Gender Distribution by Ticket Class

The LOGISTIC Procedure

Model Information	
Data Set	WORK.TRAIN
Response Variable	Survived
Number of Response Levels	2
Model	binary logit
Optimization Technique	Fisher's scoring

Number of Observations Read	891
Number of Observations Used	712

Response Profile		
Ordered Value	Survived	Total Frequency
1	1	288
2	0	424

Probability modeled is Survived='1'.

Note: 179 observations were deleted due to missing values for the response or explanatory variables.

Class Level Information			
Class	Value	Design Variables	
Sex	female	1	
	male	0	
Embarked	C	1	0
	Q	0	1
	S	0	0
Pclass	1	1	0
	2	0	1
	3	0	0

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	962.904	650.464
SC	967.472	691.577
-2 Log L	960.904	632.464

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	328.4394	8	<.0001
Score	286.4666	8	<.0001
Wald	193.9872	8	<.0001

Type 3 Analysis of Effects			
Effect	DF	Wald Chi-Square	Pr > ChiSq
Sex	1	138.8087	<.0001
Age	1	25.0674	<.0001
Pclass	2	65.1445	<.0001
Embarked	2	2.5381	0.2811
FamilySize	1	8.7623	0.0031
IsAlone	1	2.6214	0.1054

Analysis of Maximum Likelihood Estimates						
Parameter		DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept		1	-0.3006	0.4732	0.4035	0.5253
Sex	female	1	2.6154	0.2220	138.8087	<.0001
Age		1	-0.0415	0.00829	25.0674	<.0001
Pclass	1	1	2.3721	0.2983	63.2392	<.0001
Pclass	2	1	1.1631	0.2503	21.5982	<.0001
Embarked	C	1	0.3854	0.2733	1.9888	0.1585
Embarked	Q	1	-0.3559	0.5538	0.4129	0.5205
FamilySize		1	-0.3186	0.1076	8.7623	0.0031
IsAlone		1	-0.4907	0.3031	2.6214	0.1054

Odds Ratio Estimates		
		95% Wald

Effect	Point Estimate	Confidence Limits	
Sex female vs male	13.673	8.849	21.126
Age	0.959	0.944	0.975
Pclass 1 vs 3	10.720	5.974	19.235
Pclass 2 vs 3	3.200	1.959	5.226
Embarked C vs S	1.470	0.861	2.512
Embarked Q vs S	0.701	0.237	2.074
FamilySize	0.727	0.589	0.898
IsAlone	0.612	0.338	1.109

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	85.9	Somers' D	0.718
Percent Discordant	14.0	Gamma	0.719
Percent Tied	0.1	Tau-a	0.346
Pairs	122112	c	0.859

Gender Distribution by Ticket Class

The HPFOREST Procedure

Performance Information	
Execution Mode	Single-Machine
Number of Threads	4

Data Access Information			
Data	Engine	Role	Path
WORK.TRAIN	V9	Input	On Client

Model Information		
Parameter	Value	
Variables to Try	2	(Default)
Maximum Trees	100	(Default)
Actual Trees	100	
Inbag Fraction	0.6	(Default)
Prune Fraction	0	(Default)
Prune Threshold	0.1	(Default)
Leaf Fraction	0.00001	(Default)
Leaf Size Setting	1	(Default)
Leaf Size Used	1	
Category Bins	30	(Default)
Interval Bins	100	
Minimum Category Size	5	(Default)
Node Size	100000	(Default)
Maximum Depth	20	(Default)
Alpha	1	(Default)
Exhaustive	5000	(Default)
Rows of Sequence to Skip	5	(Default)
Split Criterion	.	Variance
Preselection Method	.	Loh
Missing Value Handling	.	Valid value

Number of Observations	

Type	N
Number of Observations Read	891
Number of Observations Used	891

Baseline Fit Statistics	
Statistic	Value
Average Square Error	0.237

Fit Statistics			
Number of Trees	Number of Leaves	Average Square Error (Train)	Average Square Error (OOB)
1	17	0.14930	0.16697
2	35	0.13889	0.15566
3	58	0.13778	0.16770
4	69	0.13805	0.16158
5	90	0.13611	0.15790
6	113	0.13343	0.15282
7	127	0.13295	0.14851
8	154	0.13130	0.14816
9	171	0.13160	0.14627
10	201	0.13091	0.14471
11	223	0.13018	0.14378
12	250	0.12973	0.14256
13	267	0.12991	0.14196
14	294	0.12918	0.14231
15	304	0.13000	0.14327
16	331	0.12993	0.14320
17	349	0.13040	0.14339
18	364	0.13047	0.14262
19	384	0.13059	0.14249
20	398	0.13045	0.14175
21	413	0.13077	0.14095
22	431	0.13113	0.14102
23	450	0.13129	0.14067
24	462	0.13146	0.14087

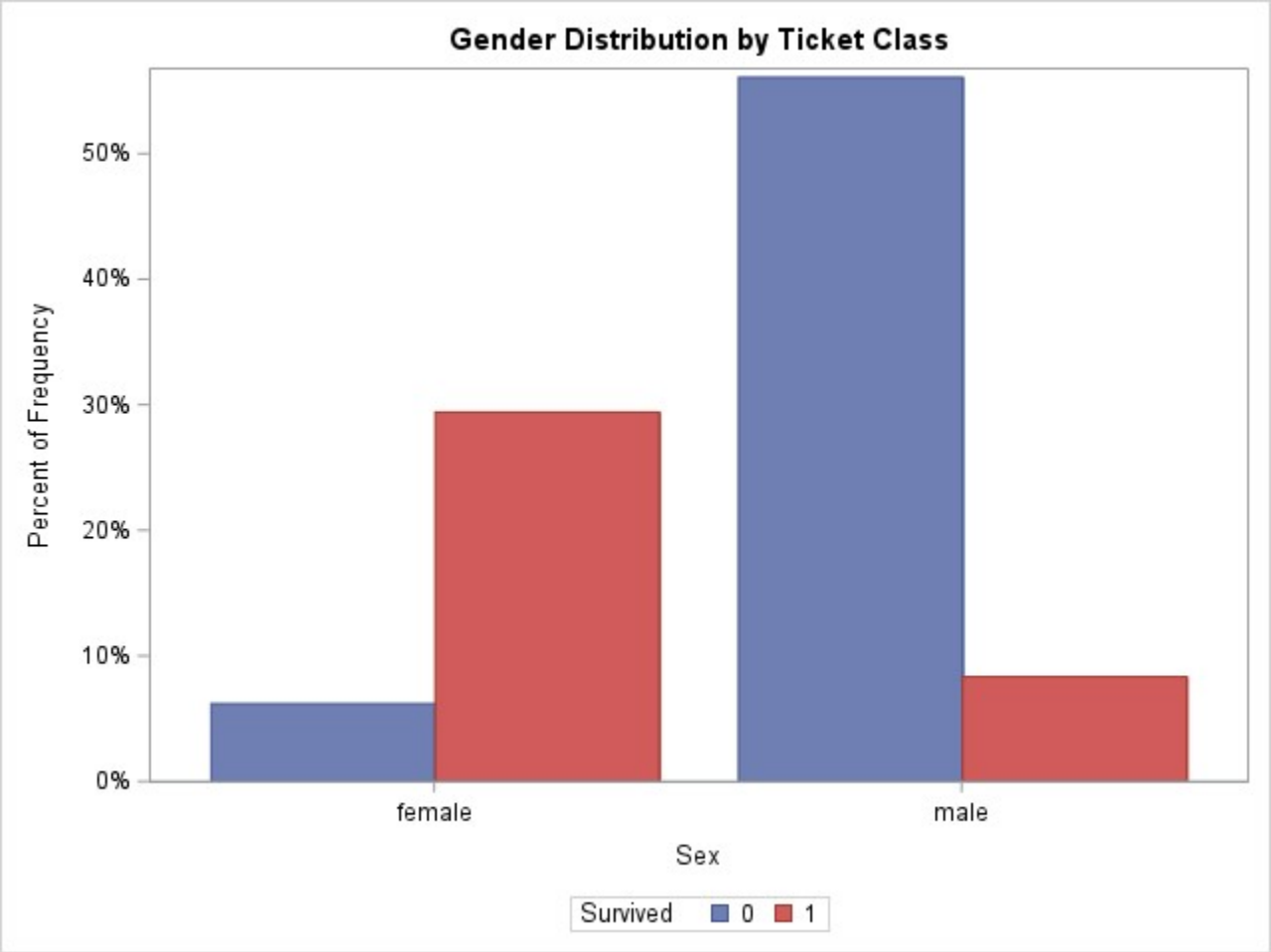
25	**479**	0.13154	0.14114
26	**494**	0.13151	0.14126
27	**510**	0.13189	0.14179
28	**527**	0.13177	0.14138
29	**547**	0.13192	0.14171
30	**567**	0.13158	0.14147
31	**583**	0.13175	0.14173
32	**605**	0.13172	0.14137
33	**626**	0.13164	0.14208
34	**637**	0.13186	0.14184
35	**663**	0.13172	0.14181
36	**674**	0.13191	0.14184
37	**691**	0.13177	0.14179
38	**714**	0.13146	0.14159
39	**732**	0.13148	0.14139
40	**754**	0.13153	0.14133
41	**771**	0.13166	0.14132
42	**792**	0.13153	0.14124
43	**811**	0.13152	0.14130
44	**824**	0.13148	0.14116
45	**844**	0.13154	0.14137
46	**864**	0.13155	0.14141
47	**880**	0.13155	0.14130
48	**898**	0.13151	0.14119
49	**915**	0.13150	0.14110
50	**942**	0.13131	0.14113
51	**954**	0.13158	0.14132
52	**971**	0.13160	0.14151
53	**985**	0.13180	0.14156
54	**1000**	0.13177	0.14153
55	**1015**	0.13181	0.14151
56	**1032**	0.13182	0.14141
57	**1049**	0.13190	0.14167
58	**1064**	0.13190	0.14165
59	**1087**	0.13188	0.14165

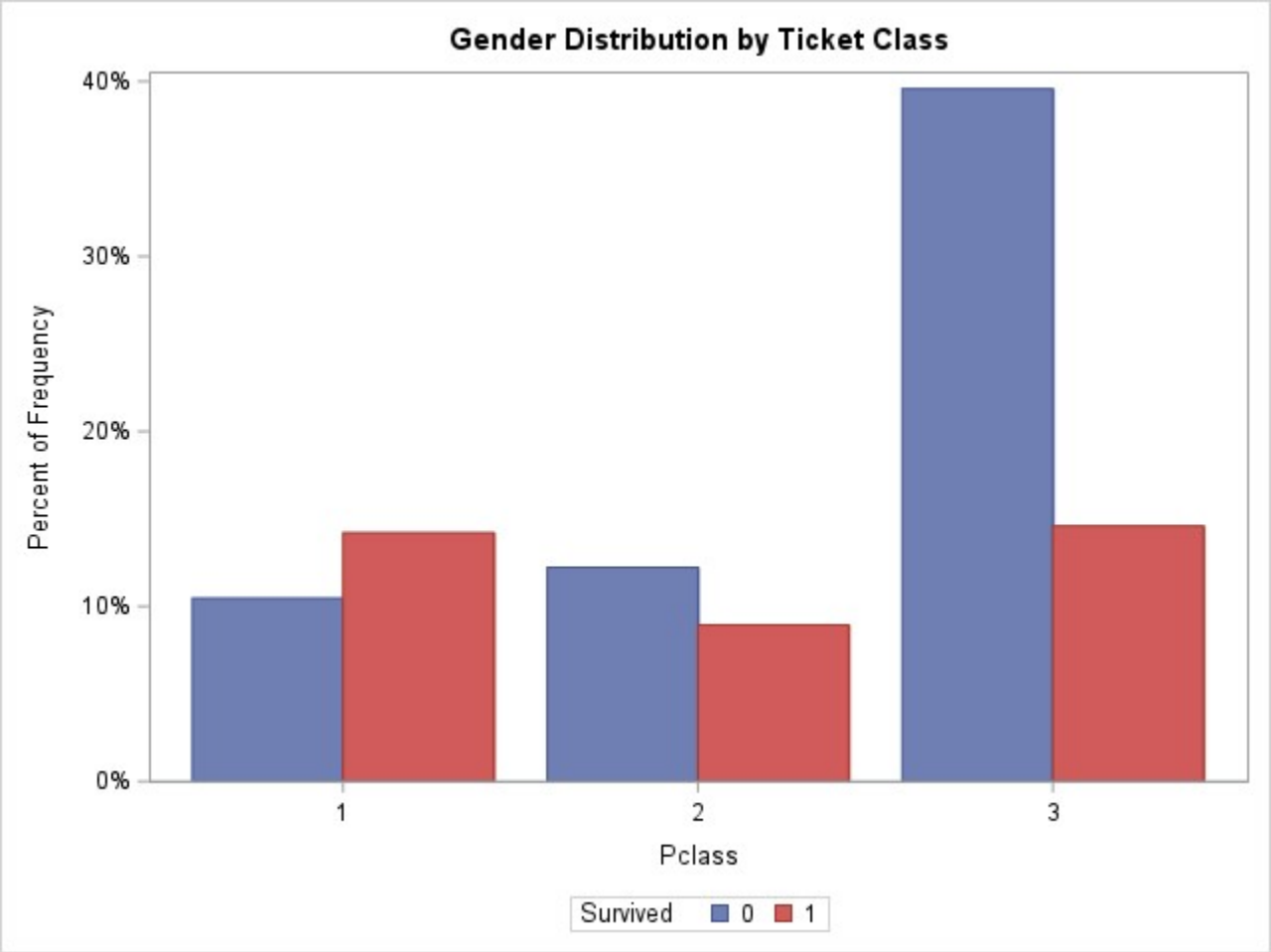
	1115	0.13168	0.14146
61	1129	0.13177	0.14141
62	1156	0.13162	0.14140
63	1170	0.13168	0.14142
64	1187	0.13180	0.14145
65	1207	0.13179	0.14145
66	1224	0.13176	0.14144
67	1238	0.13172	0.14126
68	1260	0.13163	0.14126
69	1276	0.13153	0.14113
70	1292	0.13145	0.14115
71	1313	0.13135	0.14110
72	1333	0.13138	0.14129
73	1354	0.13132	0.14111
74	1375	0.13124	0.14102
75	1389	0.13138	0.14114
76	1414	0.13140	0.14121
77	1425	0.13157	0.14120
78	1445	0.13148	0.14115
79	1465	0.13146	0.14107
80	1481	0.13136	0.14110
81	1496	0.13138	0.14117
82	1513	0.13147	0.14114
83	1529	0.13152	0.14123
84	1549	0.13152	0.14125
85	1564	0.13150	0.14127
86	1580	0.13143	0.14128
87	1595	0.13161	0.14143
88	1612	0.13158	0.14139
89	1628	0.13163	0.14145
90	1646	0.13161	0.14139
91	1669	0.13162	0.14141
92	1690	0.13153	0.14145
93	1702	0.13171	0.14155
94	1713	0.13179	0.14149

	1733	0.13176	0.14146
96	1750	0.13169	0.14145
97	1763	0.13167	0.14141
98	1786	0.13160	0.14134
99	1802	0.13154	0.14125
100	1827	0.13150	0.14120

Loss Reduction Variable Importance

Variable	Number of Rules	MSE	OOB MSE	Absolute Error	OOB Absolute Error
Sex	247	0.056007	0.05635	0.111094	0.111513
Pclass	401	0.018447	0.01690	0.036274	0.034825
FamilySize	344	0.007307	0.00504	0.014888	0.012071
IsAlone	218	0.004008	0.00316	0.006238	0.005584
Embarked	323	0.004504	0.00157	0.007692	0.004590
Age	194	0.001956	-0.00368	0.009556	0.004339


Gender Distribution by Ticket Class
Percent of Frequency
50%
40%
30%
20%
10%
0%
female
male
Sex
Survived 0 1


Gender Distribution by Ticket Class
40%
30%
20%
10%
0%
Percent of Frequency
1
2
3
Pclass
Survived
0
1

Gender Distribution by Ticket Class

The FREQ Procedure

Frequency	Table of FamilySize by Pclass			
	Pclass			
FamilySize	1	2	3	Total
1	160	158	472	790
2	104	52	79	235
3	39	45	75	159
4	9	20	14	43
5	5	1	16	22
6	6	1	18	25
7	0	0	16	16
8	0	0	8	8
11	0	0	11	11
Total	323	277	709	1309

Gender Distribution by Ticket Class

The FREQ Procedure

Frequency	Table of Pclass by Sex			
		Sex		
	Pclass	female	male	Total
	1	144	179	323
	2	106	171	277
	3	216	493	709
	Total	466	843	1309