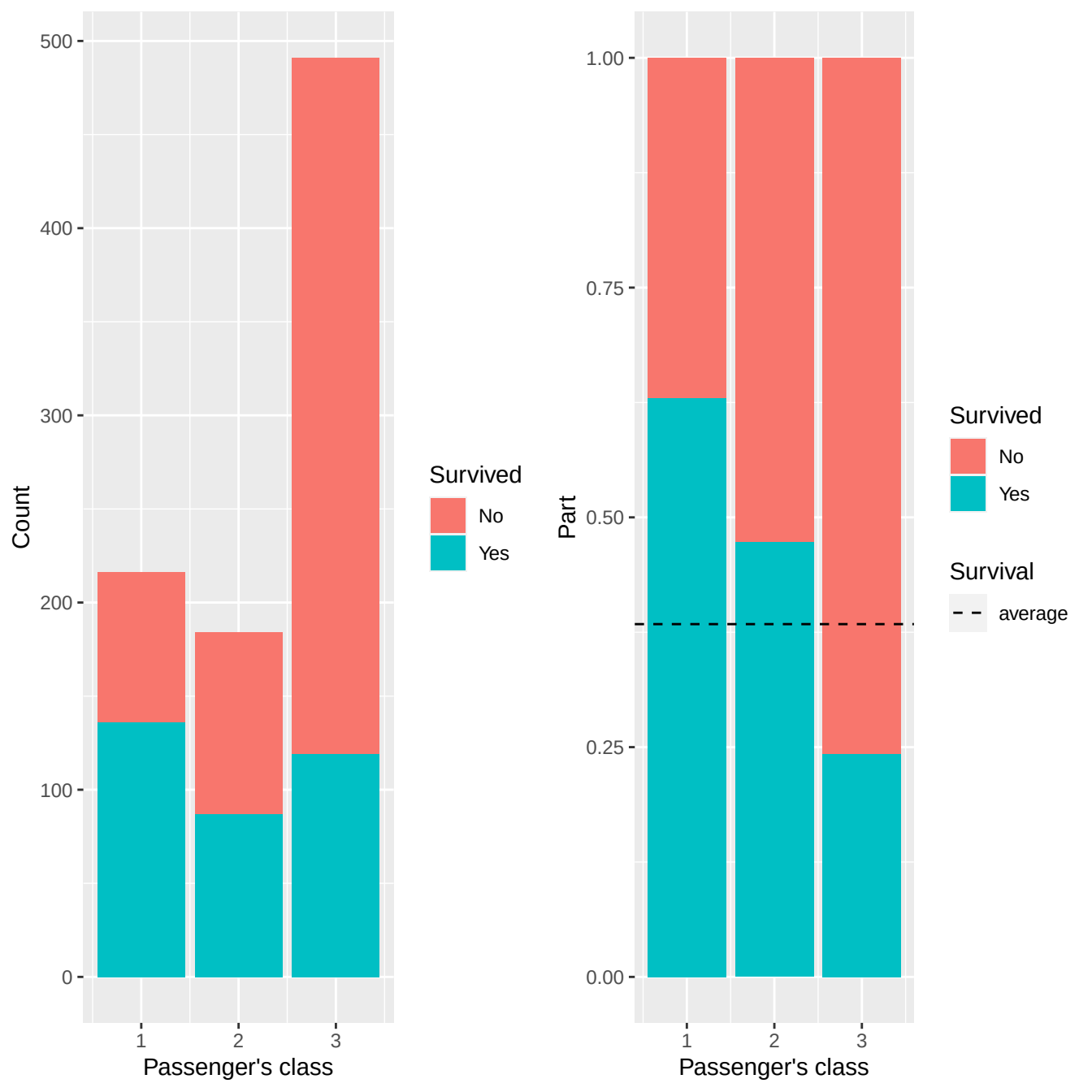
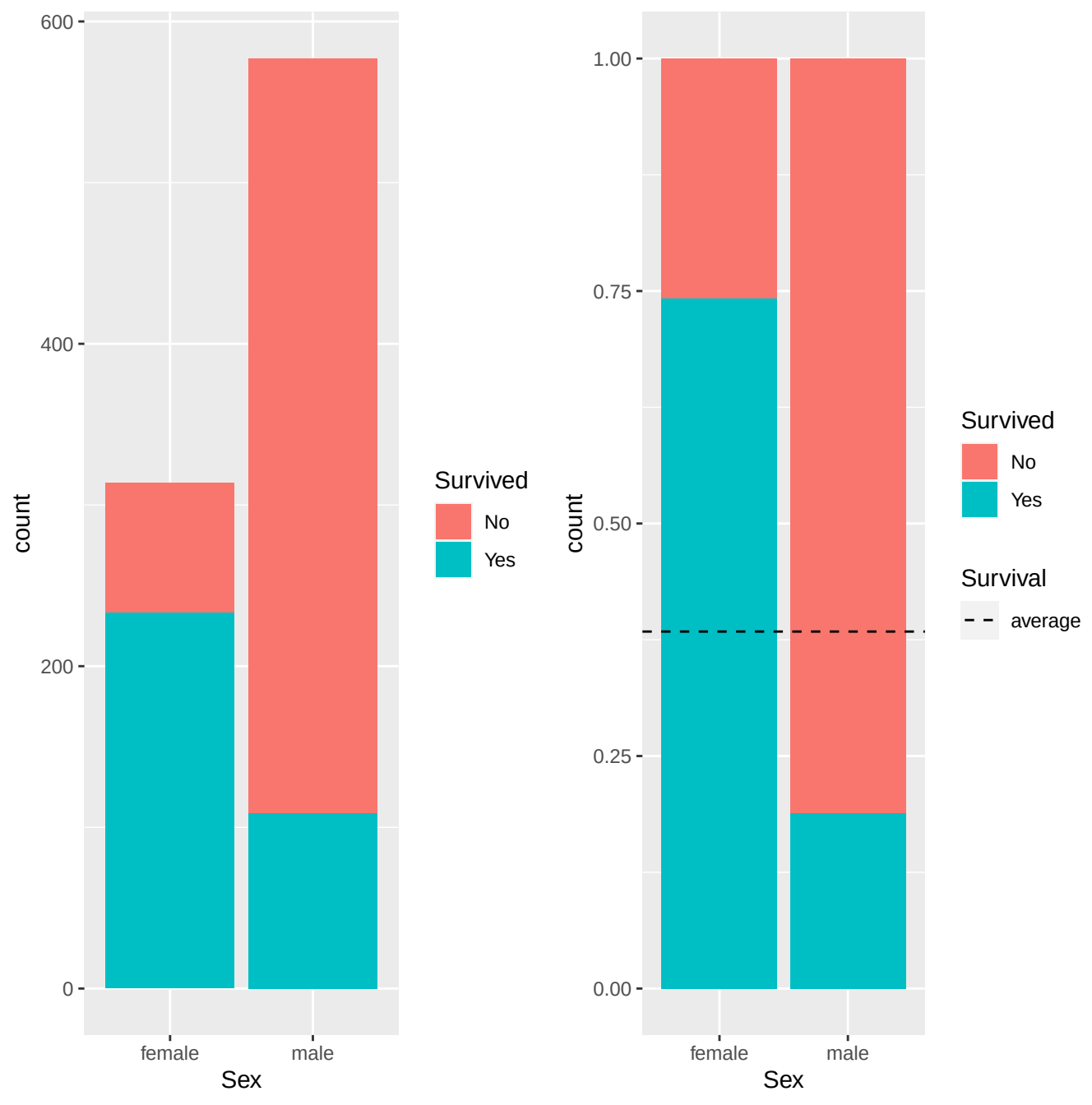
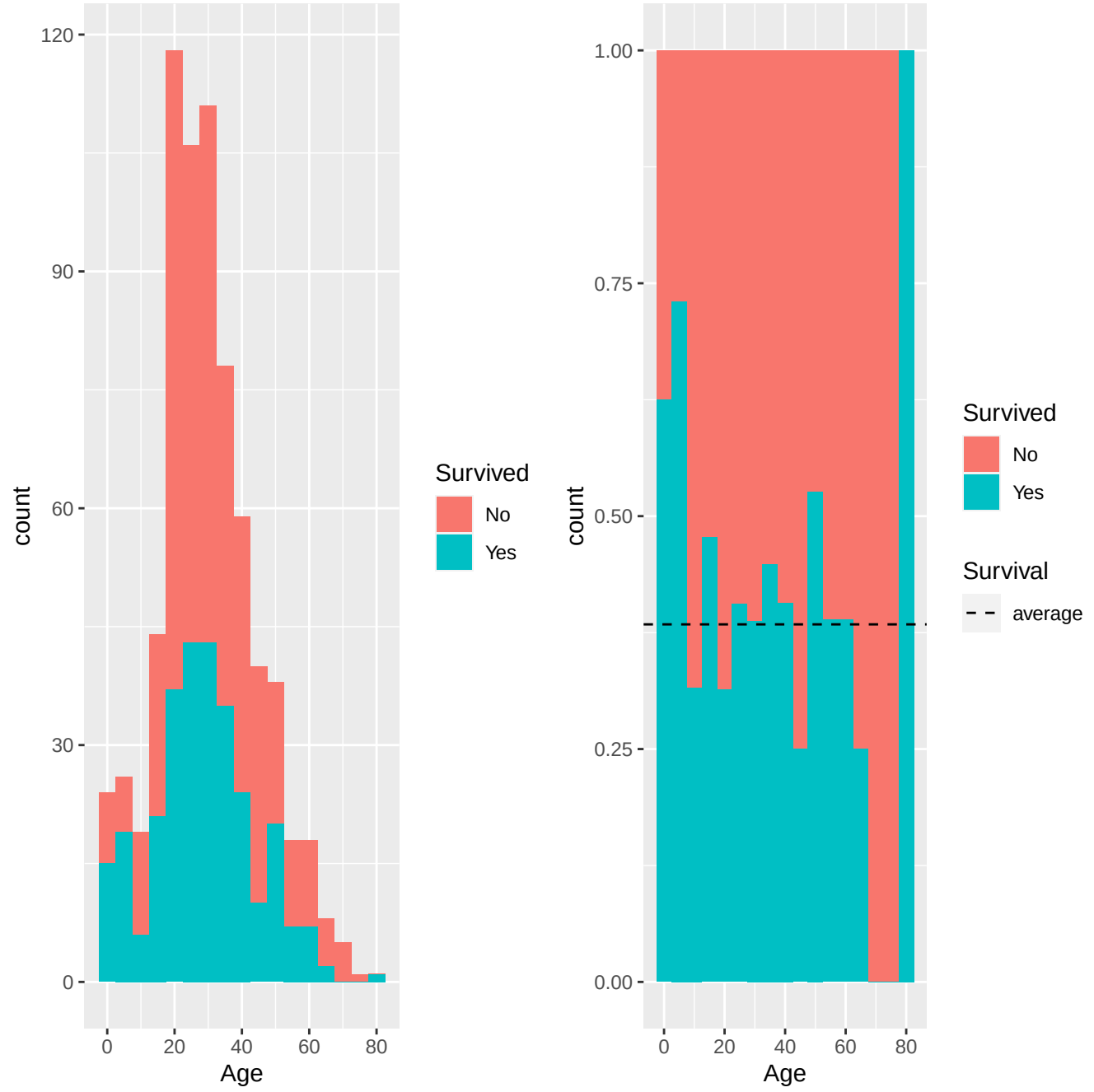
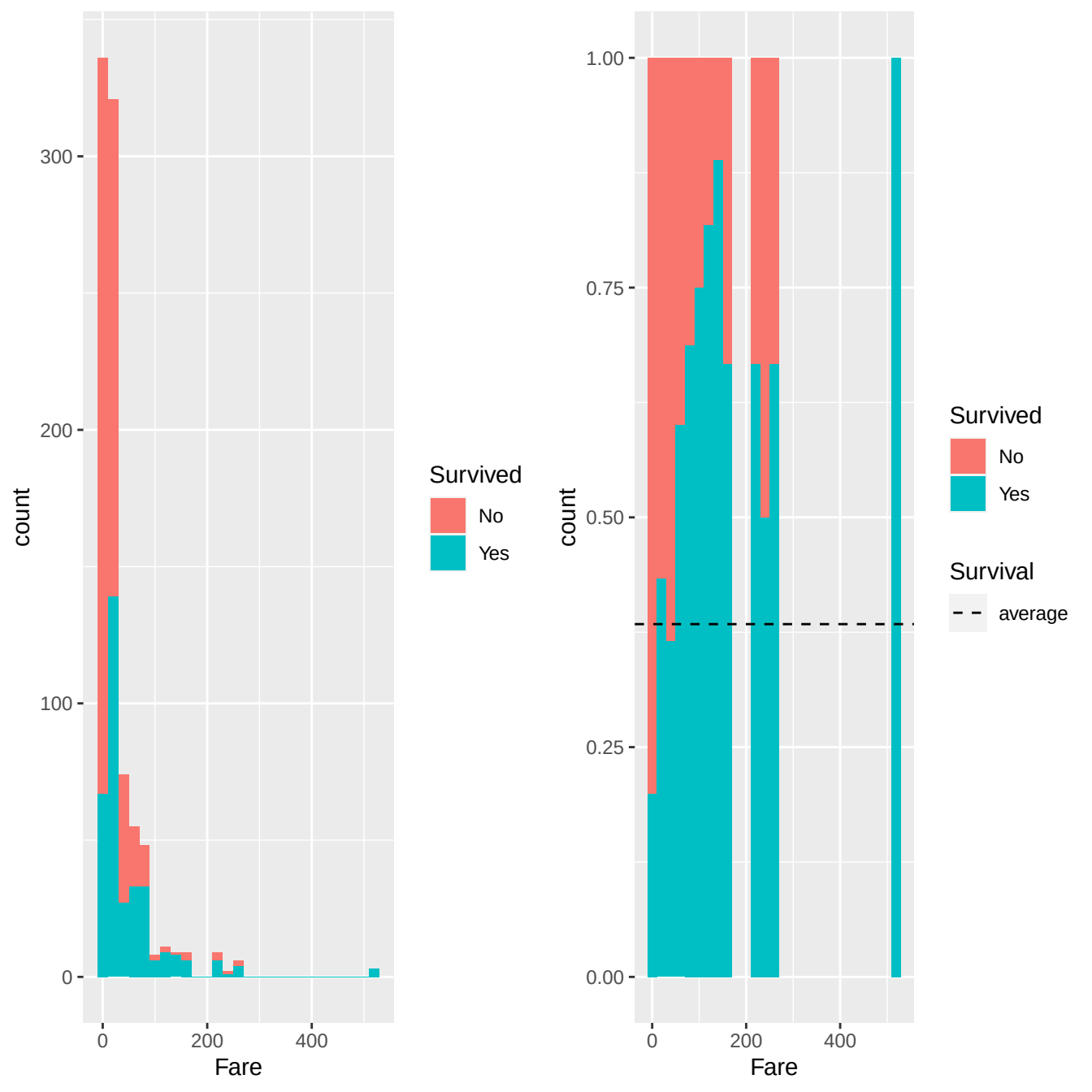
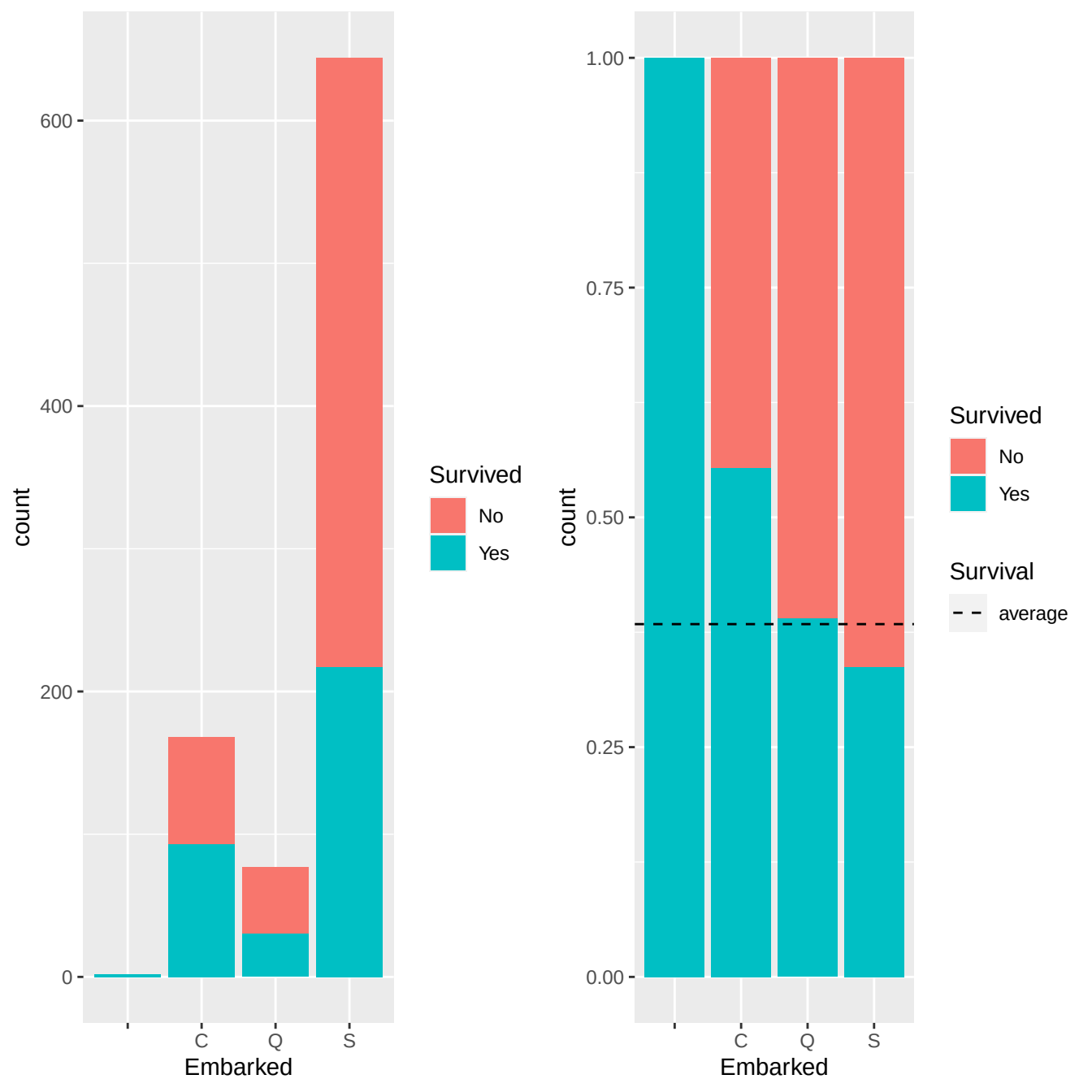
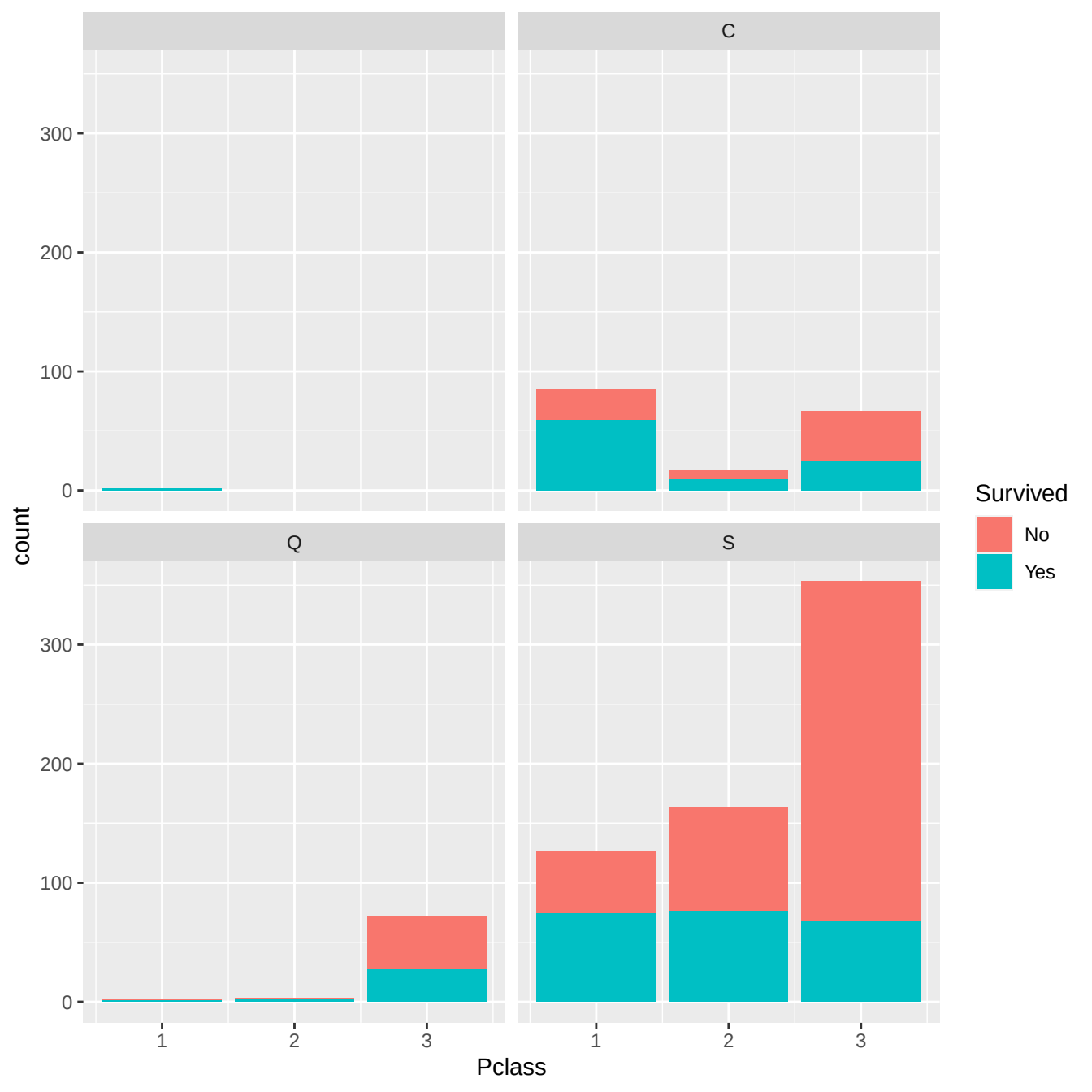

500
400
300
200
100
0
Count
1
2
3
Passenger's class
Survived
No
Yes
1.00
0.75
0.50
0.25
0.00
Part
1
2
3
Passenger's class
Survived
No
Yes
Survival
average

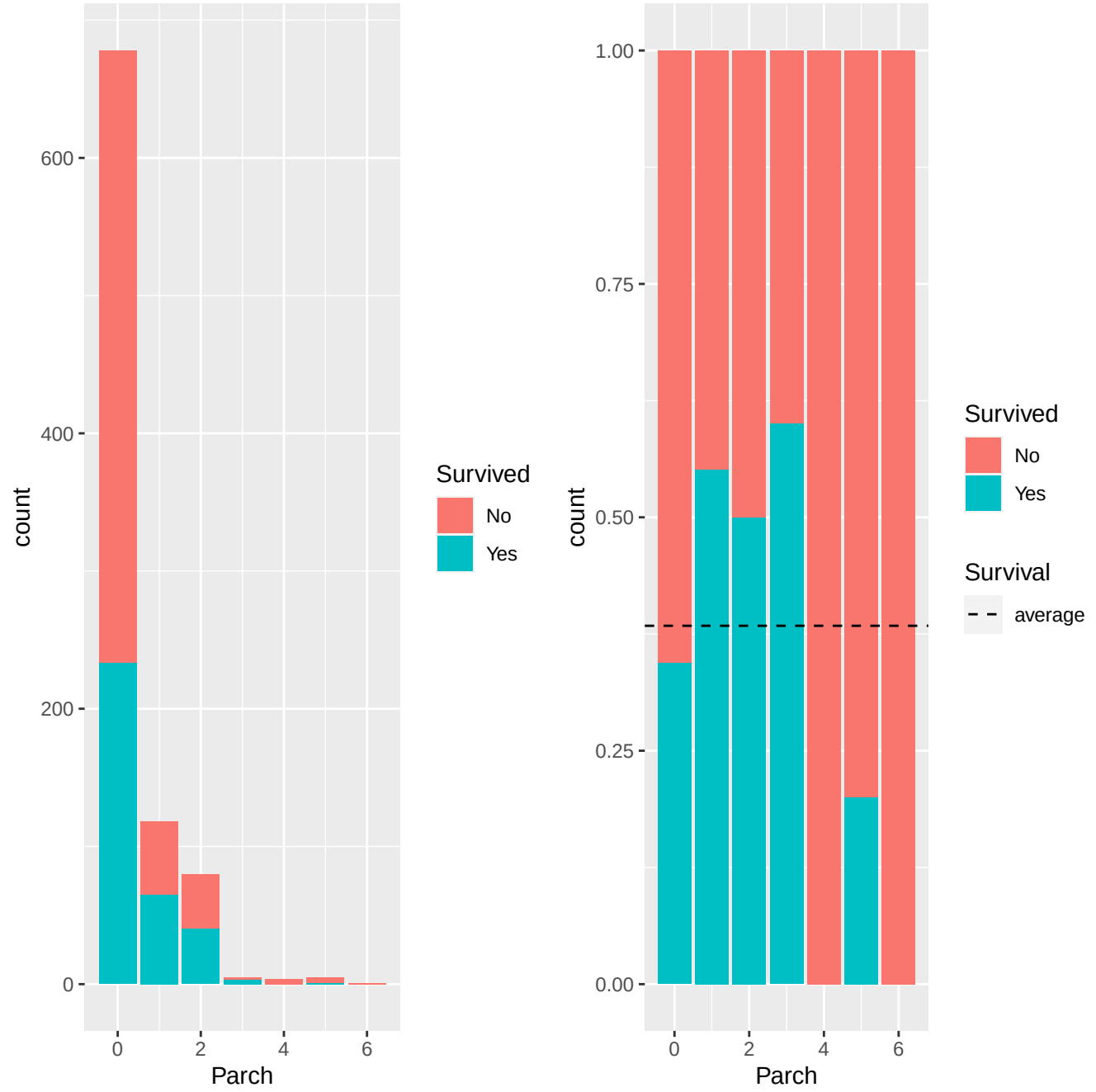

600
400
200
0
count
female
male
Sex
Survived
No
Yes
1.00
0.75
0.50
0.25
0.00
count
female
male
Sex
Survived
No
Yes
Survival
average

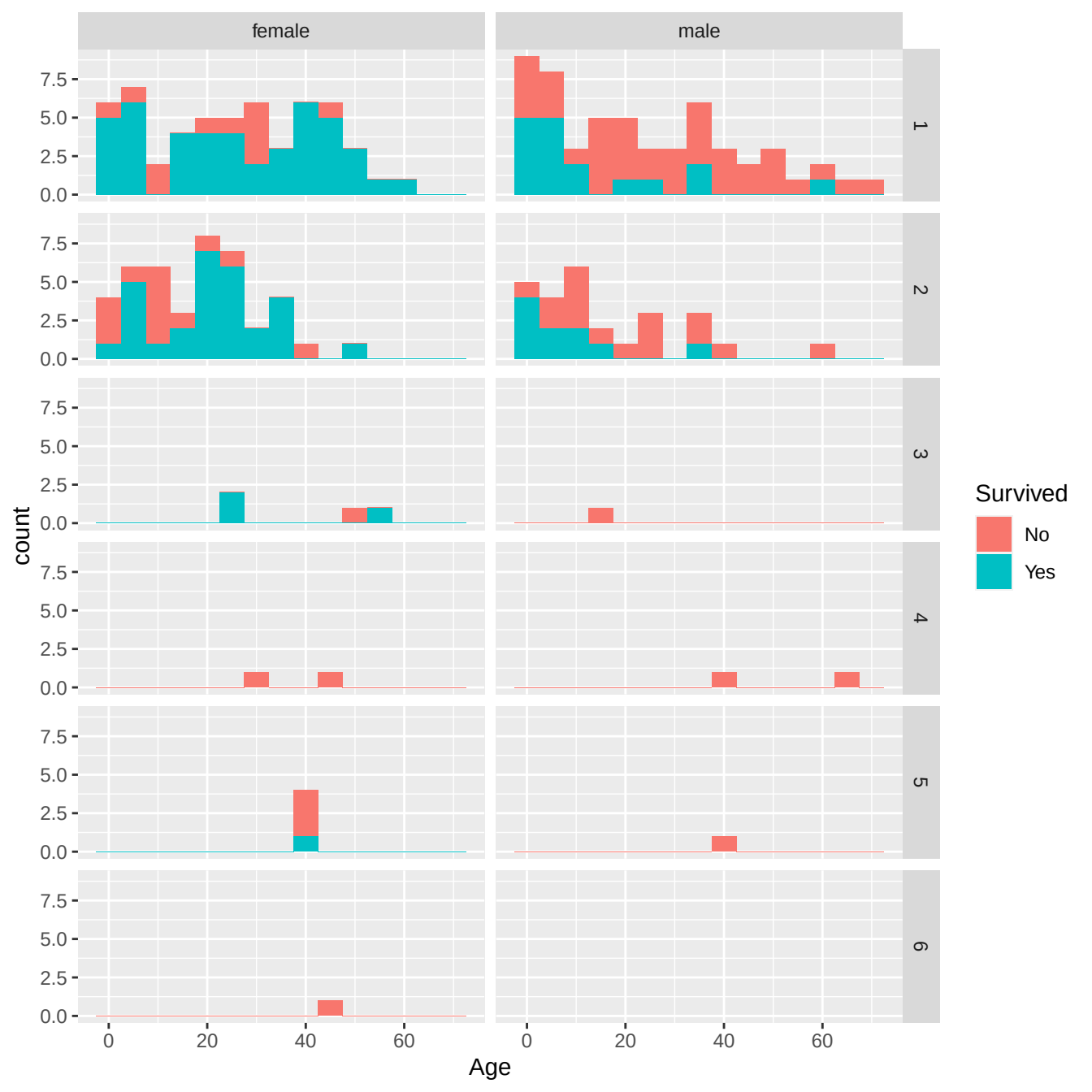

120
90
60
30
0
count
0
20
40
60
80
Age
Survived
No
Yes
1.00
0.75
0.50
0.25
0.00
count
0
20
40
60
80
Age
Survived
No
Yes
Survival
average

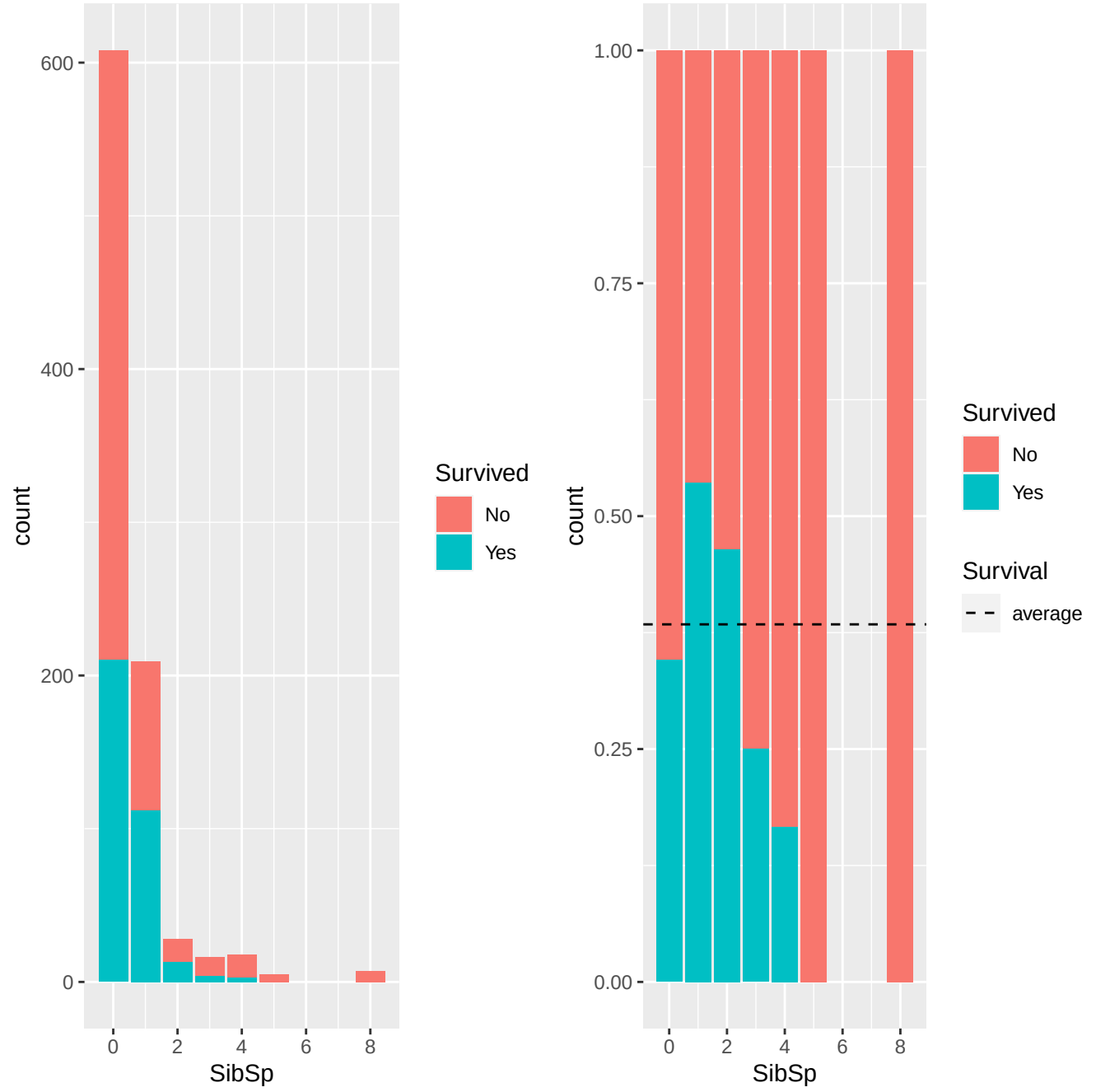

300
200
100
0
count
0
200
400
Fare
Survived
No
Yes
1.00
0.75
0.50
0.25
0.00
count
0
200
400
Fare
Survived
No
Yes
Survival
average

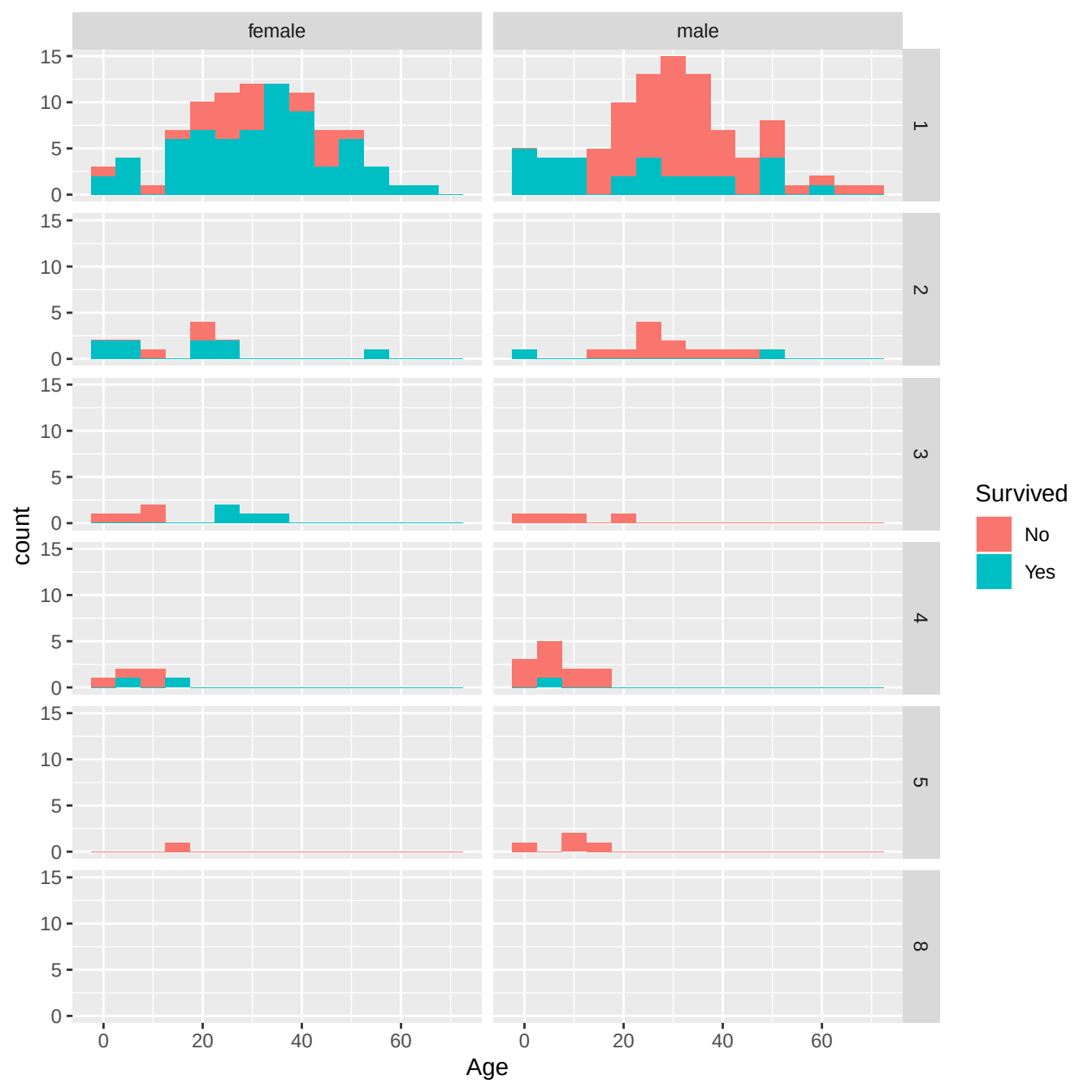

600
400
200
0
count
C
Q
S
Embarked
Survived
No
Yes
1.00
0.75
0.50
0.25
0.00
count
C
Q
S
Embarked
Survived
No
Yes
Survival
average

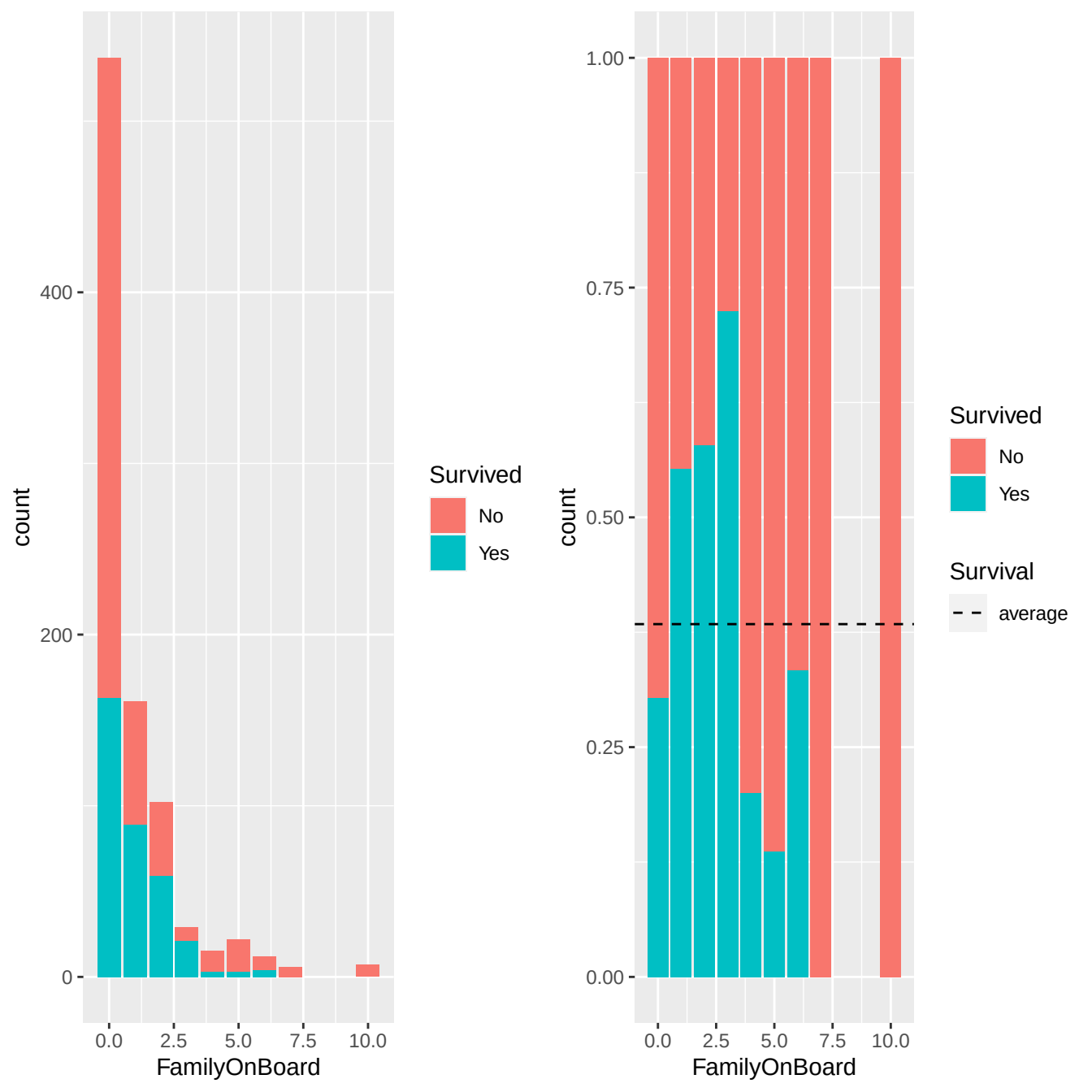

C
Q
S
count
300
200
100
0
1
2
3
Pclass
Survived
No
Yes

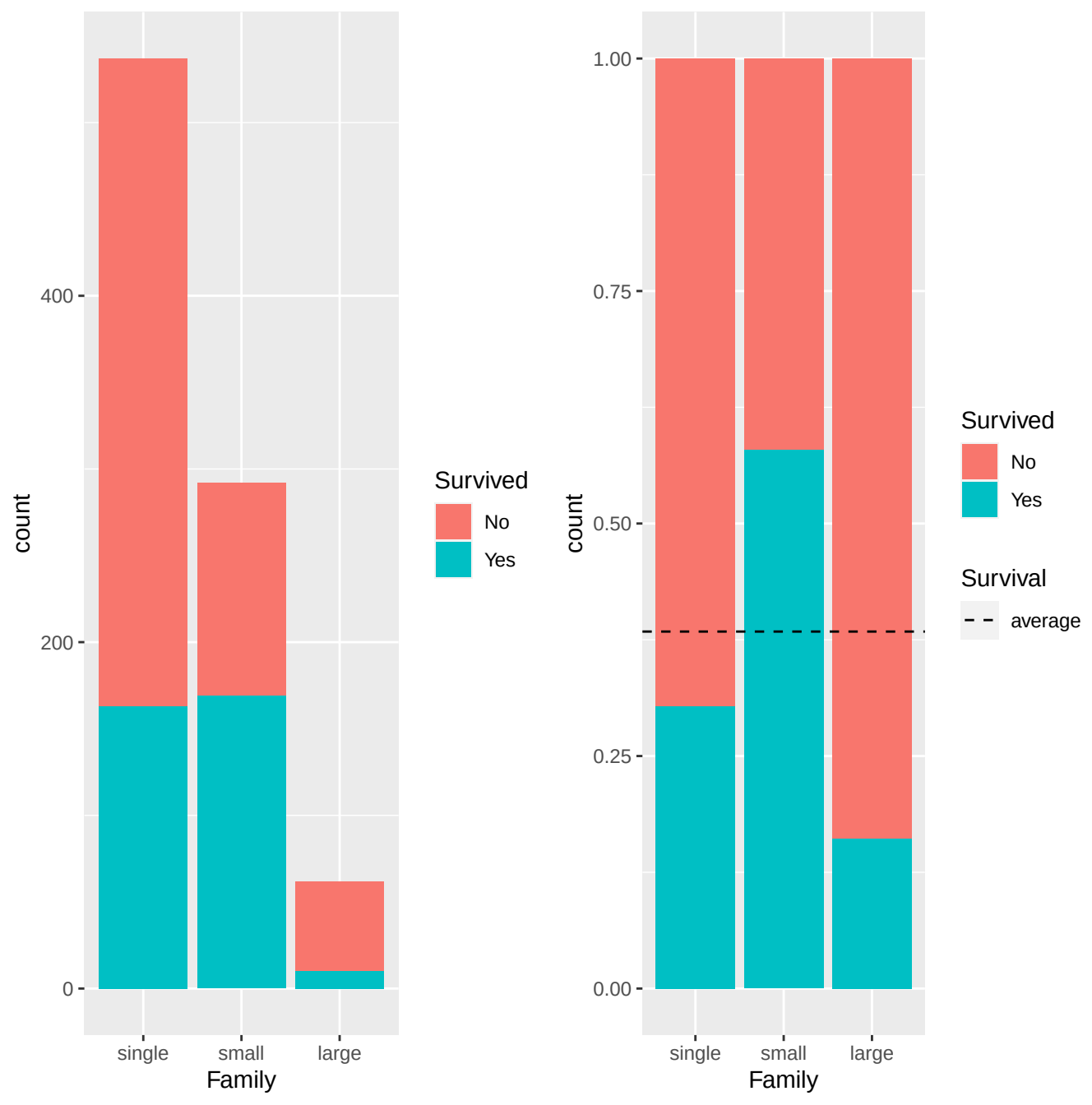

600
400
200
0
count
0
2
4
6
Parch
Survived
No
Yes
1.00
0.75
0.50
0.25
0.00
count
0
2
4
6
Parch
Survived
No
Yes
Survival
average

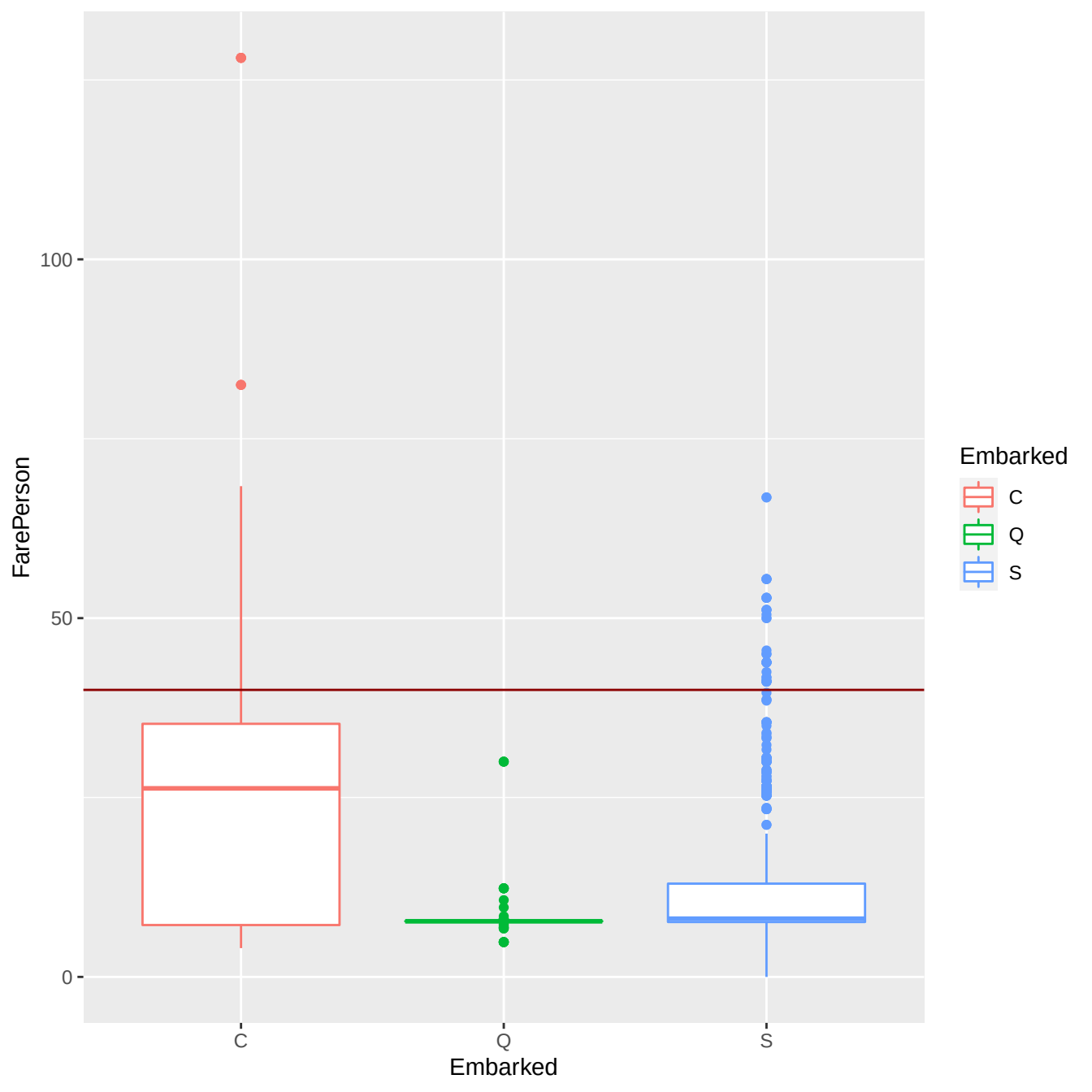

female
male
1
2
3
4
5
6
count
7.5
5.0
2.5
0.0
0
20
40
60
Age
Survived
No
Yes

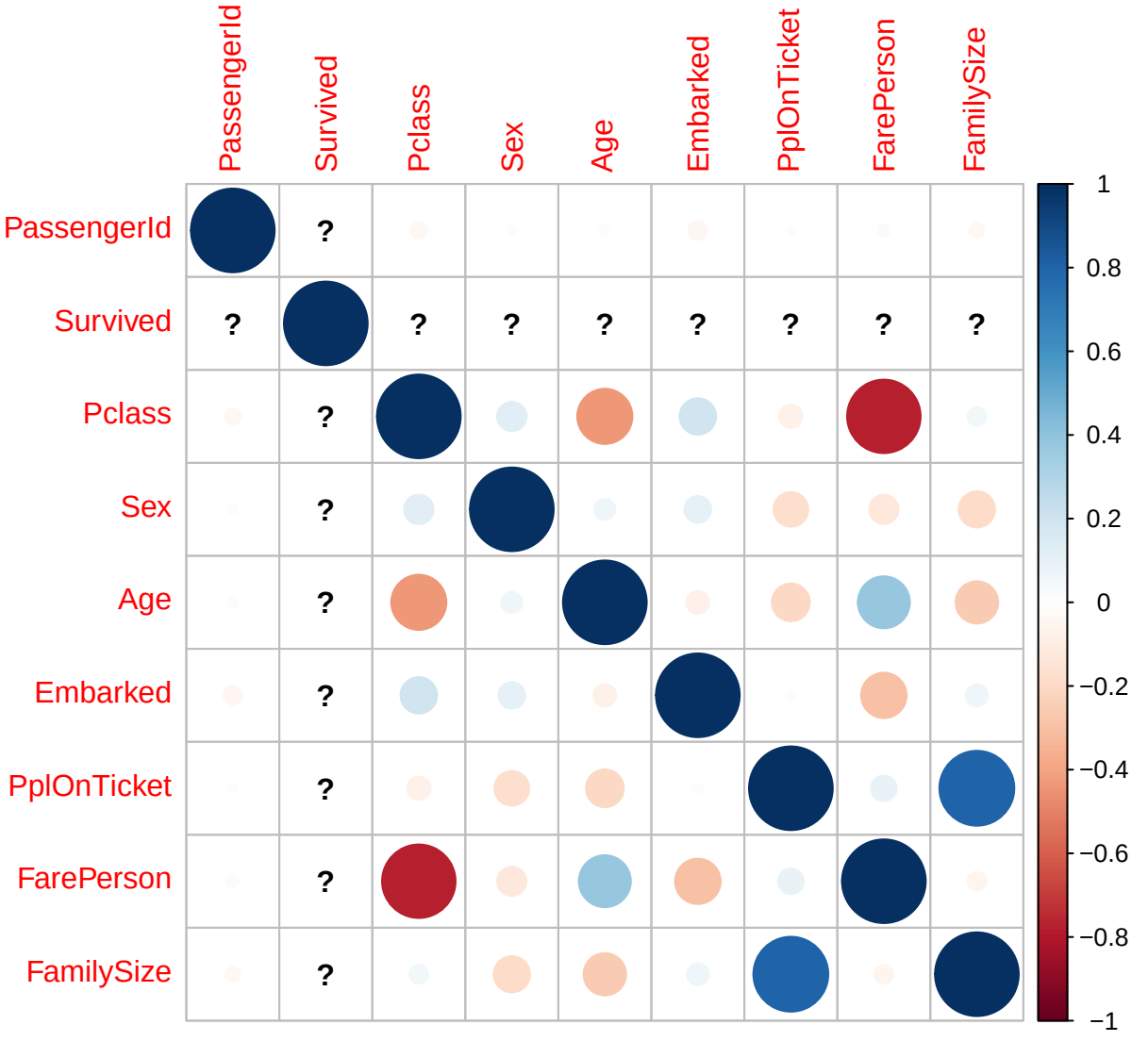

600
400
200
0
count
0
2
4
6
8
SibSp
Survived
No
Yes
1.00
0.75
0.50
0.25
0.00
count
0
2
4
6
8
SibSp
Survived
No
Yes
Survival
average

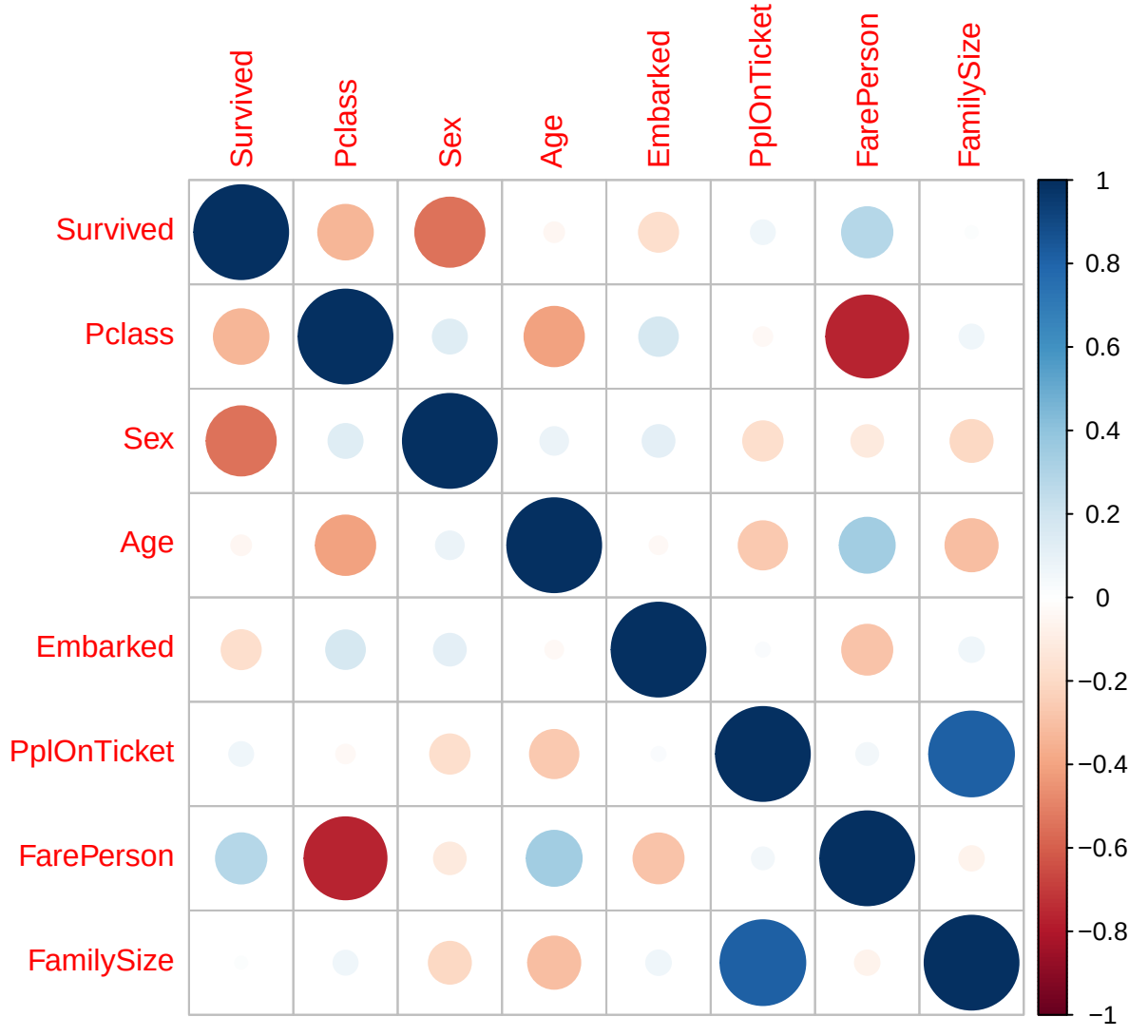

female
male
1
2
3
4
5
8
count
Age
Survived
No
Yes
0
5
10
15
20
40
60

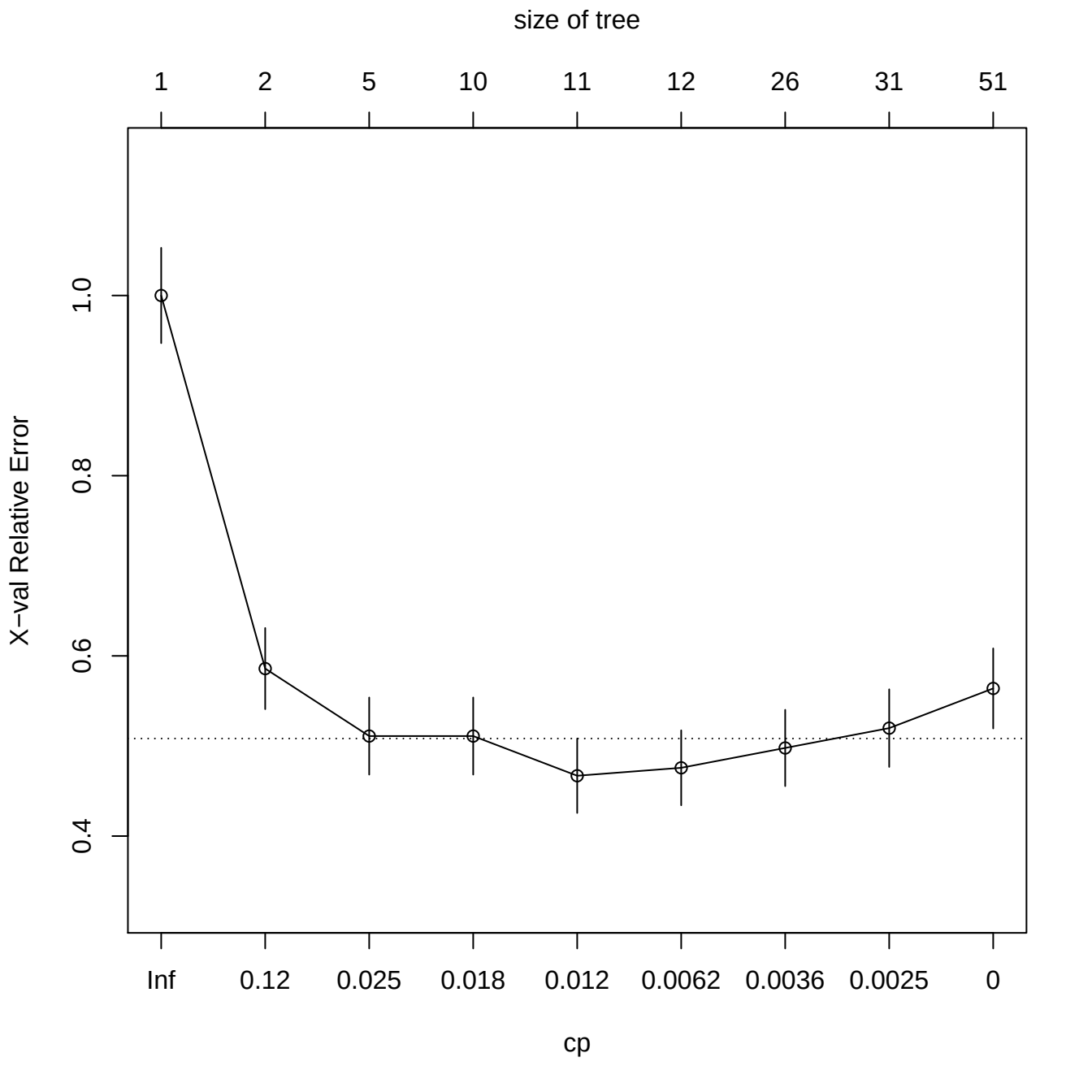

count
400
200
0
0.0
2.5
5.0
7.5
10.0
FamilyOnBoard
Survived
No
Yes
count
1.00
0.75
0.50
0.25
0.00
0.0
2.5
5.0
7.5
10.0
FamilyOnBoard
Survived
No
Yes
Survival
average

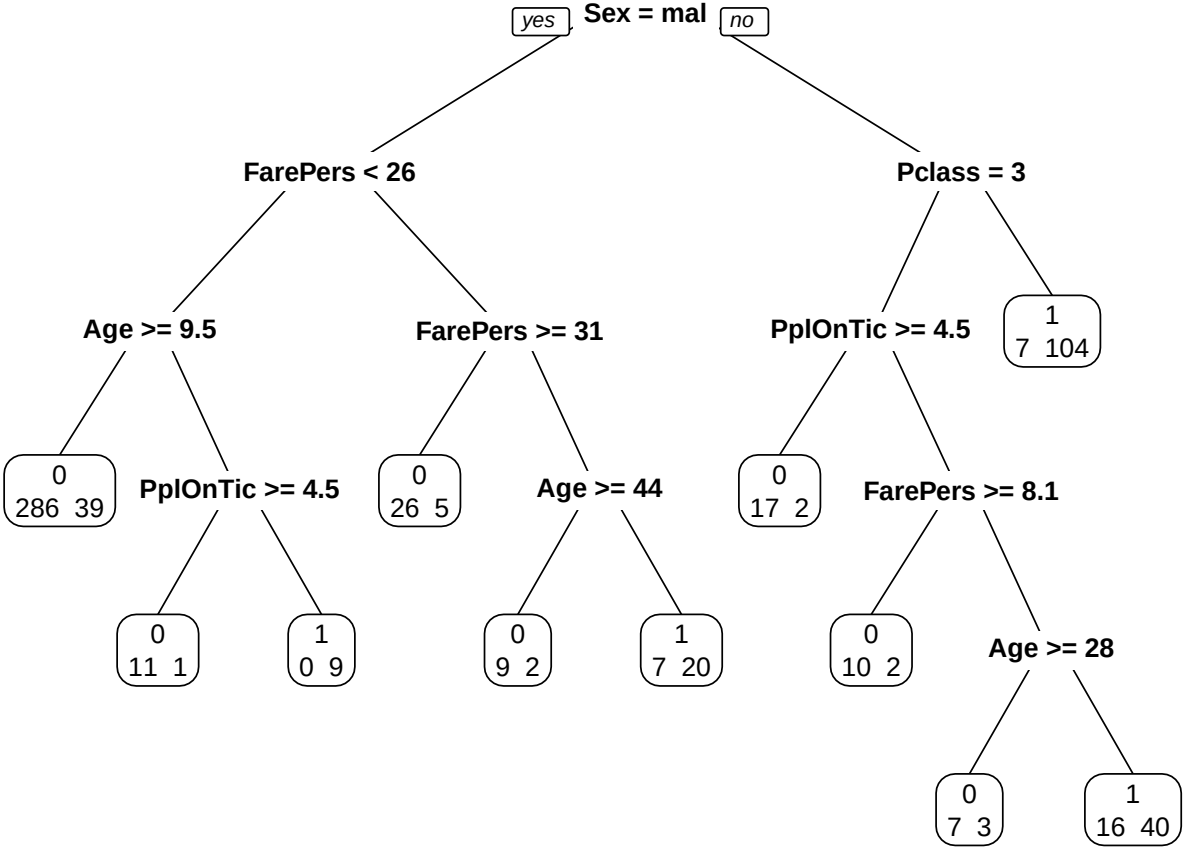

400
200
0
count
single
small
large
Family
Survived
No
Yes
1.00
0.75
0.50
0.25
0.00
count
single
small
large
Family
Survived
No
Yes
Survival
average

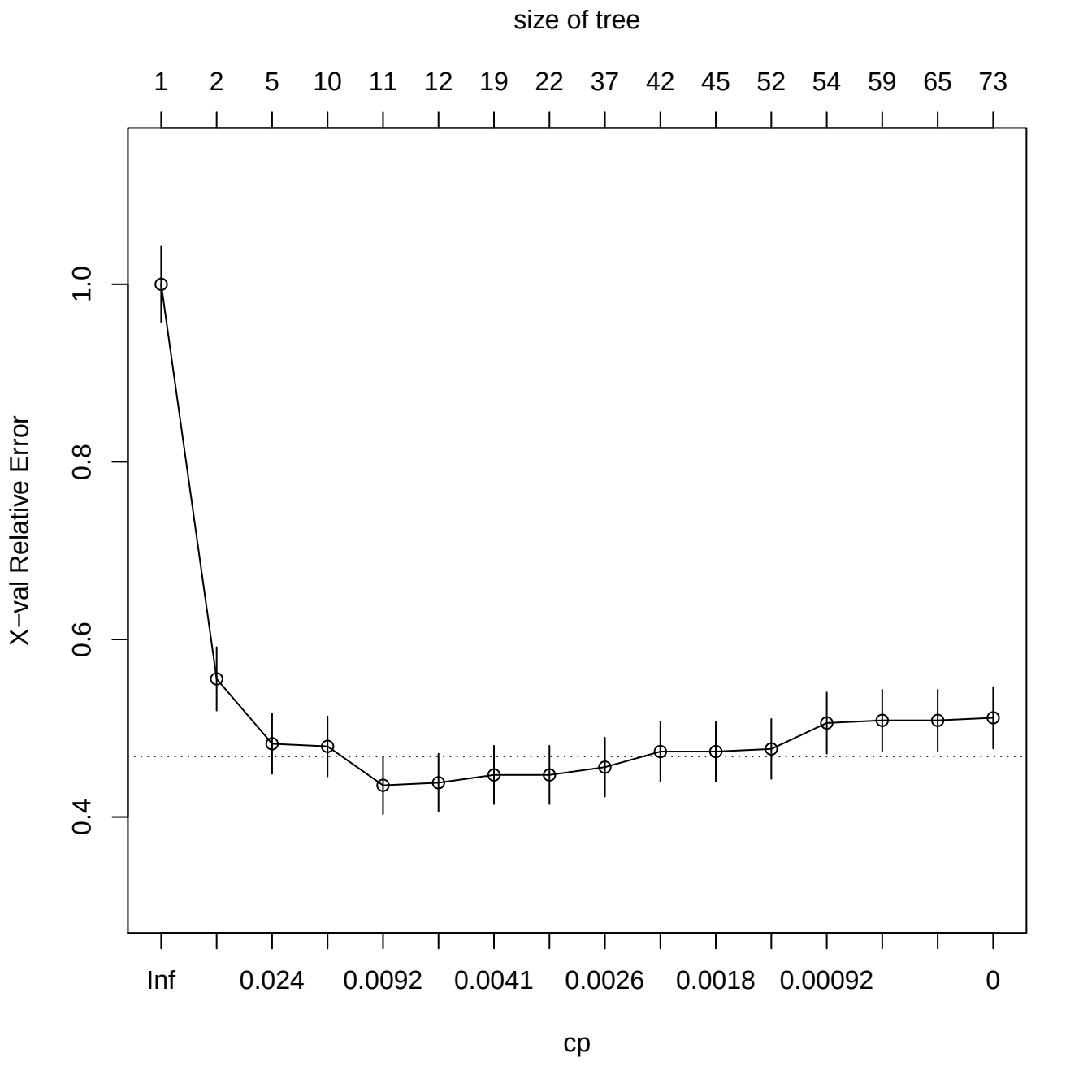

FarePerson
100
50
0
C
Q
S
Embarked
Embarked
C
Q
S

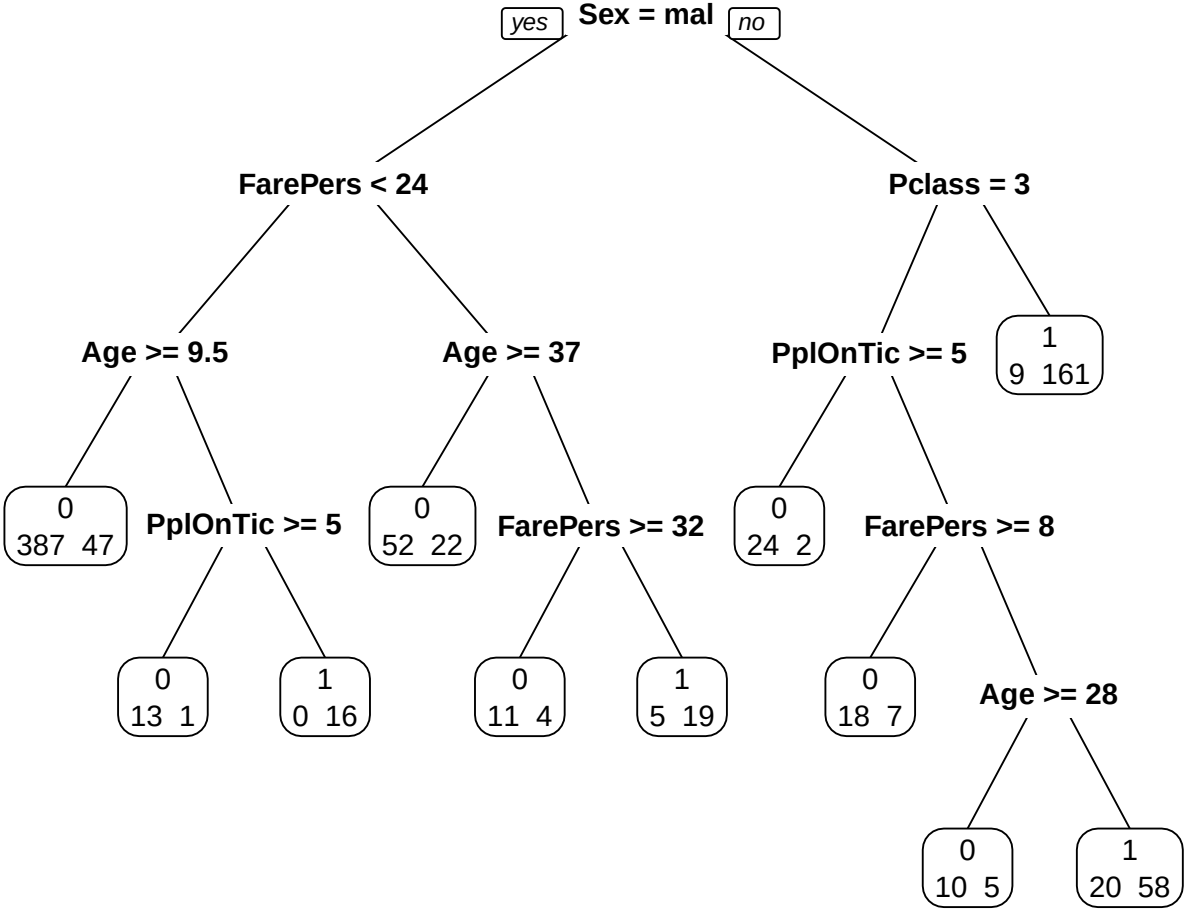

PassengerId
Survived
Pclass
Sex
Age
Embarked
PplOnTicket
FarePerson
FamilySize
?
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1

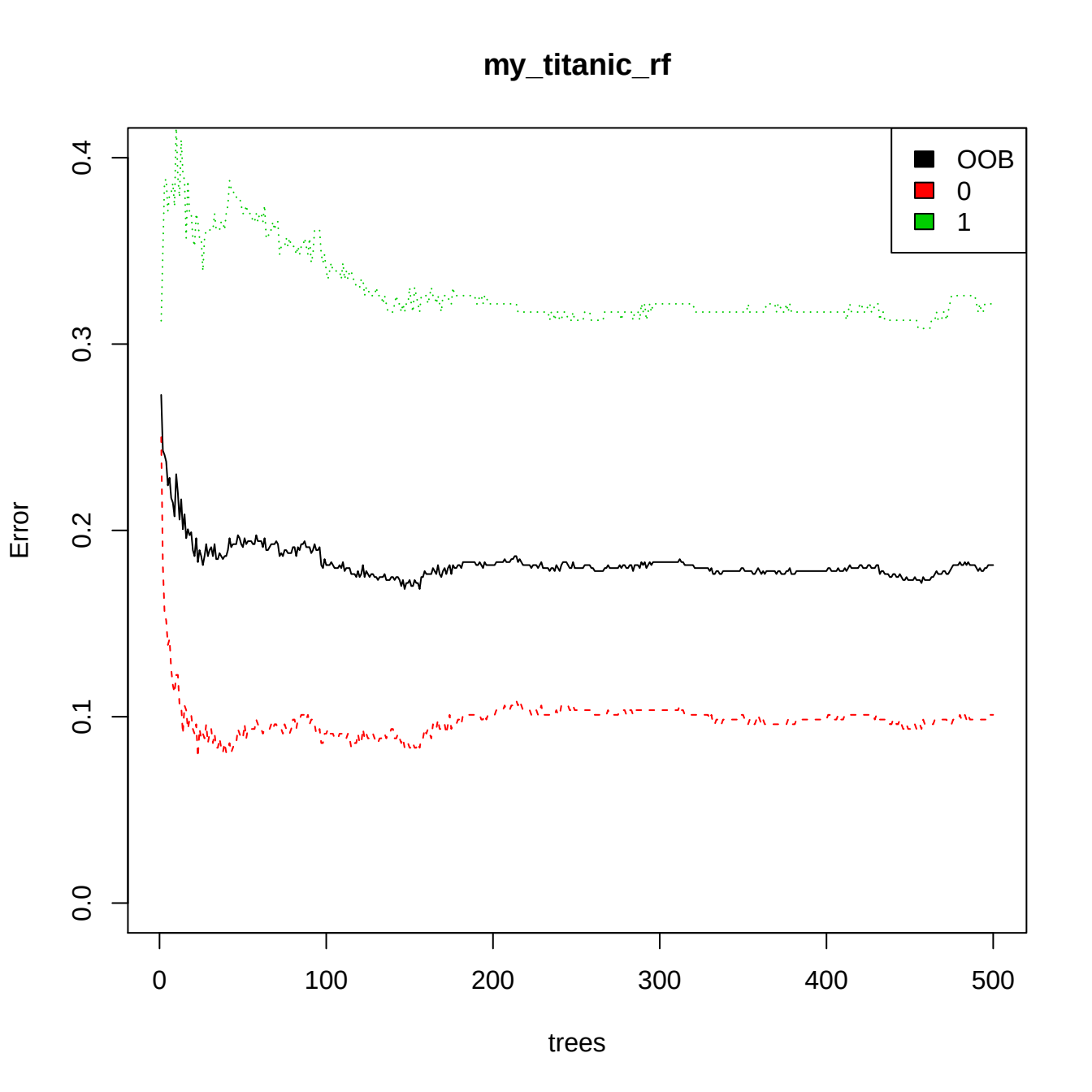

Survived
Pclass
Sex
Age
Embarked
PplOnTicket
FarePerson
FamilySize
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1

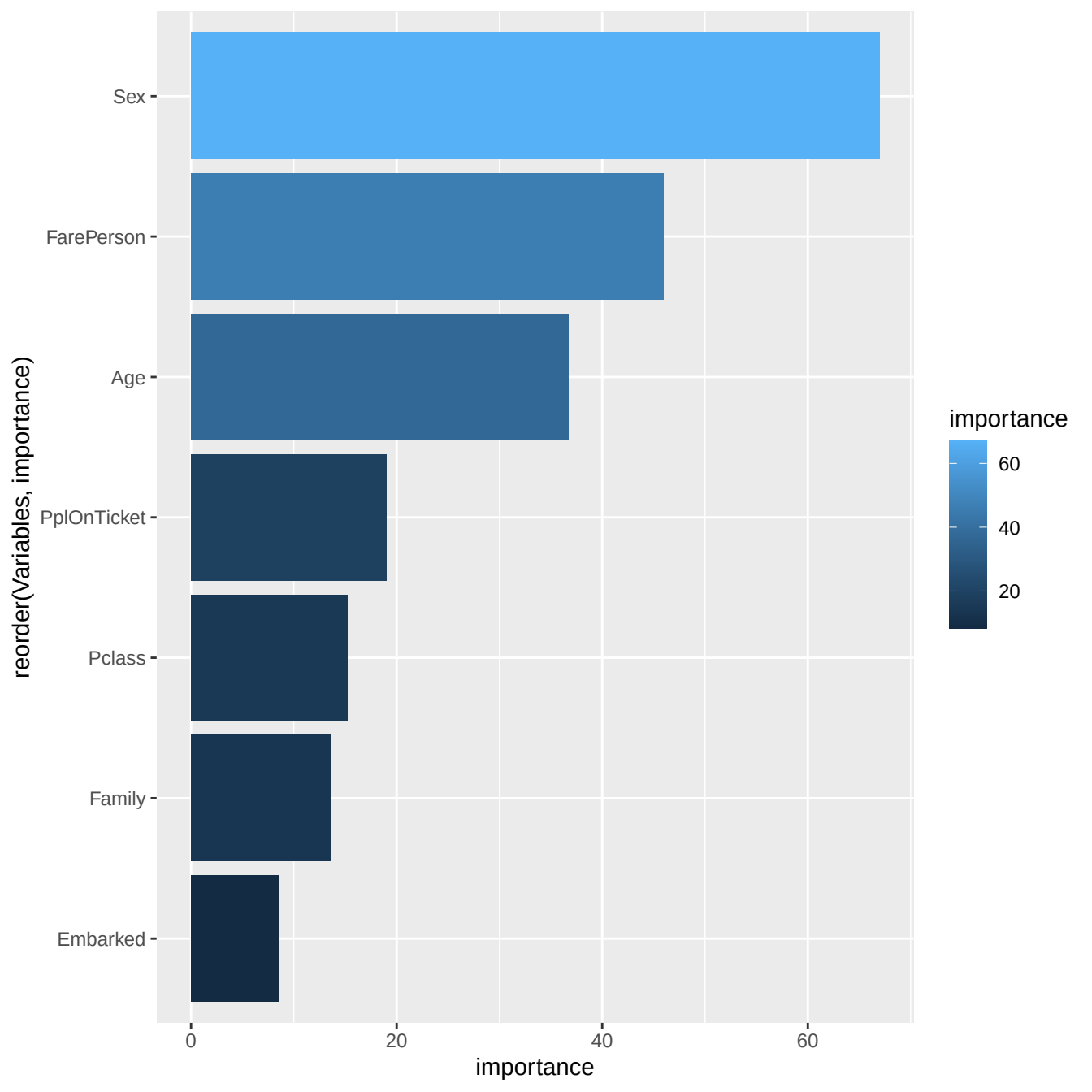

size of tree
1
2
5
10
11
12
26
31
51
X−val Relative Error
0.4
0.6
0.8
1.0
Inf
0.12
0.025
0.018
0.012
0.0062
0.0036
0.0025
0
cp

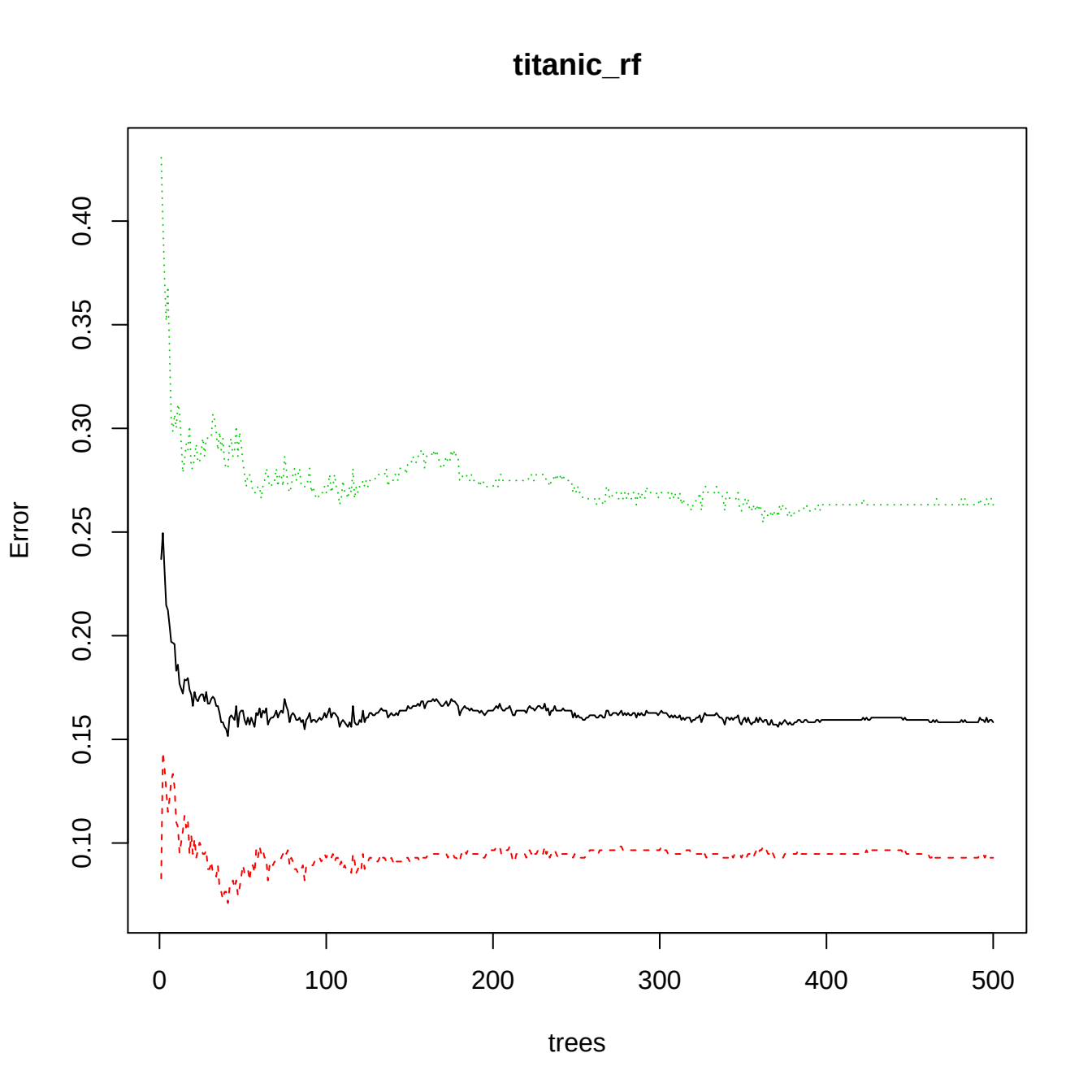

yes
Sex = mal
no
FarePers < 26
Pclass = 3
Age >= 9.5
FarePers >= 31
PplOnTic >= 4.5
1
7 104
0
286 39
PplOnTic >= 4.5
0
26 5
Age >= 44
0
17 2
FarePers >= 8.1
0
11 1
1
0 9
0
9 2
1
7 20
0
10 2
Age >= 28
0
7 3
1
16 40

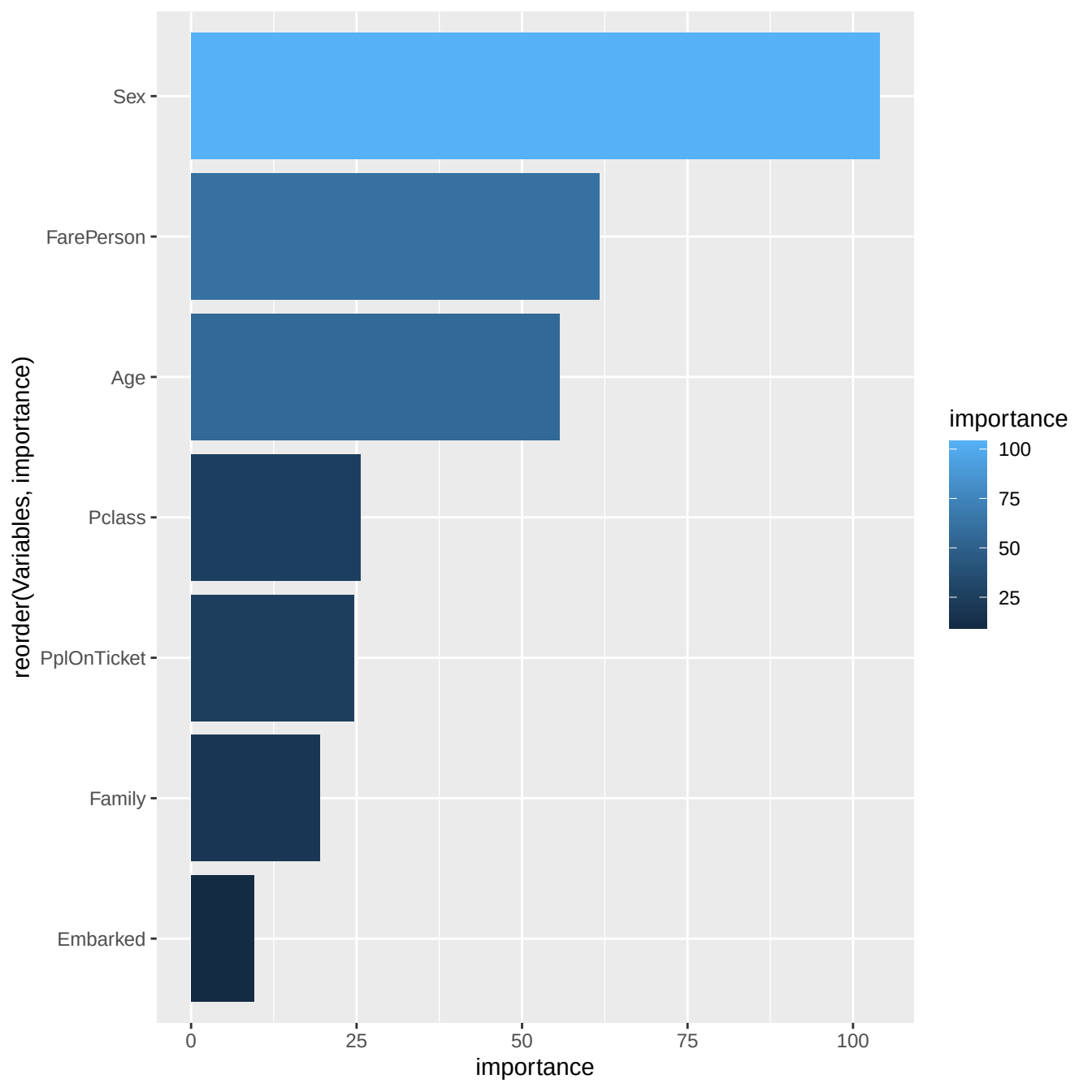

size of tree
1
2
5
10
11
12
19
22
37
42
45
52
54
59
65
73
X−val Relative Error
0.4
0.6
0.8
1.0
Inf
0.024
0.0092
0.0041
0.0026
0.0018
0.00092
0
cp

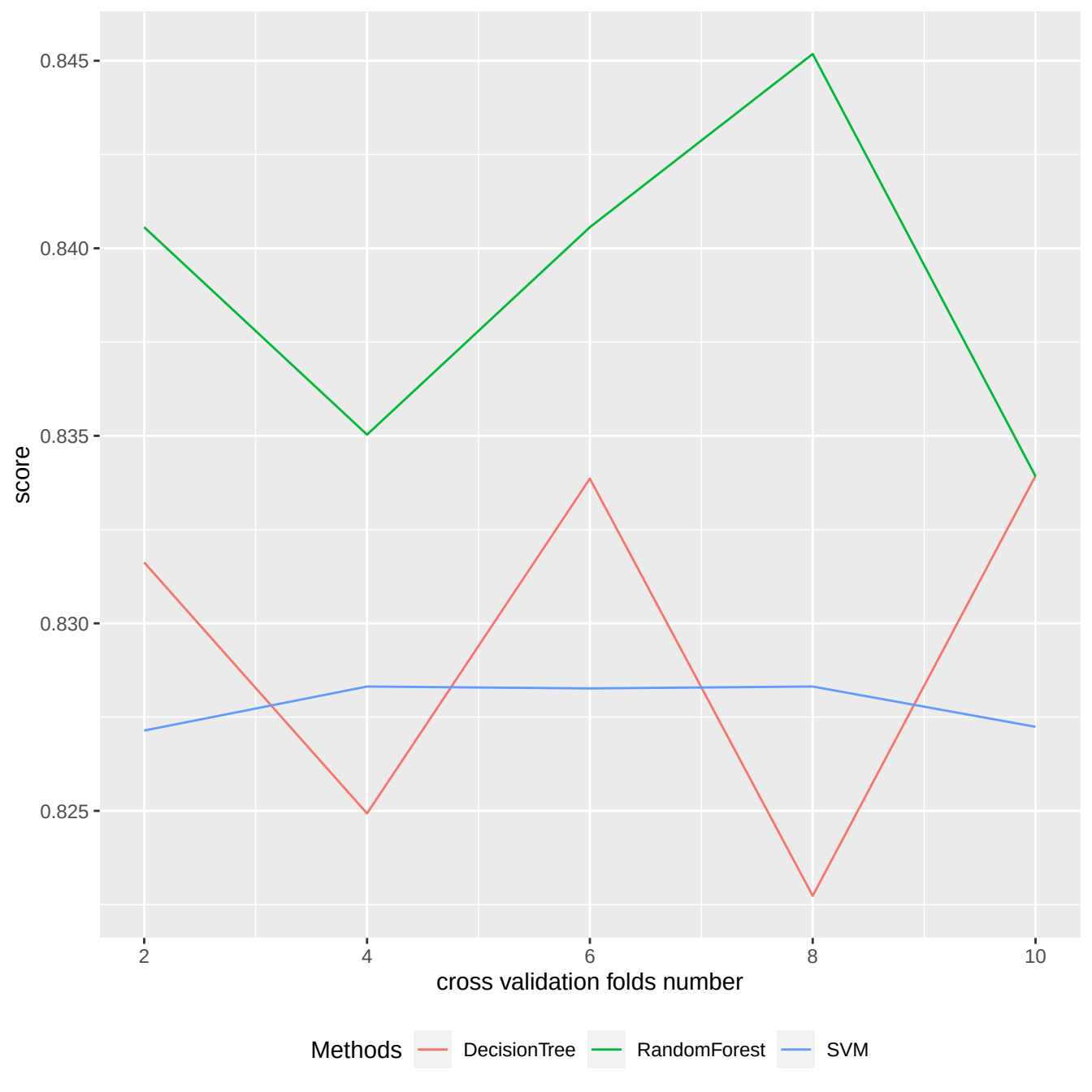

yes
Sex = mal
no
FarePers < 24
Pclass = 3
Age >= 9.5
Age >= 37
PplOnTic >= 5
1
9 161
0
387 47
PplOnTic >= 5
0
52 22
FarePers >= 32
0
24 2
FarePers >= 8
0
13 1
1
0 16
0
11 4
1
5 19
0
18 7
Age >= 28
0
10 5
1
20 58


my_titanic_rf
OOB
0
1
Error
0.0
0.1
0.2
0.3
0.4
0
100
200
300
400
500
trees


Sex
FarePerson
Age
PplOnTicket
Pclass
Family
Embarked
reorder(Variables, importance)
0
20
40
60
importance
importance
60
40
20


titanic_rf
Error
0.10
0.15
0.20
0.25
0.30
0.35
0.40
0
100
200
300
400
500
trees


Sex
FarePerson
Age
Pclass
PplOnTicket
Family
Embarked
reorder(Variables, importance)
0
25
50
75
100
importance
importance
100
75
50
25


0.845
0.840
0.835
0.830
0.825
score
2
4
6
8
10
cross validation folds number
Methods
DecisionTree
RandomForest
SVM