The SAS System

Obs	BLK	TRT	SAMPLE	SEVERITY	PROP	SQRTPROP	ARCSEV	LOGSEV
1	1	3	1	0	0.00	0.00000	0.00000	0.00000
2	1	3	2	0	0.00	0.00000	0.00000	0.00000
3	1	3	3	11	0.11	0.33166	0.33807	2.48491
4	1	3	4	1	0.01	0.10000	0.10017	0.69315
5	1	3	5	0	0.00	0.00000	0.00000	0.00000
6	1	3	6	27	0.27	0.51962	0.54640	3.33220
7	1	3	7	1	0.01	0.10000	0.10017	0.69315
8	1	3	8	0	0.00	0.00000	0.00000	0.00000
9	1	3	9	1	0.01	0.10000	0.10017	0.69315
10	1	3	10	0	0.00	0.00000	0.00000	0.00000
11	1	3	11	1	0.01	0.10000	0.10017	0.69315
12	1	3	12	2	0.02	0.14142	0.14190	1.09861
13	1	1	1	46	0.46	0.67823	0.74536	3.85015
14	1	1	2	49	0.49	0.70000	0.77540	3.91202
15	1	1	3	32	0.32	0.56569	0.60126	3.49651
16	1	1	4	73	0.73	0.85440	1.02440	4.30407
17	1	1	5	95	0.95	0.97468	1.34528	4.56435
18	1	1	6	96	0.96	0.97980	1.36944	4.57471
19	1	1	7	29	0.29	0.53852	0.56868	3.40120
20	1	1	8	44	0.44	0.66332	0.72525	3.80666
21	1	1	9	69	0.69	0.83066	0.98030	4.24850
22	1	1	10	44	0.44	0.66332	0.72525	3.80666
23	1	1	11	91	0.91	0.95394	1.26610	4.52179
24	1	1	12	29	0.29	0.53852	0.56868	3.40120
25	1	2	1	1	0.01	0.10000	0.10017	0.69315
26	1	2	2	38	0.38	0.61644	0.66422	3.66356
27	1	2	3	44	0.44	0.66332	0.72525	3.80666
28	1	2	4	66	0.66	0.81240	0.94826	4.20469
29	1	2	5	11	0.11	0.33166	0.33807	2.48491
30	1	2	6	41	0.41	0.64031	0.69490	3.73767
31	1	2	7	9	0.09	0.30000	0.30469	2.30259
32	1	2	8	10	0.10	0.31623	0.32175	2.39790

33	1	2	9	42	0.42	0.64807	0.70505	3.76120
34	1	2	10	21	0.21	0.45826	0.47603	3.09104
35	1	2	11	12	0.12	0.34641	0.35374	2.56495
36	1	2	12	44	0.44	0.66332	0.72525	3.80666
37	2	1	1	90	0.90	0.94868	1.24905	4.51086
38	2	1	2	91	0.91	0.95394	1.26610	4.52179
39	2	1	3	86	0.86	0.92736	1.18730	4.46591
40	2	1	4	94	0.94	0.96954	1.32333	4.55388
41	2	1	5	39	0.39	0.62450	0.67449	3.68888
42	2	1	6	91	0.91	0.95394	1.26610	4.52179
43	2	1	7	29	0.29	0.53852	0.56868	3.40120
44	2	1	8	39	0.39	0.62450	0.67449	3.68888
45	2	1	9	38	0.38	0.61644	0.66422	3.66356
46	2	1	10	40	0.40	0.63246	0.68472	3.71357
47	2	1	11	13	0.13	0.36056	0.36886	2.63906
48	2	1	12	38	0.38	0.61644	0.66422	3.66356
49	2	2	1	40	0.40	0.63246	0.68472	3.71357
50	2	2	2	13	0.13	0.36056	0.36886	2.63906
51	2	2	3	34	0.34	0.58310	0.62253	3.55535
52	2	2	4	67	0.67	0.81854	0.95886	4.21951
53	2	2	5	11	0.11	0.33166	0.33807	2.48491
54	2	2	6	44	0.44	0.66332	0.72525	3.80666
55	2	2	7	66	0.66	0.81240	0.94826	4.20469
56	2	2	8	9	0.09	0.30000	0.30469	2.30259
57	2	2	9	43	0.43	0.65574	0.71517	3.78419
58	2	2	10	34	0.34	0.58310	0.62253	3.55535
59	2	2	11	41	0.41	0.64031	0.69490	3.73767
60	2	2	12	0	0.00	0.00000	0.00000	0.00000
61	2	3	1	6	0.06	0.24495	0.24747	1.94591
62	2	3	2	3	0.03	0.17321	0.17408	1.38629
63	2	3	3	15	0.15	0.38730	0.39770	2.77259
64	2	3	4	14	0.14	0.37417	0.38350	2.70805
65	2	3	5	1	0.01	0.10000	0.10017	0.69315
66	2	3	6	0	0.00	0.00000	0.00000	0.00000
67	2	3	7	0	0.00	0.00000	0.00000	0.00000

	2	3	8	2	0.02	0.14142	0.14190	1.09861
69	2	3	9	0	0.00	0.00000	0.00000	0.00000
70	2	3	10	0	0.00	0.00000	0.00000	0.00000
71	2	3	11	2	0.02	0.14142	0.14190	1.09861
72	2	3	12	11	0.11	0.33166	0.33807	2.48491
73	3	2	1	2	0.02	0.14142	0.14190	1.09861
74	3	2	2	14	0.14	0.37417	0.38350	2.70805
75	3	2	3	19	0.19	0.43589	0.45103	2.99573
76	3	2	4	48	0.48	0.69282	0.76539	3.89182
77	3	2	5	13	0.13	0.36056	0.36886	2.63906
78	3	2	6	71	0.71	0.84261	1.00212	4.27667
79	3	2	7	34	0.34	0.58310	0.62253	3.55535
80	3	2	8	12	0.12	0.34641	0.35374	2.56495
81	3	2	9	10	0.10	0.31623	0.32175	2.39790
82	3	2	10	69	0.69	0.83066	0.98030	4.24850
83	3	2	11	15	0.15	0.38730	0.39770	2.77259
84	3	2	12	88	0.88	0.93808	1.21705	4.48864
85	3	1	1	39	0.39	0.62450	0.67449	3.68888
86	3	1	2	17	0.17	0.41231	0.42499	2.89037
87	3	1	3	16	0.16	0.40000	0.41152	2.83321
88	3	1	4	94	0.94	0.96954	1.32333	4.55388
89	3	1	5	47	0.47	0.68557	0.75538	3.87120
90	3	1	6	29	0.29	0.53852	0.56868	3.40120
91	3	1	7	95	0.95	0.97468	1.34528	4.56435
92	3	1	8	53	0.53	0.72801	0.81542	3.98898
93	3	1	9	36	0.36	0.60000	0.64350	3.61092
94	3	1	10	93	0.93	0.96437	1.30303	4.54329
95	3	1	11	92	0.92	0.95917	1.28404	4.53260
96	3	1	12	71	0.71	0.84261	1.00212	4.27667
97	3	3	1	0	0.00	0.00000	0.00000	0.00000
98	3	3	2	0	0.00	0.00000	0.00000	0.00000
99	3	3	3	4	0.04	0.20000	0.20136	1.60944
100	3	3	4	0	0.00	0.00000	0.00000	0.00000
101	3	3	5	13	0.13	0.36056	0.36886	2.63906
102	3	3	6	28	0.28	0.52915	0.55760	3.36730

	3	3	7	1	0.01	0.10000	0.10017	0.69315
104	3	3	8	7	0.07	0.26458	0.26776	2.07944
105	3	3	9	11	0.11	0.33166	0.33807	2.48491
106	3	3	10	9	0.09	0.30000	0.30469	2.30259
107	3	3	11	0	0.00	0.00000	0.00000	0.00000
108	3	3	12	8	0.08	0.28284	0.28676	2.19722
109	4	2	1	38	0.38	0.61644	0.66422	3.66356
110	4	2	2	76	0.76	0.87178	1.05882	4.34381
111	4	2	3	17	0.17	0.41231	0.42499	2.89037
112	4	2	4	41	0.41	0.64031	0.69490	3.73767
113	4	2	5	17	0.17	0.41231	0.42499	2.89037
114	4	2	6	30	0.30	0.54772	0.57964	3.43399
115	4	2	7	90	0.90	0.94868	1.24905	4.51086
116	4	2	8	22	0.22	0.46904	0.48821	3.13549
117	4	2	9	98	0.98	0.98995	1.42890	4.59512
118	4	2	10	38	0.38	0.61644	0.66422	3.66356
119	4	2	11	13	0.13	0.36056	0.36886	2.63906
120	4	2	12	9	0.09	0.30000	0.30469	2.30259
121	4	3	1	8	0.08	0.28284	0.28676	2.19722
122	4	3	2	1	0.01	0.10000	0.10017	0.69315
123	4	3	3	0	0.00	0.00000	0.00000	0.00000
124	4	3	4	2	0.02	0.14142	0.14190	1.09861
125	4	3	5	11	0.11	0.33166	0.33807	2.48491
126	4	3	6	28	0.28	0.52915	0.55760	3.36730
127	4	3	7	4	0.04	0.20000	0.20136	1.60944
128	4	3	8	0	0.00	0.00000	0.00000	0.00000
129	4	3	9	0	0.00	0.00000	0.00000	0.00000
130	4	3	10	10	0.10	0.31623	0.32175	2.39790
131	4	3	11	9	0.09	0.30000	0.30469	2.30259
132	4	3	12	41	0.41	0.64031	0.69490	3.73767
133	4	1	1	92	0.92	0.95917	1.28404	4.53260
134	4	1	2	94	0.94	0.96954	1.32333	4.55388
135	4	1	3	95	0.95	0.97468	1.34528	4.56435
136	4	1	4	91	0.91	0.95394	1.26610	4.52179
137	4	1	5	96	0.96	0.97980	1.36944	4.57471

	4	1	6	89	0.89	0.94340	1.23273	4.49981
139	4	1	7	91	0.91	0.95394	1.26610	4.52179
140	4	1	8	27	0.27	0.51962	0.54640	3.33220
141	4	1	9	78	0.78	0.88318	1.08259	4.36945
142	4	1	10	94	0.94	0.96954	1.32333	4.55388
143	4	1	11	84	0.84	0.91652	1.15928	4.44265
144	4	1	12	39	0.39	0.62450	0.67449	3.68888

The SAS System

The Mixed Procedure

Model Information	
Data Set	WORK.B
Dependent Variable	SEVERITY
Covariance Structure	Variance Components
Estimation Method	REML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information		
Class	Levels	Values
BLK	4	1 2 3 4
TRT	3	1 2 3

Dimensions	
Covariance Parameters	3
Columns in X	4
Columns in Z	16
Subjects	1
Max Obs per Subject	144

Number of Observations	
Number of Observations Read	144
Number of Observations Used	144
Number of Observations Not Used	0

Iteration History			
Iteration	Evaluations	-2 Res Log Like	Criterion
0	1	1291.62329480	
1	3	1289.30412527	0.00000215
2	1	1289.30297834	0.00000001

Convergence criteria met.

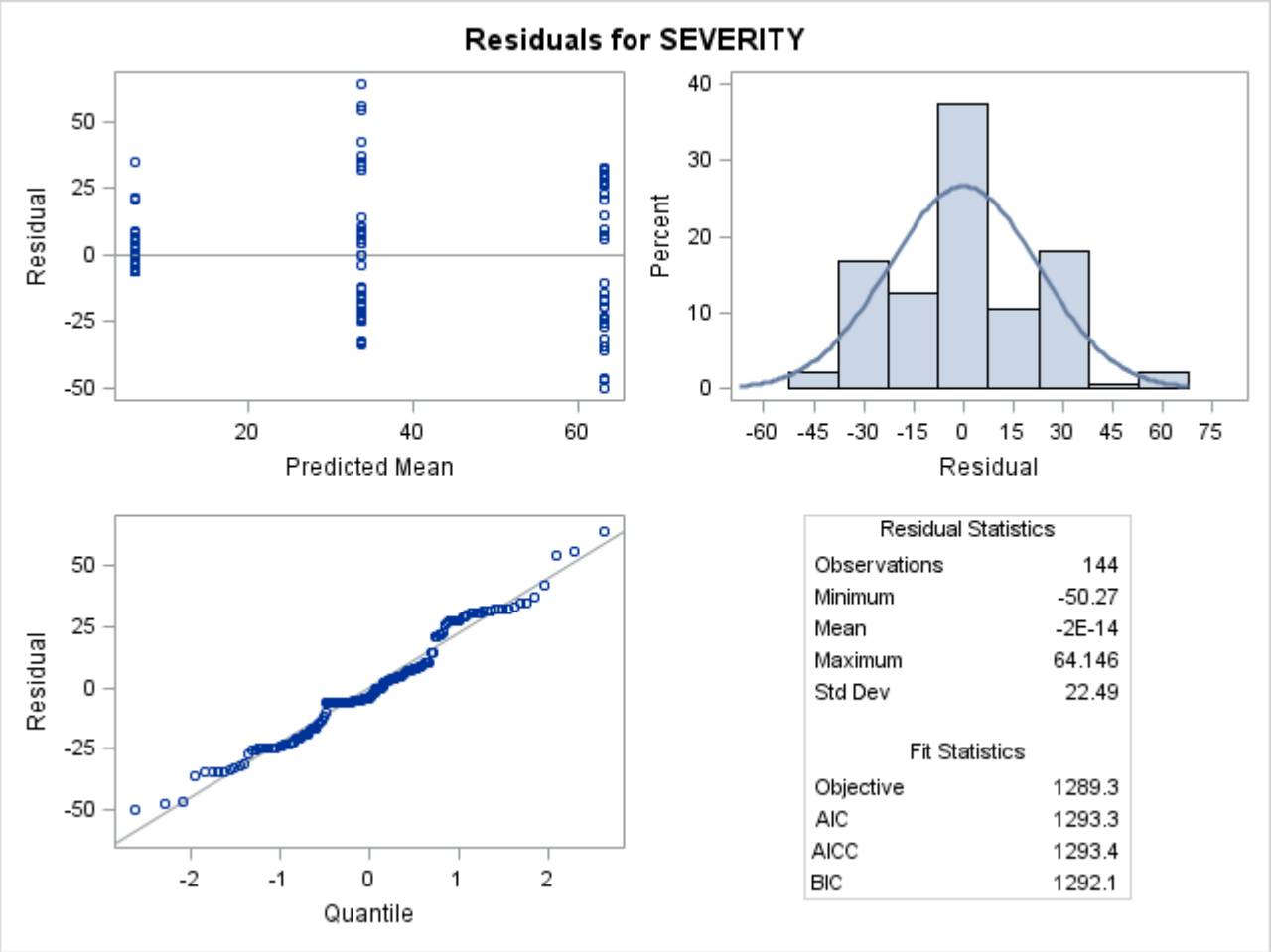
Covariance Parameter Estimates				
Cov Parm	Estimate	Standard Error	Z Value	Pr > Z
BLK	25.4406	31.9607	0.80	0.2130
BLK*TRT	0	.	.	.
Residual	493.45	59.4044	8.31	<.0001

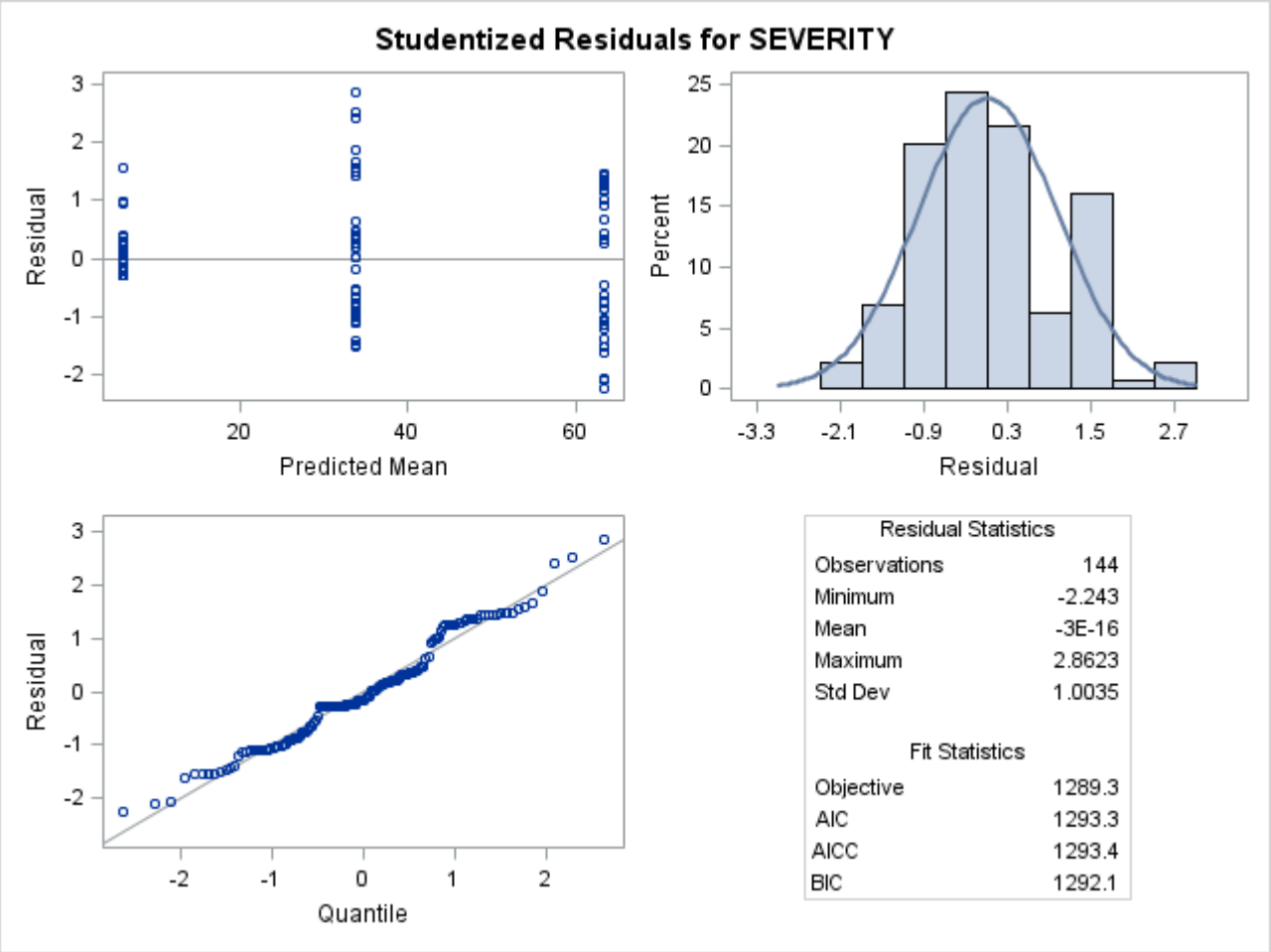
Fit Statistics	
-2 Res Log Likelihood	1289.3
AIC (Smaller is Better)	1293.3
AICC (Smaller is Better)	1293.4
BIC (Smaller is Better)	1292.1

Type 3 Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
TRT	2	6	79.50	<.0001

Least Squares Means						
Effect	TRT	Estimate	Standard Error	DF	t Value	Pr > |t|
TRT	1	63.2708	4.0793	6	15.51	<.0001
TRT	2	33.8542	4.0793	6	8.30	0.0002
TRT	3	6.1042	4.0793	6	1.50	0.1852

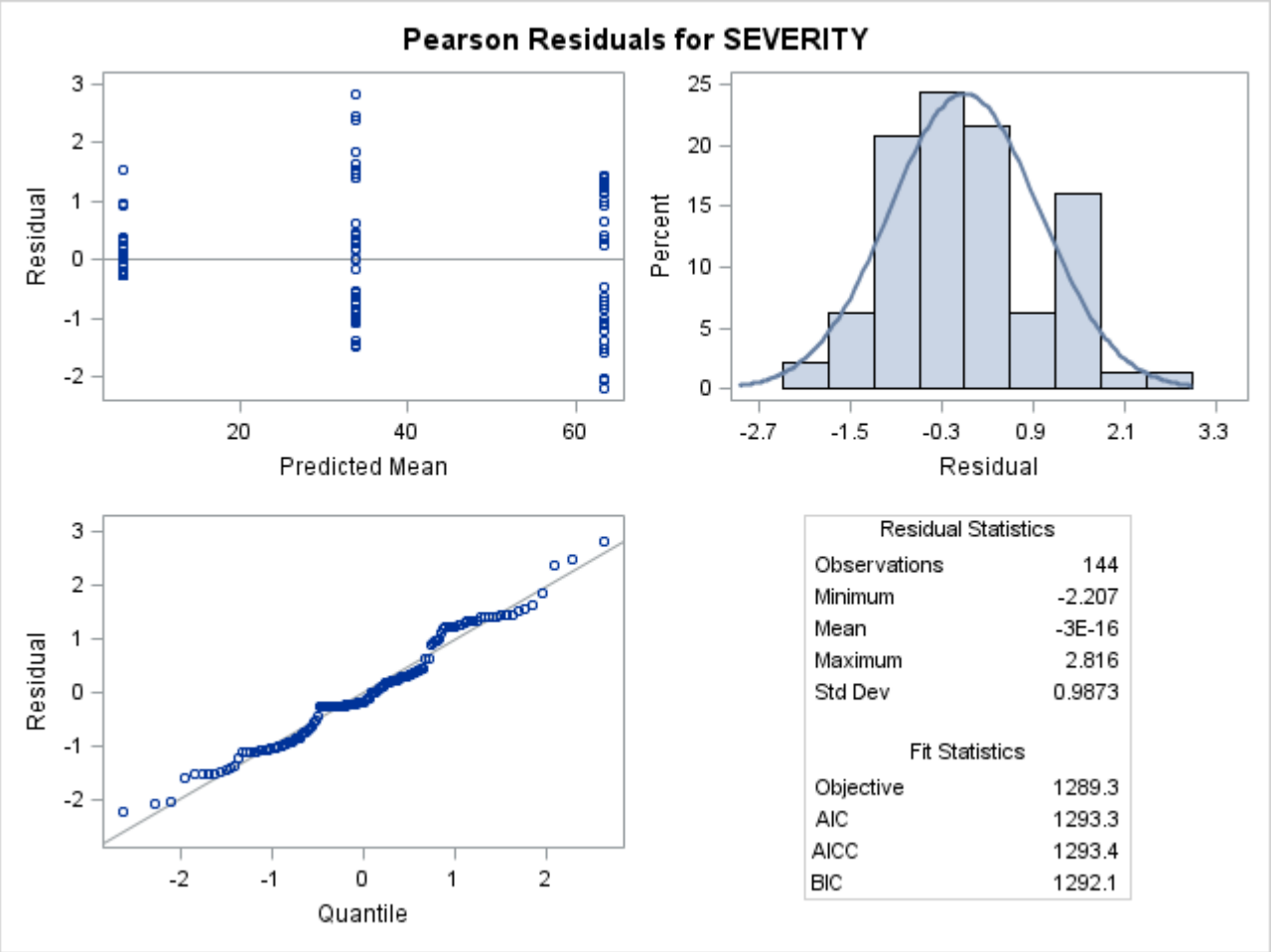
Differences of Least Squares Means							
Effect	TRT	_TRT	Estimate	Standard Error	DF	t Value	Pr > |t|
TRT	1	2	29.4167	4.5344	6	6.49	0.0006
TRT	1	3	57.1667	4.5344	6	12.61	<.0001
TRT	2	3	27.7500	4.5344	6	6.12	0.0009

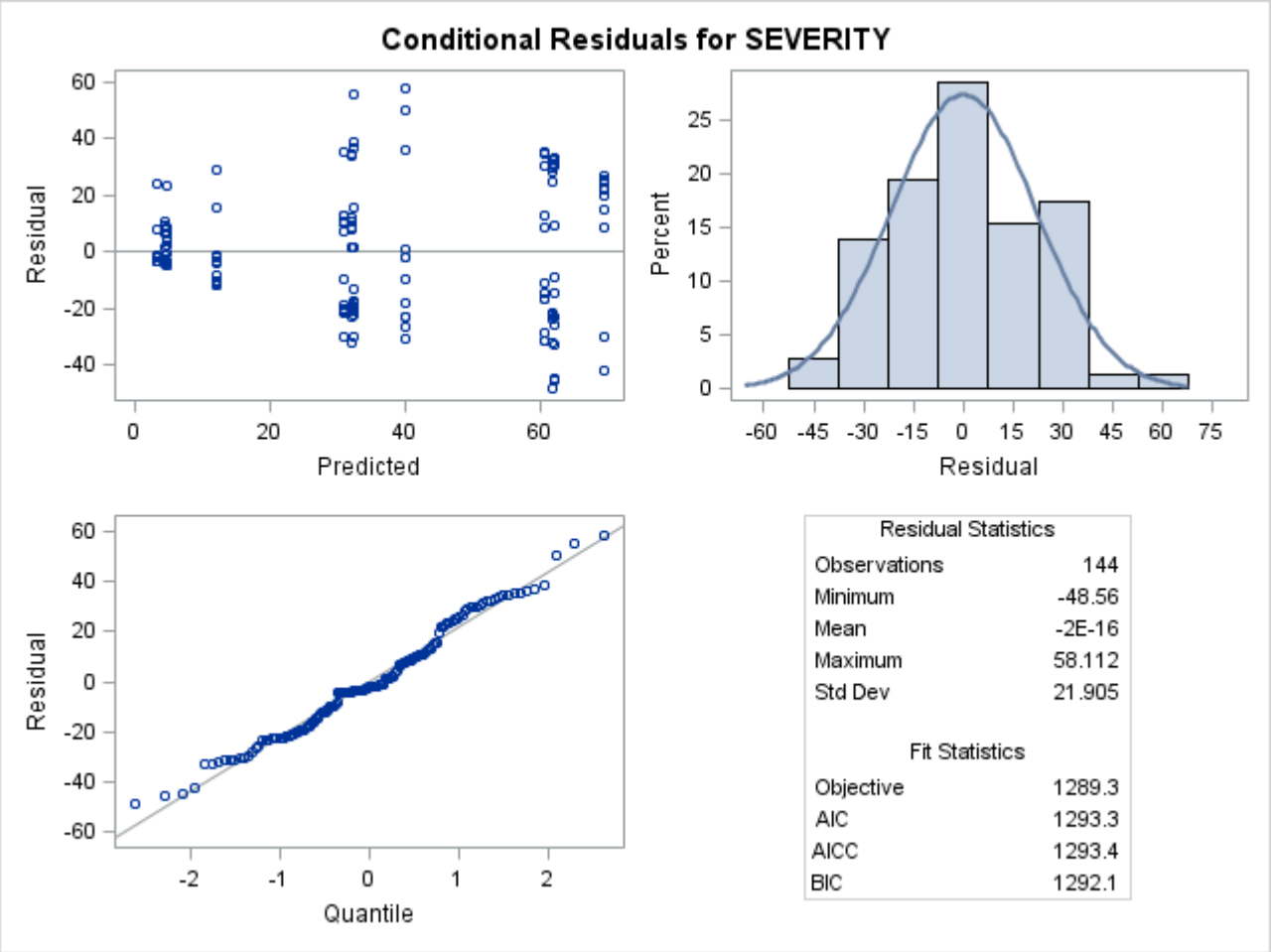

Residuals for SEVERITY
Residual
Predicted Mean
Percent
Residual
Residual
Quantile
Residual Statistics
Observations 144
Minimum -50.27
Mean -2E-14
Maximum 64.146
Std Dev 22.49
Fit Statistics
Objective 1289.3
AIC 1293.3
AICC 1293.4
BIC 1292.1



Residual Statistics	
Observations	144
Minimum	-2.243
Mean	-3E-16
Maximum	2.8623
Std Dev	1.0035

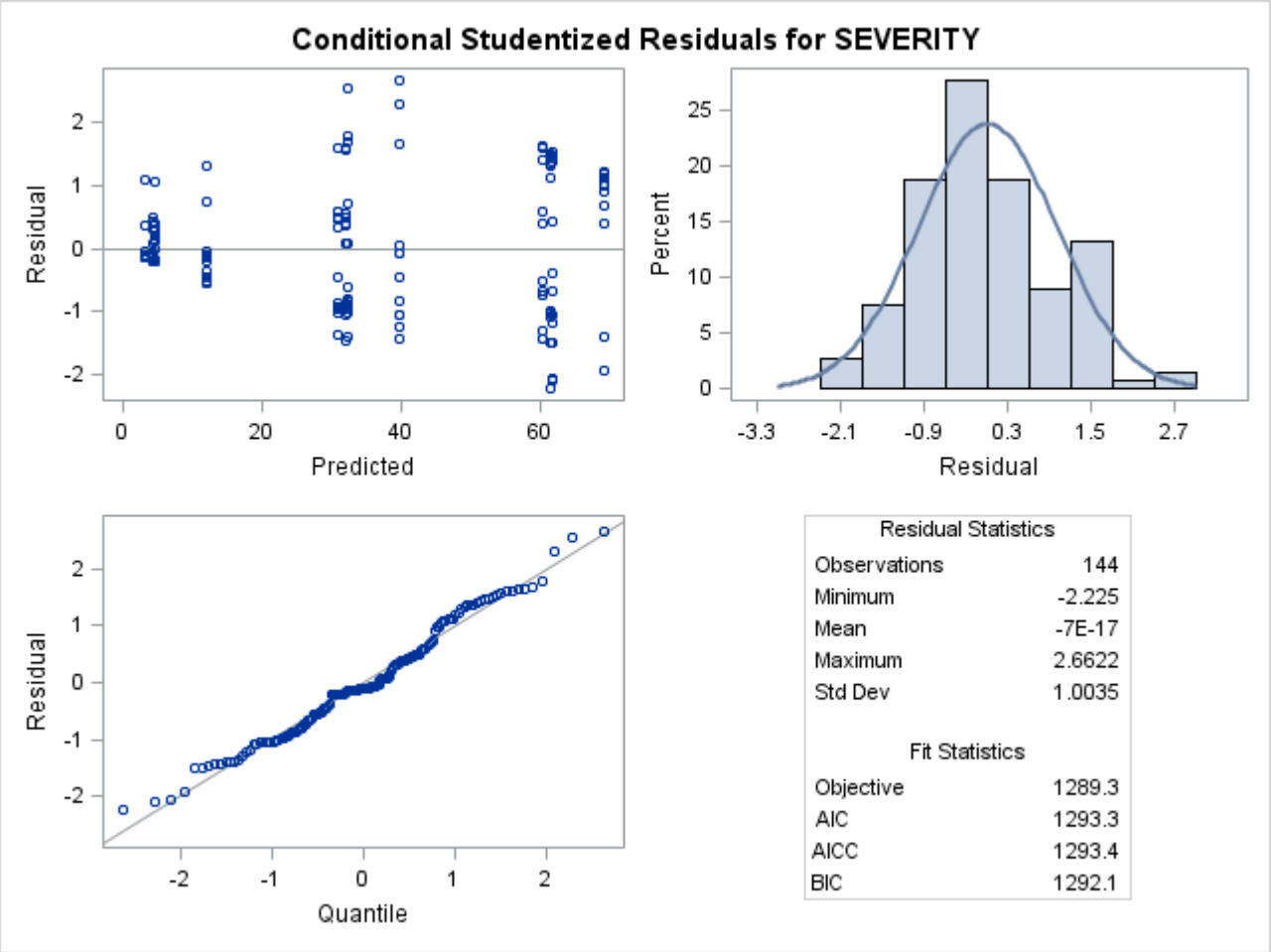
Fit Statistics	
Objective	1289.3
AIC	1293.3
AICC	1293.4
BIC	1292.1

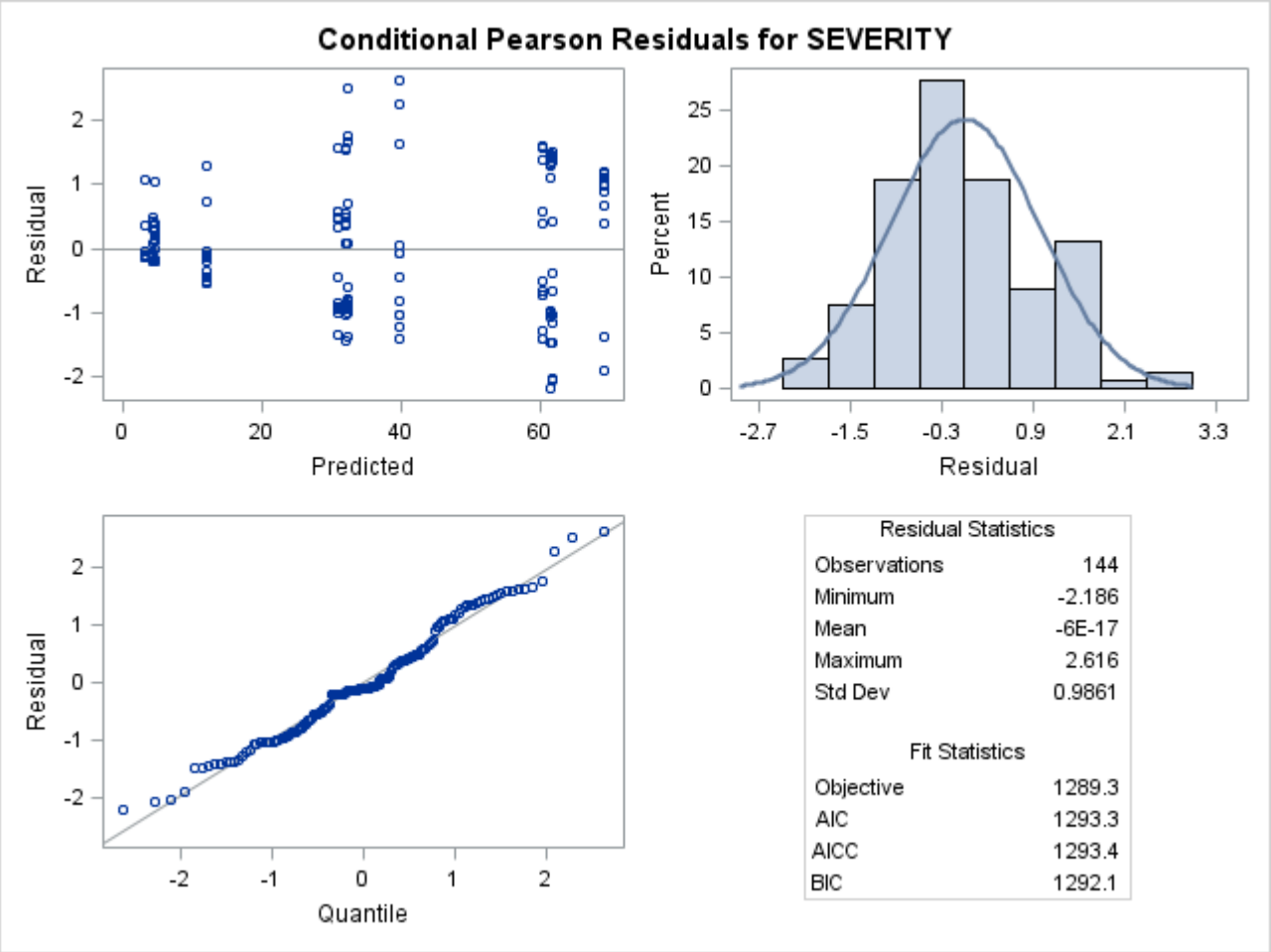

Pearson Residuals for SEVERITY
Residual
Predicted Mean
Percent
Residual
Residual
Quantile
Residual Statistics
Observations 144
Minimum -2.207
Mean -3E-16
Maximum 2.816
Std Dev 0.9873
Fit Statistics
Objective 1289.3
AIC 1293.3
AICC 1293.4
BIC 1292.1



Residual Statistics	
Observations	144
Minimum	-48.56
Mean	-2E-16
Maximum	58.112
Std Dev	21.905

Fit Statistics	
Objective	1289.3
AIC	1293.3
AICC	1293.4
BIC	1292.1


Conditional Studentized Residuals for SEVERITY
Residual
Predicted
Percent
Residual
Residual
Quantile
Residual Statistics
Observations 144
Minimum -2.225
Mean -7E-17
Maximum 2.6622
Std Dev 1.0035
Fit Statistics
Objective 1289.3
AIC 1293.3
AICC 1293.4
BIC 1292.1


Conditional Pearson Residuals for SEVERITY
Residual
Predicted
Percent
Residual
Residual
Quantile
Residual Statistics
Observations 144
Minimum -2.186
Mean -6E-17
Maximum 2.616
Std Dev 0.9861
Fit Statistics
Objective 1289.3
AIC 1293.3
AICC 1293.4
BIC 1292.1

The SAS System

The GLIMMIX Procedure

Model Information	
Data Set	WORK.B
Response Variable	SEVERITY
Response Distribution	Poisson
Link Function	Log
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information		
Class	Levels	Values
BLK	4	1 2 3 4
TRT	3	1 2 3

Number of Observations Read	144
Number of Observations Used	144

Dimensions	
G-side Cov. Parameters	2
Columns in X	4
Columns in Z	16
Subjects (Blocks in V)	1
Max Obs per Subject	144

Optimization Information	
Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	2
Lower Boundaries	2
Upper Boundaries	0
Fixed Effects	Profiled
Starting From	Data

Iteration History					
Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	0	5	1229.0866284	0.23047612	0.02704
1	0	6	1669.4523091	0.57287596	0.000167
2	0	5	1794.0919326	0.18770816	0.000103
3	0	3	1805.3390634	0.01096944	0.000358
4	0	3	1805.5544698	0.00016154	0.000253
5	0	1	1805.5554226	0.00000102	0.000066
6	0	1	1805.5554179	0.00000431	0.000614
7	0	1	1805.5554353	0.00000426	0.000045
8	0	1	1805.5554168	0.00000291	0.000399
9	0	1	1805.5554302	0.00000277	0.000029
10	0	1	1805.5554181	0.00000183	0.000258
11	0	1	1805.5554257	0.00000179	0.000019
12	0	1	1805.5554179	0.00000122	0.000168
13	0	1	1805.5554234	0.00000116	0.000012
14	0	1	1805.5554183	0.00000077	0.000108
15	0	1	1805.5554216	0.00000075	7.929E-6
16	0	0	1805.5554183	0.00000000	7.29E-6

Convergence criterion (PCONV=1.11022E-8) satisfied.

Fit Statistics	
-2 Res Log Pseudo-Likelihood	1805.56
Generalized Chi-Square	1956.71
Gener. Chi-Square / DF	13.88

Covariance Parameter Estimates		
Cov Parm	Estimate	Standard Error
BLK	0.03661	0.03497
BLK*TRT	0.01433	0.01367

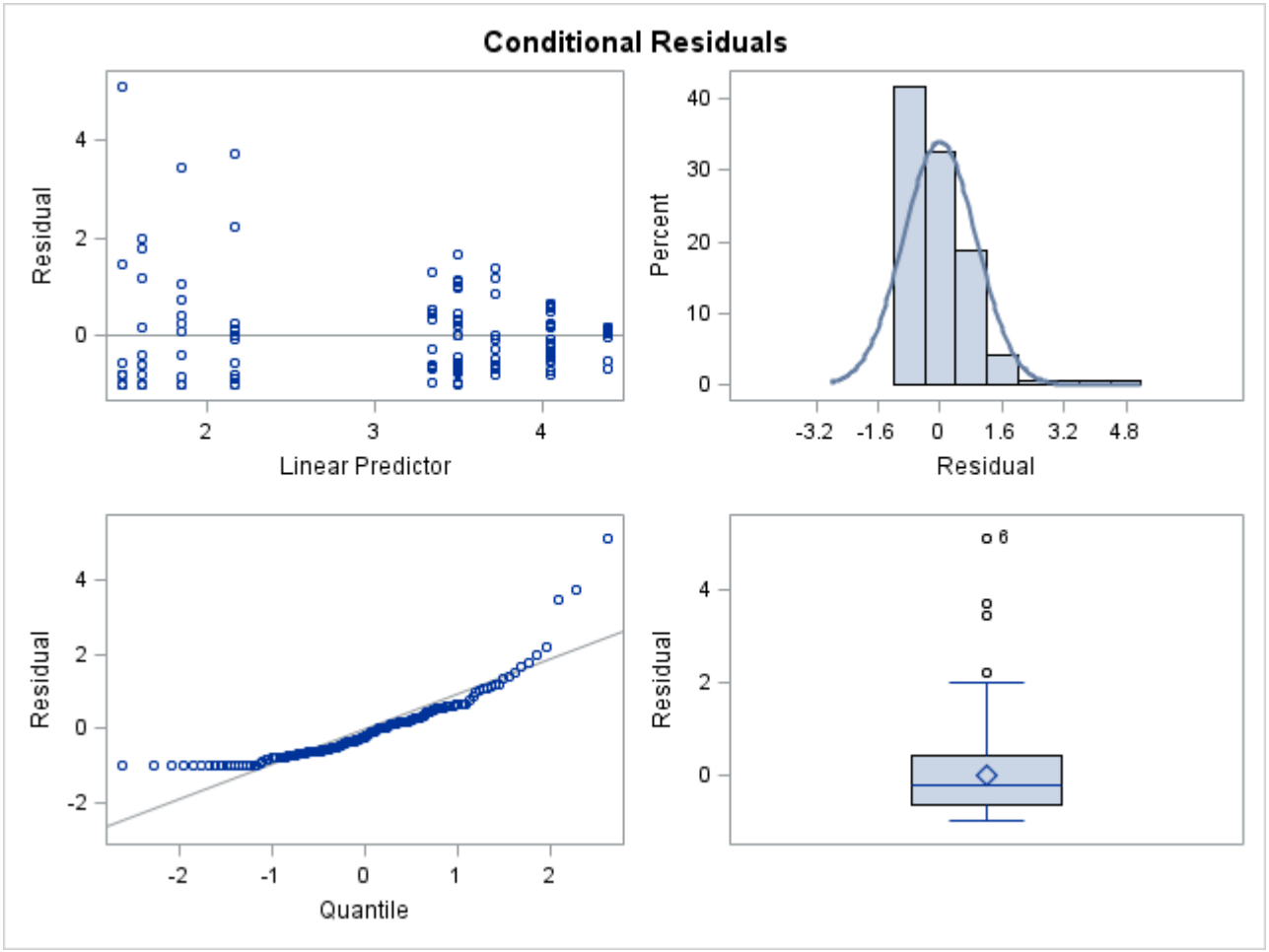
Type III Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
TRT	2	6	255.63	<.0001

TRT Least Squares Means

TRT	Estimate	Standard Error	DF	t Value	Pr > |t|	Mean	Standard Error Mean
1	4.1359	0.1143	6	36.18	<.0001	62.5456	7.1507
2	3.5132	0.1156	6	30.40	<.0001	33.5560	3.8785
3	1.7748	0.1276	6	13.91	<.0001	5.8993	0.7530

Differences of TRT Least Squares Means

TRT	_TRT	Estimate	Standard Error	DF	t Value	Pr > |t|
1	2	0.6227	0.09013	6	6.91	0.0005
1	3	2.3611	0.1051	6	22.46	<.0001
2	3	1.7384	0.1065	6	16.33	<.0001



The SAS System

The GLIMMIX Procedure

Model Information	
Data Set	WORK.B
Response Variable	SEVERITY
Response Distribution	Negative Binomial
Link Function	Log
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information		
Class	Levels	Values
BLK	4	1 2 3 4
TRT	3	1 2 3

Number of Observations Read	144
Number of Observations Used	144

Dimensions	
G-side Cov. Parameters	2
R-side Cov. Parameters	1
Columns in X	4
Columns in Z	16
Subjects (Blocks in V)	1
Max Obs per Subject	144

Optimization Information	
Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	3
Lower Boundaries	3
Upper Boundaries	0
Fixed Effects	Profiled
Starting From	Data

Iteration History					
Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	0	10	497.2982091	0.82766368	25.34872
1	0	8	376.19204391	0.84737894	64.983
2	0	6	393.19359577	0.12413257	56.36195
3	0	4	395.21315558	0.01463985	55.454
4	0	3	395.14070841	0.00053016	55.48552
5	0	1	395.14369539	0.00007260	55.4848
6	0	1	395.14371139	0.00007302	55.48411
7	0	1	395.14403329	0.00002474	55.48418
8	0	1	395.1438225	0.00002347	55.48403
9	0	1	395.14393349	0.00000492	55.48404
10	0	1	395.14386919	0.00000393	55.48402
11	0	1	395.14389101	0.00000083	55.48402
12	0	1	395.1438799	0.00000064	55.48402
13	0	0	395.14388357	0.00000000	55.48402

Convergence criterion (PCONV=1.11022E-8) satisfied.

Estimated G matrix is not positive definite.

Fit Statistics	
-2 Res Log Pseudo-Likelihood	395.14
Generalized Chi-Square	149.94
Gener. Chi-Square / DF	1.06

Covariance Parameter Estimates		
Cov Parm	Estimate	Standard Error
BLK	0.02898	0.04216
BLK*TRT	0	.
Scale	0.7508	0.1045

Type III Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F

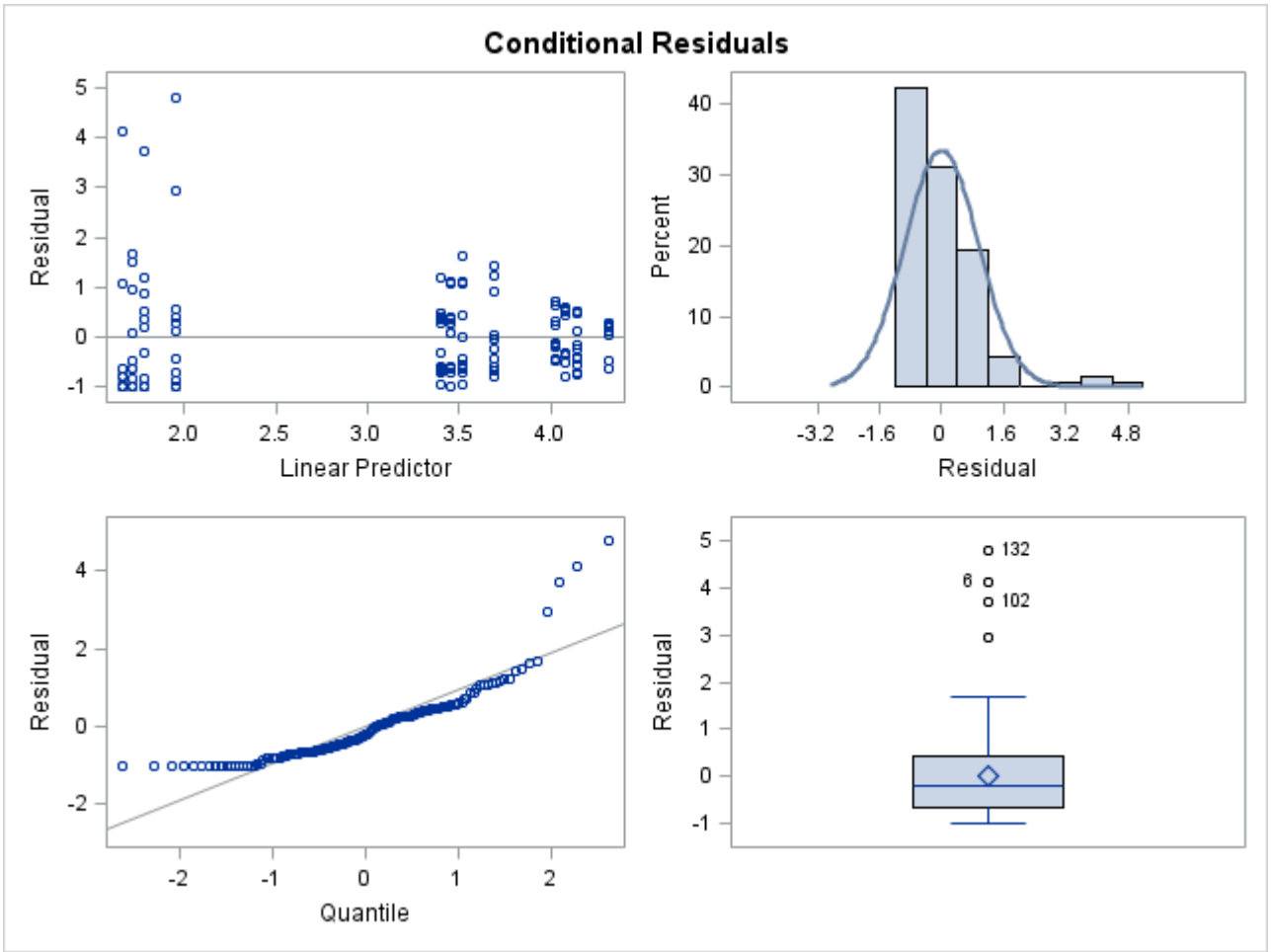
TRT	2	6	83.13	<.0001

TRT Least Squares Means

TRT	Estimate	Standard Error	DF	t Value	Pr > |t|	Mean	Standard Error Mean
1	4.1381	0.1524	6	27.16	<.0001	62.6854	9.5520
2	3.5145	0.1533	6	22.92	<.0001	33.5976	5.1514
3	1.7802	0.1625	6	10.95	<.0001	5.9308	0.9639

Differences of TRT Least Squares Means

TRT	_TRT	Estimate	Standard Error	DF	t Value	Pr > |t|
1	2	0.6237	0.1796	6	3.47	0.0132
1	3	2.3580	0.1875	6	12.58	<.0001
2	3	1.7343	0.1882	6	9.21	<.0001



The SAS System

The Mixed Procedure

Model Information	
Data Set	WORK.B
Dependent Variable	PROP
Covariance Structure	Variance Components
Estimation Method	REML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information		
Class	Levels	Values
BLK	4	1 2 3 4
TRT	3	1 2 3

Dimensions	
Covariance Parameters	3
Columns in X	4
Columns in Z	16
Subjects	1
Max Obs per Subject	144

Number of Observations	
Number of Observations Read	144
Number of Observations Used	144
Number of Observations Not Used	0

Iteration History			
Iteration	Evaluations	-2 Res Log Like	Criterion
0	1	-7.03469765	
1	3	-9.35386718	0.00000826
2	1	-9.35501411	0.00000002
3	1	-9.35501722	0.00000000

Convergence criteria met.

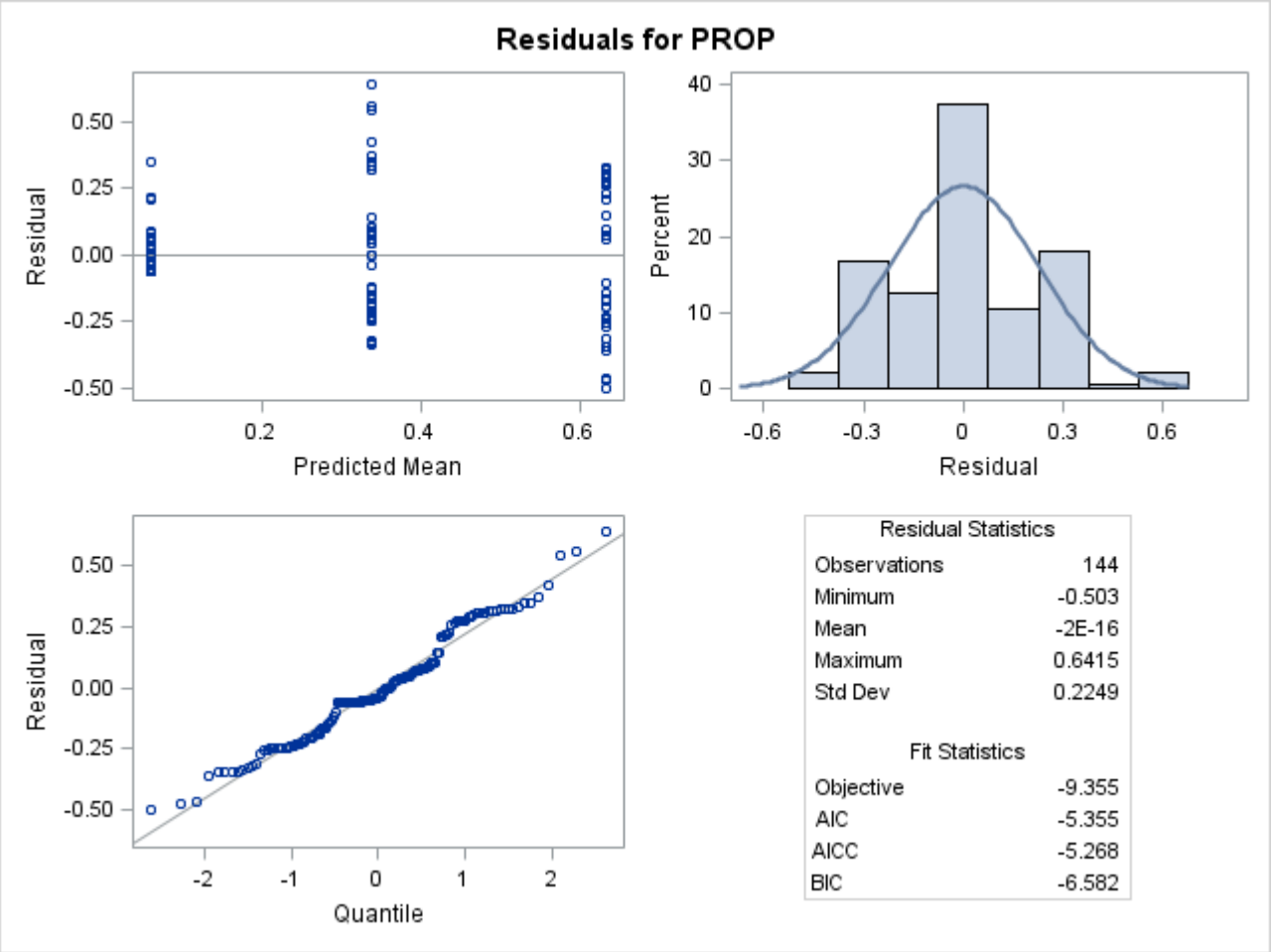
Covariance Parameter Estimates				
Cov Parm	Estimate	Standard Error	Z Value	Pr > Z
BLK	0.002550	0.003205	0.80	0.2132
BLK*TRT	0	.	.	.
Residual	0.04934	0.005940	8.31	<.0001

Fit Statistics	
-2 Res Log Likelihood	-9.4
AIC (Smaller is Better)	-5.4
AICC (Smaller is Better)	-5.3
BIC (Smaller is Better)	-6.6

Type 3 Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
TRT	2	6	79.50	<.0001

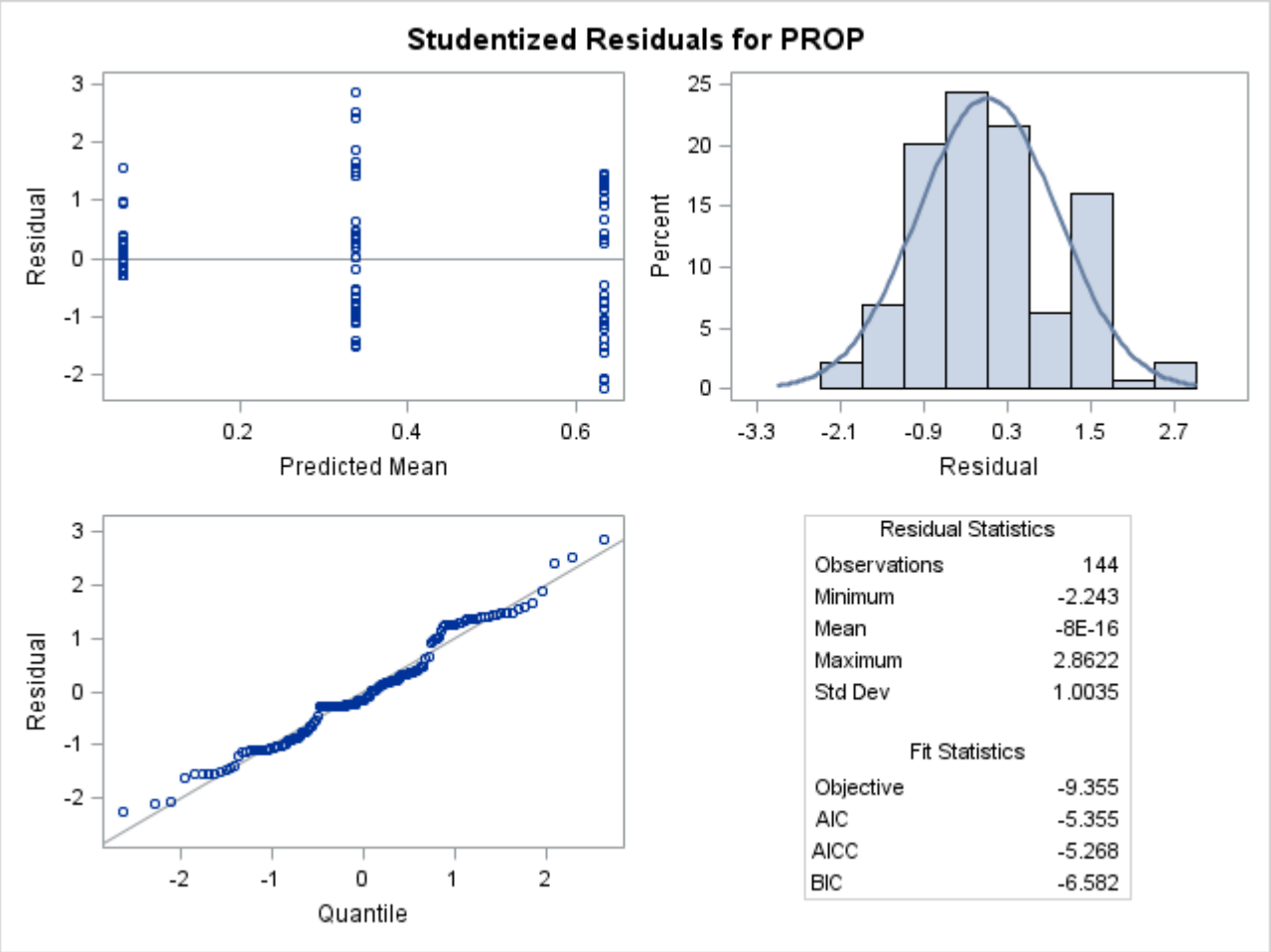
Least Squares Means						
Effect	TRT	Estimate	Standard Error	DF	t Value	Pr > |t|
TRT	1	0.6327	0.04081	6	15.50	<.0001
TRT	2	0.3385	0.04081	6	8.30	0.0002
TRT	3	0.06104	0.04081	6	1.50	0.1853

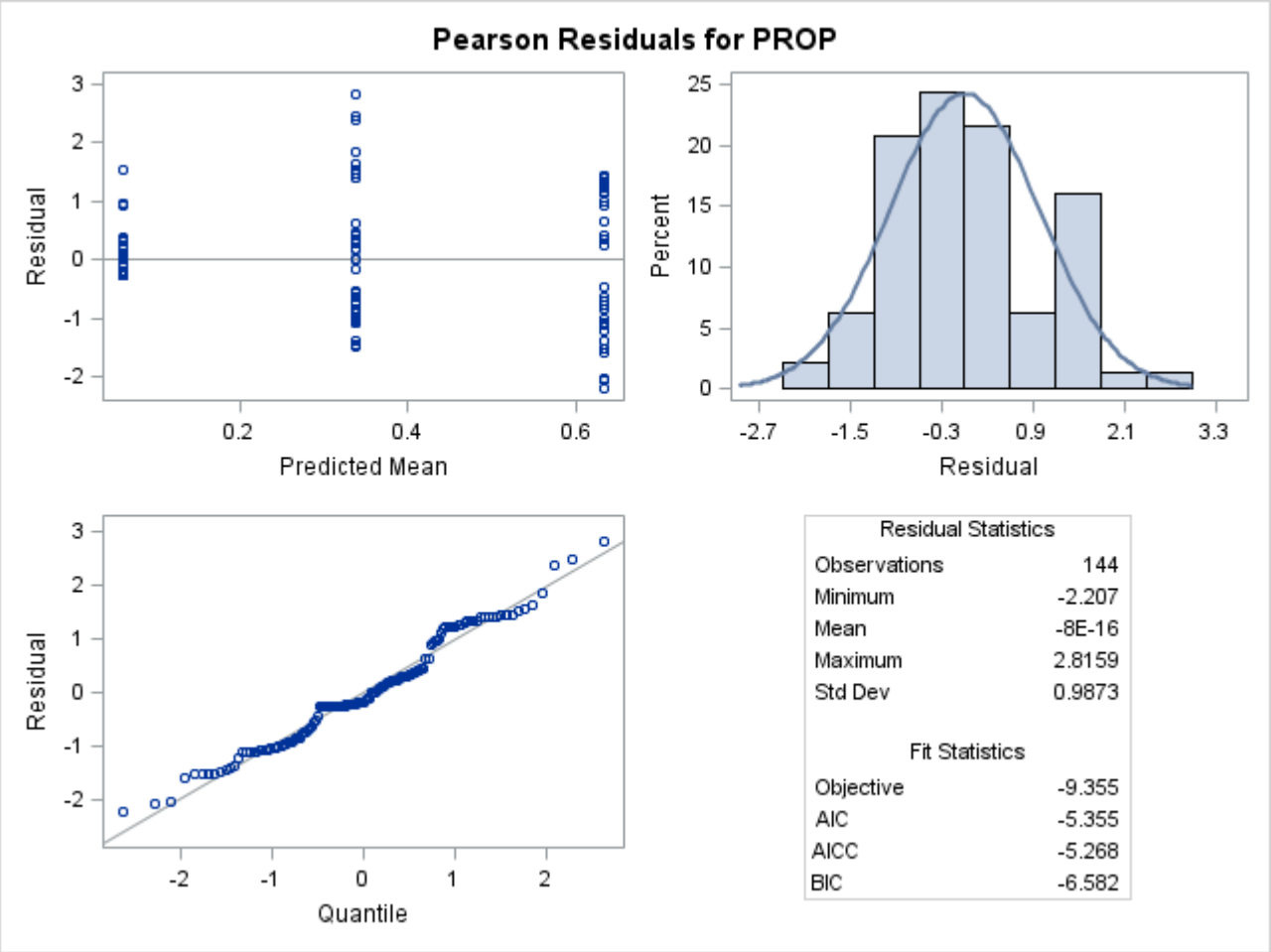
Differences of Least Squares Means							
Effect	TRT	_TRT	Estimate	Standard Error	DF	t Value	Pr > |t|
TRT	1	2	0.2942	0.04534	6	6.49	0.0006
TRT	1	3	0.5717	0.04534	6	12.61	<.0001
TRT	2	3	0.2775	0.04534	6	6.12	0.0009

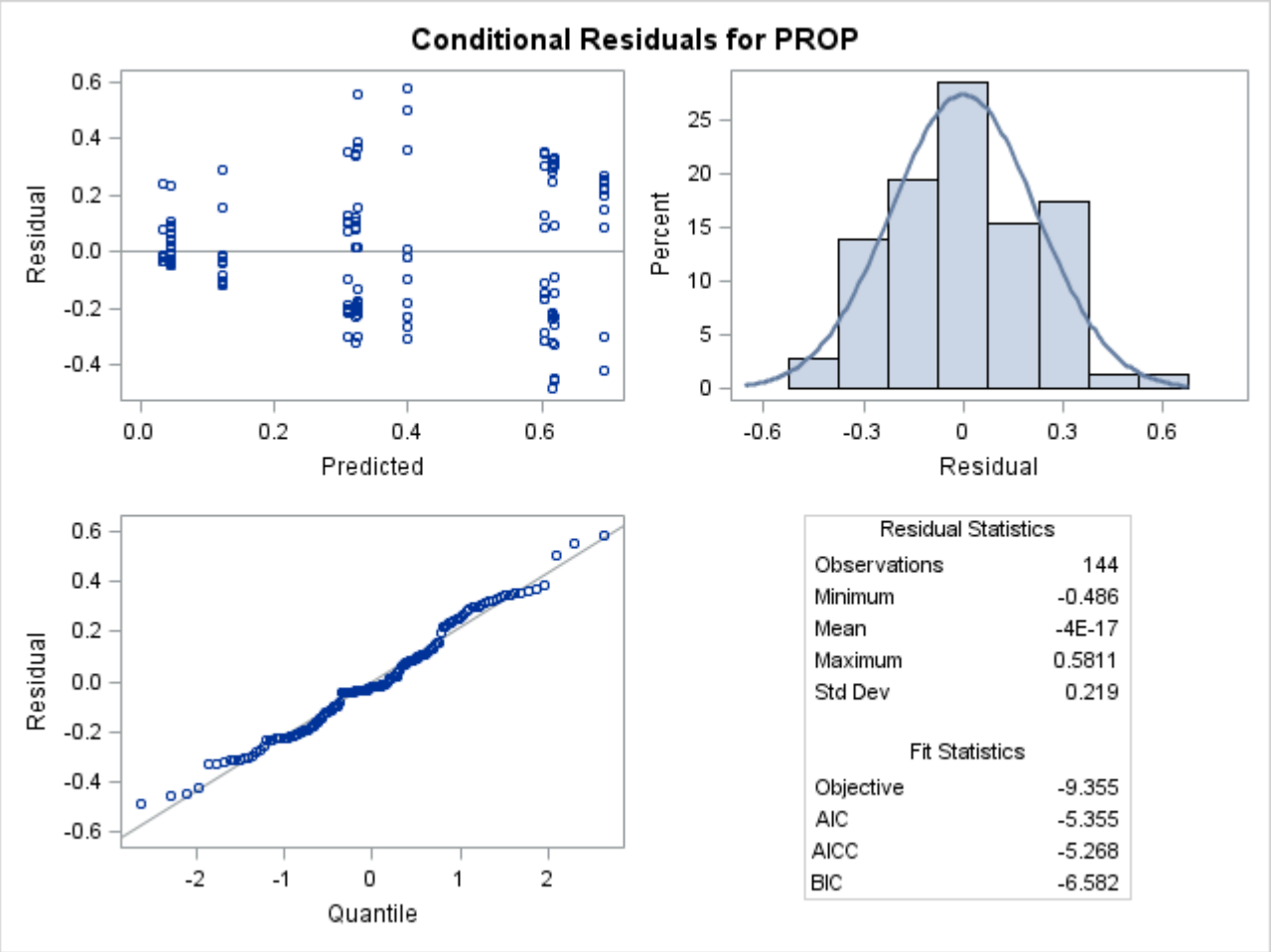


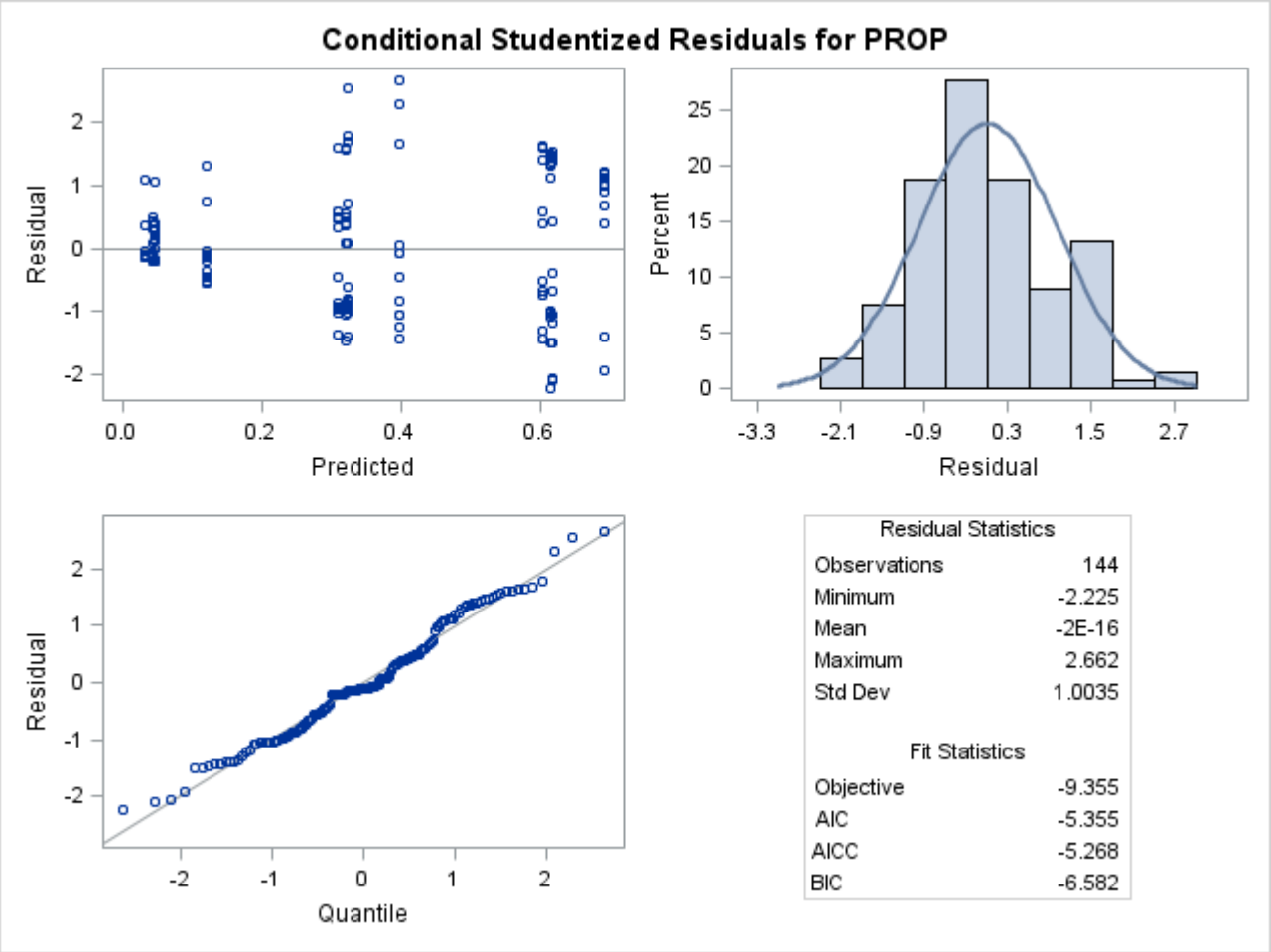
Residual Statistics	
Observations	144
Minimum	-0.503
Mean	-2E-16
Maximum	0.6415
Std Dev	0.2249

Fit Statistics	
Objective	-9.355
AIC	-5.355
AICC	-5.268
BIC	-6.582


Studentized Residuals for PROP
Residual
Predicted Mean
Percent
Residual
Residual
Quantile
Residual Statistics
Observations 144
Minimum -2.243
Mean -8E-16
Maximum 2.8622
Std Dev 1.0035
Fit Statistics
Objective -9.355
AIC -5.355
AICC -5.268
BIC -6.582

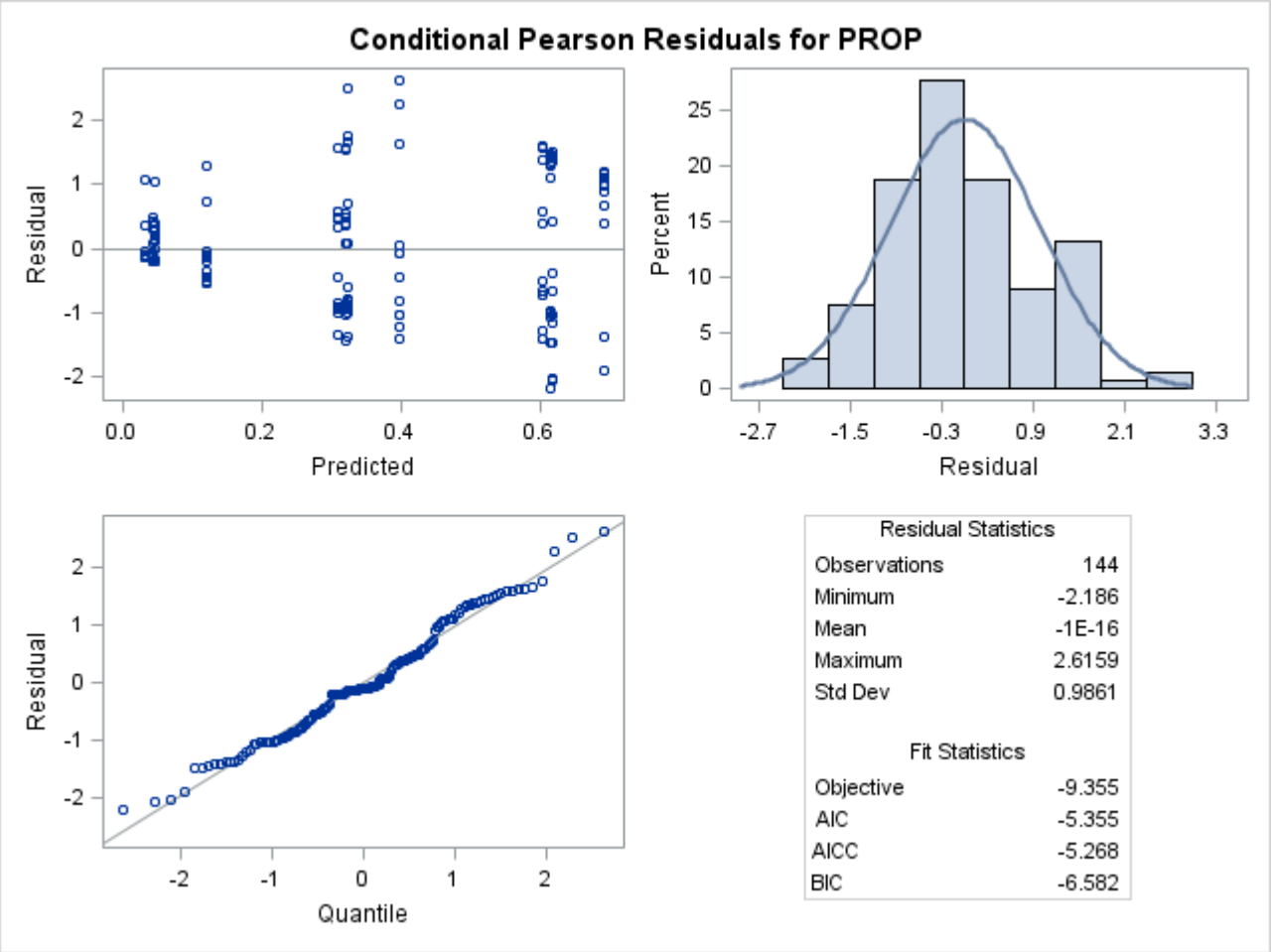

Pearson Residuals for PROP
Residual
Predicted Mean
Percent
Residual
Residual
Quantile
Residual Statistics
Observations 144
Minimum -2.207
Mean -8E-16
Maximum 2.8159
Std Dev 0.9873
Fit Statistics
Objective -9.355
AIC -5.355
AICC -5.268
BIC -6.582


Conditional Residuals for PROP
Residual
Predicted
0.6
0.4
0.2
0.0
-0.2
-0.4
0.0
0.2
0.4
0.6
Percent
Residual
25
20
15
10
5
0
-0.6
-0.3
0
0.3
0.6
Residual
Quantile
-2
-1
0
1
2
Residual Statistics
Observations 144
Minimum -0.486
Mean -4E-17
Maximum 0.5811
Std Dev 0.219
Fit Statistics
Objective -9.355
AIC -5.355
AICC -5.268
BIC -6.582



Residual Statistics	
Observations	144
Minimum	-2.225
Mean	-2E-16
Maximum	2.662
Std Dev	1.0035

Fit Statistics	
Objective	-9.355
AIC	-5.355
AICC	-5.268
BIC	-6.582


Conditional Pearson Residuals for PROP
Residual
Predicted
Percent
Residual
Residual
Quantile
Residual Statistics
Observations 144
Minimum -2.186
Mean -1E-16
Maximum 2.6159
Std Dev 0.9861
Fit Statistics
Objective -9.355
AIC -5.355
AICC -5.268
BIC -6.582

The SAS System

The GLIMMIX Procedure

Model Information	
Data Set	WORK.B
Response Variable	PROP
Response Distribution	Binomial
Link Function	Logit
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information		
Class	Levels	Values
BLK	4	1 2 3 4
TRT	3	1 2 3

Number of Observations Read	144
Number of Observations Used	144

Dimensions	
G-side Cov. Parameters	2
Columns in X	4
Columns in Z	16
Subjects (Blocks in V)	1
Max Obs per Subject	144

Optimization Information	
Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	2
Lower Boundaries	2
Upper Boundaries	0
Fixed Effects	Profiled
Starting From	Data

Iteration History					
Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	0	2	550.5535989	2.00000000	12.69614
1	0	0	573.00913978	0.07816044	11.43123
2	0	0	580.13379656	0.00548099	11.13186
3	0	0	580.66413016	0.00002721	11.11135
4	0	0	580.66677403	0.00000000	11.11125

Convergence criterion (PCONV=1.11022E-8) satisfied.

Estimated G matrix is not positive definite.

Fit Statistics	
-2 Res Log Pseudo-Likelihood	580.67
Generalized Chi-Square	36.61
Gener. Chi-Square / DF	0.26

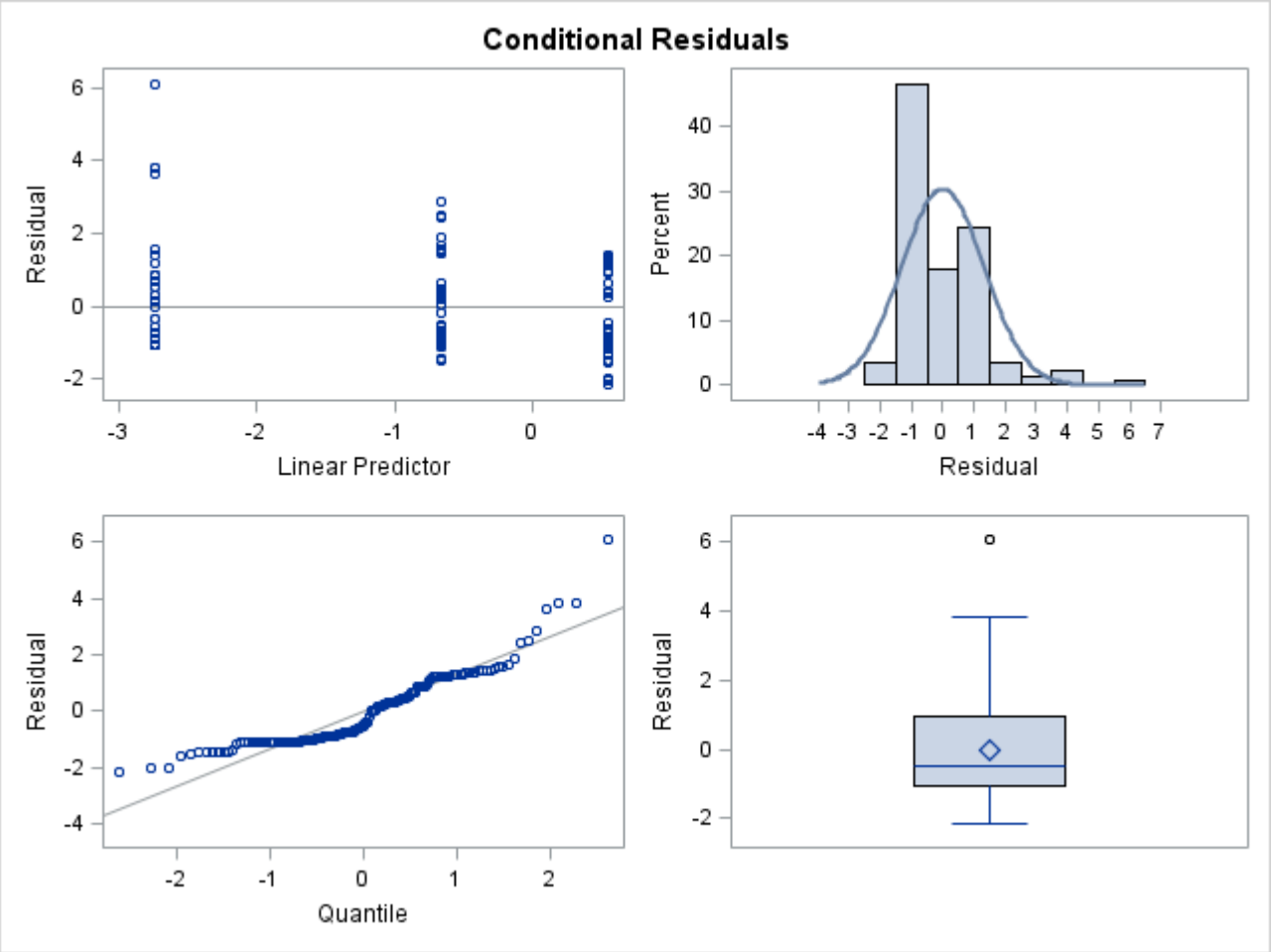
Covariance Parameter Estimates		
Cov Parm	Estimate	Standard Error
BLK	0	.
BLK*TRT	0	.

Type III Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
TRT	2	6	12.82	0.0068

TRT Least Squares Means							
TRT	Estimate	Standard Error	DF	t Value	Pr > |t|	Mean	Standard Error Mean
1	0.5439	0.2994	6	1.82	0.1192	0.6327	0.06958
2	-0.6698	0.3050	6	-2.20	0.0705	0.3385	0.06830
3	-2.7332	0.6029	6	-4.53	0.0040	0.06104	0.03456

Differences of TRT Least Squares Means						
TRT	_TRT	Estimate	Standard Error	DF	t Value	Pr > |t|

1	2	1.2137	0.4274	6	2.84	0.0296
1	3	3.2771	0.6732	6	4.87	0.0028
2	3	2.0634	0.6757	6	3.05	0.0224



The SAS System

The Mixed Procedure

Model Information	
Data Set	WORK.B
Dependent Variable	ARCSEV
Covariance Structure	Variance Components
Estimation Method	REML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information		
Class	Levels	Values
BLK	4	1 2 3 4
TRT	3	1 2 3

Dimensions	
Covariance Parameters	3
Columns in X	4
Columns in Z	16
Subjects	1
Max Obs per Subject	144

Number of Observations	
Number of Observations Read	144
Number of Observations Used	144
Number of Observations Not Used	0

Iteration History			
Iteration	Evaluations	-2 Res Log Like	Criterion
0	1	53.29170479	
1	3	50.11055757	0.00003298
2	1	50.10691518	0.00000027
3	1	50.10688629	0.00000000

Convergence criteria met.

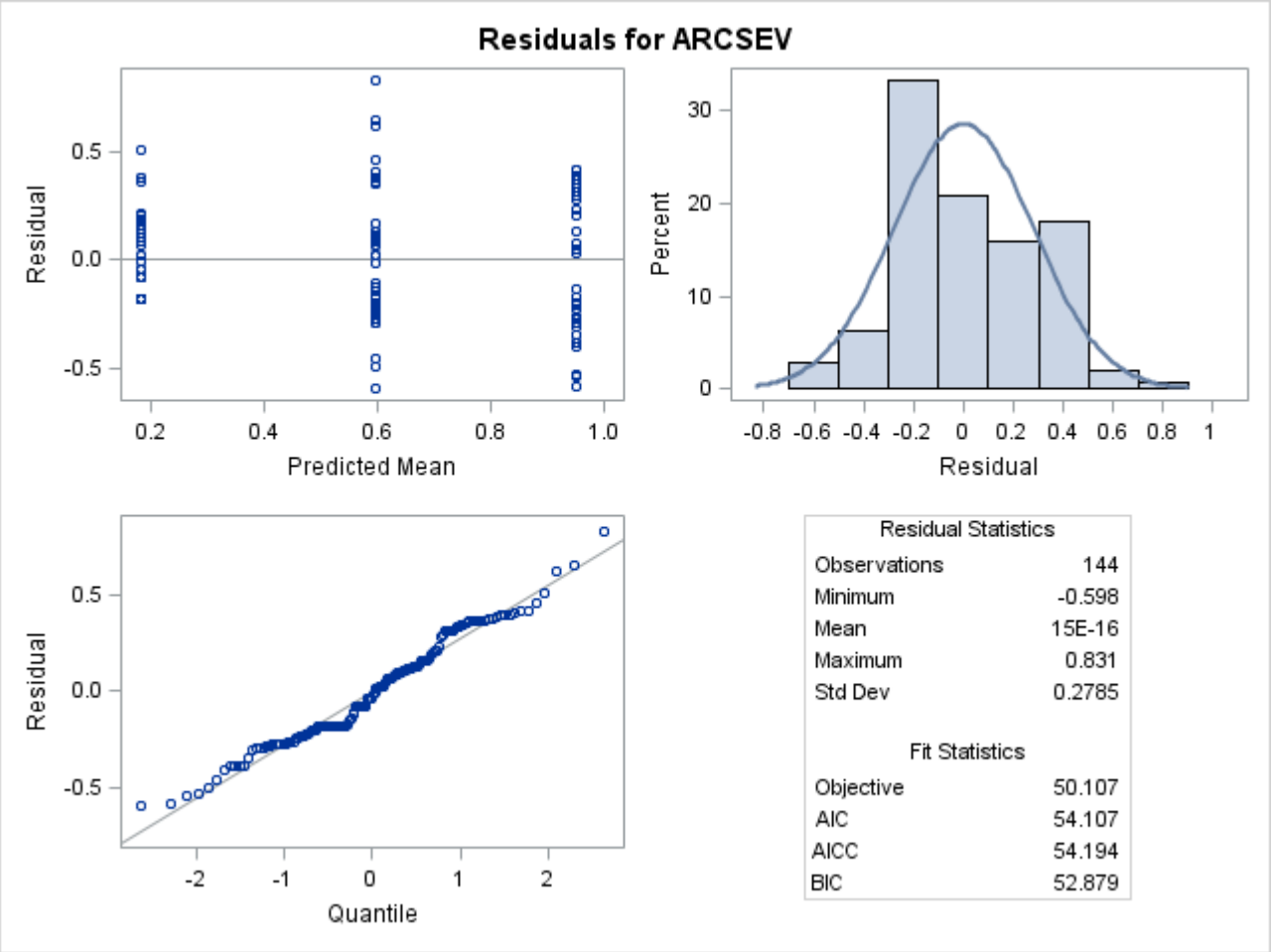
Covariance Parameter Estimates				
Cov Parm	Estimate	Standard Error	Z Value	Pr > Z
BLK	0.004823	0.005644	0.85	0.1964
BLK*TRT	0	.	.	.
Residual	0.07499	0.009028	8.31	<.0001

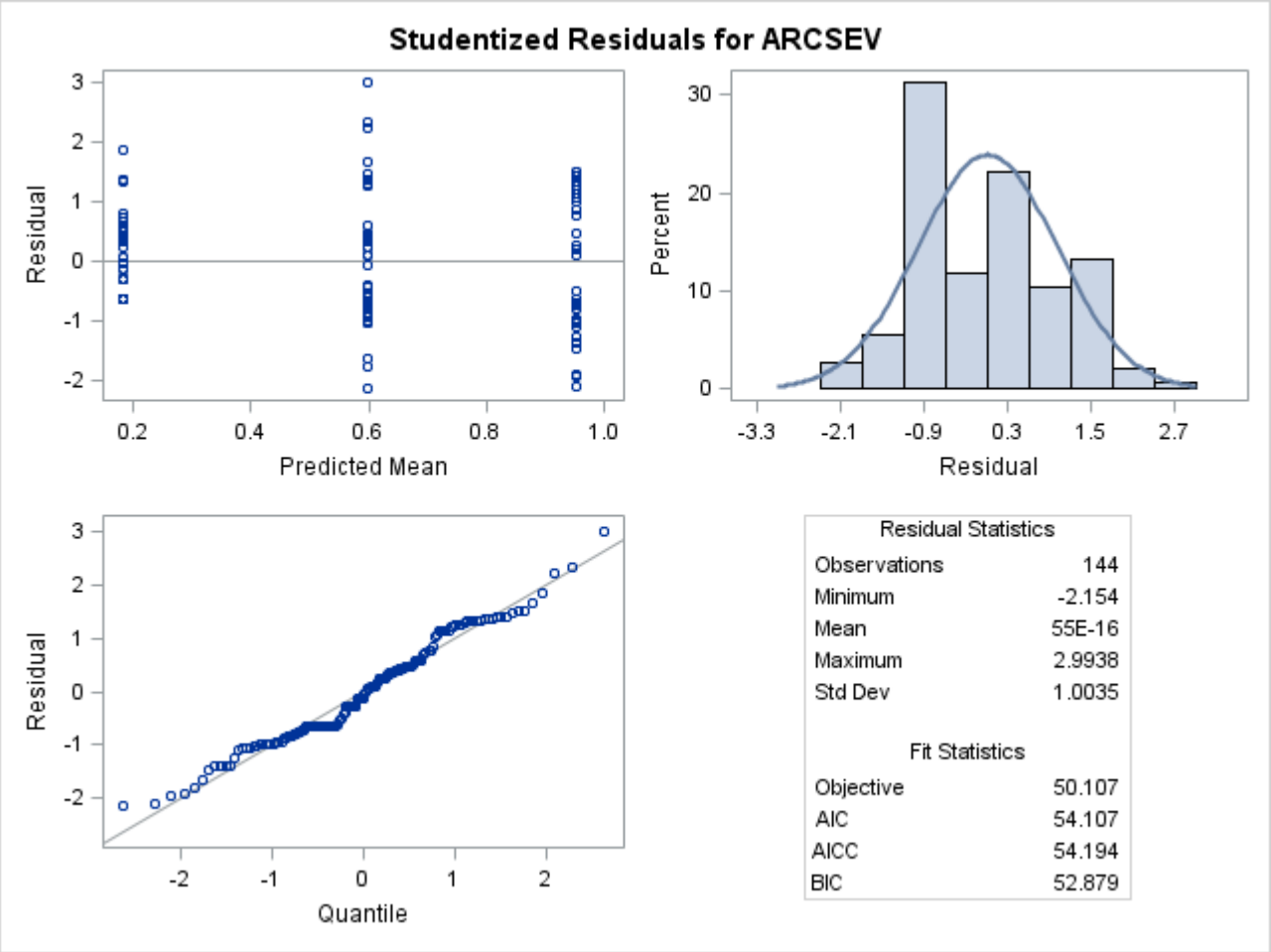
Fit Statistics	
-2 Res Log Likelihood	50.1
AIC (Smaller is Better)	54.1
AICC (Smaller is Better)	54.2
BIC (Smaller is Better)	52.9

Type 3 Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
TRT	2	6	95.22	<.0001

Least Squares Means						
Effect	TRT	Estimate	Standard Error	DF	t Value	Pr > |t|
TRT	1	0.9523	0.05261	6	18.10	<.0001
TRT	2	0.5979	0.05261	6	11.36	<.0001
TRT	3	0.1818	0.05261	6	3.45	0.0136

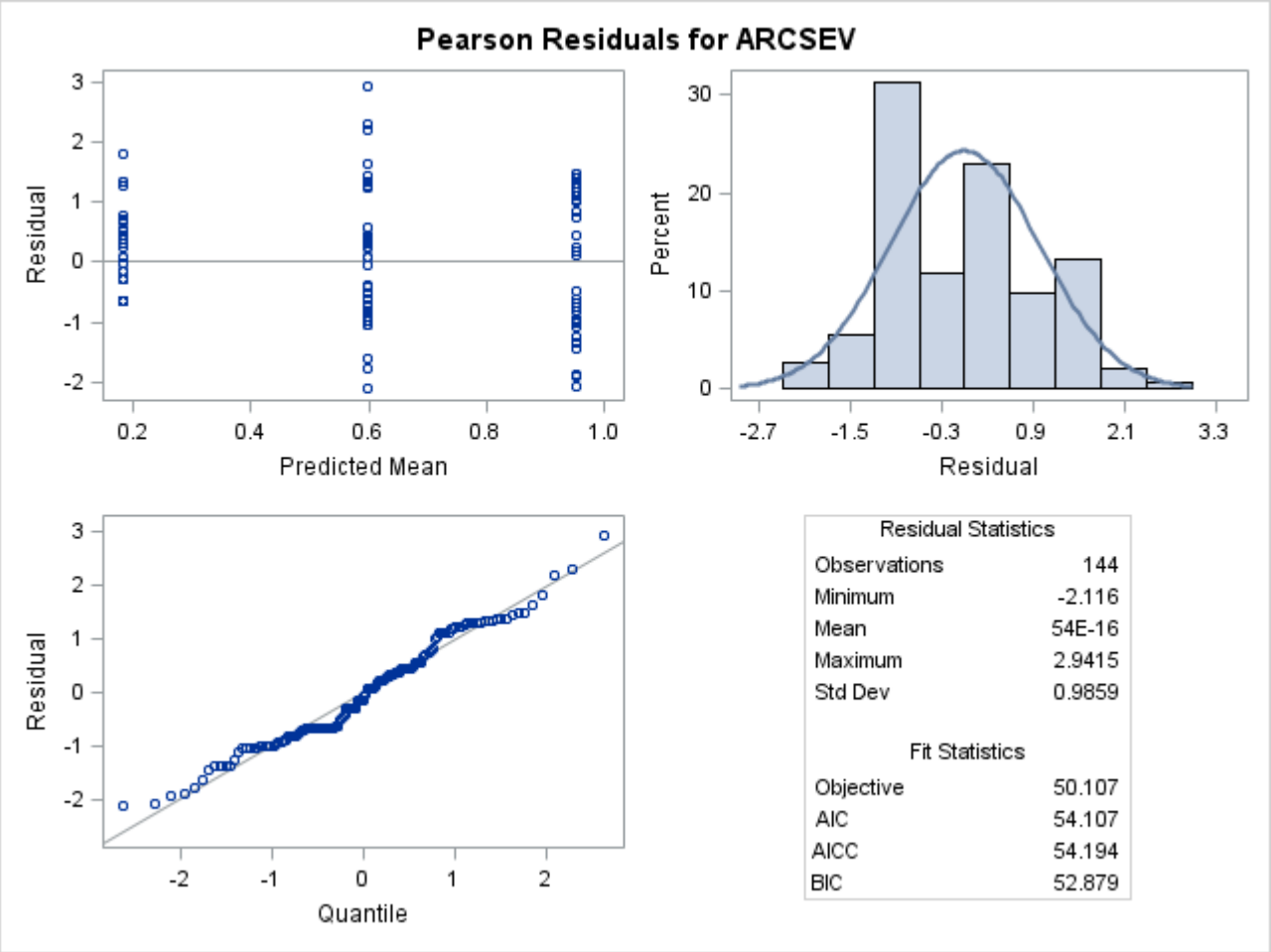
Differences of Least Squares Means							
Effect	TRT	_TRT	Estimate	Standard Error	DF	t Value	Pr > |t|
TRT	1	2	0.3544	0.05590	6	6.34	0.0007
TRT	1	3	0.7706	0.05590	6	13.79	<.0001
TRT	2	3	0.4161	0.05590	6	7.44	0.0003

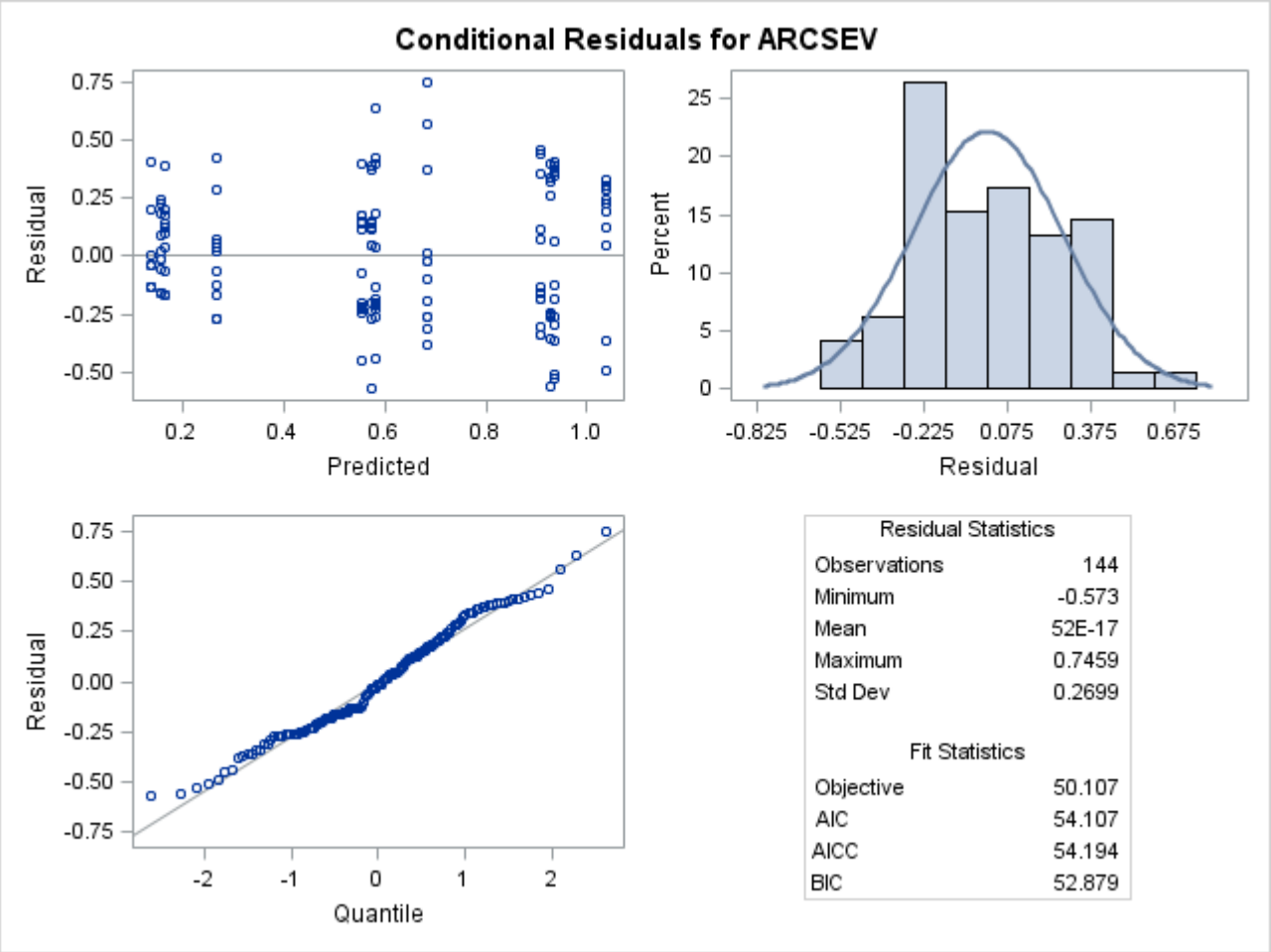

Residuals for ARCSEV
Residual
Predicted Mean
0.5
0.0
-0.5
0.2
0.4
0.6
0.8
1.0
Percent
Residual
30
20
10
0
-0.8 -0.6 -0.4 -0.2 0 0.2 0.4 0.6 0.8 1
Residual
Quantile
-2 -1 0 1 2
Residual Statistics
Observations 144
Minimum -0.598
Mean 15E-16
Maximum 0.831
Std Dev 0.2785
Fit Statistics
Objective 50.107
AIC 54.107
AICC 54.194
BIC 52.879

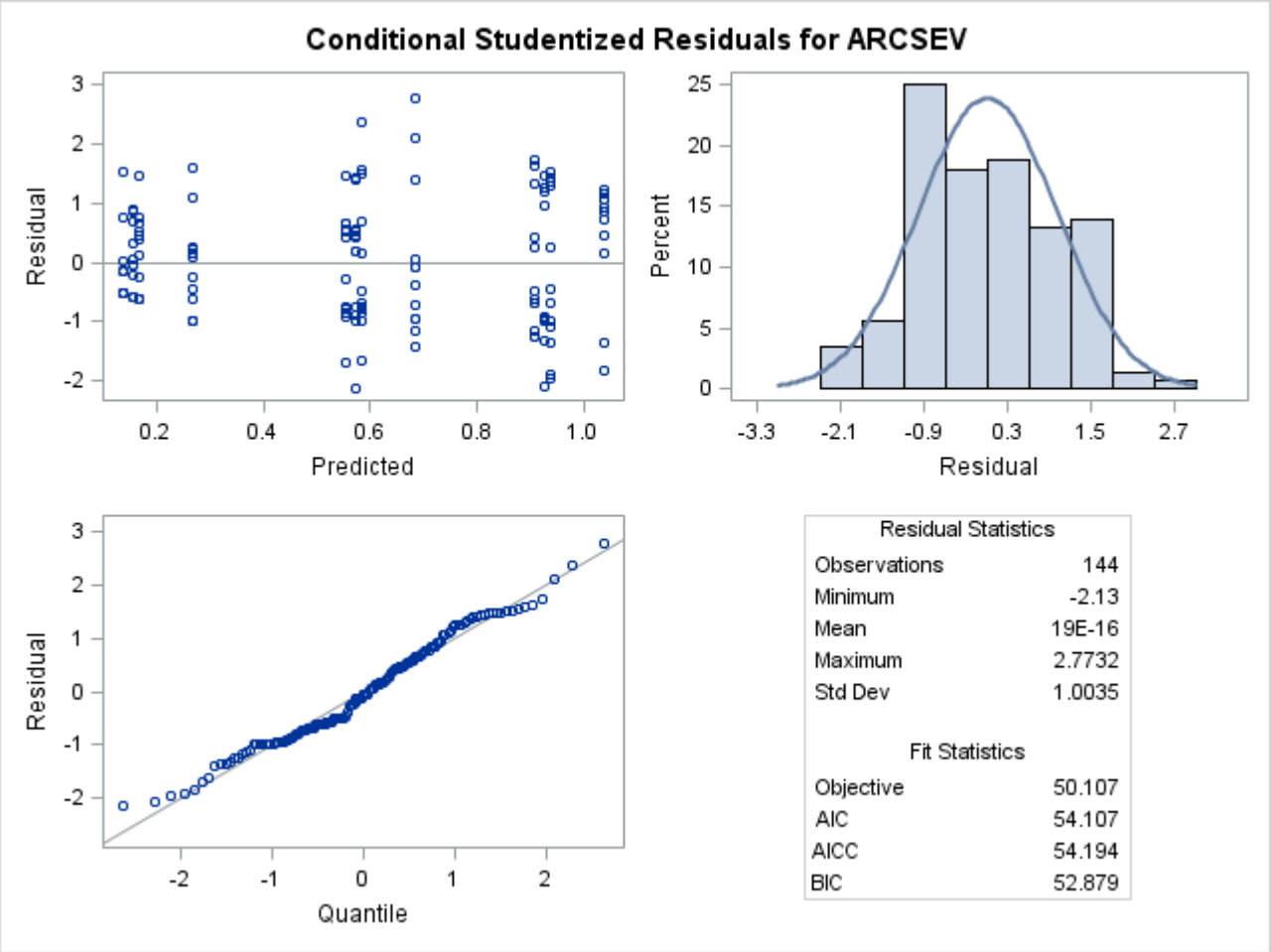


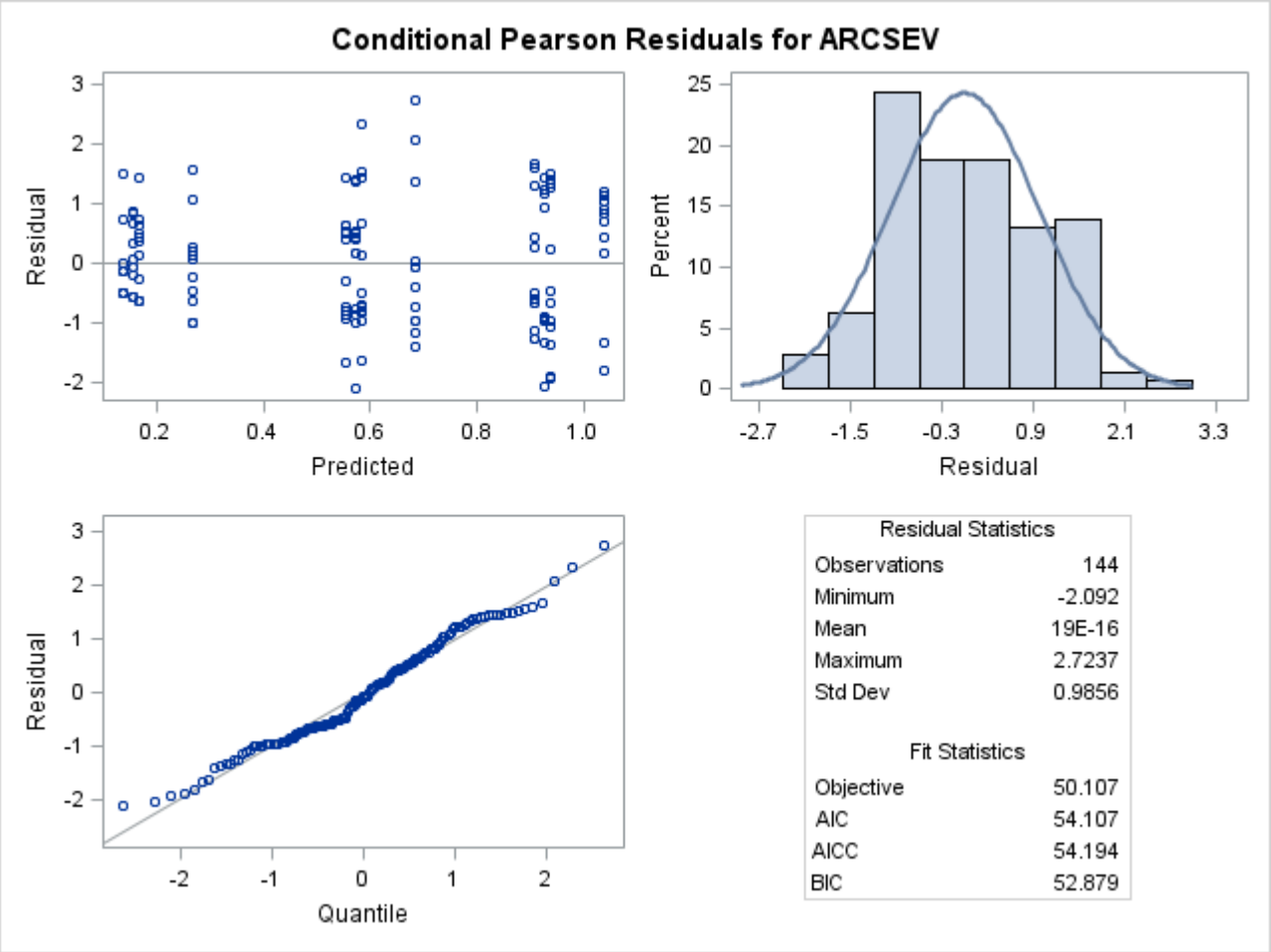
Residual Statistics	
Observations	144
Minimum	-2.154
Mean	55E-16
Maximum	2.9938
Std Dev	1.0035

Fit Statistics	
Objective	50.107
AIC	54.107
AICC	54.194
BIC	52.879


Pearson Residuals for ARCSEV
Residual
Predicted Mean
Percent
Residual
Residual
Quantile
Residual Statistics
Observations 144
Minimum -2.116
Mean 54E-16
Maximum 2.9415
Std Dev 0.9859
Fit Statistics
Objective 50.107
AIC 54.107
AICC 54.194
BIC 52.879


Conditional Residuals for ARCSEV
Residual
Predicted
Percent
Residual
Residual
Quantile
Residual Statistics
Observations 144
Minimum -0.573
Mean 52E-17
Maximum 0.7459
Std Dev 0.2699
Fit Statistics
Objective 50.107
AIC 54.107
AICC 54.194
BIC 52.879


Conditional Studentized Residuals for ARCSEV
Residual
Predicted
Percent
Residual
Residual
Quantile
Residual Statistics
Observations 144
Minimum -2.13
Mean 19E-16
Maximum 2.7732
Std Dev 1.0035
Fit Statistics
Objective 50.107
AIC 54.107
AICC 54.194
BIC 52.879


Conditional Pearson Residuals for ARCSEV
Residual
Predicted
Percent
Residual
Residual
Quantile
Residual Statistics
Observations 144
Minimum -2.092
Mean 19E-16
Maximum 2.7237
Std Dev 0.9856
Fit Statistics
Objective 50.107
AIC 54.107
AICC 54.194
BIC 52.879

The SAS System

The Mixed Procedure

Model Information	
Data Set	WORK.B
Dependent Variable	LOGSEV
Covariance Structure	Variance Components
Estimation Method	REML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information		
Class	Levels	Values
BLK	4	1 2 3 4
TRT	3	1 2 3

Dimensions	
Covariance Parameters	3
Columns in X	4
Columns in Z	16
Subjects	1
Max Obs per Subject	144

Number of Observations	
Number of Observations Read	144
Number of Observations Used	144
Number of Observations Not Used	0

Iteration History			
Iteration	Evaluations	-2 Res Log Like	Criterion
0	1	393.97683799	
1	3	392.71703371	0.00052145
2	1	392.67724319	0.00003501
3	1	392.67479455	0.00000020
4	1	392.67478106	0.00000000

Convergence criteria met.

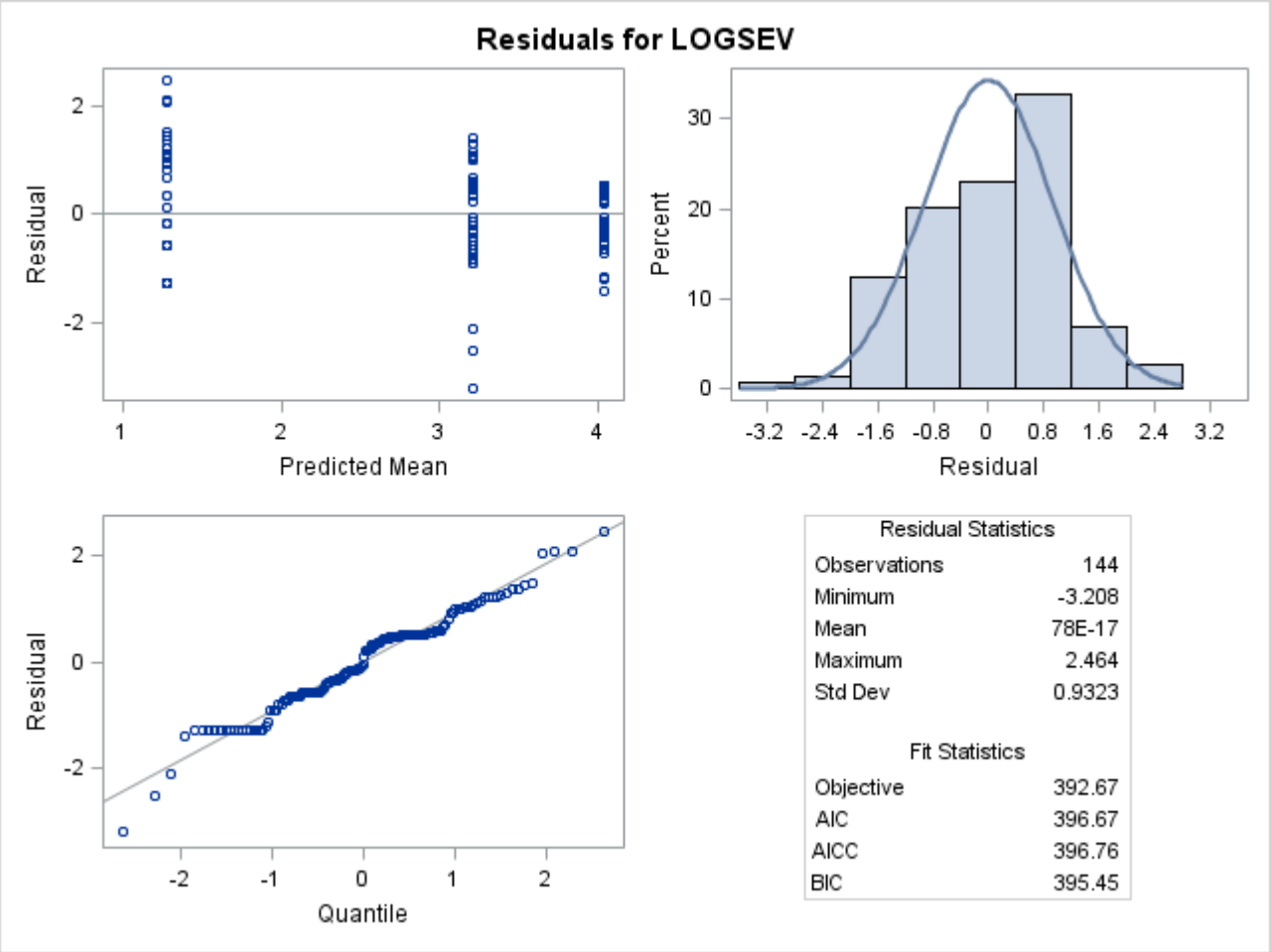
Covariance Parameter Estimates				
Cov Parm	Estimate	Standard Error	Z Value	Pr > Z
BLK	0.03031	0.04431	0.68	0.2470
BLK*TRT	0	.	.	.
Residual	0.8583	0.1033	8.31	<.0001

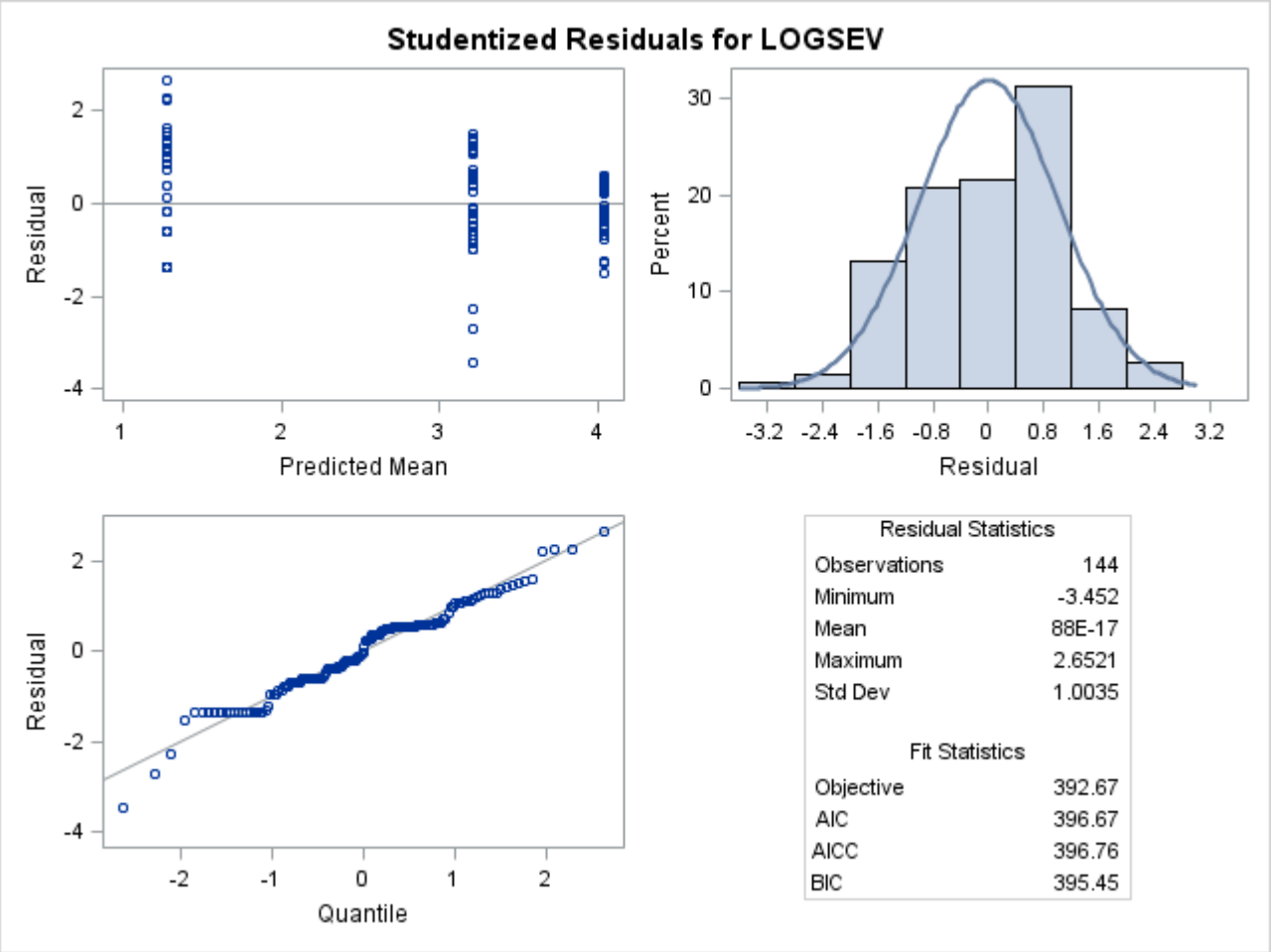
Fit Statistics	
-2 Res Log Likelihood	392.7
AIC (Smaller is Better)	396.7
AICC (Smaller is Better)	396.8
BIC (Smaller is Better)	395.4

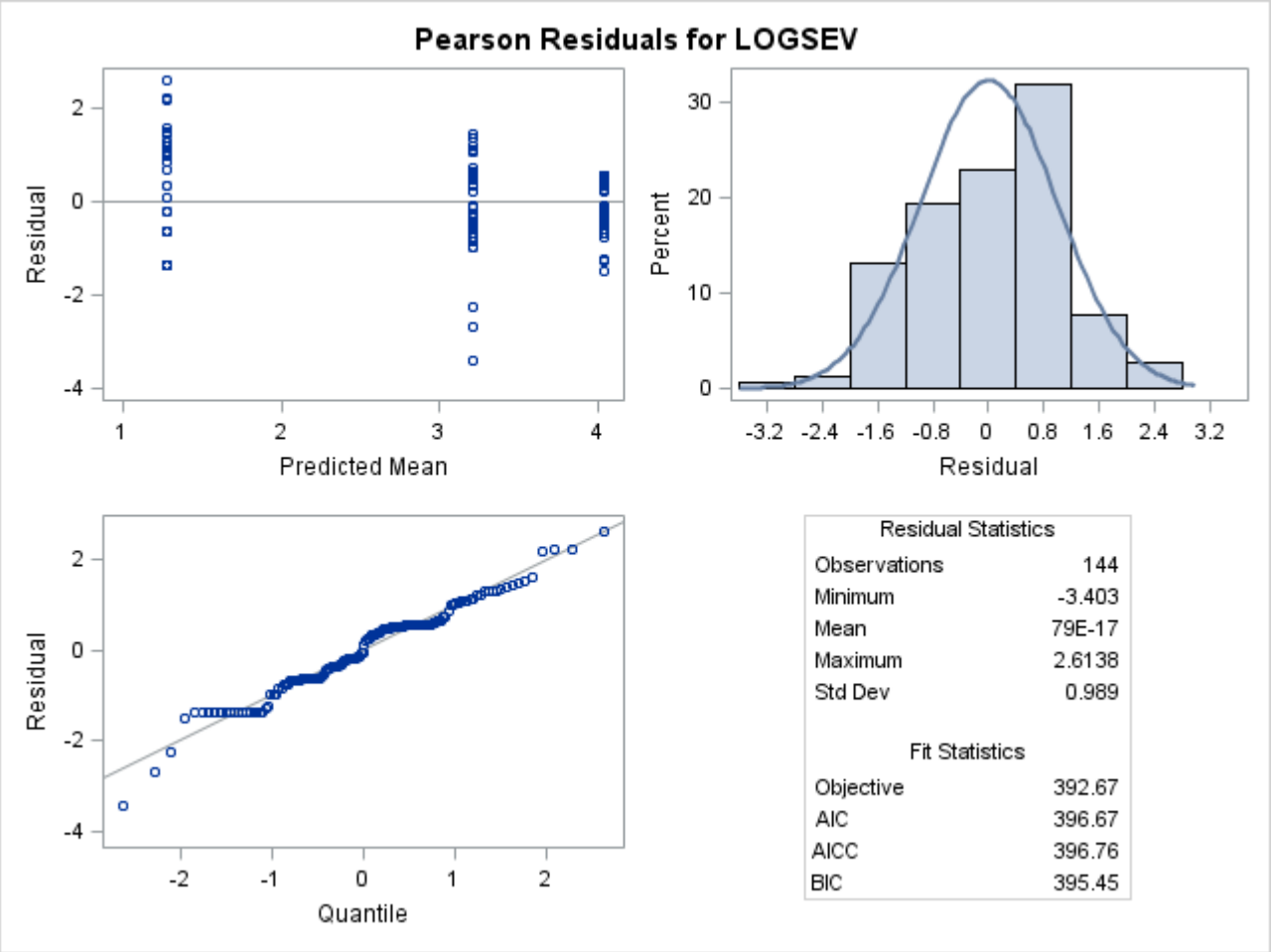
Type 3 Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
TRT	2	6	112.52	<.0001

Least Squares Means						
Effect	TRT	Estimate	Standard Error	DF	t Value	Pr > |t|
TRT	1	4.0382	0.1596	6	25.31	<.0001
TRT	2	3.2076	0.1596	6	20.10	<.0001
TRT	3	1.2737	0.1596	6	7.98	0.0002

Differences of Least Squares Means							
Effect	TRT	_TRT	Estimate	Standard Error	DF	t Value	Pr > |t|
TRT	1	2	0.8306	0.1891	6	4.39	0.0046
TRT	1	3	2.7645	0.1891	6	14.62	<.0001
TRT	2	3	1.9338	0.1891	6	10.23	<.0001

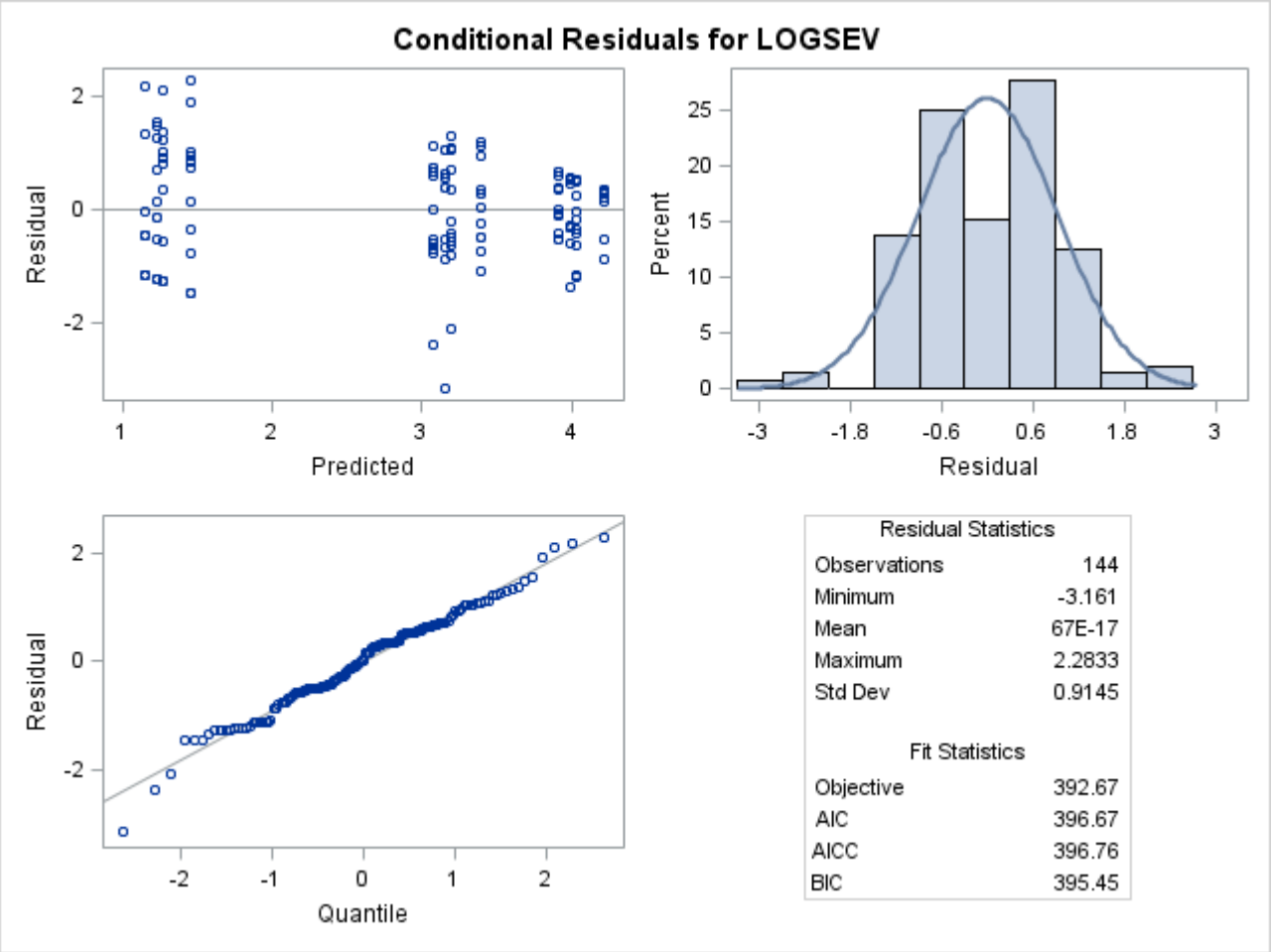

Residuals for LOGSEV
Residual
Predicted Mean
Percent
Residual
Residual
Quantile
Residual Statistics
Observations 144
Minimum -3.208
Mean 78E-17
Maximum 2.464
Std Dev 0.9323
Fit Statistics
Objective 392.67
AIC 396.67
AICC 396.76
BIC 395.45

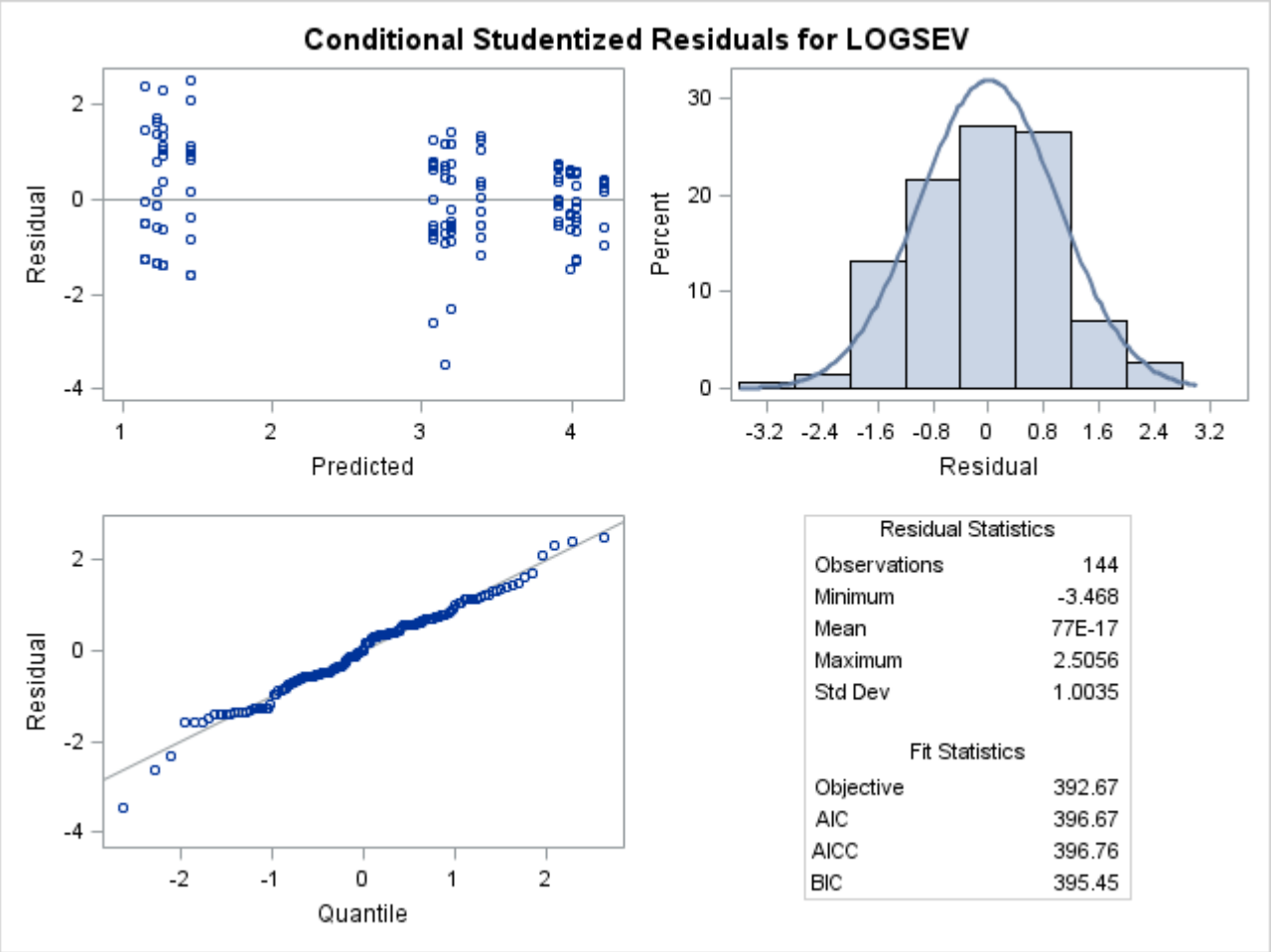

Studentized Residuals for LOGSEV
Residual
Predicted Mean
Percent
Residual
Residual
Quantile
Residual Statistics
Observations 144
Minimum -3.452
Mean 88E-17
Maximum 2.6521
Std Dev 1.0035
Fit Statistics
Objective 392.67
AIC 396.67
AICC 396.76
BIC 395.45

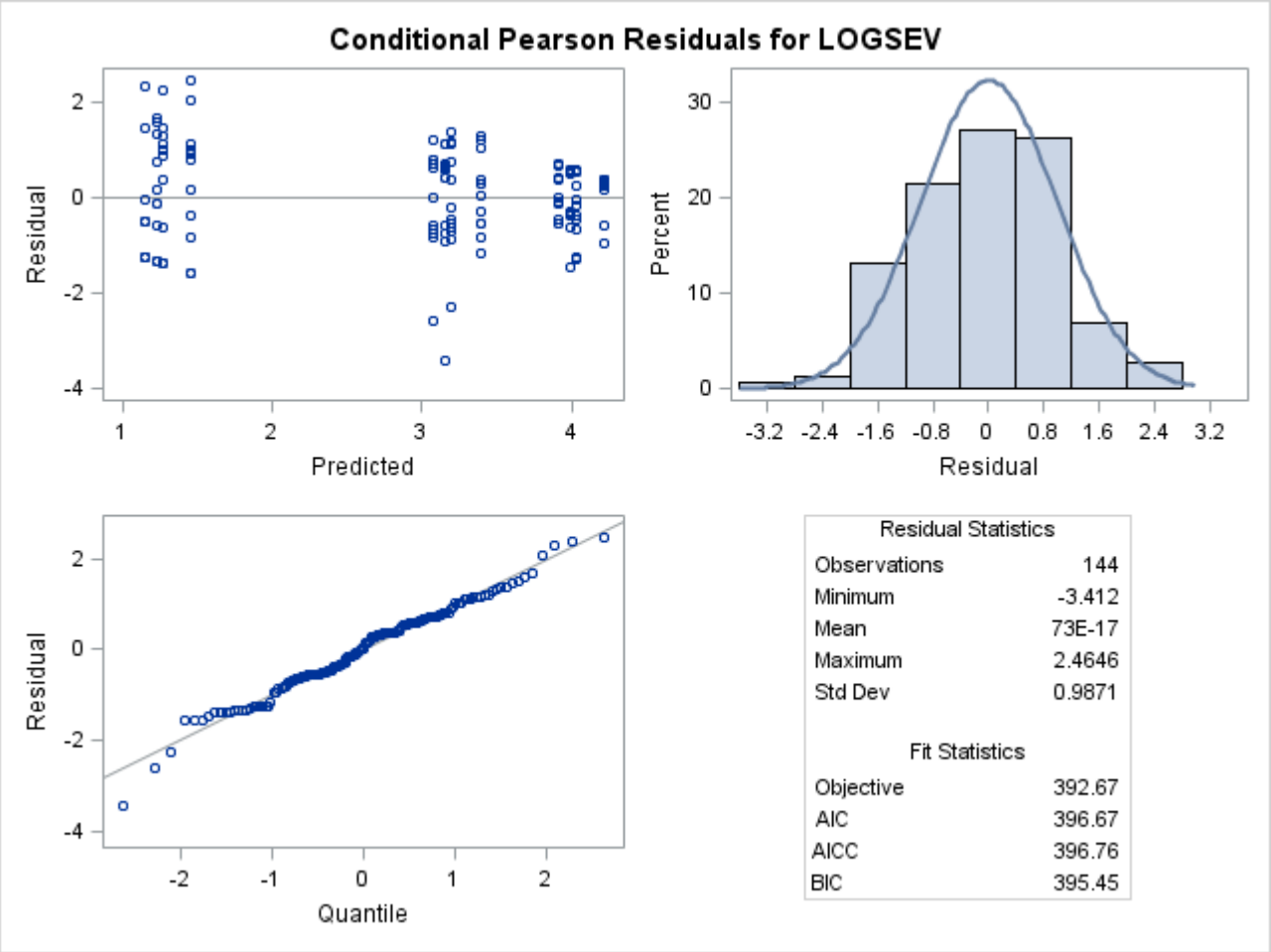


Residual Statistics	
Observations	144
Minimum	-3.403
Mean	79E-17
Maximum	2.6138
Std Dev	0.989

Fit Statistics	
Objective	392.67
AIC	396.67
AICC	396.76
BIC	395.45


Conditional Residuals for LOGSEV
Residual
Predicted
Percent
Residual
Residual
Quantile
Residual Statistics
Observations 144
Minimum -3.161
Mean 67E-17
Maximum 2.2833
Std Dev 0.9145
Fit Statistics
Objective 392.67
AIC 396.67
AICC 396.76
BIC 395.45


Conditional Studentized Residuals for LOGSEV
Residual
Predicted
Percent
Residual
Residual
Quantile
Residual Statistics
Observations 144
Minimum -3.468
Mean 77E-17
Maximum 2.5056
Std Dev 1.0035
Fit Statistics
Objective 392.67
AIC 396.67
AICC 396.76
BIC 395.45


Conditional Pearson Residuals for LOGSEV
Residual
Predicted
Percent
Residual
Residual
Quantile
Residual Statistics
Observations 144
Minimum -3.412
Mean 73E-17
Maximum 2.4646
Std Dev 0.9871
Fit Statistics
Objective 392.67
AIC 396.67
AICC 396.76
BIC 395.45

The SAS System

The GLIMMIX Procedure

Model Information	
Data Set	WORK.B
Response Variable	SEVERITY
Response Distribution	Lognormal
Link Function	Identity
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Restricted Maximum Likelihood
Degrees of Freedom Method	Containment

Class Level Information		
Class	Levels	Values
BLK	4	1 2 3 4
TRT	3	1 2 3

Number of Observations Read	144
Number of Observations Used	127

Dimensions	
G-side Cov. Parameters	2
R-side Cov. Parameters	1
Columns in X	4
Columns in Z	16
Subjects (Blocks in V)	1
Max Obs per Subject	127

Optimization Information	
Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	2
Lower Boundaries	2
Upper Boundaries	0
Fixed Effects	Profiled
Residual Variance	Profiled

Starting From	Data

Iteration History					
Iteration	Restarts	Evaluations	Objective Function	Change	Max Gradient
0	0	4	332.75531286	.	4.225522
1	0	5	332.73643336	0.01887950	2.715539
2	0	2	332.73075766	0.00567570	0.672011
3	0	2	332.7302975	0.00046016	0.083144
4	0	2	332.73029065	0.00000685	0.003013
5	0	2	332.73029064	0.00000001	0.000013

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

Estimated G matrix is not positive definite.

Fit Statistics	
-2 Res Log Likelihood	332.73
AIC (smaller is better)	336.73
AICC (smaller is better)	336.83
BIC (smaller is better)	335.50
CAIC (smaller is better)	337.50
HQIC (smaller is better)	334.04
Generalized Chi-Square	95.02
Gener. Chi-Square / DF	0.77

Covariance Parameter Estimates		
Cov Parm	Estimate	Standard Error
BLK	0.03431	0.04765
BLK*TRT	0	.
Residual	0.7663	0.09851

Type III Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
TRT	2	6	71.93	<.0001

TRT Least Squares Means

TRT	Estimate	Standard Error	DF	t Value	Pr > |t|	Mean	Standard Error Mean
1	4.0172	0.1567	6	25.64	<.0001	4.0172	0.1567
2	3.2098	0.1578	6	20.35	<.0001	3.2098	0.1578
3	1.6271	0.1804	6	9.02	0.0001	1.6271	0.1804

Differences of TRT Least Squares Means						
TRT	_TRT	Estimate	Standard Error	DF	t Value	Pr > |t|
1	2	0.8074	0.1796	6	4.49	0.0041
1	3	2.3900	0.1998	6	11.96	<.0001
2	3	1.5826	0.2007	6	7.89	0.0002