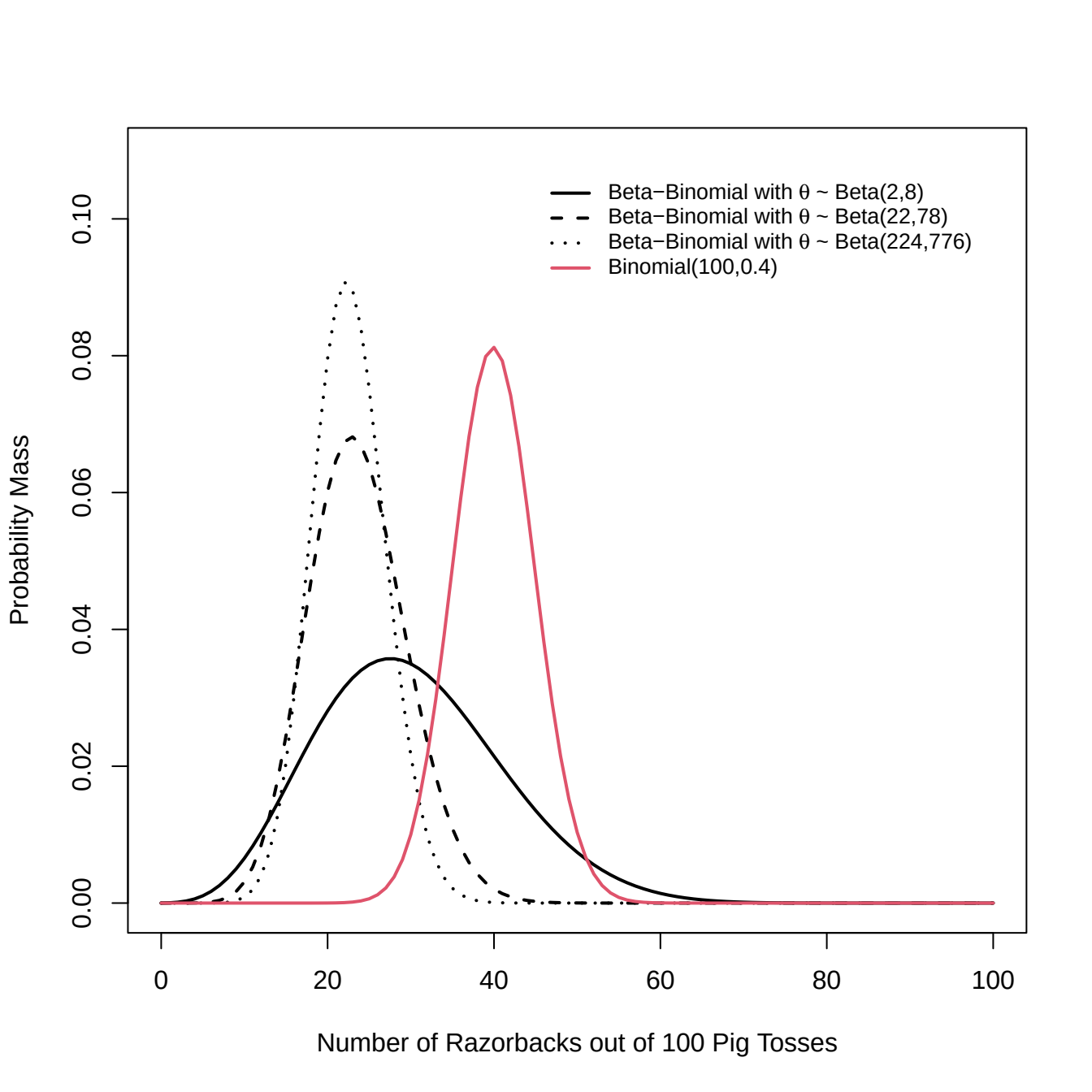
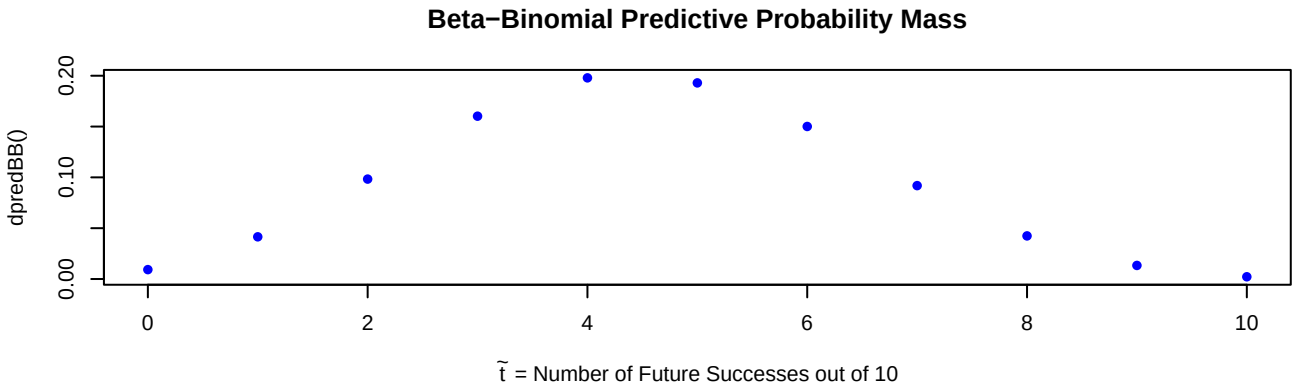
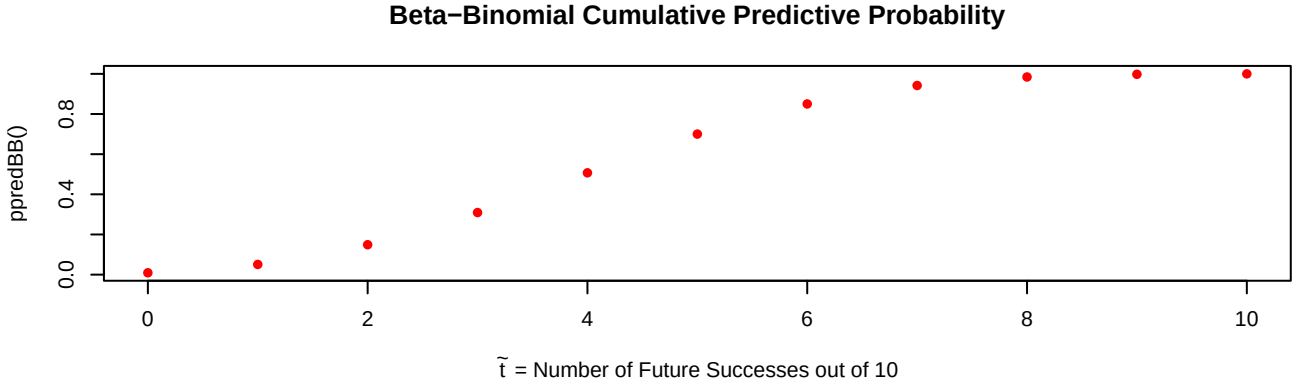
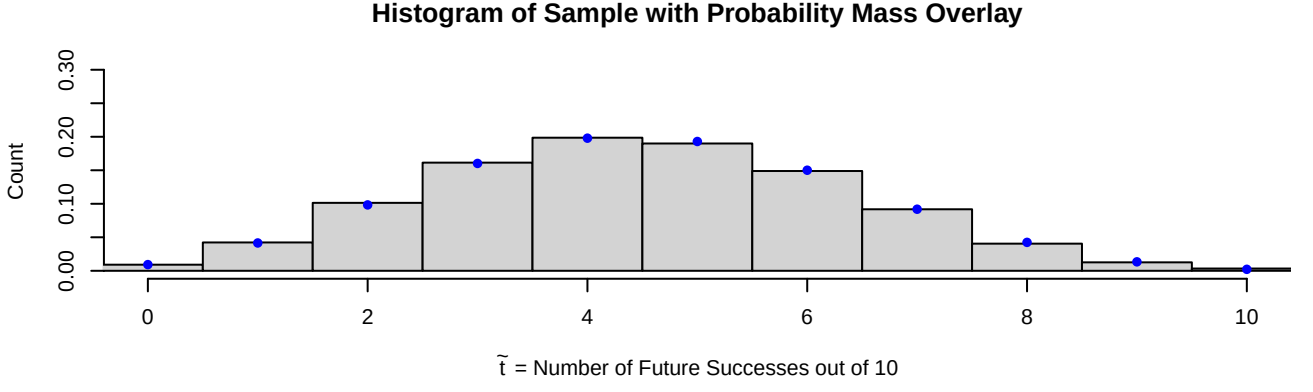
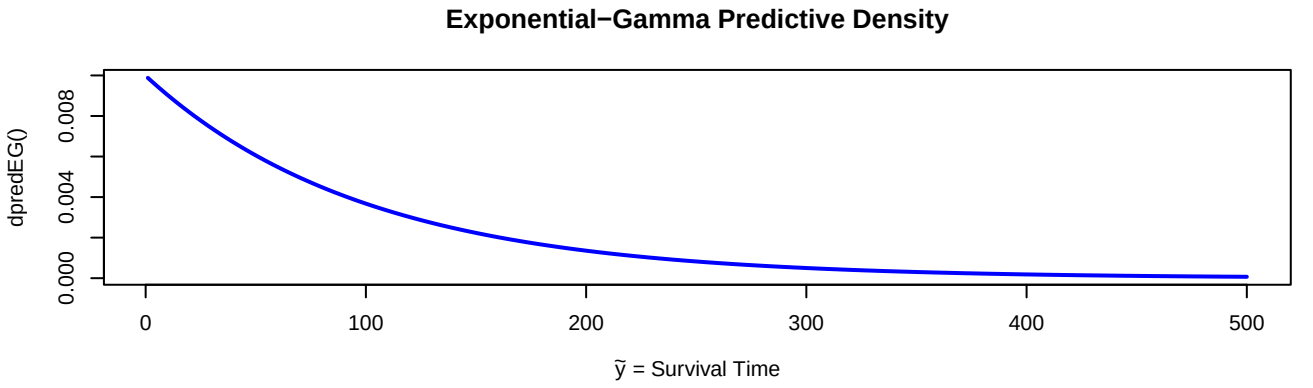
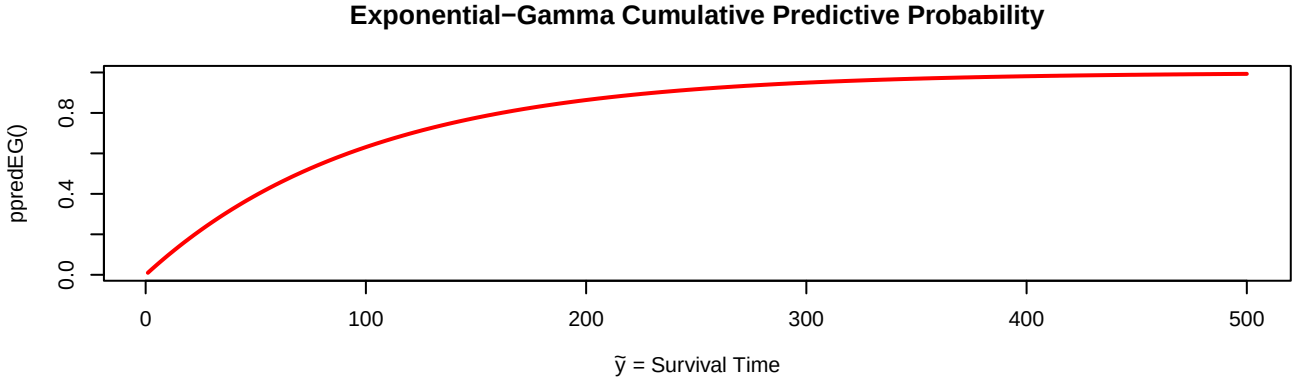

Beta−Binomial with θ ~ Beta(2,8)
Beta−Binomial with θ ~ Beta(22,78)
Beta−Binomial with θ ~ Beta(224,776)
Binomial(100,0.4)
Probability Mass
0.00
0.02
0.04
0.06
0.08
0.10
0
20
40
60
80
100
Number of Razorbacks out of 100 Pig Tosses

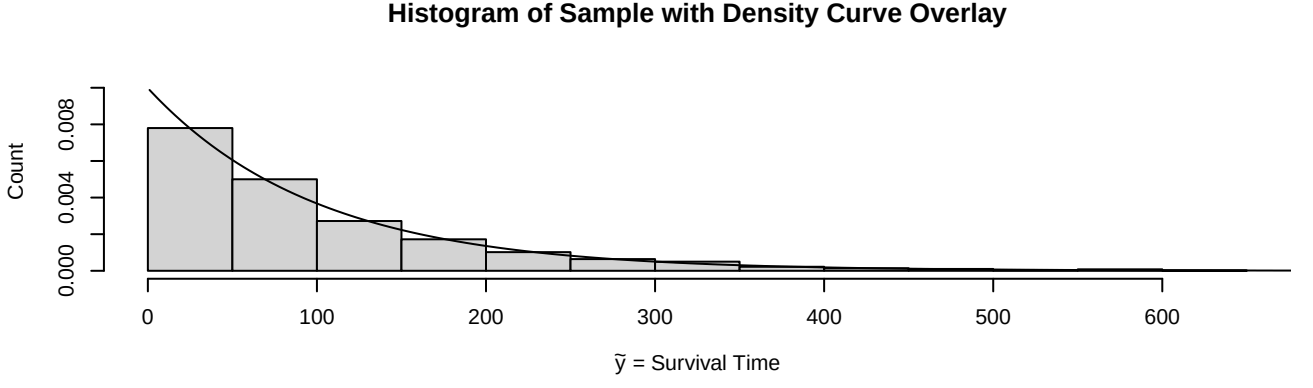

Beta−Binomial Predictive Probability Mass
dpredBB()
0.00
0.10
0.20
0
2
4
6
8
10
t̃ = Number of Future Successes out of 10

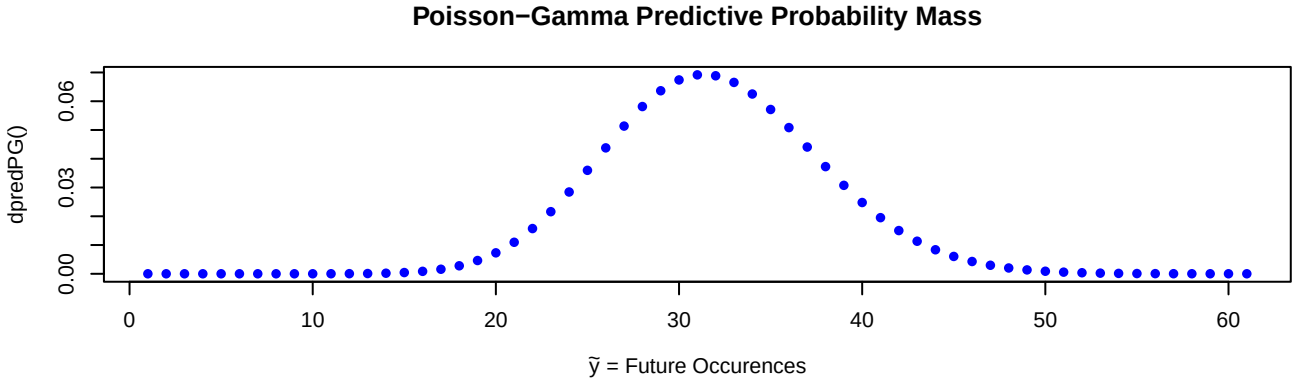

Beta−Binomial Cumulative Predictive Probability
ppredBB()
0.0
0.4
0.8
0
2
4
6
8
10
t̃ = Number of Future Successes out of 10

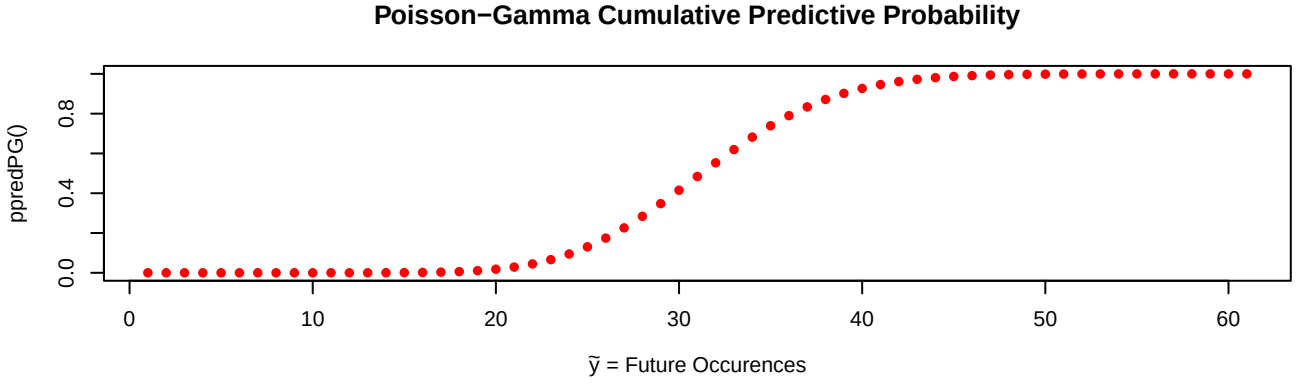

Histogram of Sample with Probability Mass Overlay
Count
0.00
0.10
0.20
0.30
0
2
4
6
8
10
t̃ = Number of Future Successes out of 10

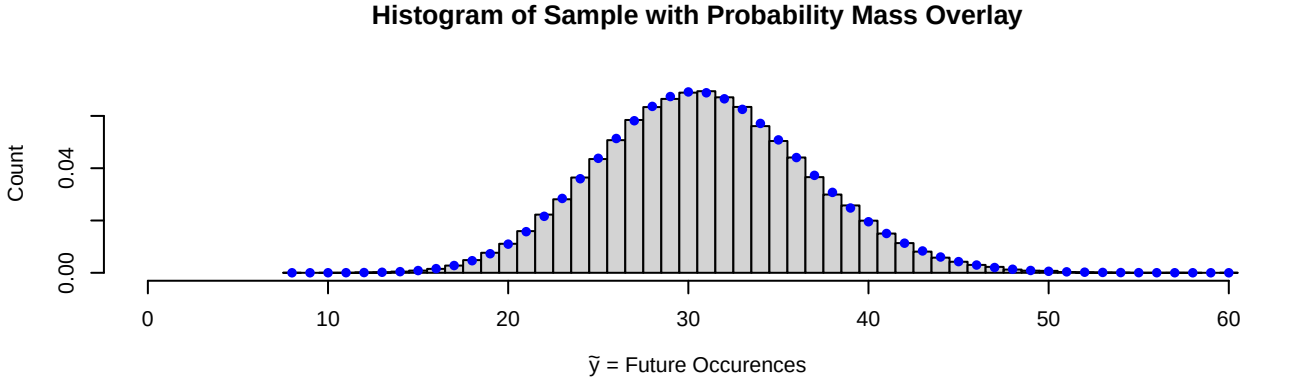

Exponential−Gamma Predictive Density
dpredEG()
0.000
0.004
0.008
0
100
200
300
400
500
ỹ = Survival Time

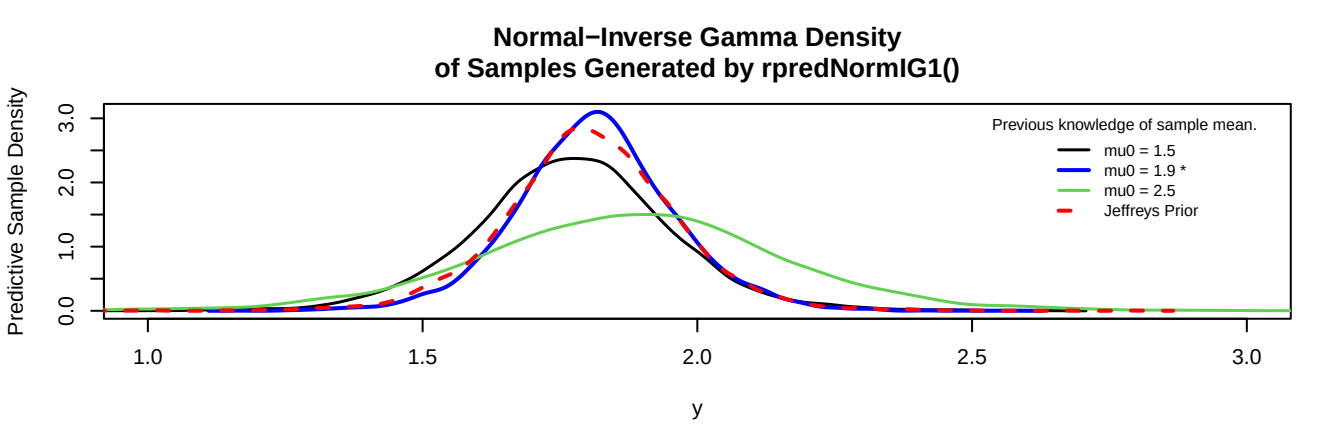

Exponential−Gamma Cumulative Predictive Probability
ppredEG()
0.0
0.4
0.8
0
100
200
300
400
500
ỹ = Survival Time

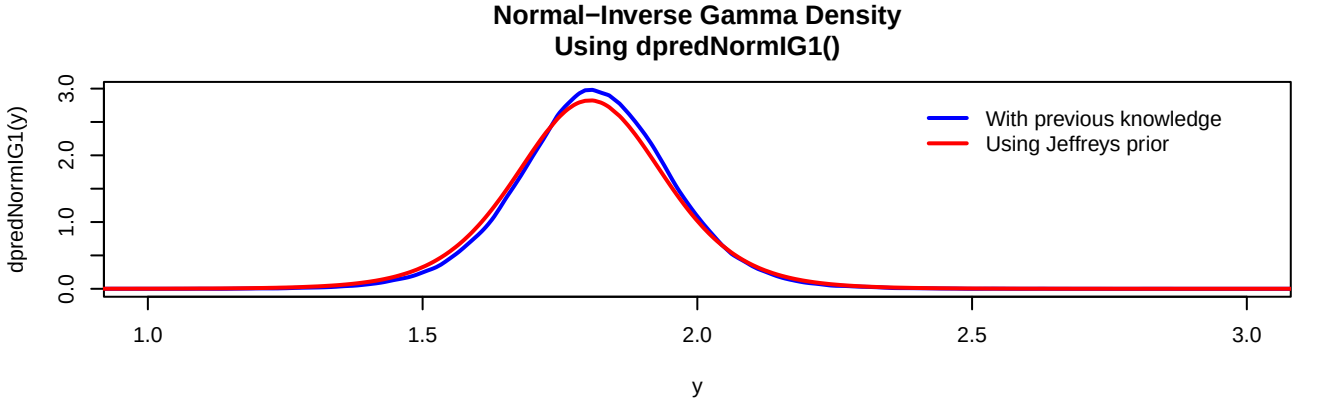

Histogram of Sample with Density Curve Overlay
Count
0.000
0.004
0.008
0
100
200
300
400
500
600
ỹ = Survival Time

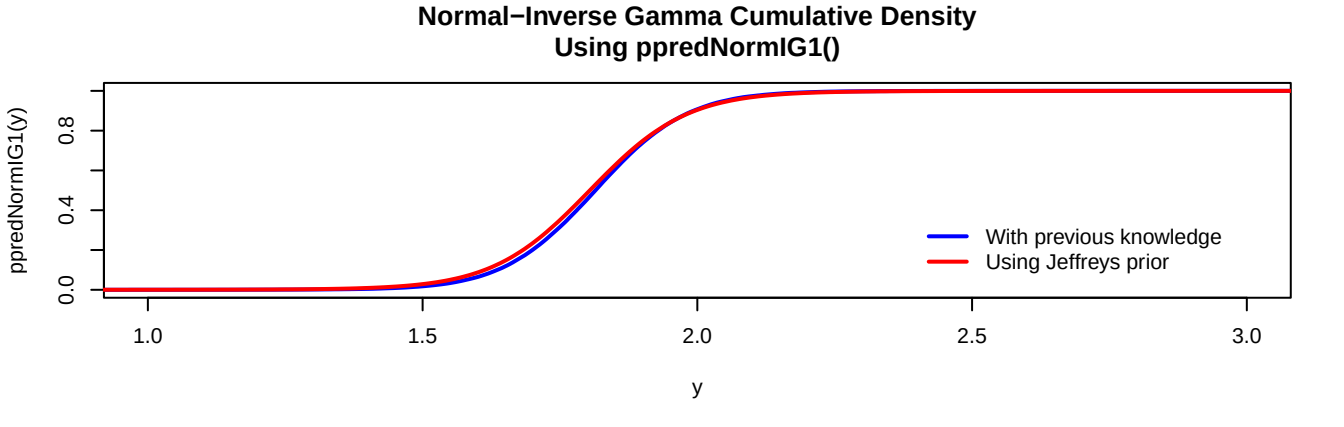

Poisson−Gamma Predictive Probability Mass
dpredPG()
0.00
0.03
0.06
0
10
20
30
40
50
60
ỹ = Future Occurences

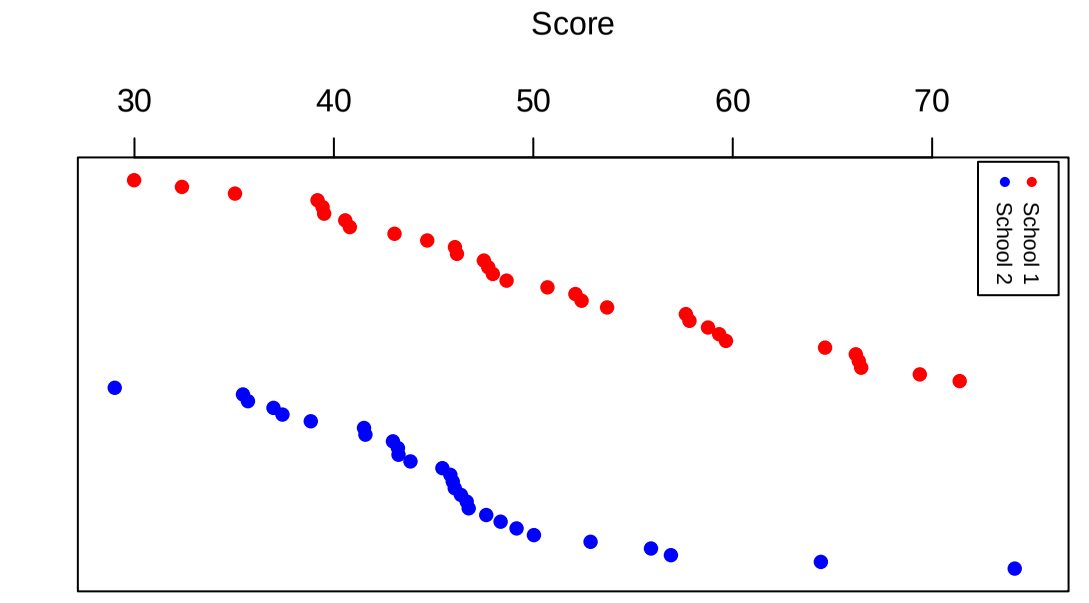

Poisson−Gamma Cumulative Predictive Probability
ppredPG()
0.0
0.4
0.8
0
10
20
30
40
50
60
ỹ = Future Occurences

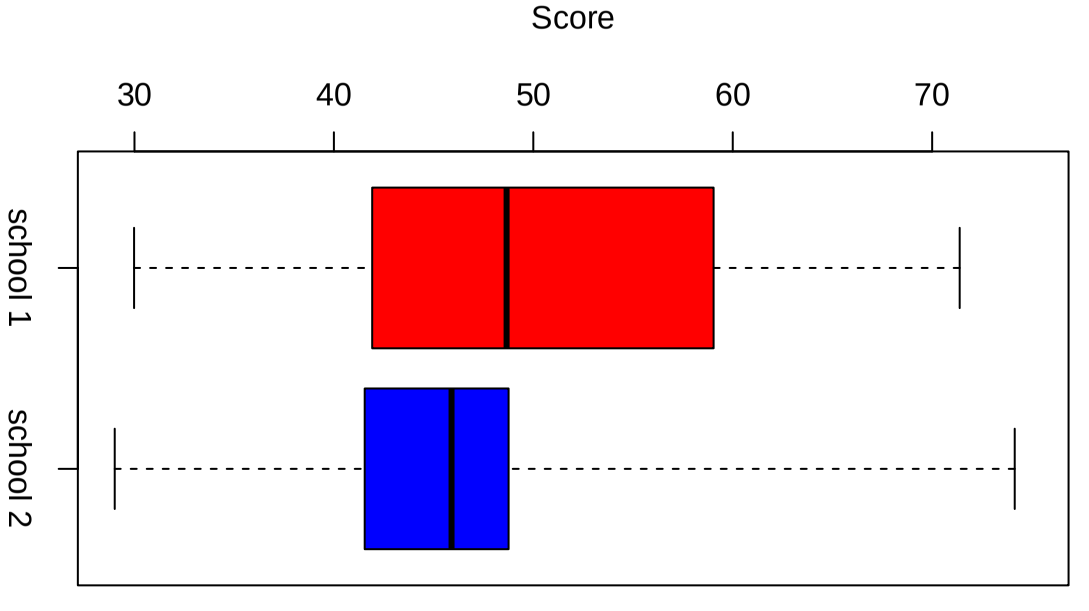

Histogram of Sample with Probability Mass Overlay
Count
0.00
0.04
0
10
20
30
40
50
60
ỹ = Future Occurences

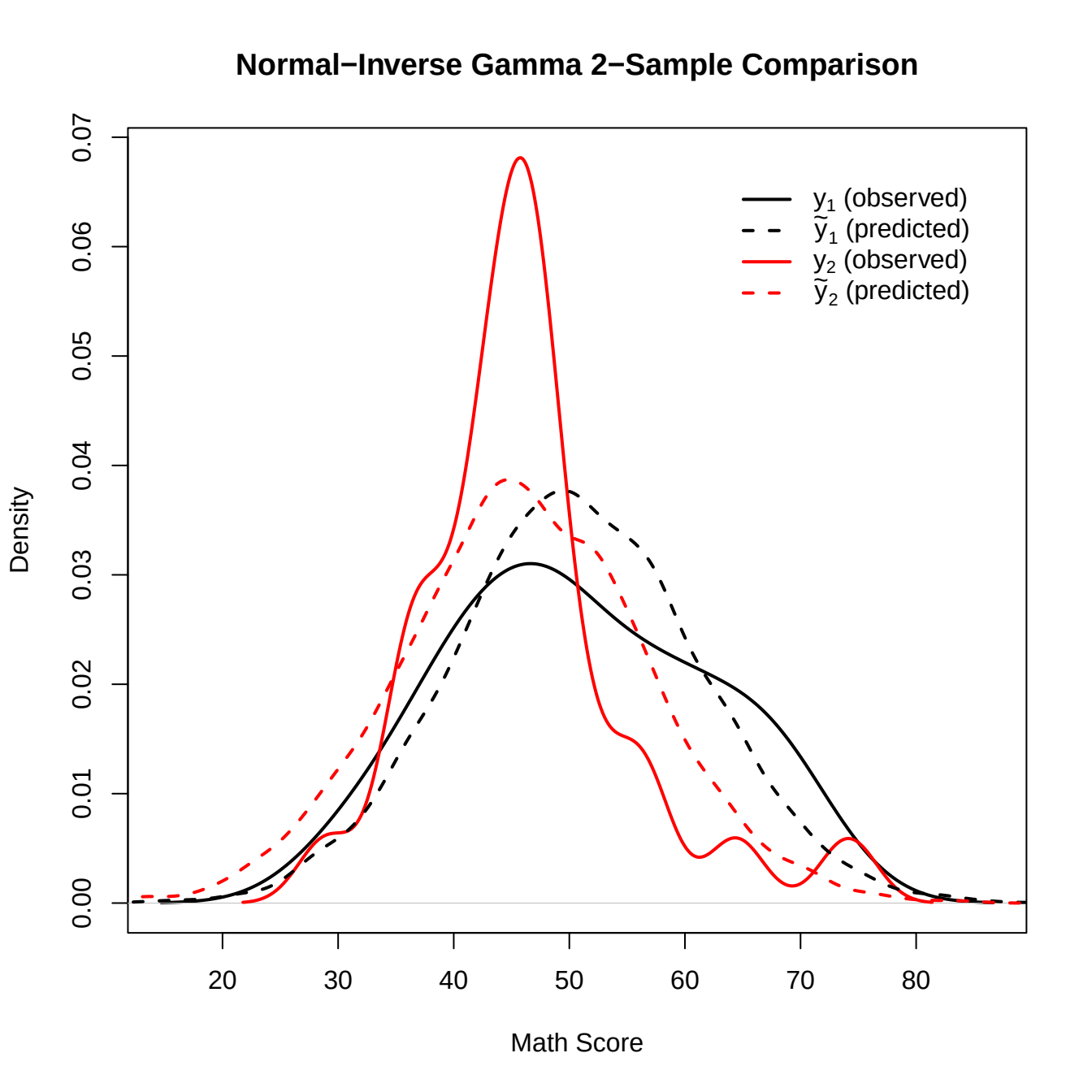

Normal−Inverse Gamma Density
of Samples Generated by rpredNormIG1()
Predictive Sample Density
0.0
1.0
2.0
3.0
1.0
1.5
2.0
2.5
3.0
y
Previous knowledge of sample mean.
mu0 = 1.5
mu0 = 1.9 *
mu0 = 2.5
Jeffreys Prior

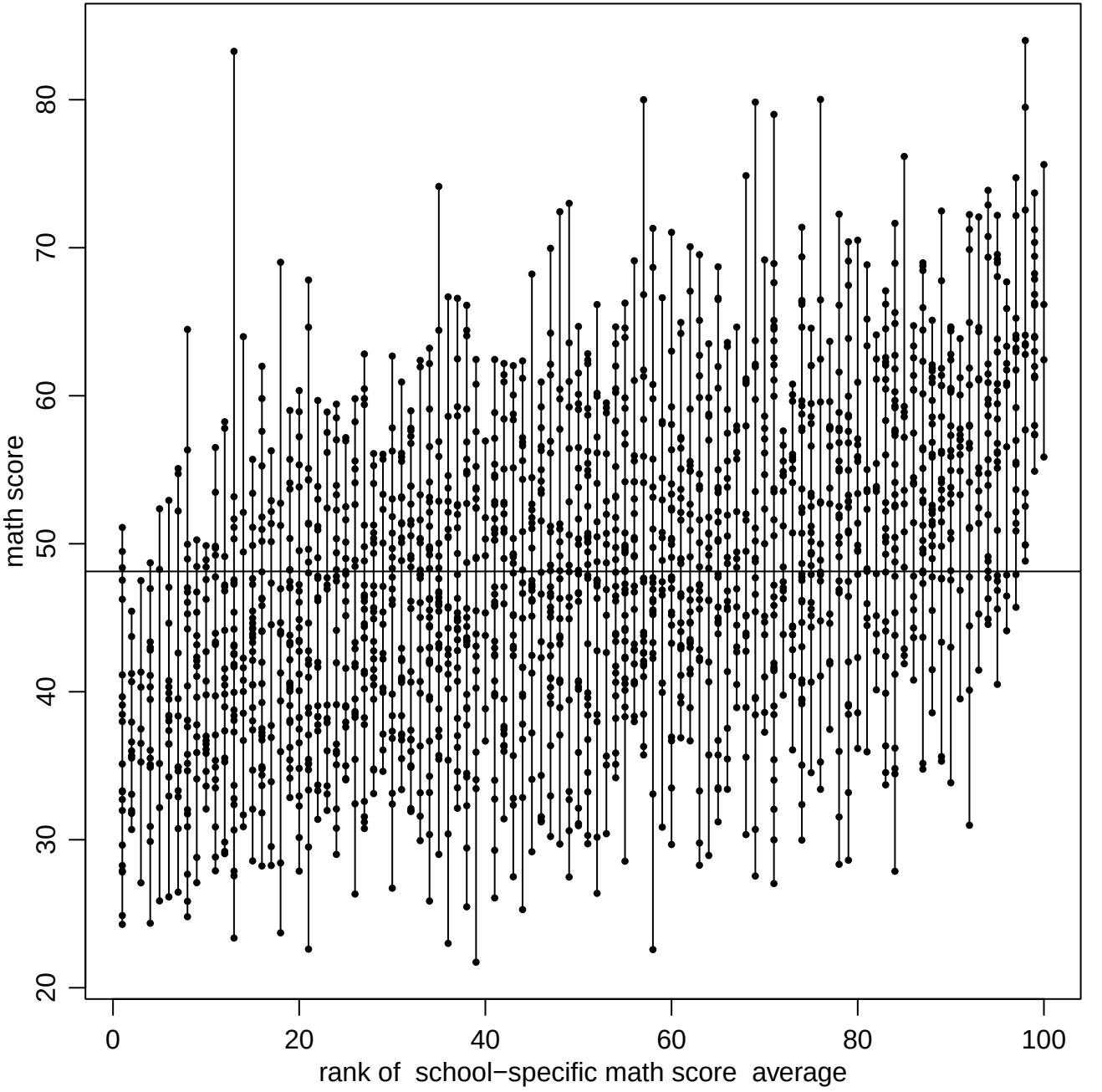

Normal−Inverse Gamma Density
Using dpredNormIG1()
dpredNormIG1(y)
0.0
1.0
2.0
3.0
1.0
1.5
2.0
2.5
3.0
y
With previous knowledge
Using Jeffreys prior

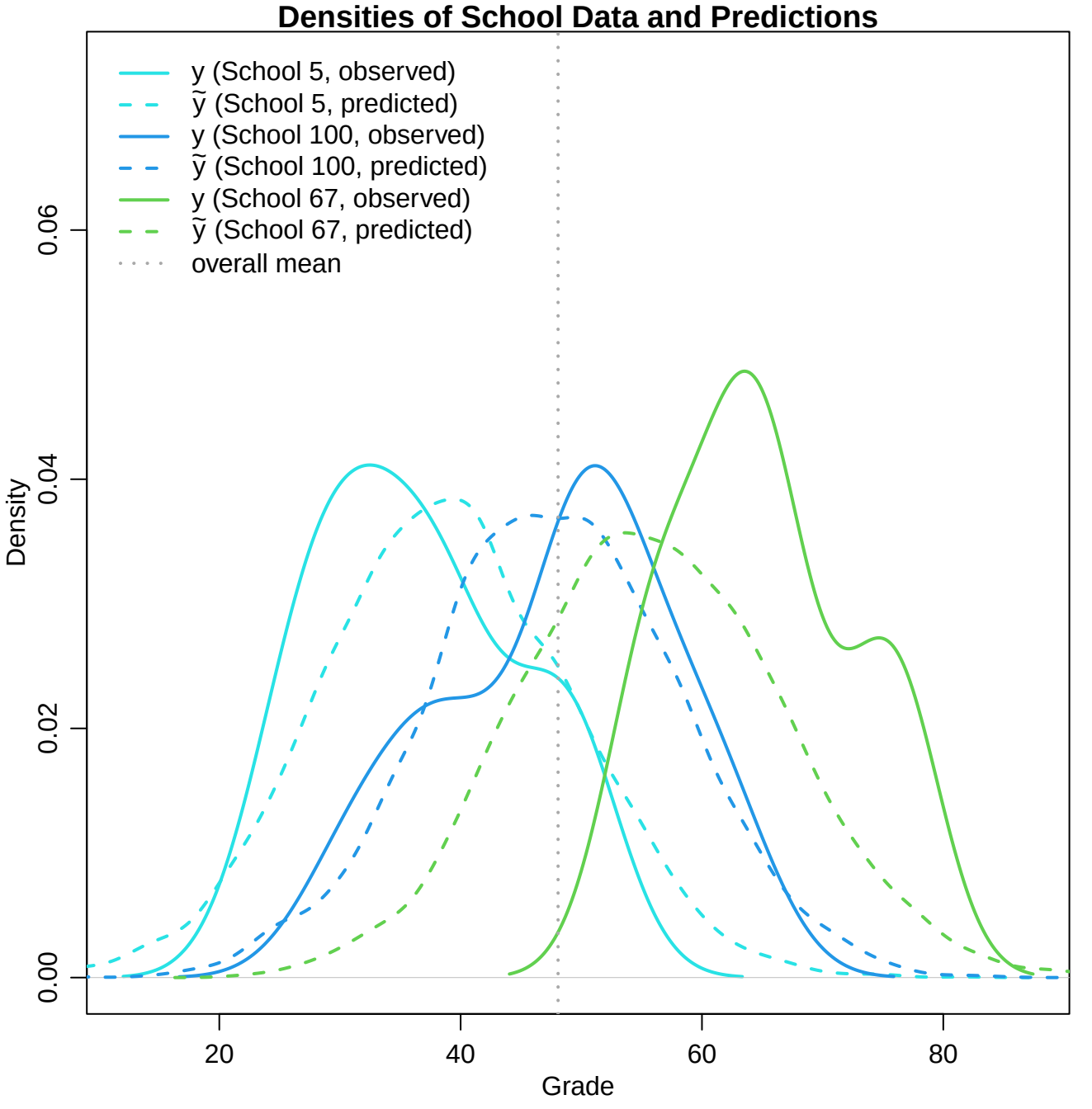

Normal−Inverse Gamma Cumulative Density
Using ppredNormIG1()
ppredNormIG1(y)
0.0
0.4
0.8
1.0
1.5
2.0
2.5
3.0
y
With previous knowledge
Using Jeffreys prior

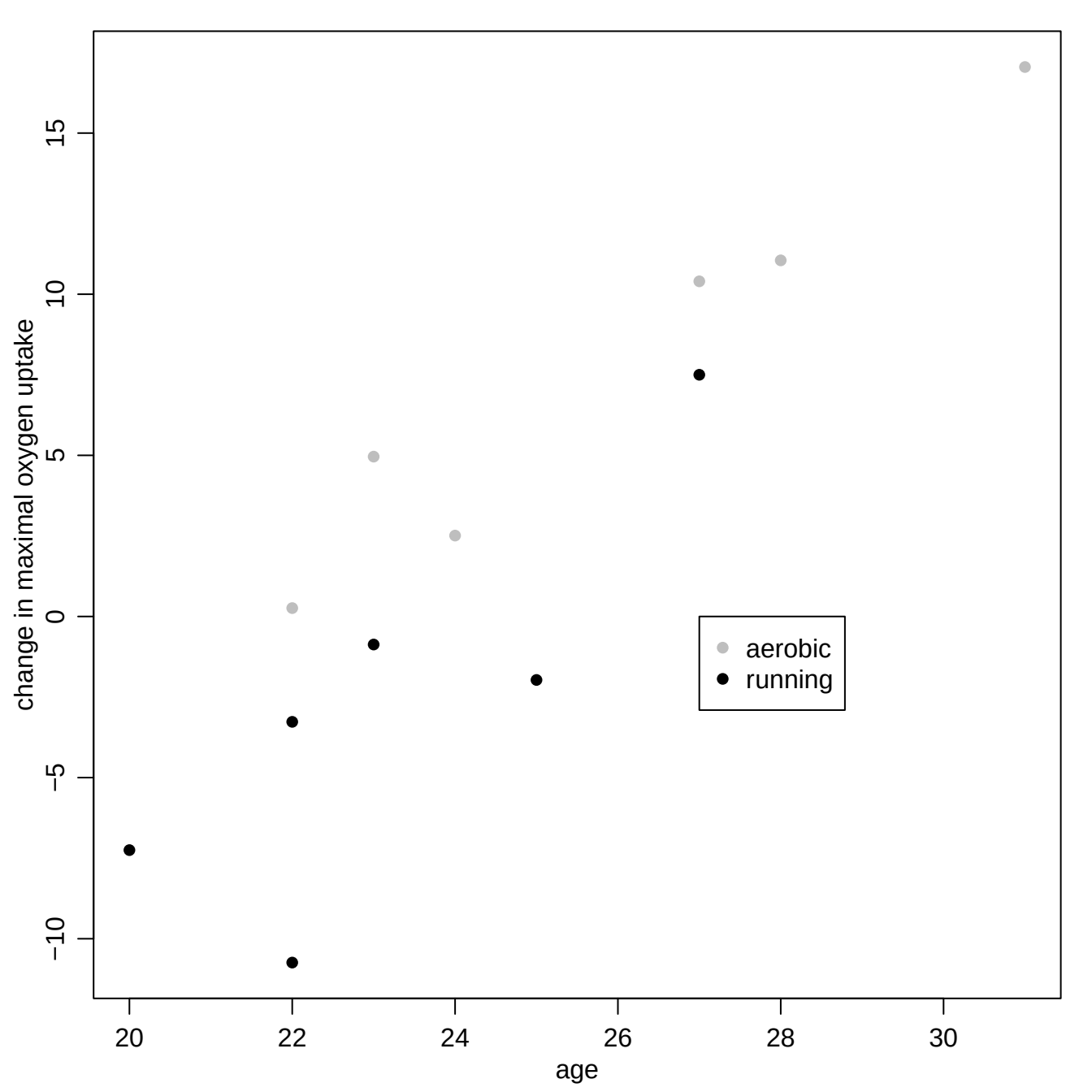

Score
30
40
50
60
70
School 1
School 2

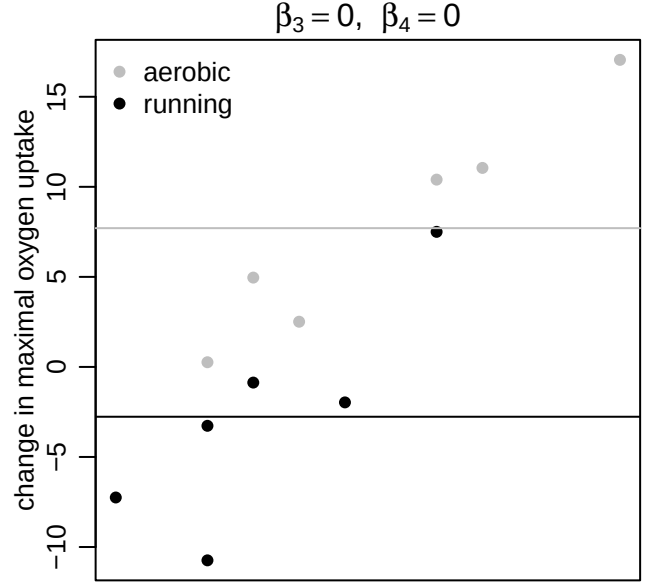

Score
30
40
50
60
70
school 1
school 2

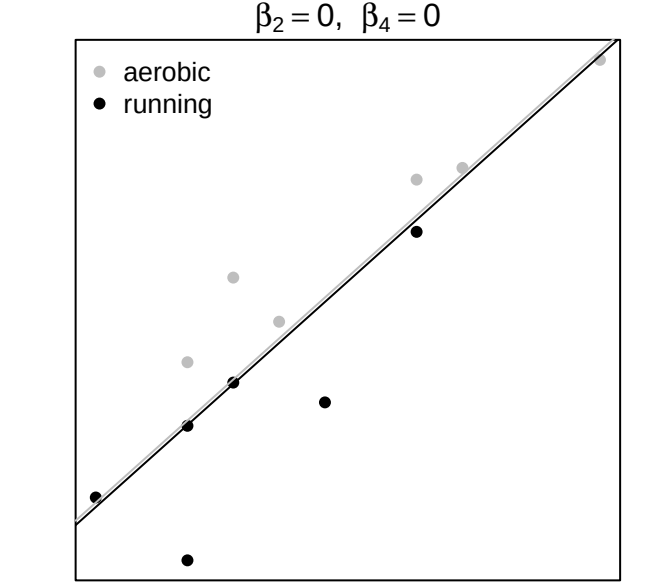

Normal−Inverse Gamma 2−Sample Comparison
Density
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
20
30
40
50
60
70
80
Math Score
y1 (observed)
ỹ1 (predicted)
y2 (observed)
ỹ2 (predicted)

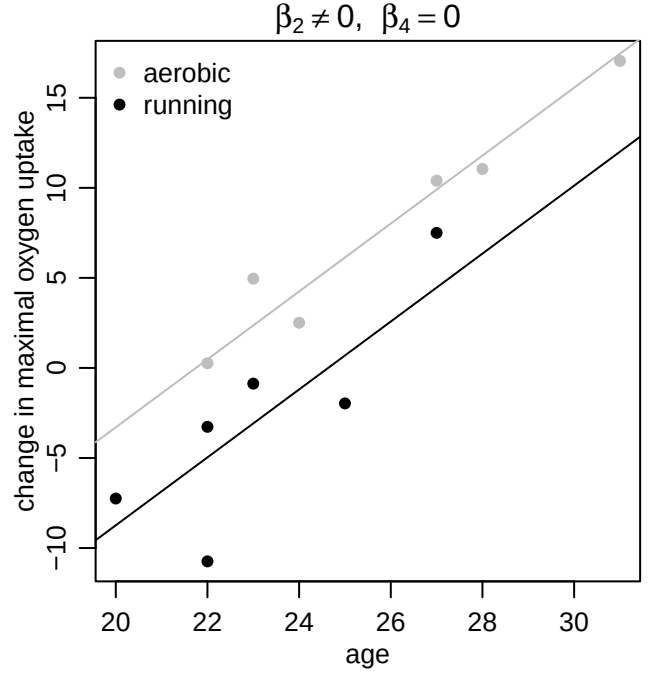

math score
20
30
40
50
60
70
80
0
20
40
60
80
100
rank of school−specific math score average

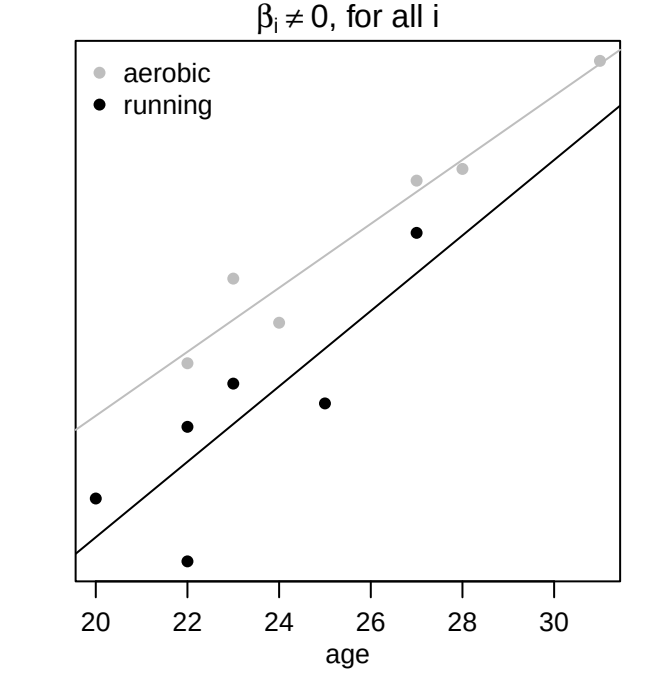

Densities of School Data and Predictions
y (School 5, observed)
ỹ (School 5, predicted)
y (School 100, observed)
ỹ (School 100, predicted)
y (School 67, observed)
ỹ (School 67, predicted)
overall mean
Density
0.00
0.02
0.04
0.06
20
40
60
80
Grade

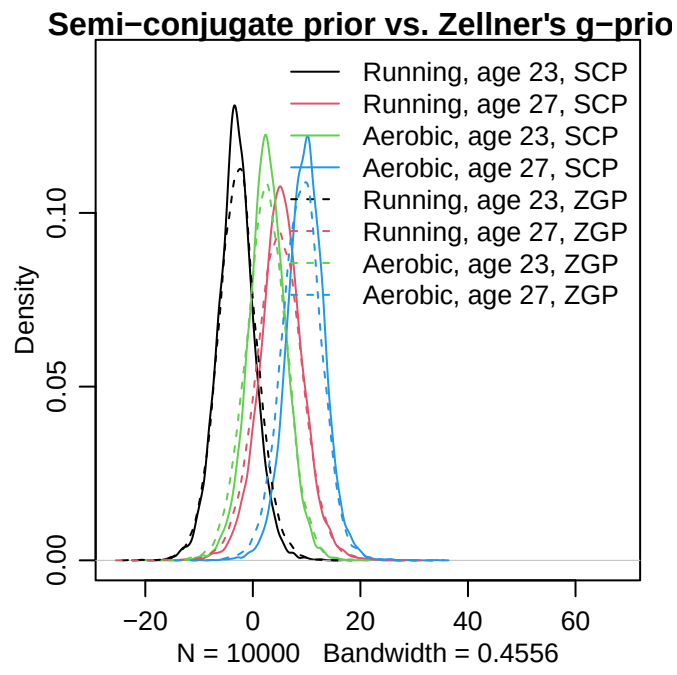

change in maximal oxygen uptake
15
10
5
0
−5
−10
20
22
24
26
28
30
age
aerobic
running


$\beta_3 = 0,\ \beta_4 = 0$
aerobic
running
change in maximal oxygen uptake
15
10
5
0
−5
−10


$\beta_2 = 0,\ \beta_4 = 0$
aerobic
running


$\beta_2 \neq 0,\ \beta_4 = 0$
aerobic
running
change in maximal oxygen uptake
15
10
5
0
−5
−10
20
22
24
26
28
30
age


$\beta_i \neq 0$, for all i
aerobic
running
20
22
24
26
28
30
age


Semi−conjugate prior vs. Zellner's g−prio
Running, age 23, SCP
Running, age 27, SCP
Aerobic, age 23, SCP
Aerobic, age 27, SCP
Running, age 23, ZGP
Running, age 27, ZGP
Aerobic, age 23, ZGP
Aerobic, age 27, ZGP
Density
0.00
0.05
0.10
−20
0
20
40
60
N = 10000 Bandwidth = 0.4556