

The SAS System

The LIFEREG Procedure

Model Information	
Data Set	WORK.SHORT
Dependent Variable	Log(Duration)
Censoring Variable	Event_kind
Censoring Value(s)	0
Number of Observations	121
Noncensored Values	121
Right Censored Values	0
Left Censored Values	0
Interval Censored Values	0
Number of Parameters	2
Name of Distribution	Weibull
Log Likelihood	-105.0794419

Number of Observations Read	121
Number of Observations Used	121

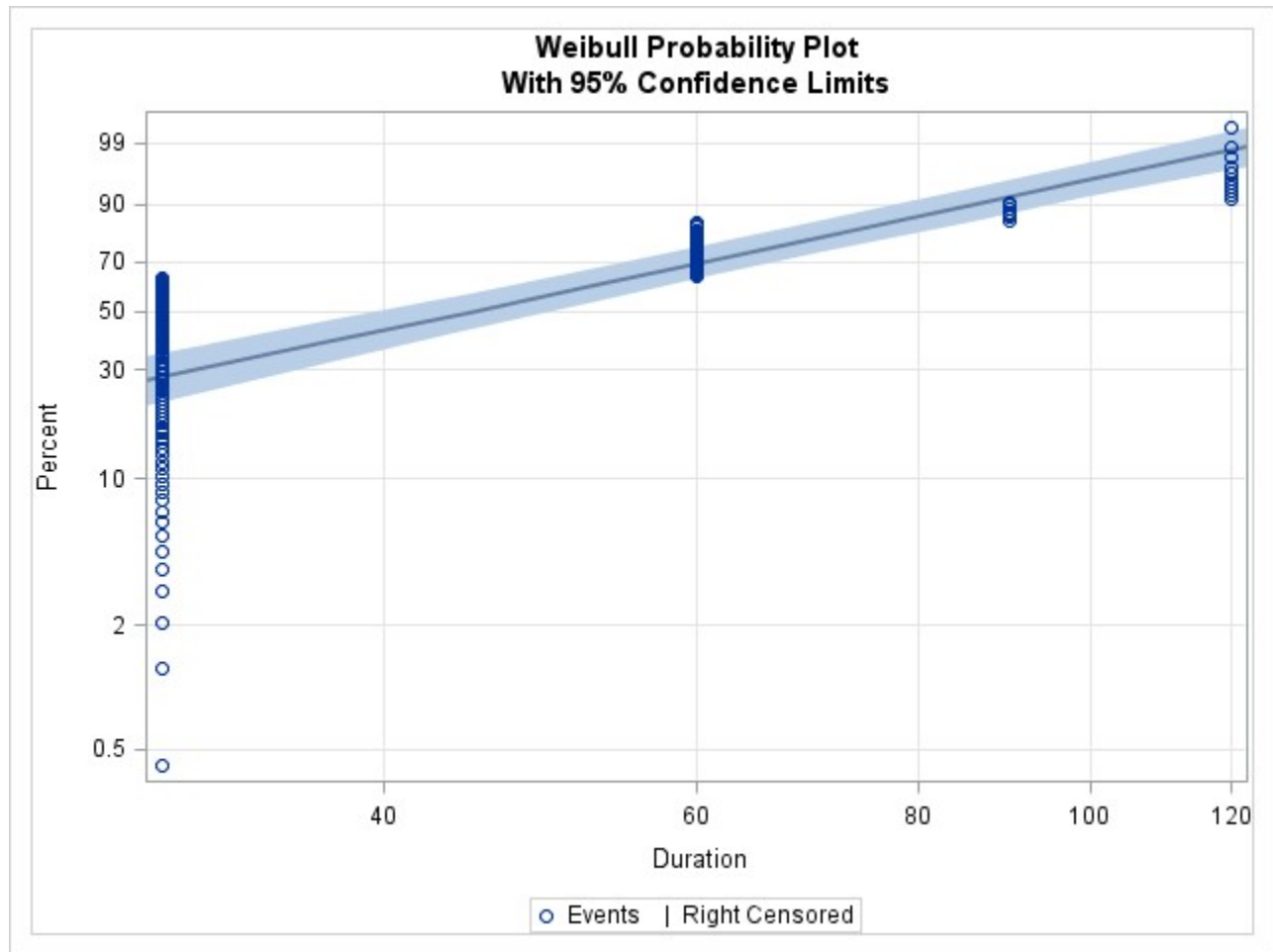
Fit Statistics	
-2 Log Likelihood	210.159
AIC (smaller is better)	214.159
AICC (smaller is better)	214.261
BIC (smaller is better)	219.750

Fit Statistics (Unlogged Response)	
-2 Log Likelihood	1115.171
Weibull AIC (smaller is better)	1119.171
Weibull AICC (smaller is better)	1119.273
Weibull BIC (smaller is better)	1124.763

Algorithm converged.

Analysis of Maximum Likelihood Parameter Estimates						
Parameter	DF	Estimate	Standard Error	95% Confidence Limits	Chi-Square	Pr > ChiSq

Intercept	1	4.0018	0.0522	3.8994	4.1041	5868.21	<.0001
Scale	1	0.5393	0.0351	0.4748	0.6126		
Weibull Scale	1	54.6943	2.8572	49.3714	60.5910		
Weibull Shape	1	1.8542	0.1206	1.6323	2.1062		



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Number of Observations	121
Noncensored Values	121
Right Censored Values	0
Left Censored Values	0
Interval Censored Values	0
Number of Parameters	2
Name of Distribution	Lognormal
Log Likelihood	-83.605181

Number of Observations Read	121
Number of Observations Used	121

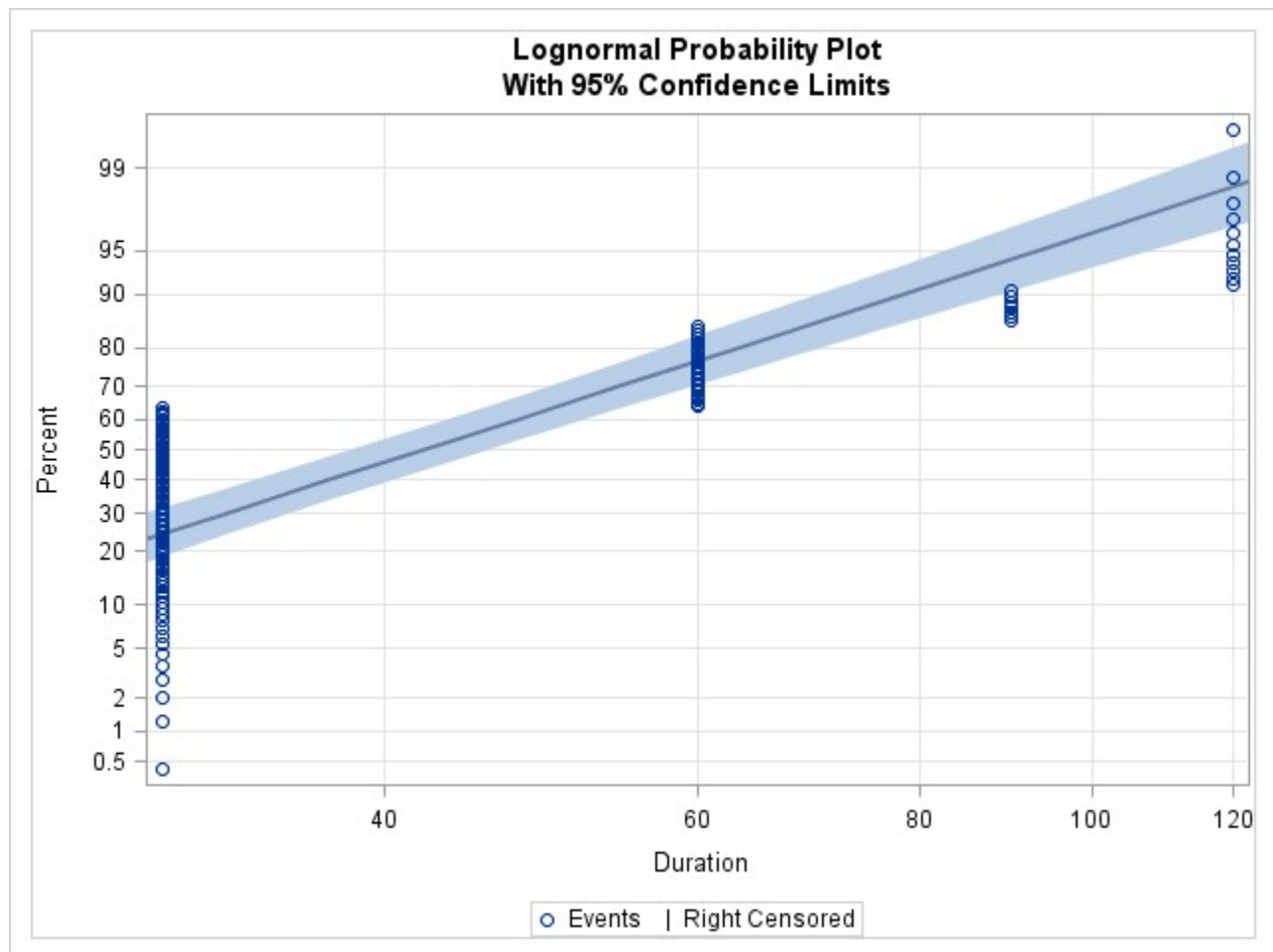
Fit Statistics	
-2 Log Likelihood	167.210
AIC (smaller is better)	171.210
AICC (smaller is better)	171.312
BIC (smaller is better)	176.802

Fit Statistics (Unlogged Response)	
-2 Log Likelihood	1072.223
Lognormal AIC (smaller is better)	1076.223
Lognormal AICC (smaller is better)	1076.325
Lognormal BIC (smaller is better)	1081.814

Algorithm converged.

Analysis of Maximum Likelihood Parameter Estimates					
			Standard		

Parameter	DF	Estimate	Error	95% Confidence Limits		Chi-Square	Pr > ChiSq
Intercept	1	3.7397	0.0439	3.6537	3.8258	7257.46	<.0001
Scale	1	0.4829	0.0310	0.4257	0.5477		



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Censoring Value(s)	0
Number of Observations	121
Noncensored Values	121
Right Censored Values	0
Left Censored Values	0
Interval Censored Values	0
Number of Parameters	2
Name of Distribution	LLogistic
Log Likelihood	-85.27878113

Number of Observations Read	121
Number of Observations Used	121

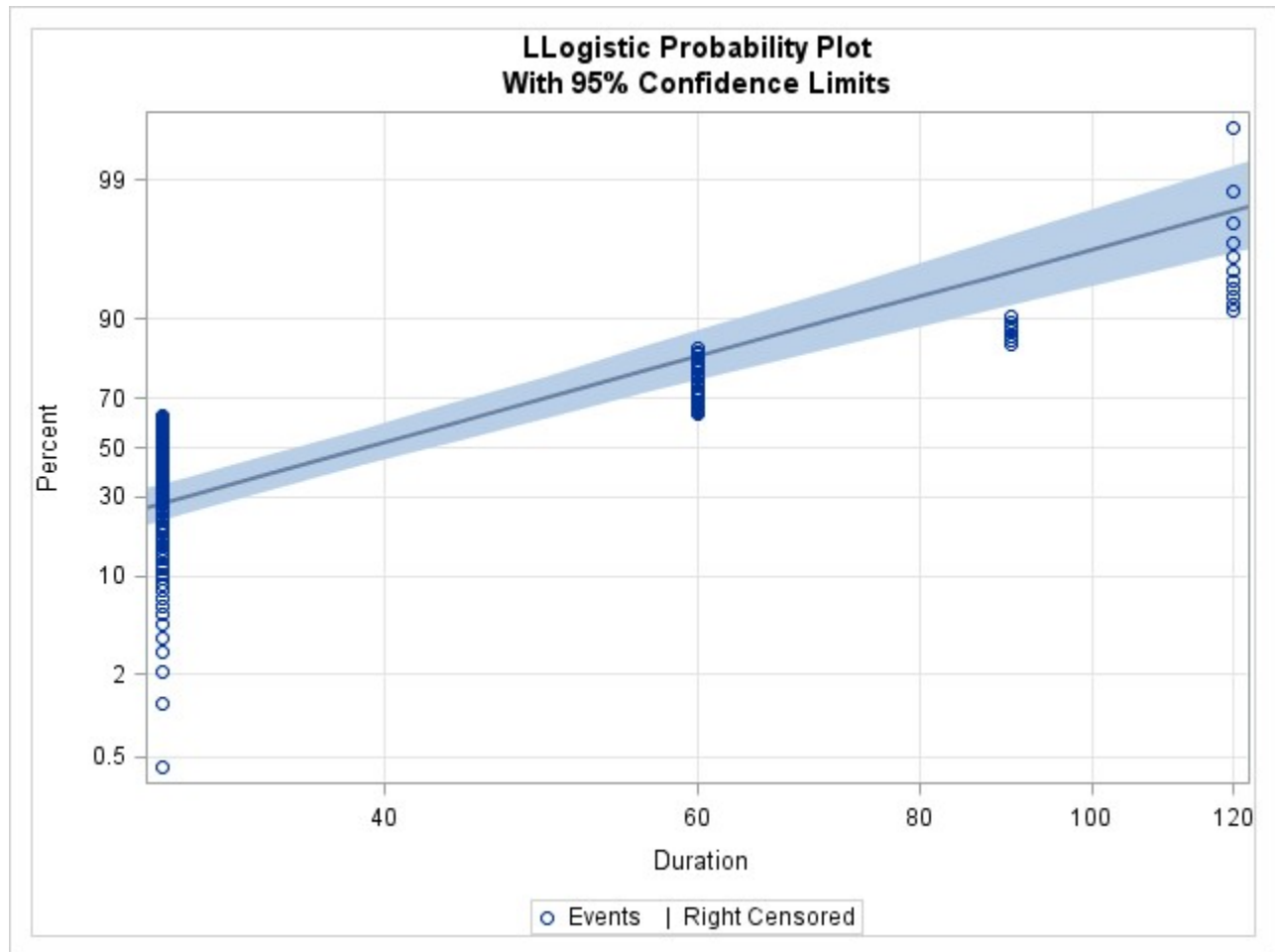
Fit Statistics	
-2 Log Likelihood	170.558
AIC (smaller is better)	174.558
AICC (smaller is better)	174.659
BIC (smaller is better)	180.149

Fit Statistics (Unlogged Response)	
-2 Log Likelihood	1075.570
LLogistic AIC (smaller is better)	1079.570
LLogistic AICC (smaller is better)	1079.672
LLogistic BIC (smaller is better)	1085.162

Algorithm converged.

Analysis of Maximum Likelihood Parameter Estimates					
			Standard		

Parameter	DF	Estimate	Error	95% Confidence Limits		Chi-Square	Pr > ChiSq
Intercept	1	3.6630	0.0447	3.5754	3.7506	6717.90	<.0001
Scale	1	0.2766	0.0210	0.2384	0.3210		



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Censoring Variable	Event_kind
Censoring Value(s)	0
Number of Observations	121
Noncensored Values	121
Right Censored Values	0
Left Censored Values	0
Interval Censored Values	0
Number of Parameters	1
Name of Distribution	Gamma
Log Likelihood	-116.9571838

Number of Observations Read	121
Number of Observations Used	121

Fit Statistics	
-2 Log Likelihood	233.914
AIC (smaller is better)	235.914
AICC (smaller is better)	235.948
BIC (smaller is better)	238.710

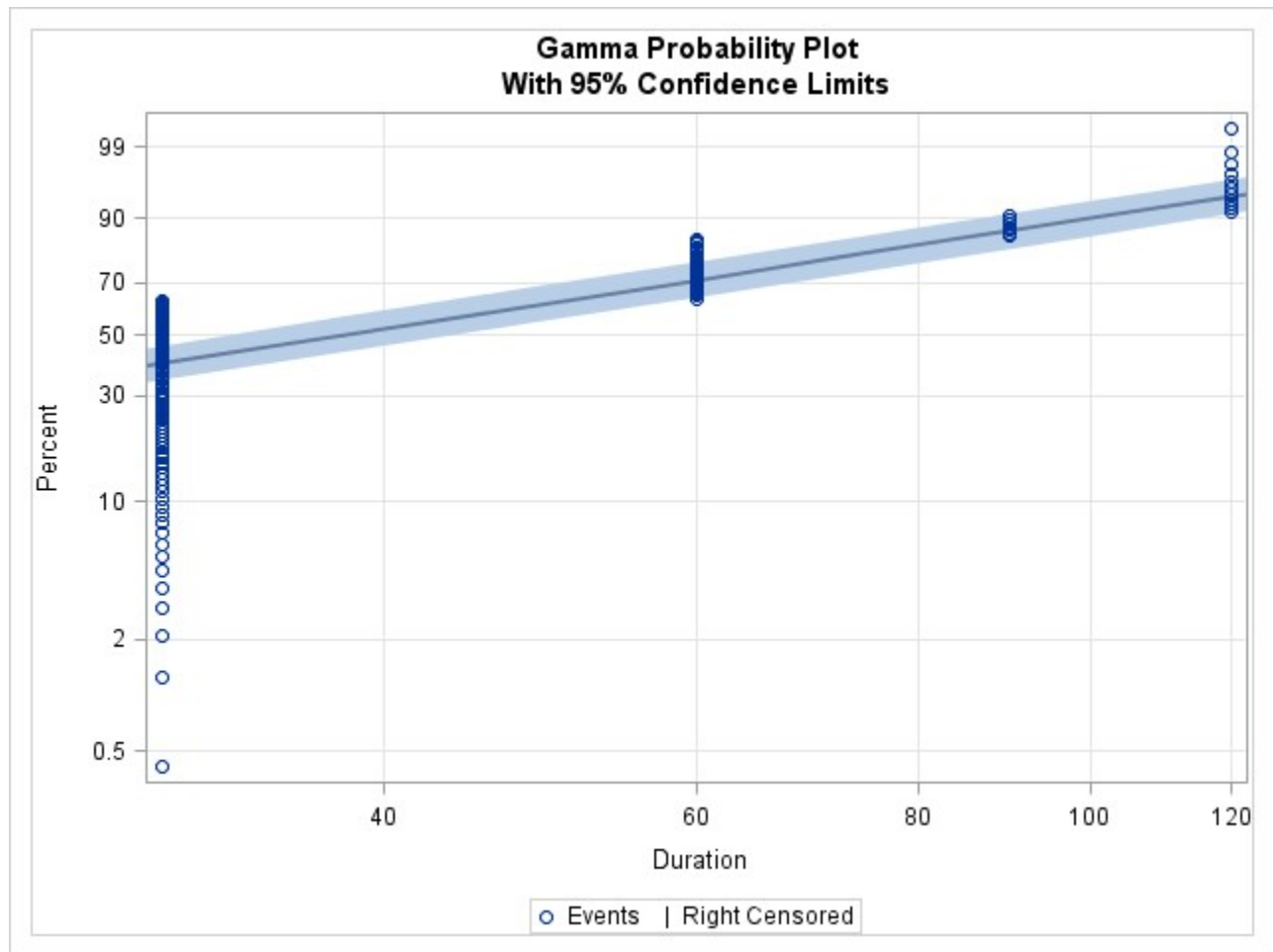
Fit Statistics (Unlogged Response)	
-2 Log Likelihood	1138.927
Gamma AIC (smaller is better)	1140.927
Gamma AICC (smaller is better)	1140.960
Gamma BIC (smaller is better)	1143.723

Algorithm converged.

Analysis of Maximum Likelihood Parameter Estimates						
Parameter	DF	Estimate	Standard Error	95% Confidence Limits	Chi-Square	Pr > ChiSq

Intercept	1	3.8733	0.0737	3.7288	4.0178	2759.93	<.0001
Scale	0	0.8110	0.0000	0.8110	0.8110		
Shape	0	0.8110	0.0000	0.8110	0.8110		

Lagrange Multiplier Statistics		
Parameter	Chi-Square	Pr > ChiSq
Scale	121.4194	<.0001
Shape	24.8029	<.0001



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Censoring Variable	Event_kind
Censoring Value(s)	0
Number of Observations	121
Noncensored Values	121
Right Censored Values	0
Left Censored Values	0
Interval Censored Values	0
Number of Parameters	8
Name of Distribution	Weibull
Log Likelihood	-87.90626049

Number of Observations Read	121
Number of Observations Used	121

Fit Statistics	
-2 Log Likelihood	175.813
AIC (smaller is better)	191.813
AICC (smaller is better)	193.098
BIC (smaller is better)	214.179

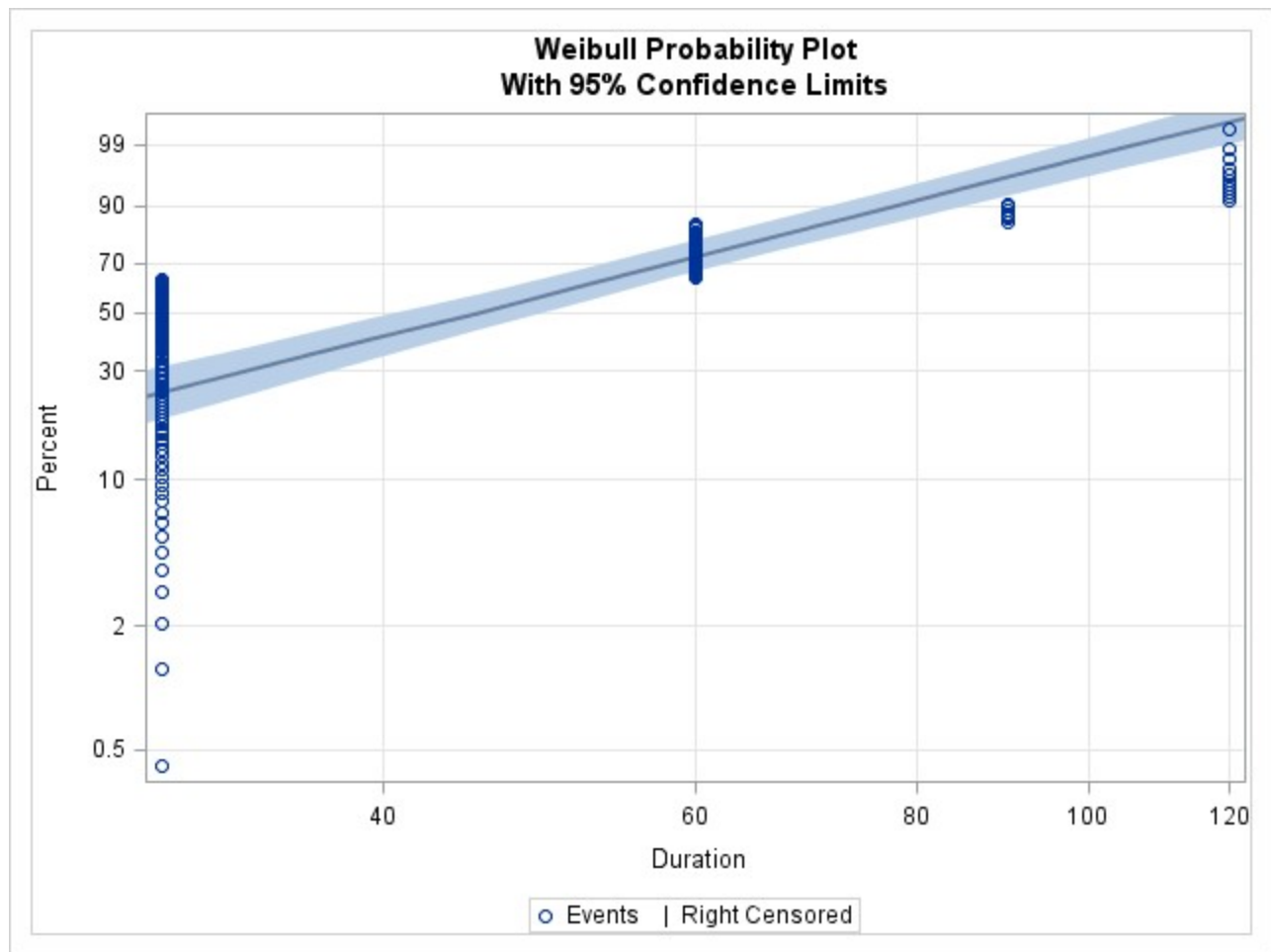
Fit Statistics (Unlogged Response)	
-2 Log Likelihood	1080.825
Weibull AIC (smaller is better)	1096.825
Weibull AICC (smaller is better)	1098.111
Weibull BIC (smaller is better)	1119.191

Algorithm converged.

Type III Analysis of Effects			
Effect	DF	Wald Chi-Square	Pr > ChiSq

LaborForce	1	3.8916	0.0485
Employment	1	7.7411	0.0054
CPI_U	1	3.7750	0.0520
Ave_Temperature	1	4.0926	0.0431
Ave_Heating_Degree_D	1	2.8852	0.0894
Ave_Cooling_Degree_D	1	6.7896	0.0092

Analysis of Maximum Likelihood Parameter Estimates							
Parameter	DF	Estimate	Standard Error	95% Confidence Limits		Chi-Square	Pr > ChiSq
Intercept	1	-1.4456	6.4230	-14.0344	11.1432	0.05	0.8219
LaborForce	1	-0.0000	0.0000	-0.0000	-0.0000	3.89	0.0485
Employment	1	0.0000	0.0000	0.0000	0.0000	7.74	0.0054
CPI_U	1	-0.0173	0.0089	-0.0347	0.0002	3.77	0.0520
Ave_Temperature	1	0.1987	0.0982	0.0062	0.3912	4.09	0.0431
Ave_Heating_Degree_D	1	0.1701	0.1001	-0.0262	0.3664	2.89	0.0894
Ave_Cooling_Degree_D	1	-0.2735	0.1050	-0.4792	-0.0678	6.79	0.0092
Scale	1	0.4496	0.0309	0.3930	0.5143		
Weibull Shape	1	2.2241	0.1526	1.9442	2.5443		



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Censoring Value(s)	0
Number of Observations	121
Noncensored Values	121
Right Censored Values	0
Left Censored Values	0
Interval Censored Values	0
Number of Parameters	8
Name of Distribution	Lognormal
Log Likelihood	-75.53499471

Number of Observations Read	121
Number of Observations Used	121

Fit Statistics	
-2 Log Likelihood	151.070
AIC (smaller is better)	167.070
AICC (smaller is better)	168.356
BIC (smaller is better)	189.436

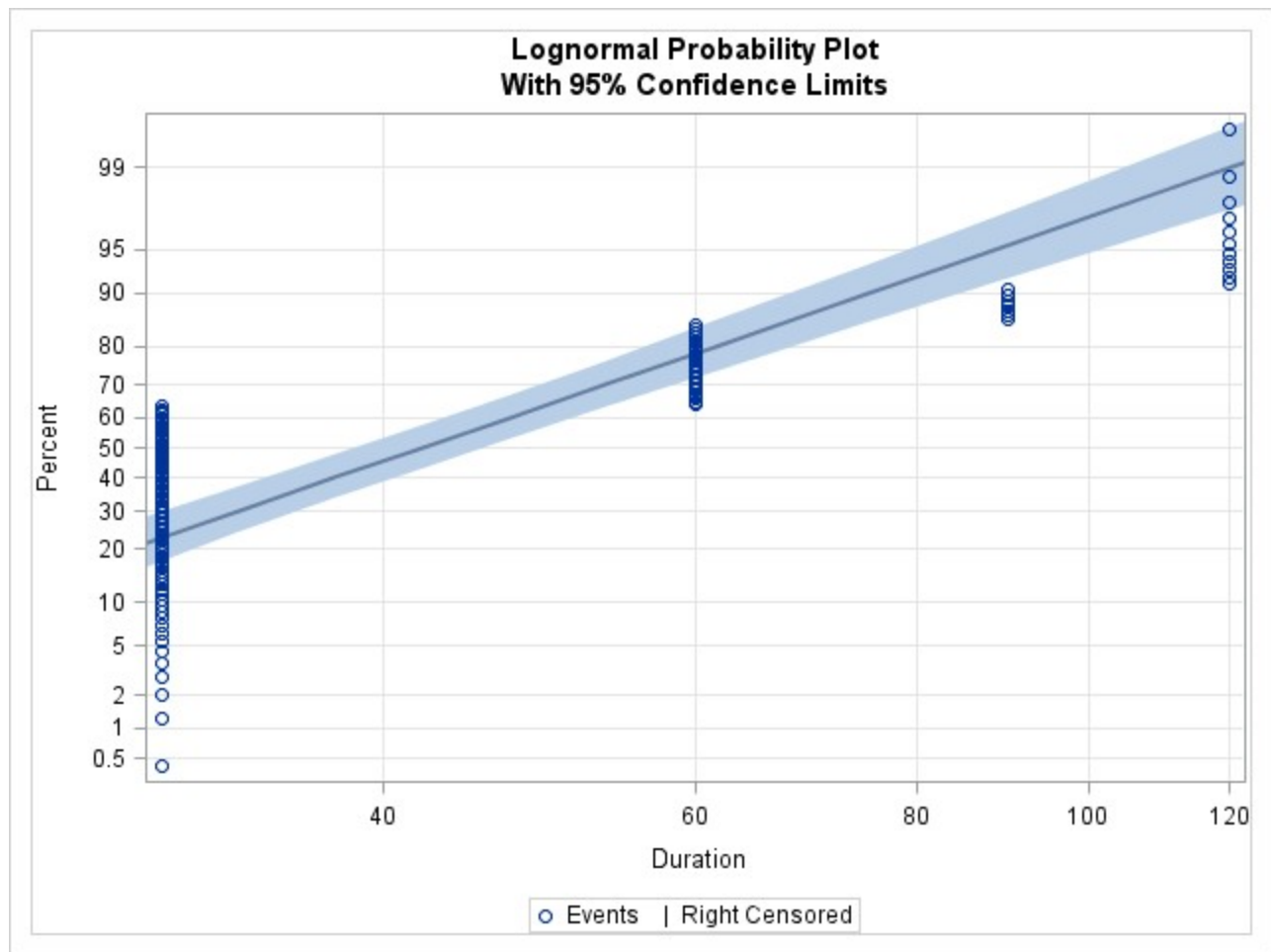
Fit Statistics (Unlogged Response)	
-2 Log Likelihood	1056.082
Lognormal AIC (smaller is better)	1072.082
Lognormal AICC (smaller is better)	1073.368
Lognormal BIC (smaller is better)	1094.449

Algorithm converged.

Type III Analysis of Effects			
Effect	DF	Wald Chi-Square	Pr > ChiSq

LaborForce	1	1.0728	0.3003
Employment	1	2.4033	0.1211
CPI_U	1	1.4170	0.2339
Ave_Temperature	1	0.9211	0.3372
Ave_Heating_Degree_D	1	0.5865	0.4438
Ave_Cooling_Degree_D	1	1.8647	0.1721

Analysis of Maximum Likelihood Parameter Estimates							
Parameter	DF	Estimate	Standard Error	95% Confidence Limits		Chi-Square	Pr > ChiSq
Intercept	1	1.7886	6.3425	-10.6425	14.2198	0.08	0.7779
LaborForce	1	-0.0000	0.0000	-0.0000	0.0000	1.07	0.3003
Employment	1	0.0000	0.0000	-0.0000	0.0000	2.40	0.1211
CPI_U	1	-0.0103	0.0086	-0.0272	0.0067	1.42	0.2339
Ave_Temperature	1	0.0930	0.0969	-0.0969	0.2829	0.92	0.3372
Ave_Heating_Degree_D	1	0.0766	0.1001	-0.1195	0.2728	0.59	0.4438
Ave_Cooling_Degree_D	1	-0.1388	0.1016	-0.3380	0.0604	1.86	0.1721
Scale	1	0.4517	0.0290	0.3983	0.5124		



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Number of Observations	121
Noncensored Values	121
Right Censored Values	0
Left Censored Values	0
Interval Censored Values	0
Number of Parameters	8
Name of Distribution	LLogistic
Log Likelihood	-78.93212531

Number of Observations Read	121
Number of Observations Used	121

Fit Statistics	
-2 Log Likelihood	157.864
AIC (smaller is better)	173.864
AICC (smaller is better)	175.150
BIC (smaller is better)	196.231

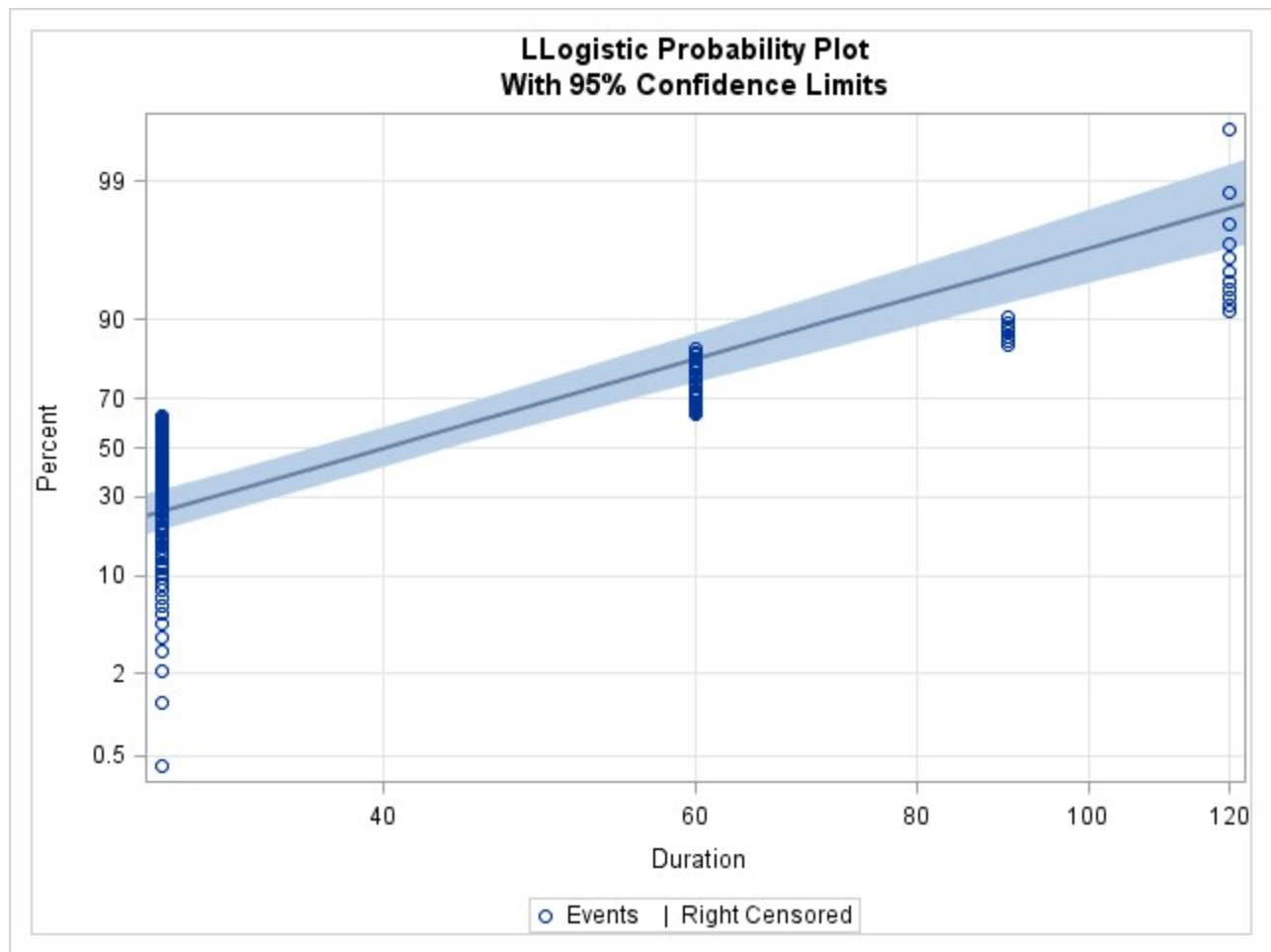
Fit Statistics (Unlogged Response)	
-2 Log Likelihood	1062.877
LLogistic AIC (smaller is better)	1078.877
LLogistic AICC (smaller is better)	1080.162
LLogistic BIC (smaller is better)	1101.243

Algorithm converged.

Type III Analysis of Effects			
Effect	DF	Wald Chi-Square	Pr > ChiSq

LaborForce	1	0.9792	0.3224
Employment	1	2.2741	0.1315
CPI_U	1	1.1467	0.2842
Ave_Temperature	1	0.8138	0.3670
Ave_Heating_Degree_D	1	0.5615	0.4537
Ave_Cooling_Degree_D	1	1.5896	0.2074

Analysis of Maximum Likelihood Parameter Estimates							
Parameter	DF	Estimate	Standard Error	95% Confidence Limits		Chi-Square	Pr > ChiSq
Intercept	1	1.8099	6.5006	-10.9311	14.5509	0.08	0.7807
LaborForce	1	-0.0000	0.0000	-0.0000	0.0000	0.98	0.3224
Employment	1	0.0000	0.0000	-0.0000	0.0000	2.27	0.1315
CPI_U	1	-0.0092	0.0086	-0.0260	0.0076	1.15	0.2842
Ave_Temperature	1	0.0897	0.0994	-0.1052	0.2846	0.81	0.3670
Ave_Heating_Degree_D	1	0.0775	0.1034	-0.1252	0.2803	0.56	0.4537
Ave_Cooling_Degree_D	1	-0.1291	0.1024	-0.3299	0.0716	1.59	0.2074
Scale	1	0.2656	0.0199	0.2293	0.3076		



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Censoring Variable	Event_kind
Censoring Value(s)	0
Number of Observations	121
Noncensored Values	121
Right Censored Values	0
Left Censored Values	0
Interval Censored Values	0
Number of Parameters	7
Name of Distribution	Gamma
Log Likelihood	-112.2971029

Number of Observations Read	121
Number of Observations Used	121

Fit Statistics	
-2 Log Likelihood	224.594
AIC (smaller is better)	238.594
AICC (smaller is better)	239.585
BIC (smaller is better)	258.165

Fit Statistics (Unlogged Response)	
-2 Log Likelihood	1129.607
Gamma AIC (smaller is better)	1143.607
Gamma AICC (smaller is better)	1144.598
Gamma BIC (smaller is better)	1163.177

Algorithm converged.

Type III Analysis of Effects			
Effect	DF	Wald Chi-Square	Pr > ChiSq

LaborForce	1	0.6427	0.4227
Employment	1	1.3801	0.2401
CPI_U	1	0.8002	0.3710
Ave_Temperature	1	0.6073	0.4358
Ave_Heating_Degree_D	1	0.3991	0.5276
Ave_Cooling_Degree_D	1	1.1368	0.2863

Analysis of Maximum Likelihood Parameter Estimates							
Parameter	DF	Estimate	Standard Error	95% Confidence Limits		Chi-Square	Pr > ChiSq
Intercept	1	0.7104	11.4095	-21.6518	23.0725	0.00	0.9504
LaborForce	1	-0.0000	0.0000	-0.0000	0.0000	0.64	0.4227
Employment	1	0.0000	0.0000	-0.0000	0.0000	1.38	0.2401
CPI_U	1	-0.0141	0.0157	-0.0449	0.0168	0.80	0.3710
Ave_Temperature	1	0.1352	0.1734	-0.2048	0.4751	0.61	0.4358
Ave_Heating_Degree_D	1	0.1125	0.1781	-0.2365	0.4616	0.40	0.5276
Ave_Cooling_Degree_D	1	-0.1955	0.1834	-0.5550	0.1639	1.14	0.2863
Scale	0	0.8110	0.0000	0.8110	0.8110		
Shape	0	0.8110	0.0000	0.8110	0.8110		

Lagrange Multiplier Statistics		
Parameter	Chi-Square	Pr > ChiSq
Scale	.	.
Shape	18.0327	<.0001

