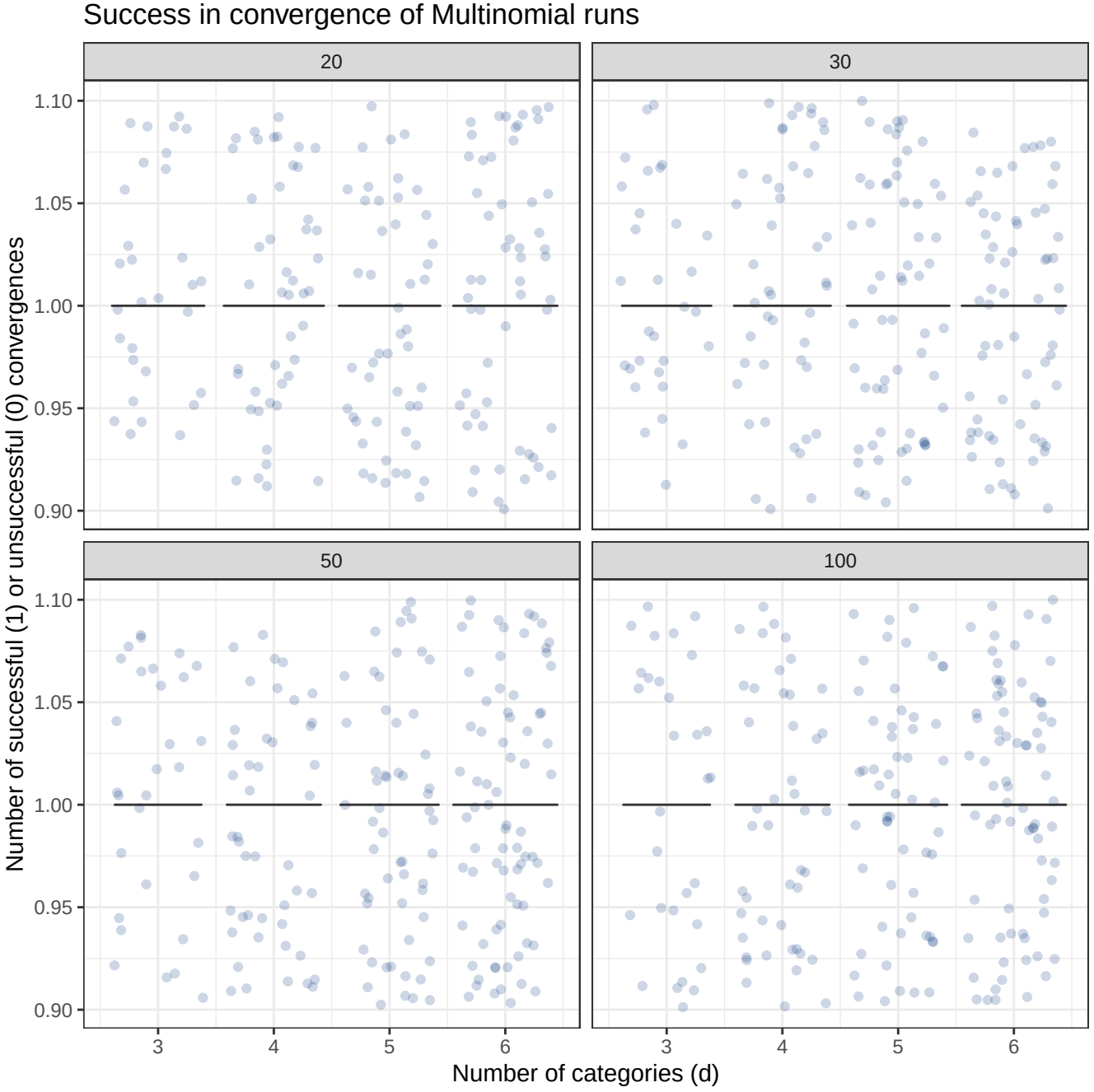

0
0.01
0.1
0.6
4
NA
sensitivity
d
1.00
0.75
0.50
0.25
0.00
3
4
5
6
model
DM
M
n
100
80
60
40
20

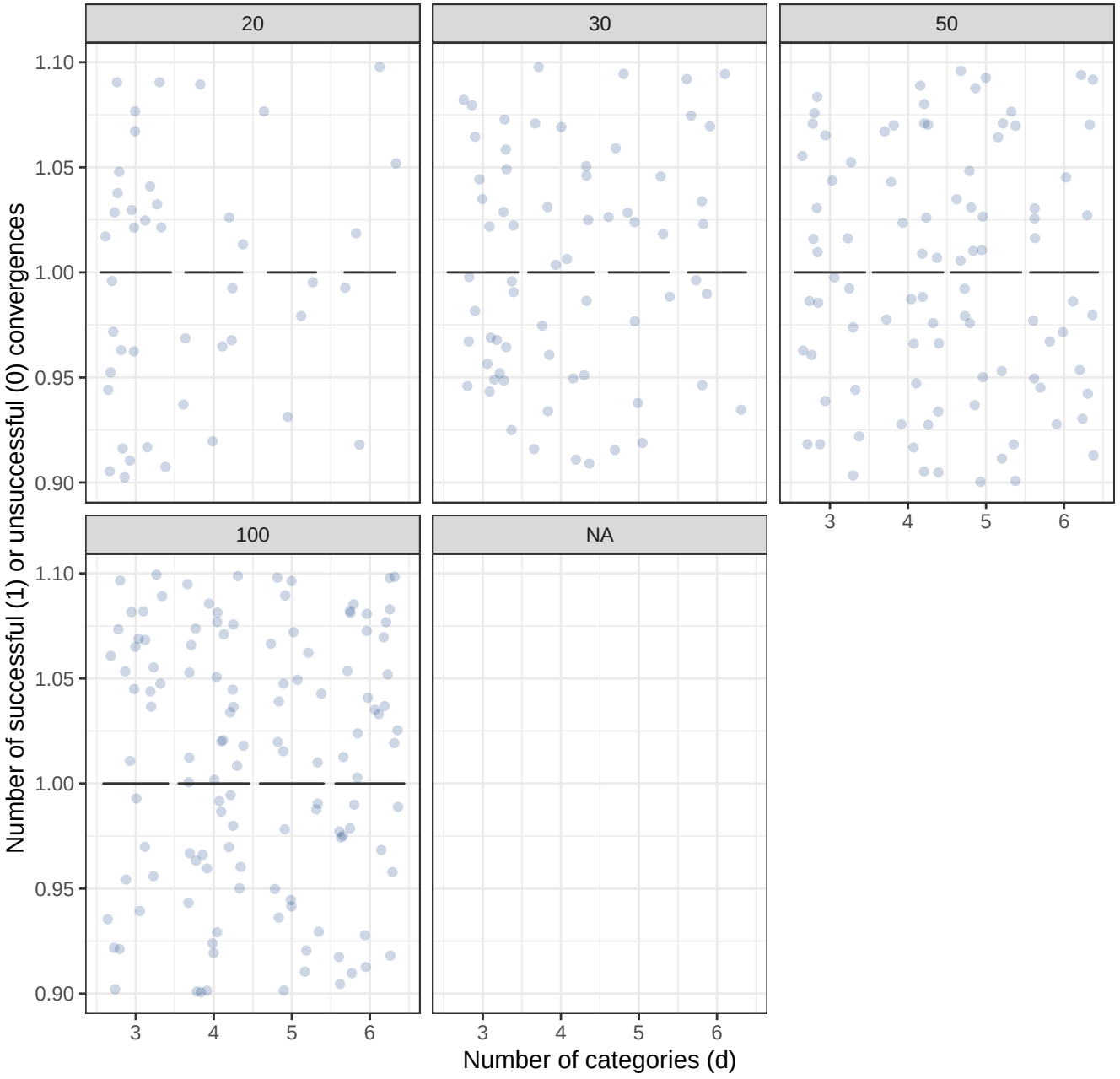

0
0.01
0.1
0.6
4
NA
sensitivity
1.00
0.75
0.50
0.25
0.00
3
4
5
6
d
model
DM
M
n
100
80
60
40
20

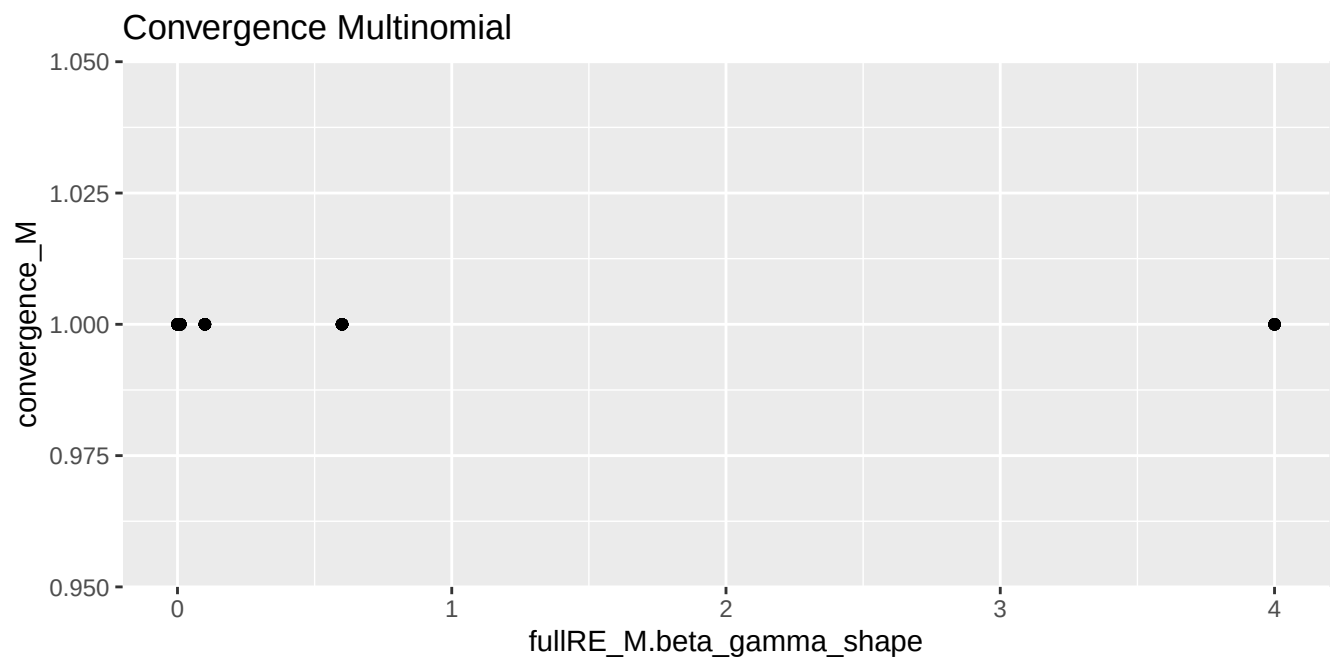

1.00
0.75
0.50
0.25
0.00
sensitivity
0
1
2
3
4
beta_gamma_shape
model
DM
M
n
100
80
60
40
20

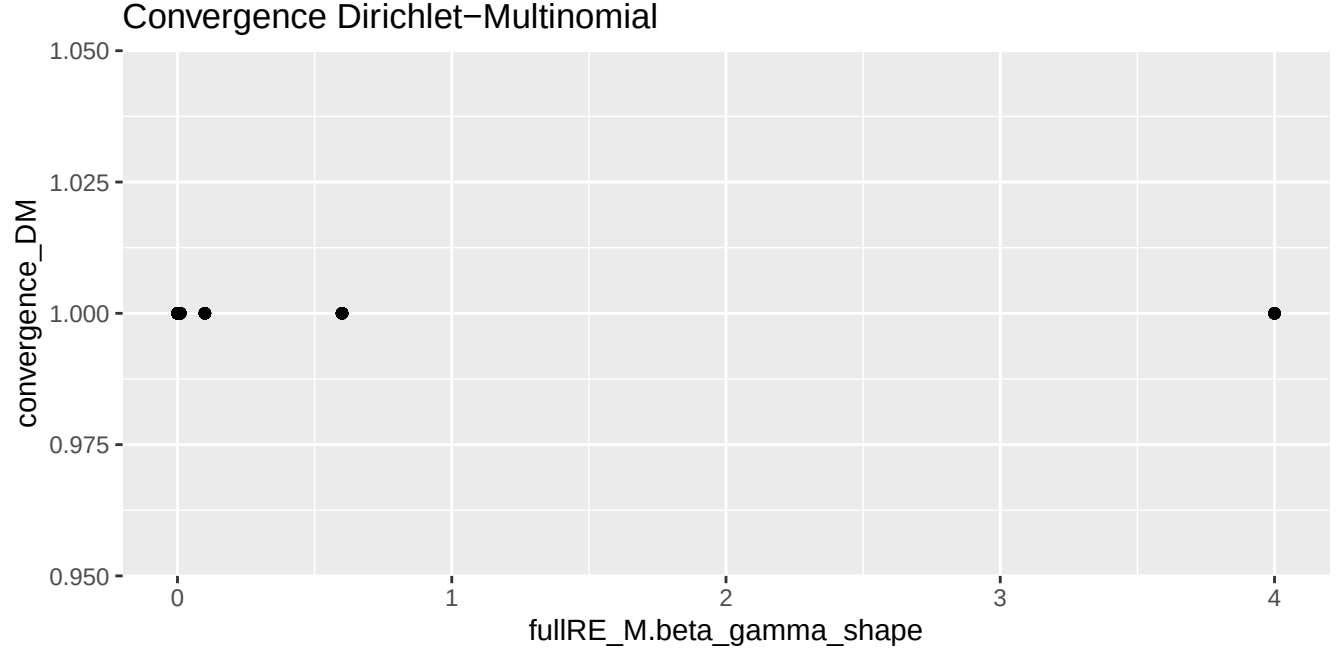

1.00
0.75
0.50
0.25
0.00
sensitivity
0.03125
0.25000
2.00000
beta_gamma_shape
model
DM
M

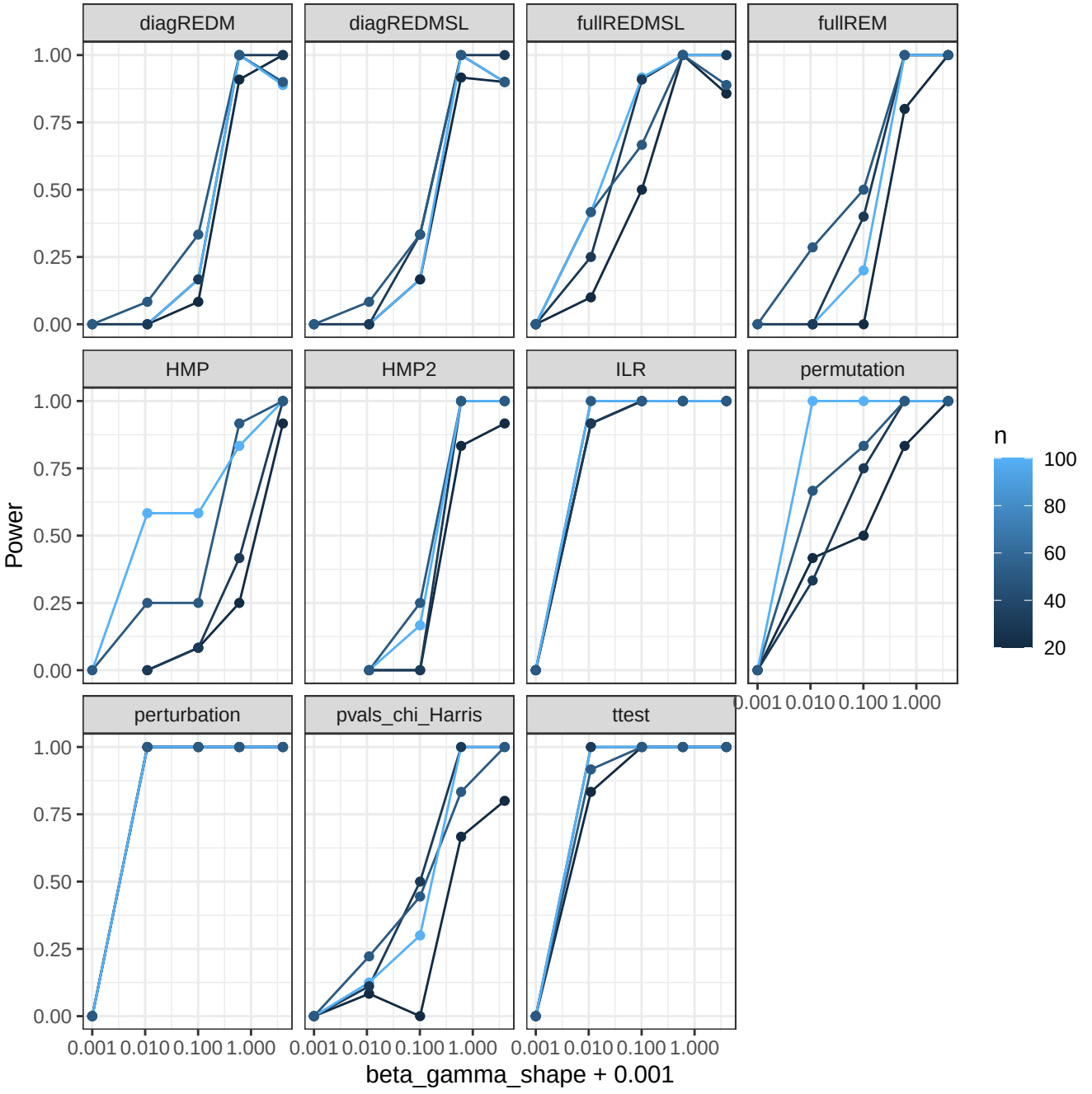

1.0
0.8
0.6
0.4
specificity
0.03125
0.25000
2.00000
beta_gamma_shape
model
DM
M

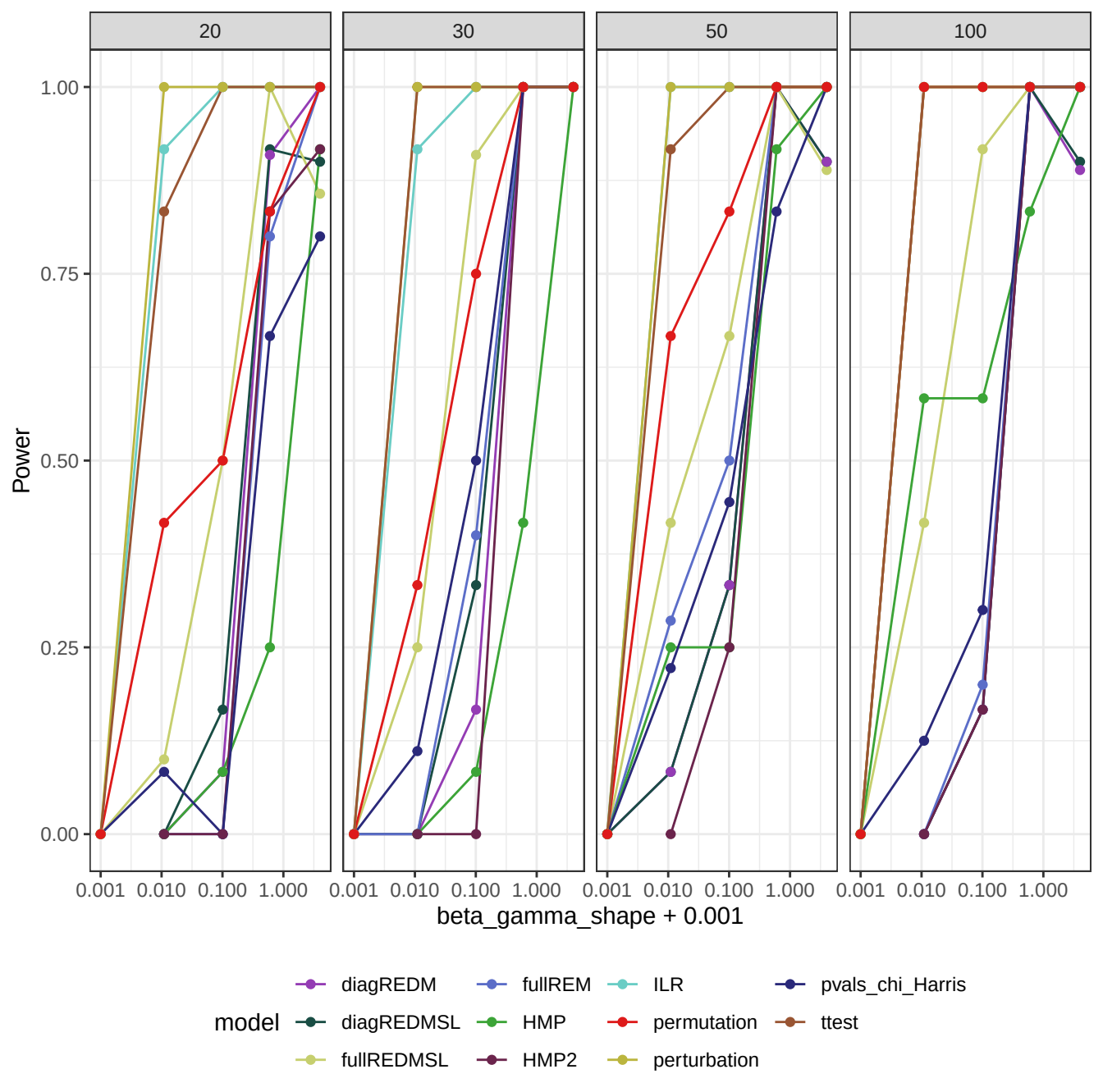

Success in convergence of Multinomial runs
20
30
50
100
1.10
1.05
1.00
0.95
0.90
Number of successful (1) or unsuccessful (0) convergences
3
4
5
6
Number of categories (d)

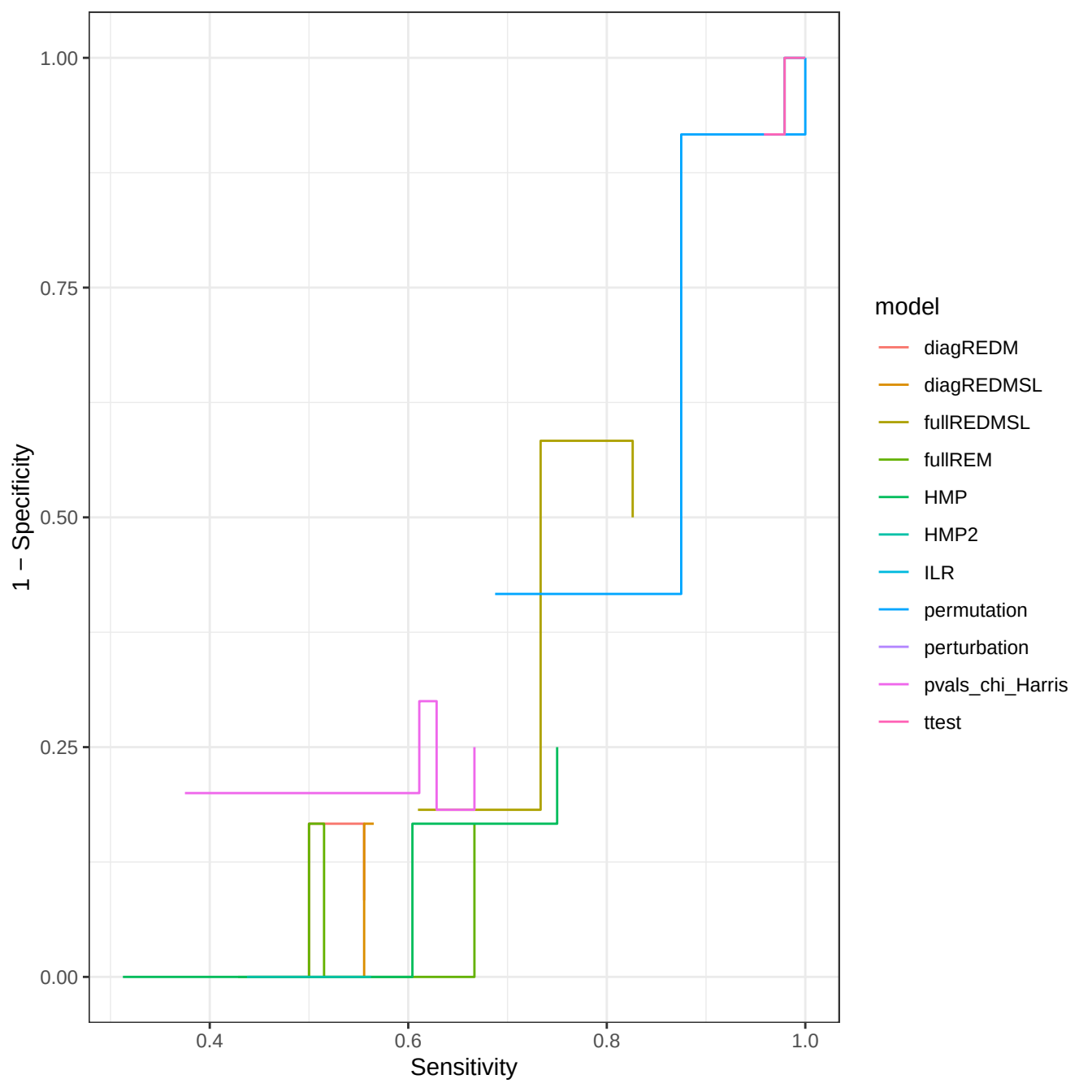

Success in convergence of Dirichlet−Multinomial runs
20
30
50
100
NA
Number of successful (1) or unsuccessful (0) convergences
1.10
1.05
1.00
0.95
0.90
3
4
5
6
Number of categories (d)

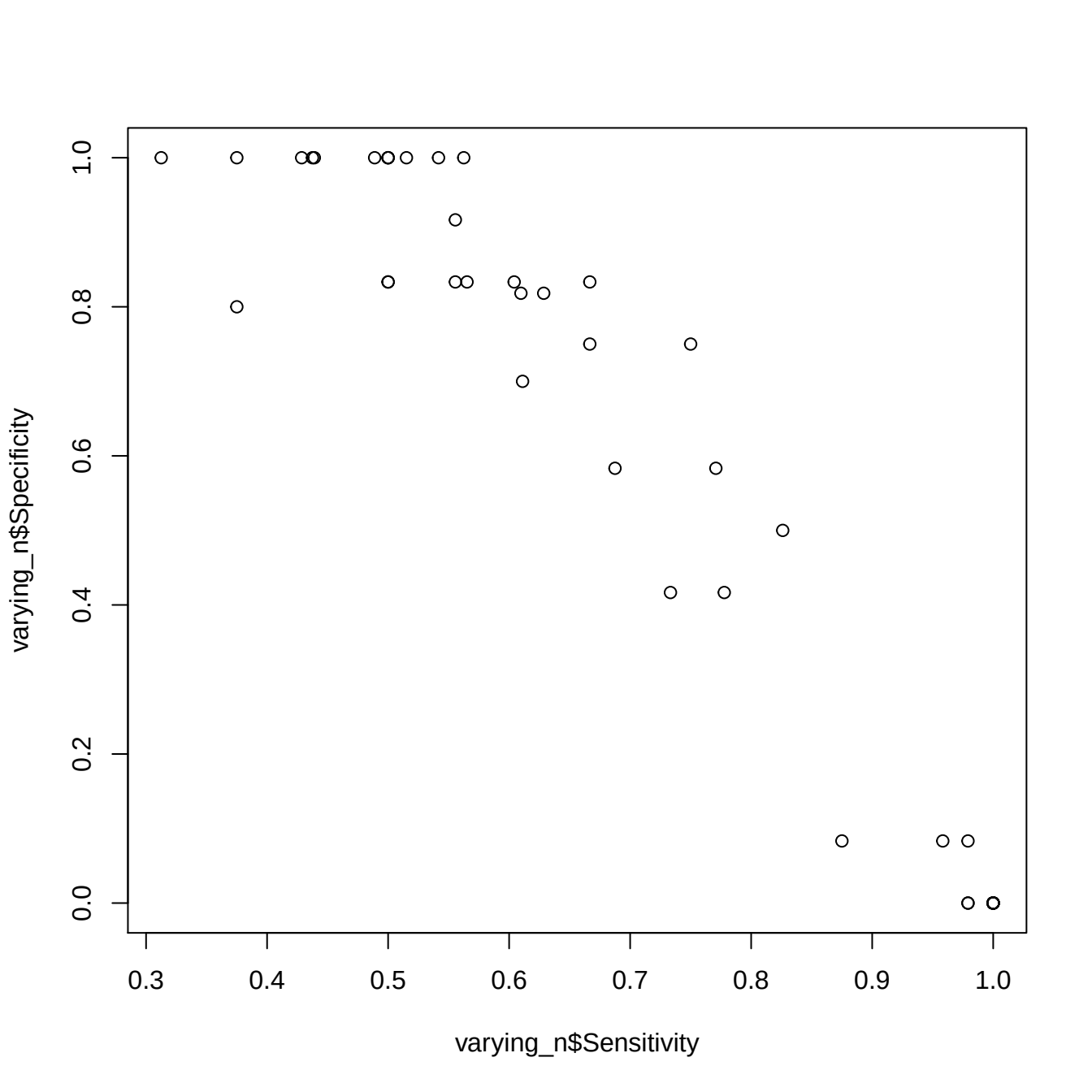

Convergence Multinomial
convergence_M
1.050
1.025
1.000
0.975
0.950
0
1
2
3
4
fullRE_M.beta_gamma_shape

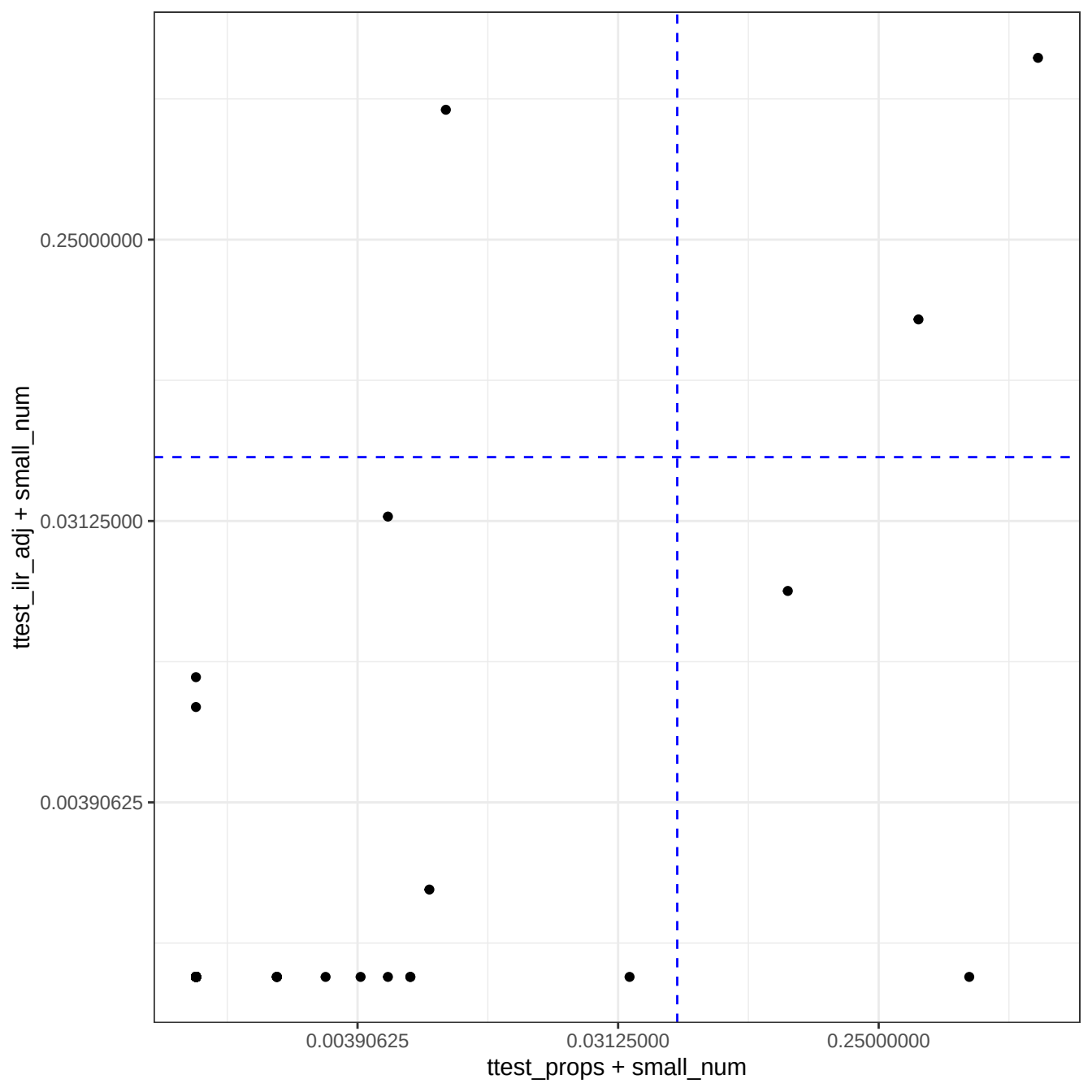

Convergence Dirichlet−Multinomial
convergence_DM
1.050
1.025
1.000
0.975
0.950
0
1
2
3
4
fullRE_M.beta_gamma_shape

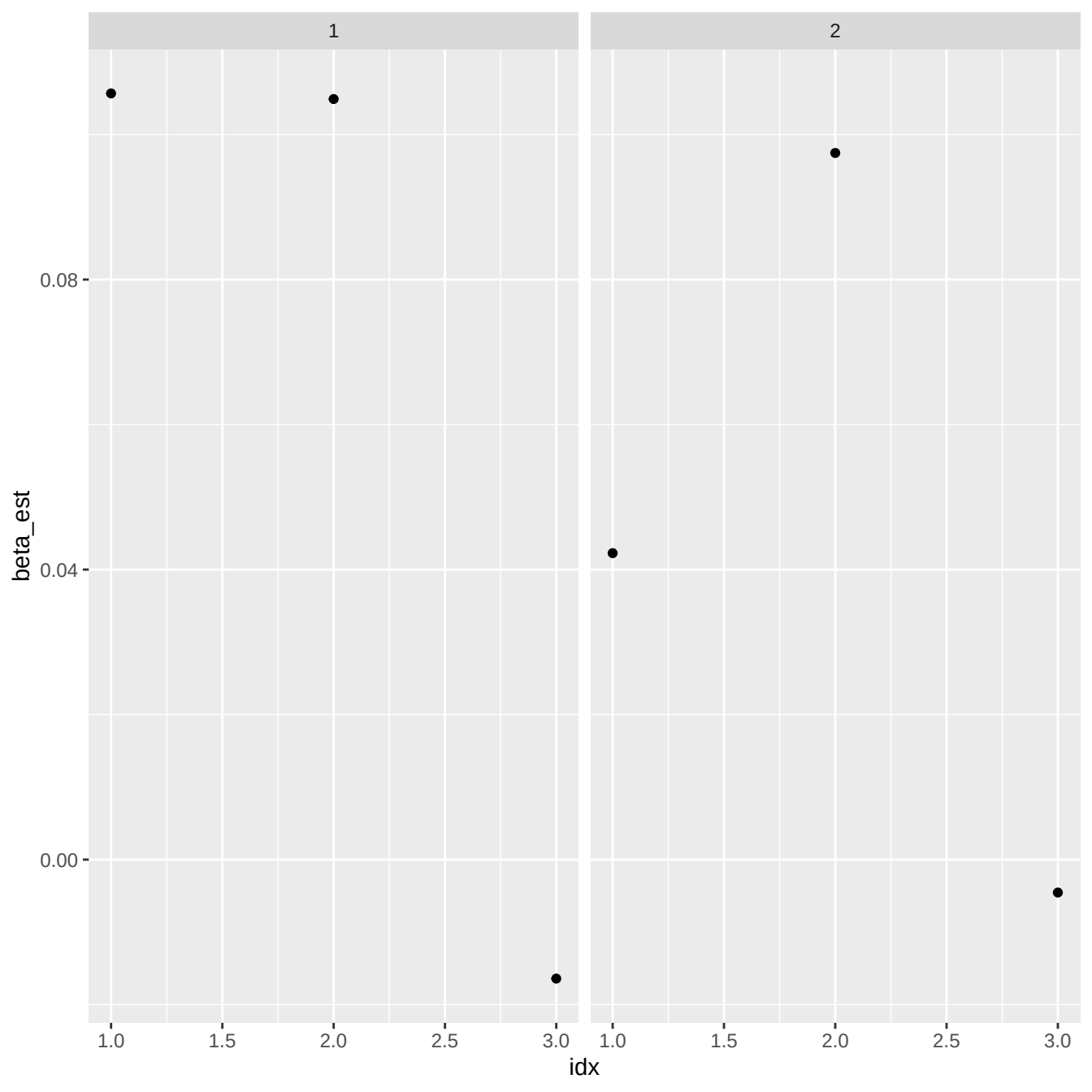

diagREDM
diagREDMSL
fullREDMSL
fullREM
HMP
HMP2
ILR
permutation
perturbation
pvals_chi_Harris
ttest
Power
1.00
0.75
0.50
0.25
0.00
0.001 0.010 0.100 1.000
beta_gamma_shape + 0.001
n
100
80
60
40
20

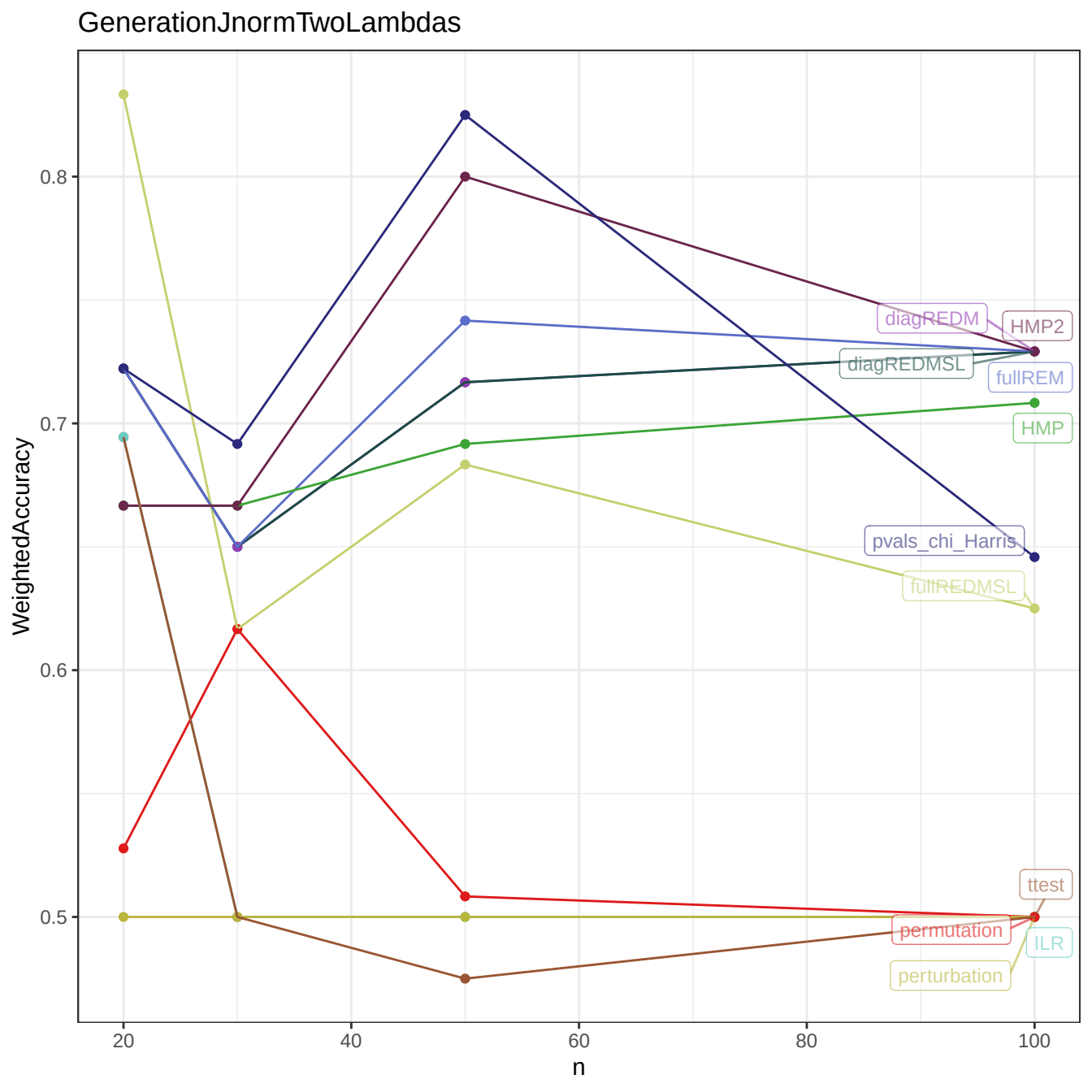

20
30
50
100
Power
1.00
0.75
0.50
0.25
0.00
0.001
0.010
0.100
1.000
beta_gamma_shape + 0.001
model
diagREDM
diagREDMSL
fullREDMSL
fullREM
HMP
HMP2
ILR
permutation
perturbation
pvals_chi_Harris
ttest

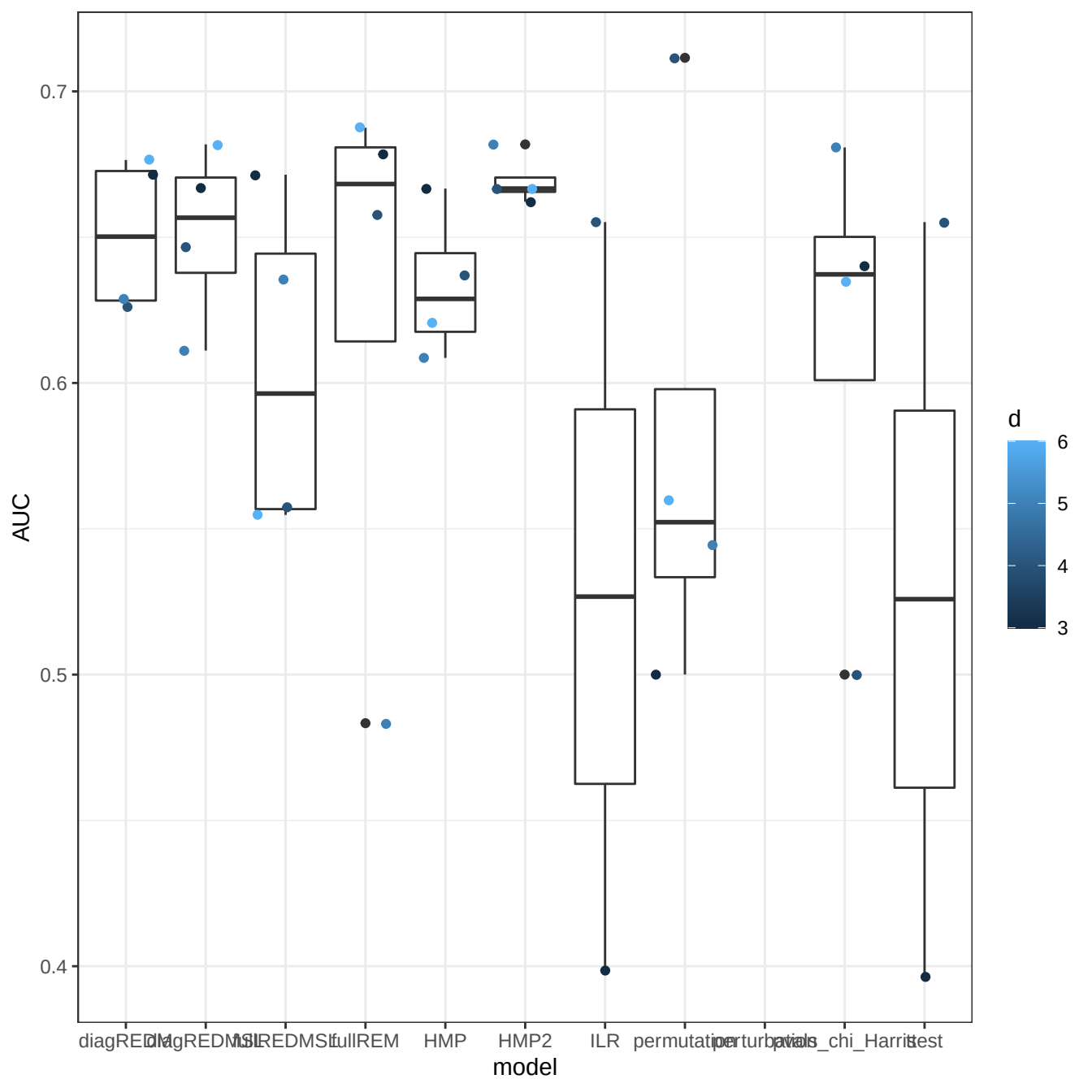

1.00
0.75
0.50
0.25
0.00
1 – Specificity
0.4
0.6
0.8
1.0
Sensitivity
model
diagREDM
diagREDMSL
fullREDMSL
fullREM
HMP
HMP2
ILR
permutation
perturbation
pvals_chi_Harris
ttest


varying_n$Specificity
1.0
0.8
0.6
0.4
0.2
0.0
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
varying_n$Sensitivity

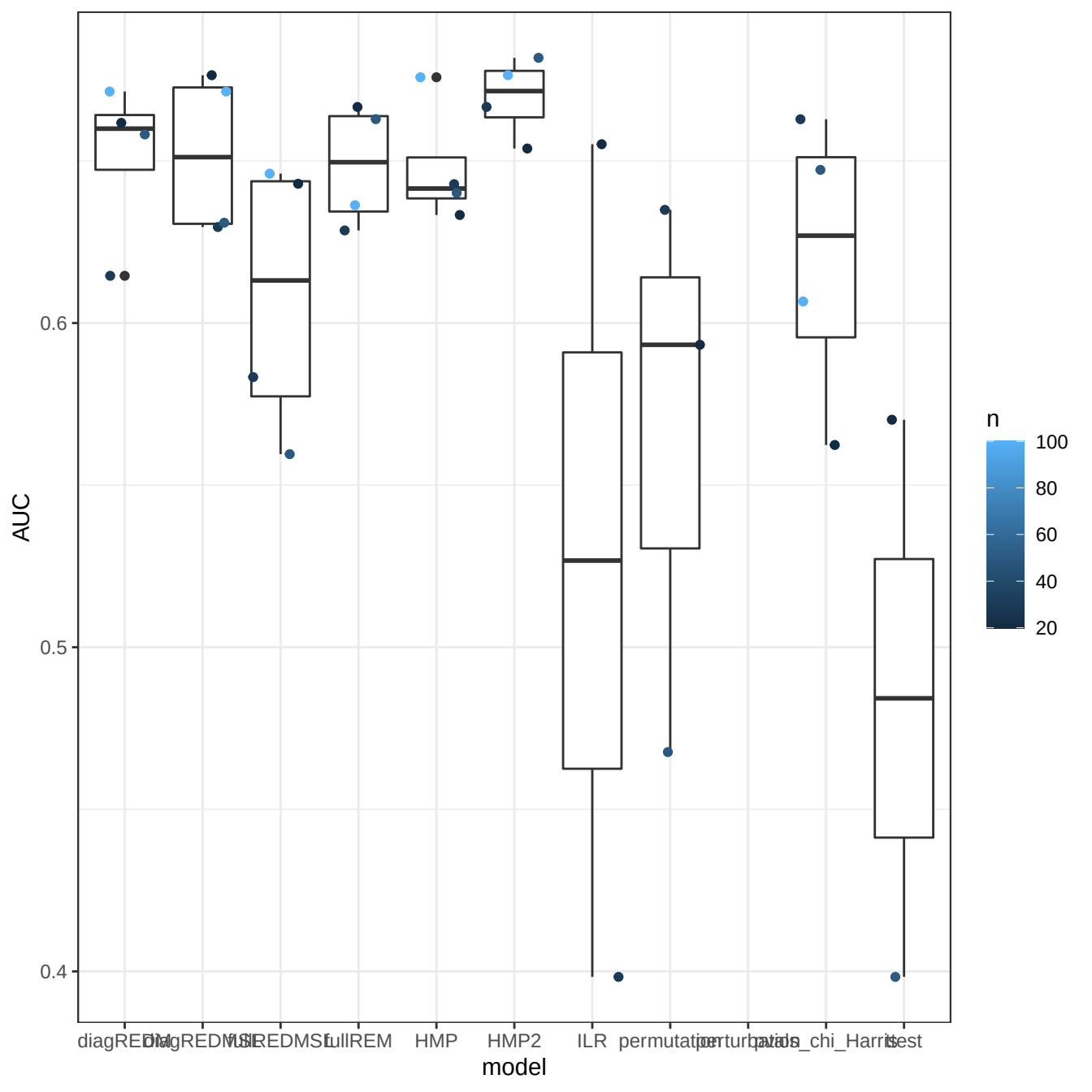

0.25000000
0.03125000
0.00390625
ttest_ilr_adj + small_num
0.00390625
0.03125000
0.25000000
ttest_props + small_num


1
2
0.08
0.04
0.00
beta_est
1.0
1.5
2.0
2.5
3.0
idx

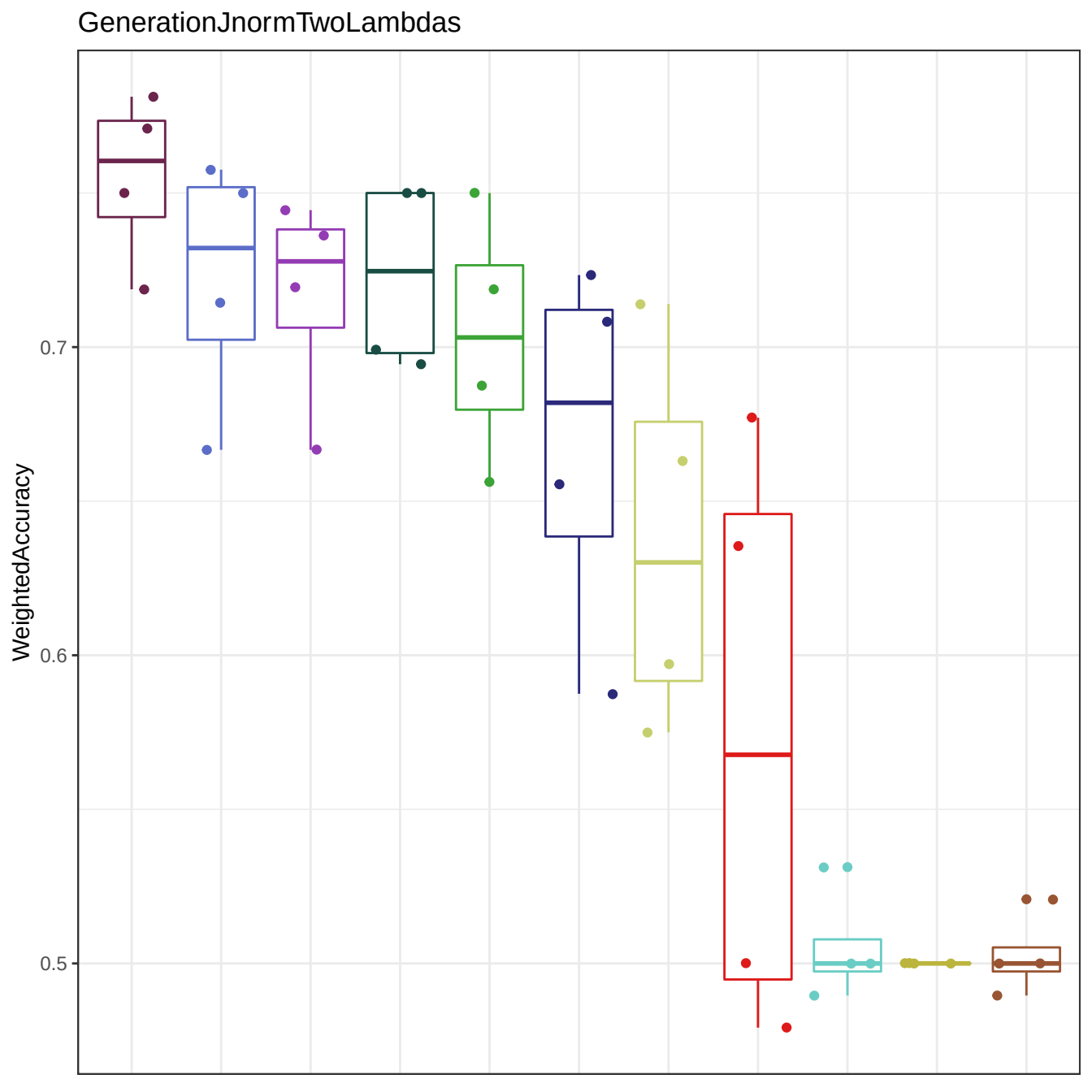

GenerationJnormTwoLambdas
WeightedAccuracy
0.8
0.7
0.6
0.5
20
40
60
80
100
n
diagREDM
HMP2
diagREDMSL
fullREM
HMP
pvals_chi_Harris
fullREDMSL
ttest
permutation
ILR
perturbation

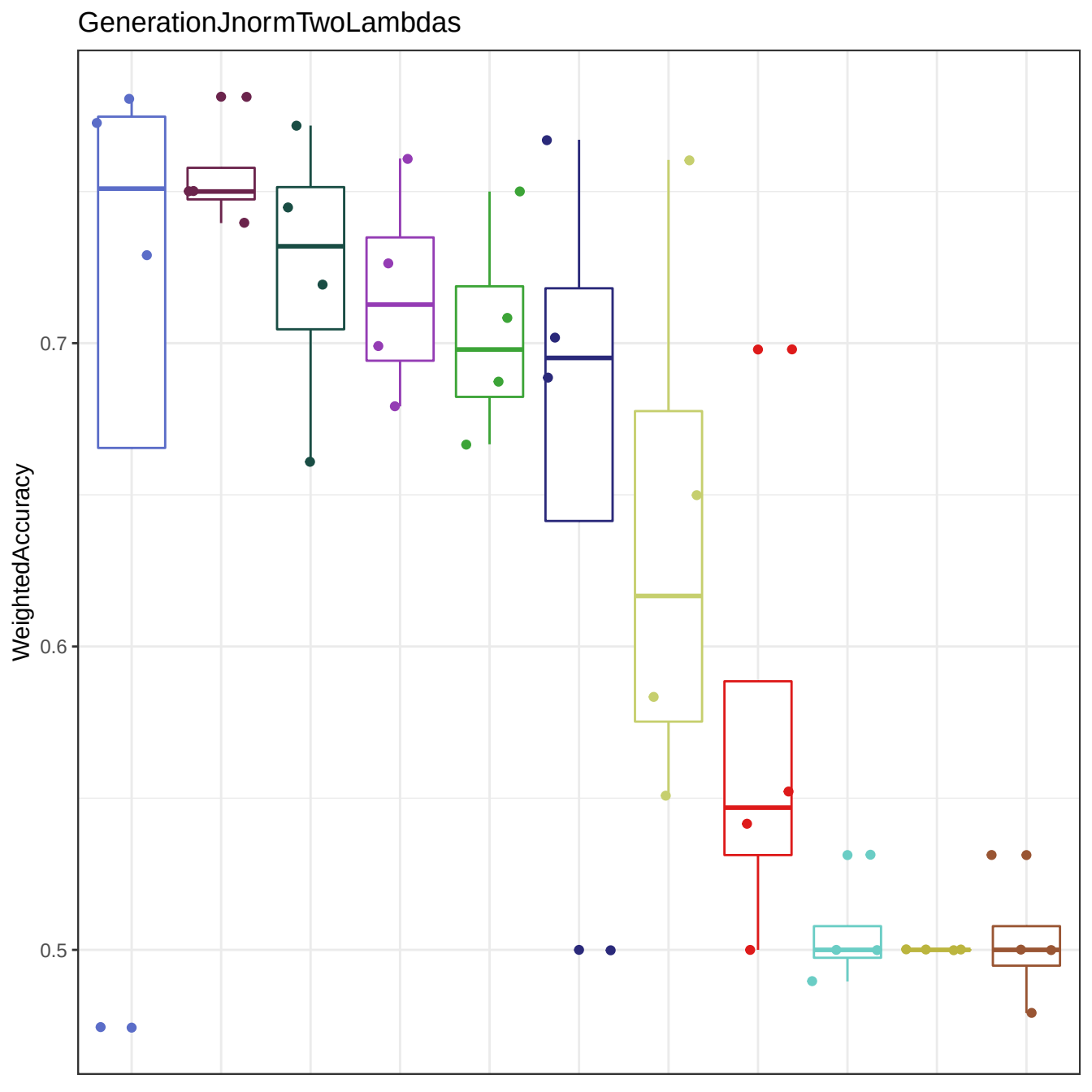


AUC
0.7
0.6
0.5
0.4
model
diagREDM
diagREDMSL
fullREDMSL
fullREM
HMP
HMP2
ILR
permutation
perturbation
pvals_chi_Harris
test
d
6
5
4
3



AUC
0.6
0.5
0.4
diagREDM
diagREDMSL
fullREDMSL
fullREM
HMP
HMP2
ILR
permutation
perturbation
pvals_chi_Harris
ttest
model
n
100
80
60
40
20


GenerationJnormTwoLambdas
WeightedAccuracy
0.7
0.6
0.5


GenerationJnormTwoLambdas
WeightedAccuracy
0.7
0.6
0.5