

Summary of Data

The SUMMARY Procedure

Group=0 Period=0

Analysis Variable : Spending Spending				
N	Mean	Std Dev	Minimum	Maximum
3419	34.4376319	14.4991293	0.0488402	81.9492000

Group=0 Period=1

Analysis Variable : Spending Spending				
N	Mean	Std Dev	Minimum	Maximum
3527	34.7175959	14.9460909	0.1742395	88.4943467

Group=1 Period=0

Analysis Variable : Spending Spending				
N	Mean	Std Dev	Minimum	Maximum
3181	35.4006176	14.9831695	0.0242832	96.0470609

Group=1 Period=1

Analysis Variable : Spending Spending				
N	Mean	Std Dev	Minimum	Maximum
3903	50.6661070	19.5865137	0.1993972	114.9474471

Descriptive Statistics of the Data**The MEANS Procedure**

Analysis Variable : Spending Spending							
Group	Period	N Obs	N	Mean	Std Dev	Minimum	Maximum
0	0	3419	3419	34.4376319	14.4991293	0.0488402	81.9492000
	1	3527	3527	34.7175959	14.9460909	0.1742395	88.4943467
1	0	3181	3181	35.4006176	14.9831695	0.0242832	96.0470609
	1	3903	3903	50.6661070	19.5865137	0.1993972	114.9474471

T-Test X1 X2

The TTEST Procedure

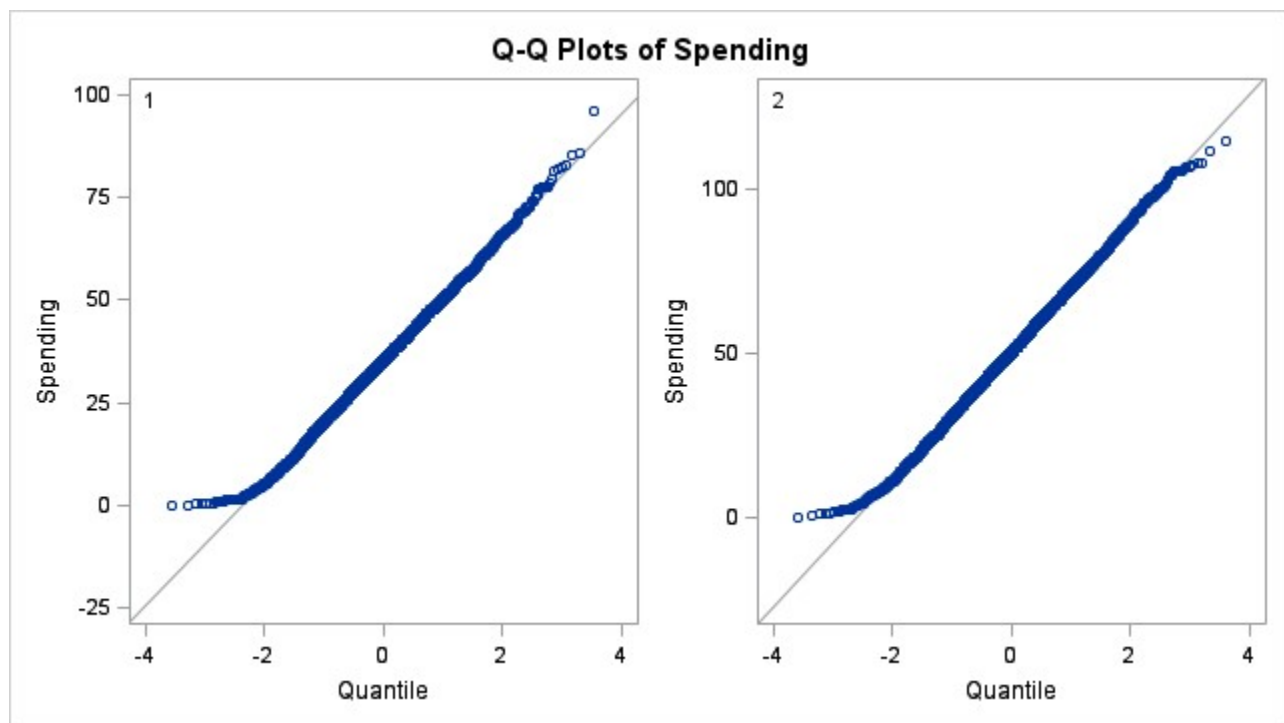
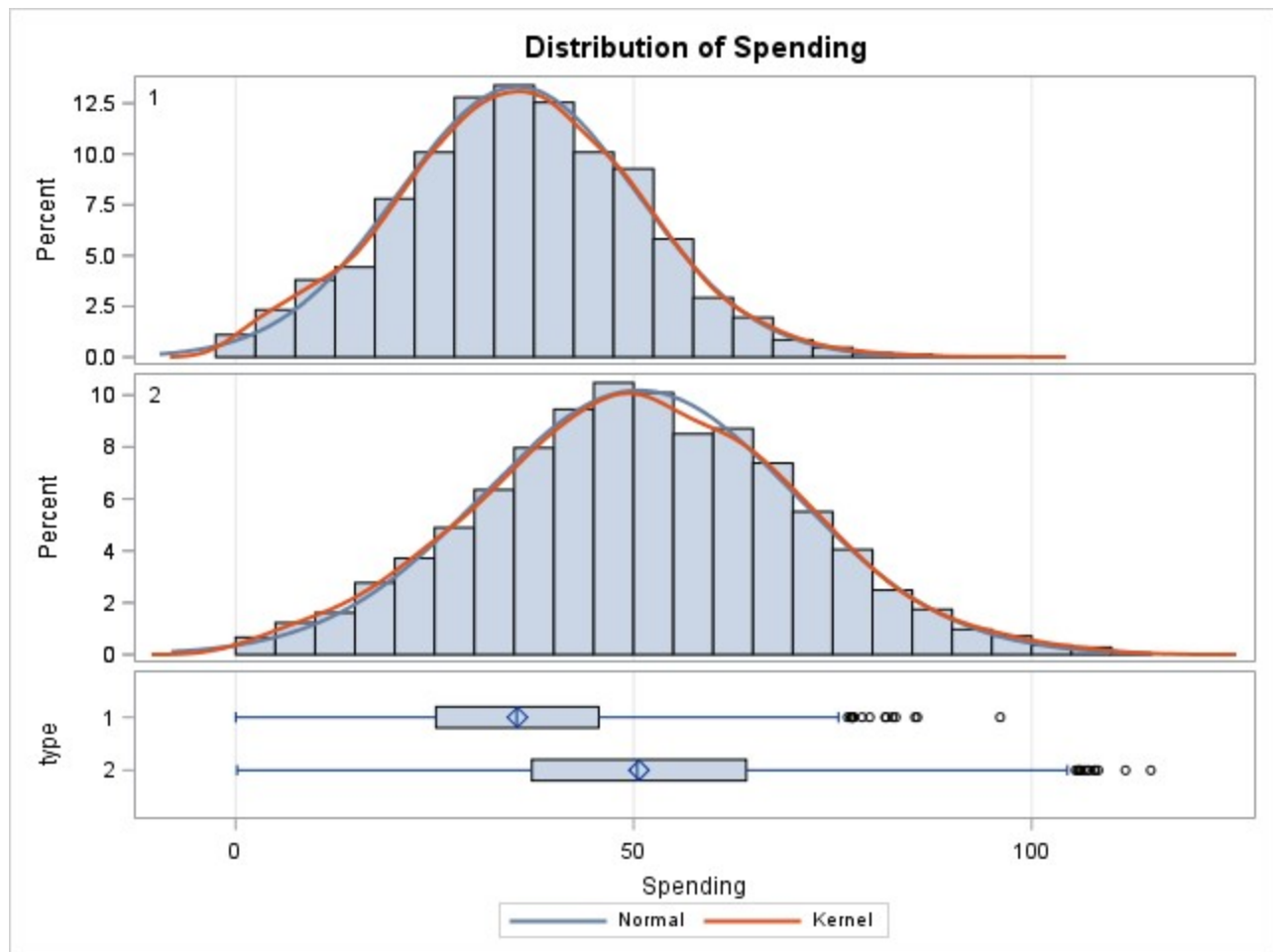
Variable: Spending (Spending)

type	N	Mean	Std Dev	Std Err	Minimum	Maximum
1	3181	35.4006	14.9832	0.2657	0.0243	96.0471
2	3903	50.6661	19.5865	0.3135	0.1994	114.9
Diff (1-2)		-15.2655	17.6685	0.4220		

type	Method	Mean	95% CL Mean		Std Dev	95% CL Std Dev	
1		35.4006	34.8797	35.9215	14.9832	14.6238	15.3607
2		50.6661	50.0514	51.2808	19.5865	19.1615	20.0310
Diff (1-2)	Pooled	-15.2655	-16.0928	-14.4382	17.6685	17.3823	17.9644
Diff (1-2)	Satterthwaite	-15.2655	-16.0710	-14.4599			

Method	Variances	DF	t Value	Pr > t
Pooled	Equal	7082	-36.17	<.0001
Satterthwaite	Unequal	7054.4	-37.15	<.0001

Equality of Variances				
Method	Num DF	Den DF	F Value	Pr > F
Folded F	3902	3180	1.71	<.0001



T-Test X2 X3

The TTEST Procedure

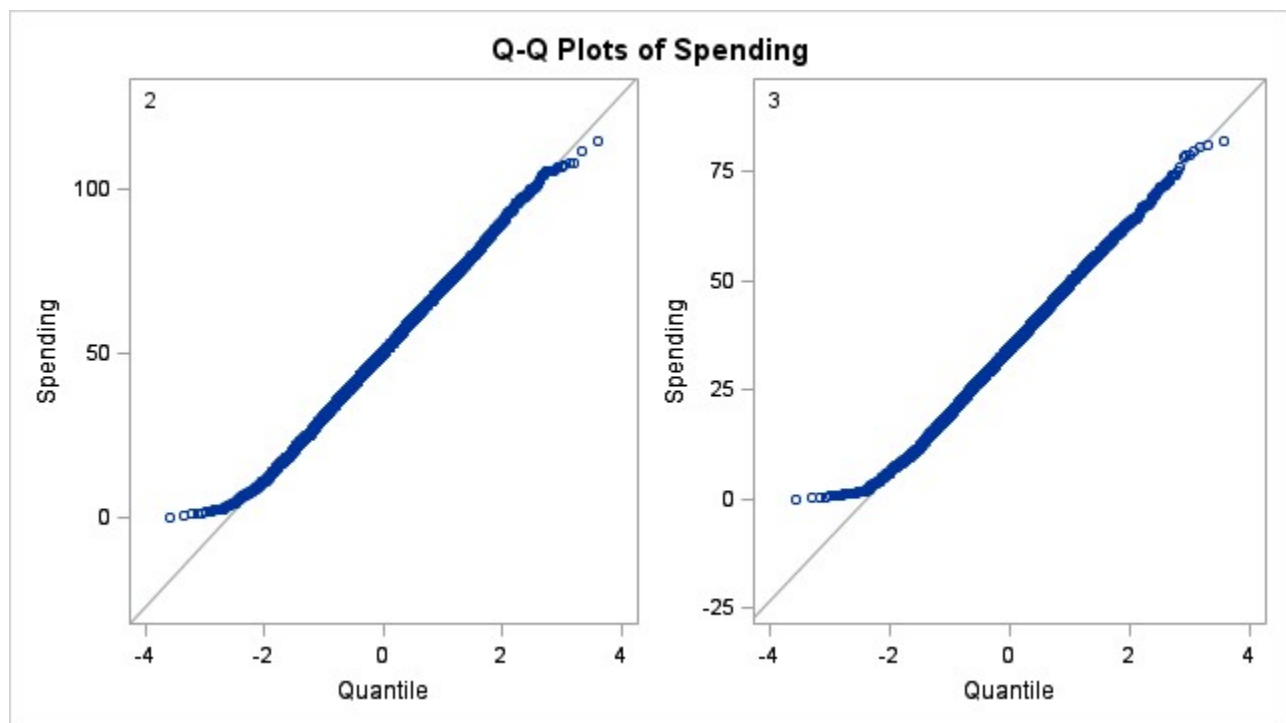
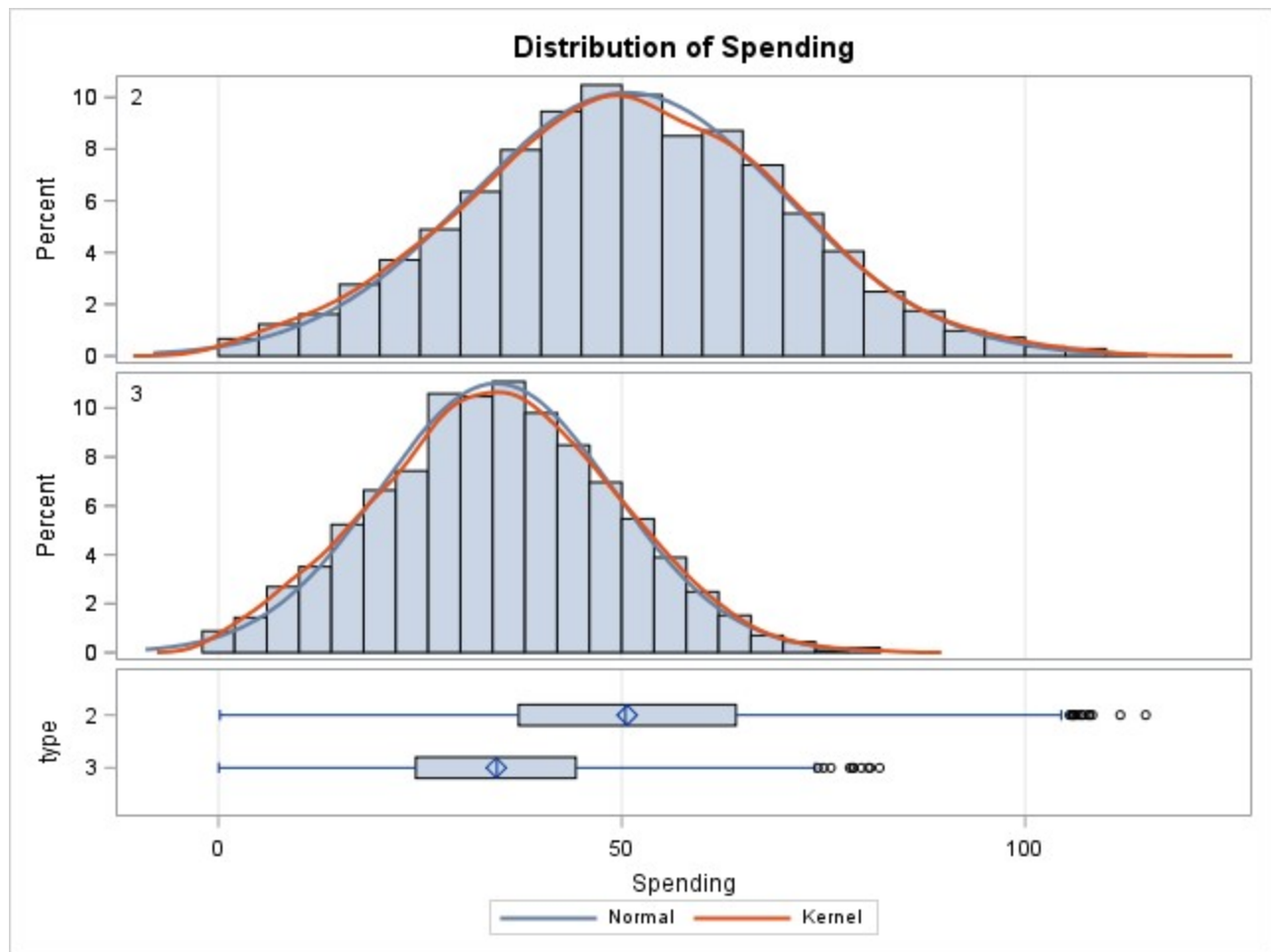
Variable: Spending (Spending)

type	N	Mean	Std Dev	Std Err	Minimum	Maximum
2	3903	50.6661	19.5865	0.3135	0.1994	114.9
3	3419	34.4376	14.4991	0.2480	0.0488	81.9492
Diff (1-2)		16.2285	17.3972	0.4075		

type	Method	Mean	95% CL Mean		Std Dev	95% CL Std Dev	
2		50.6661	50.0514	51.2808	19.5865	19.1615	20.0310
3		34.4376	33.9515	34.9238	14.4991	14.1634	14.8512
Diff (1-2)	Pooled	16.2285	15.4296	17.0273	17.3972	17.1199	17.6836
Diff (1-2)	Satterthwaite	16.2285	15.4449	17.0121			

Method	Variances	DF	t Value	Pr > t
Pooled	Equal	7320	39.82	<.0001
Satterthwaite	Unequal	7126.9	40.60	<.0001

Equality of Variances				
Method	Num DF	Den DF	F Value	Pr > F
Folded F	3902	3418	1.82	<.0001



T-Test X3 X4

The TTEST Procedure

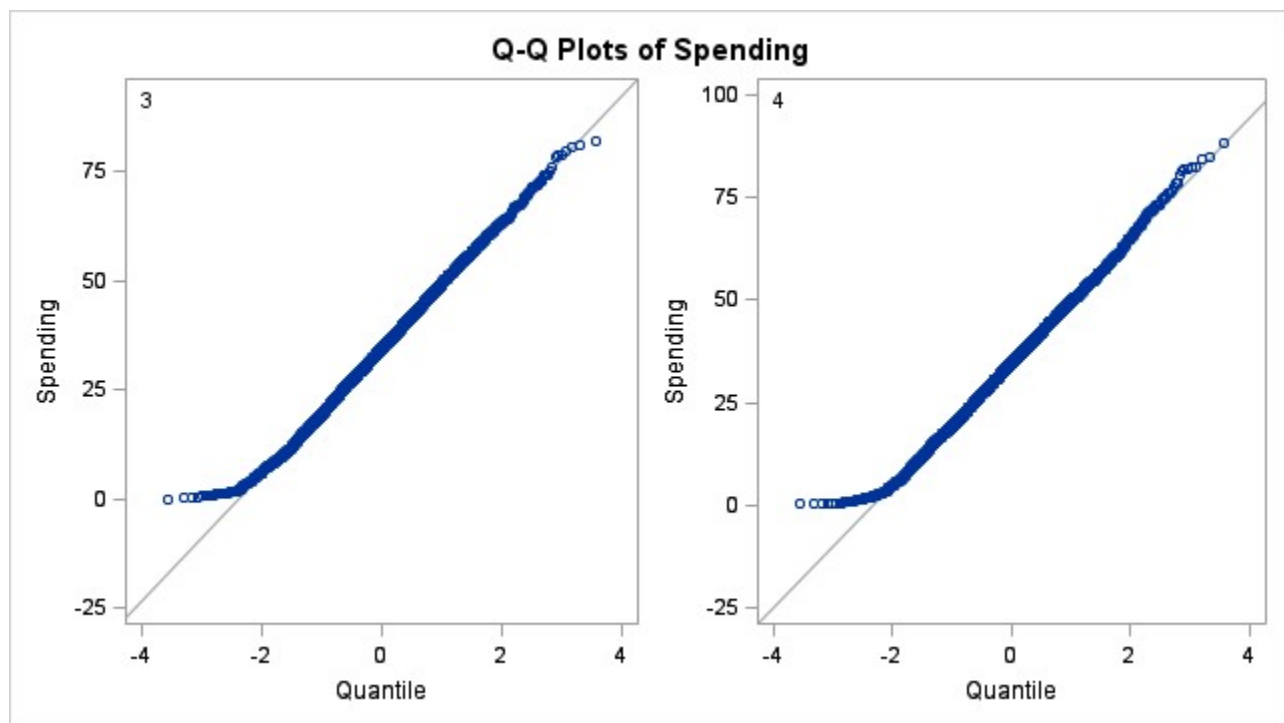
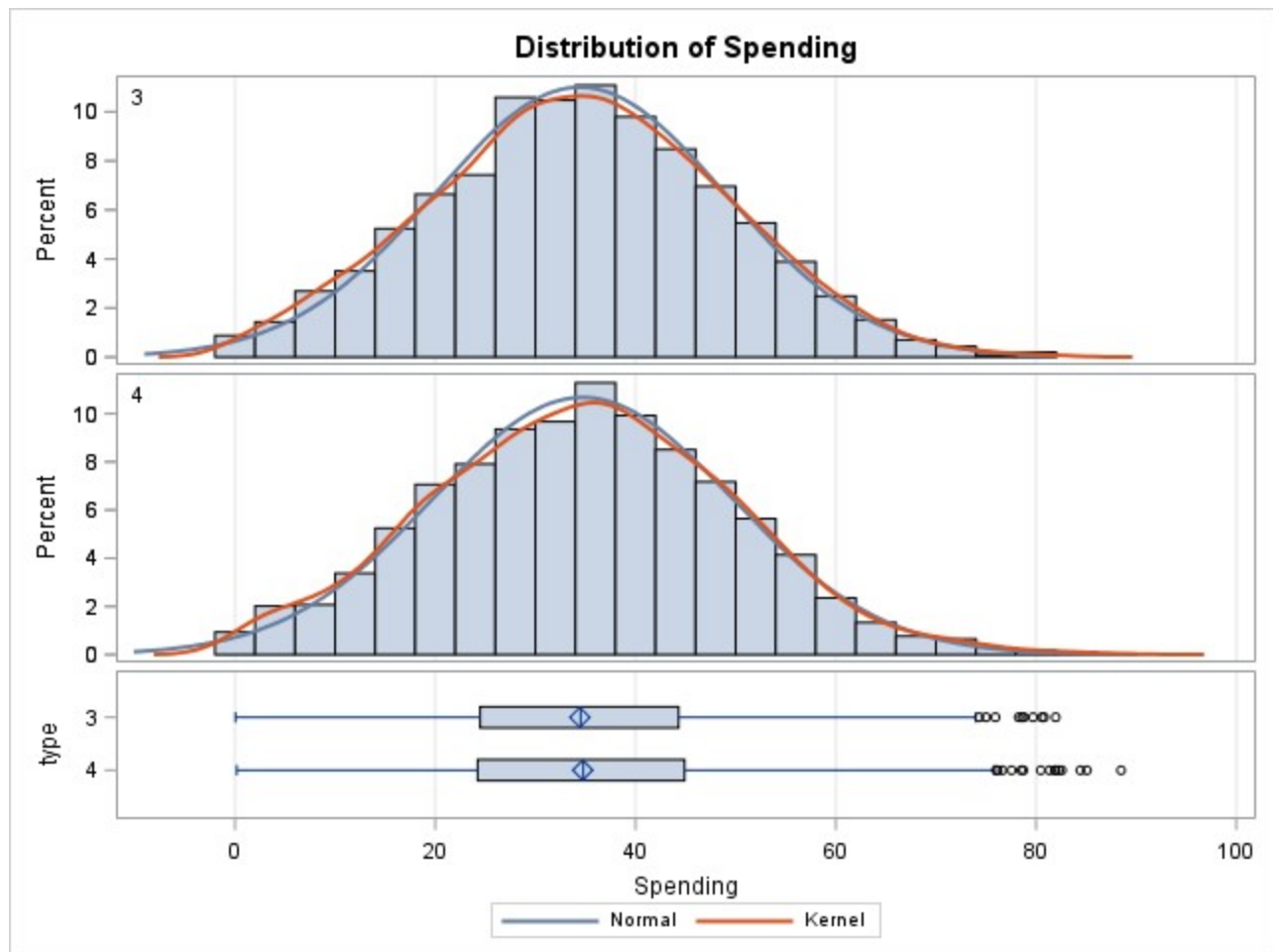
Variable: Spending (Spending)

type	N	Mean	Std Dev	Std Err	Minimum	Maximum
3	3419	34.4376	14.4991	0.2480	0.0488	81.9492
4	3527	34.7176	14.9461	0.2517	0.1742	88.4943
Diff (1-2)		-0.2800	14.7278	0.3535		

type	Method	Mean	95% CL Mean		Std Dev	95% CL Std Dev	
3		34.4376	33.9515	34.9238	14.4991	14.1634	14.8512
4		34.7176	34.2242	35.2110	14.9461	14.6053	15.3033
Diff (1-2)	Pooled	-0.2800	-0.9729	0.4129	14.7278	14.4869	14.9769
Diff (1-2)	Satterthwaite	-0.2800	-0.9725	0.4126			

Method	Variances	DF	t Value	Pr > t
Pooled	Equal	6944	-0.79	0.4284
Satterthwaite	Unequal	6944	-0.79	0.4281

Equality of Variances				
Method	Num DF	Den DF	F Value	Pr > F
Folded F	3526	3418	1.06	0.0738



T-Test X4 X1

The TTEST Procedure

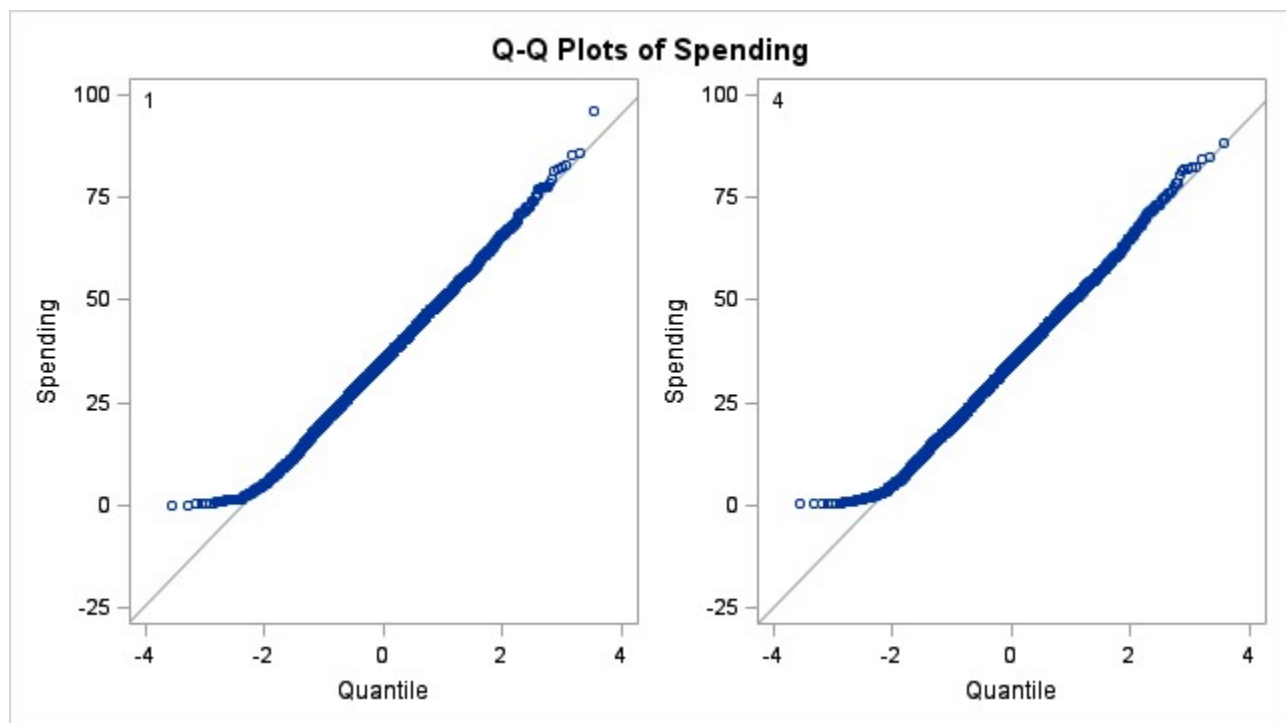
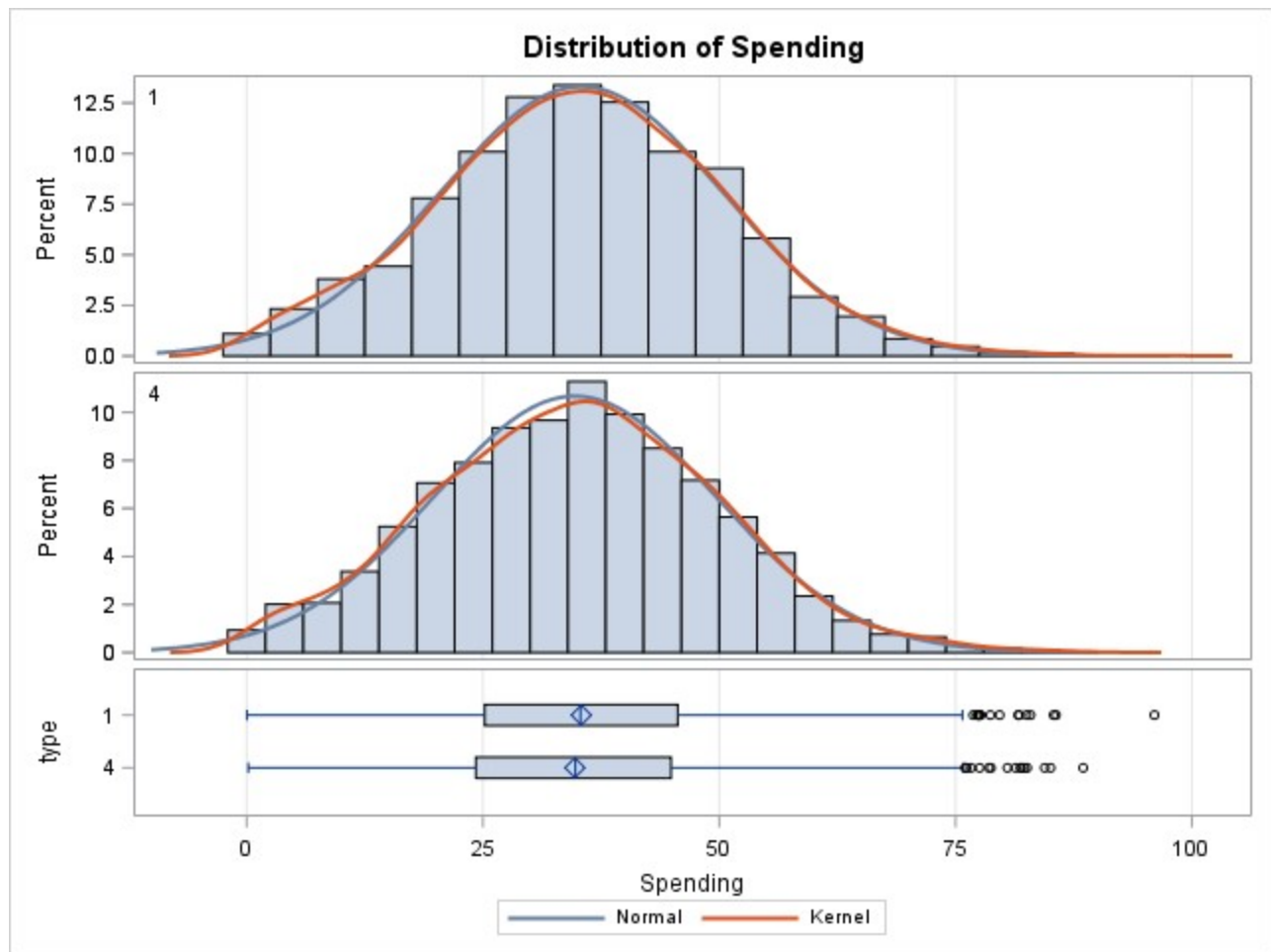
Variable: Spending (Spending)

type	N	Mean	Std Dev	Std Err	Minimum	Maximum
1	3181	35.4006	14.9832	0.2657	0.0243	96.0471
4	3527	34.7176	14.9461	0.2517	0.1742	88.4943
Diff (1-2)		0.6830	14.9637	0.3659		

type	Method	Mean	95% CL Mean		Std Dev	95% CL Std Dev	
1		35.4006	34.8797	35.9215	14.9832	14.6238	15.3607
4		34.7176	34.2242	35.2110	14.9461	14.6053	15.3033
Diff (1-2)	Pooled	0.6830	-0.0342	1.4003	14.9637	14.7147	15.2213
Diff (1-2)	Satterthwaite	0.6830	-0.0343	1.4004			

Method	Variances	DF	t Value	Pr > t
Pooled	Equal	6706	1.87	0.0620
Satterthwaite	Unequal	6631.8	1.87	0.0620

Equality of Variances				
Method	Num DF	Den DF	F Value	Pr > F
Folded F	3180	3526	1.00	0.8856



T-Test X1 X3

The TTEST Procedure

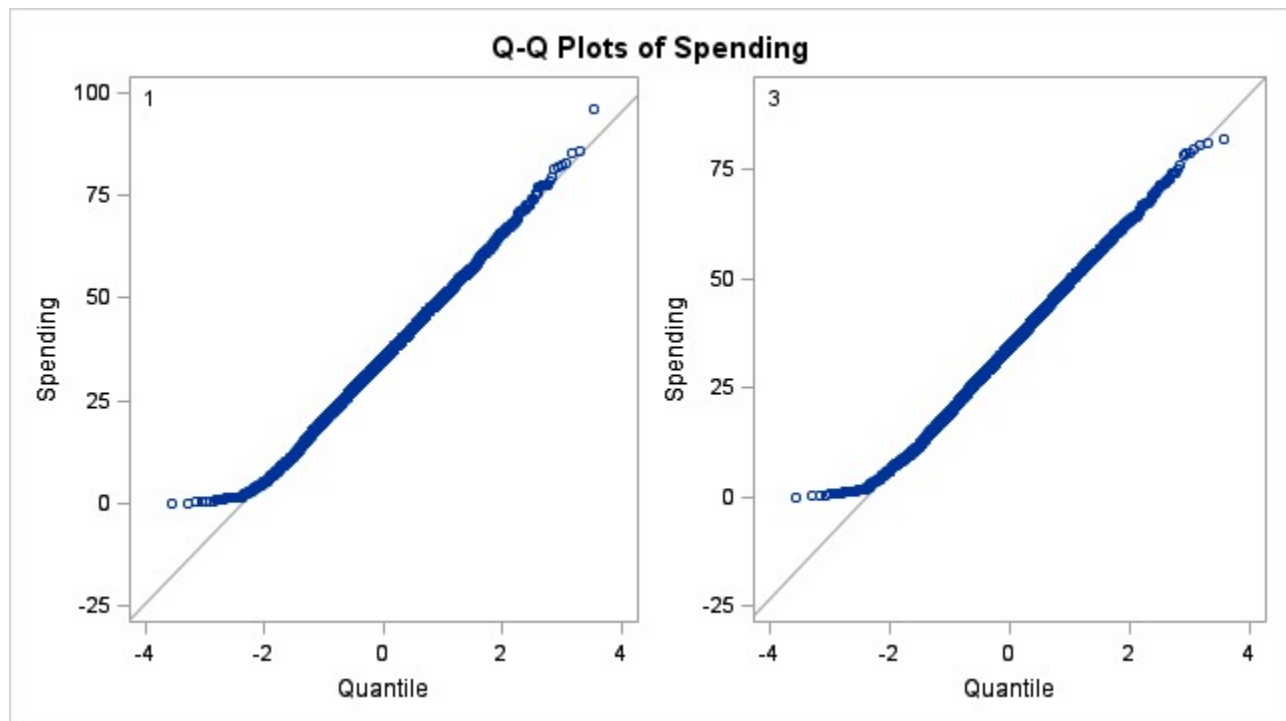
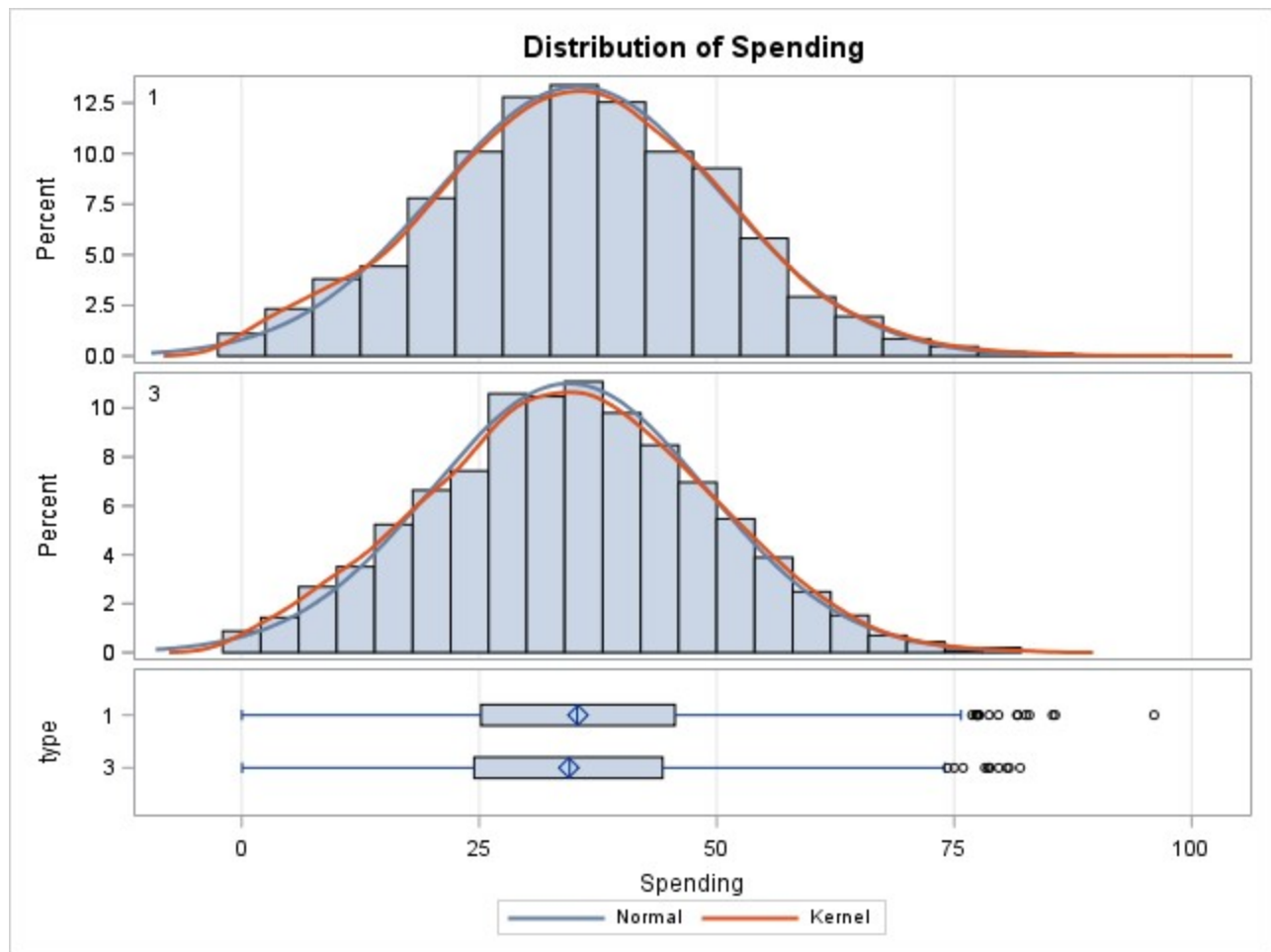
Variable: Spending (Spending)

type	N	Mean	Std Dev	Std Err	Minimum	Maximum
1	3181	35.4006	14.9832	0.2657	0.0243	96.0471
3	3419	34.4376	14.4991	0.2480	0.0488	81.9492
Diff (1-2)		0.9630	14.7344	0.3630		

type	Method	Mean	95% CL Mean		Std Dev	95% CL Std Dev	
1		35.4006	34.8797	35.9215	14.9832	14.6238	15.3607
3		34.4376	33.9515	34.9238	14.4991	14.1634	14.8512
Diff (1-2)	Pooled	0.9630	0.2514	1.6745	14.7344	14.4873	14.9902
Diff (1-2)	Satterthwaite	0.9630	0.2506	1.6754			

Method	Variances	DF	t Value	Pr > t
Pooled	Equal	6598	2.65	0.0080
Satterthwaite	Unequal	6526.1	2.65	0.0081

Equality of Variances				
Method	Num DF	Den DF	F Value	Pr > F
Folded F	3180	3418	1.07	0.0593



T-Test X2 X4

The TTEST Procedure

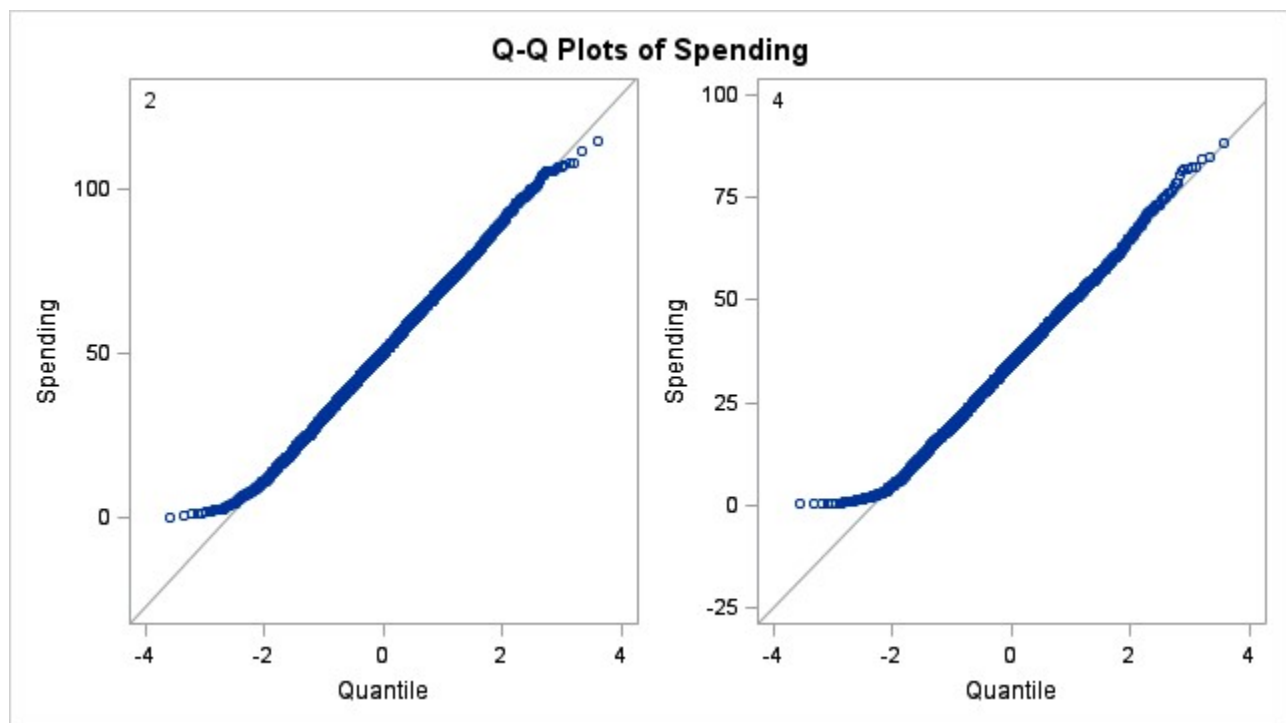
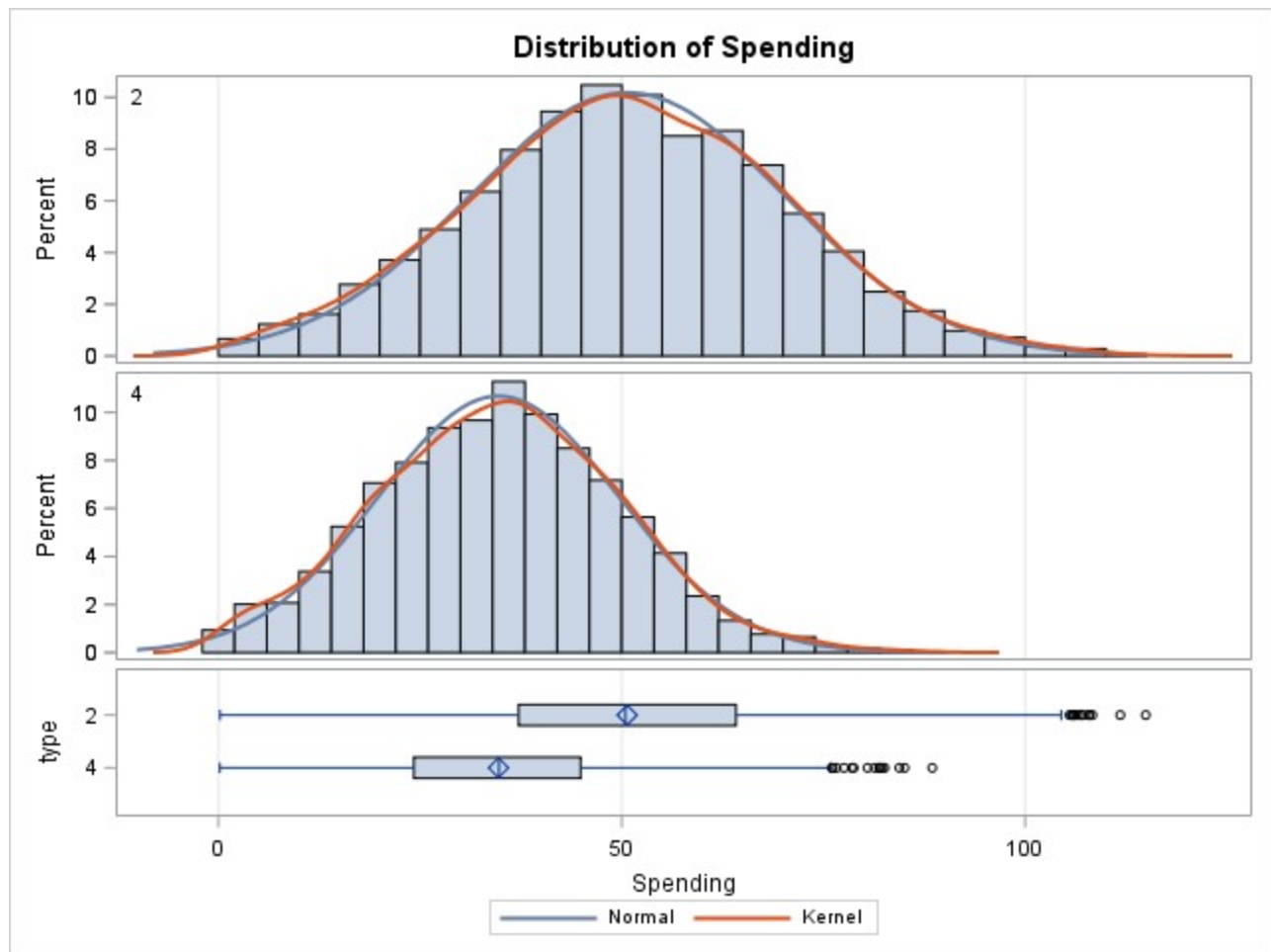
Variable: Spending (Spending)

type	N	Mean	Std Dev	Std Err	Minimum	Maximum
2	3903	50.6661	19.5865	0.3135	0.1994	114.9
4	3527	34.7176	14.9461	0.2517	0.1742	88.4943
Diff (1-2)		15.9485	17.5375	0.4074		

type	Method	Mean	95% CL Mean		Std Dev	95% CL Std Dev	
2		50.6661	50.0514	51.2808	19.5865	19.1615	20.0310
4		34.7176	34.2242	35.2110	14.9461	14.6053	15.3033
Diff (1-2)	Pooled	15.9485	15.1498	16.7472	17.5375	17.2600	17.8242
Diff (1-2)	Satterthwaite	15.9485	15.1604	16.7366			

Method	Variances	DF	t Value	Pr > t
Pooled	Equal	7428	39.14	<.0001
Satterthwaite	Unequal	7229.1	39.67	<.0001

Equality of Variances				
Method	Num DF	Den DF	F Value	Pr > F
Folded F	3902	3526	1.72	<.0001



Correlation Analysis Between Period and Spending

The CORR Procedure

2 Variables: Period Spending

Simple Statistics							
Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
Period	14030	0.52958	0.49914	7430	0	1.00000	Period
Spending	14030	39.24094	17.75895	550550	0.02428	114.94745	Spending

Pearson Correlation Coefficients, N = 14030

Prob > |r| under H0: Rho=0

	Period	Spending
Period Period	1.00000	0.23029 <.0001
Spending Spending	0.23029 <.0001	1.00000

Regression - Analysis of Spending based on Group

The REG Procedure
 Model: MODEL1
 Dependent Variable: Spending Spending

Number of Observations Read	14030
Number of Observations Used	14030

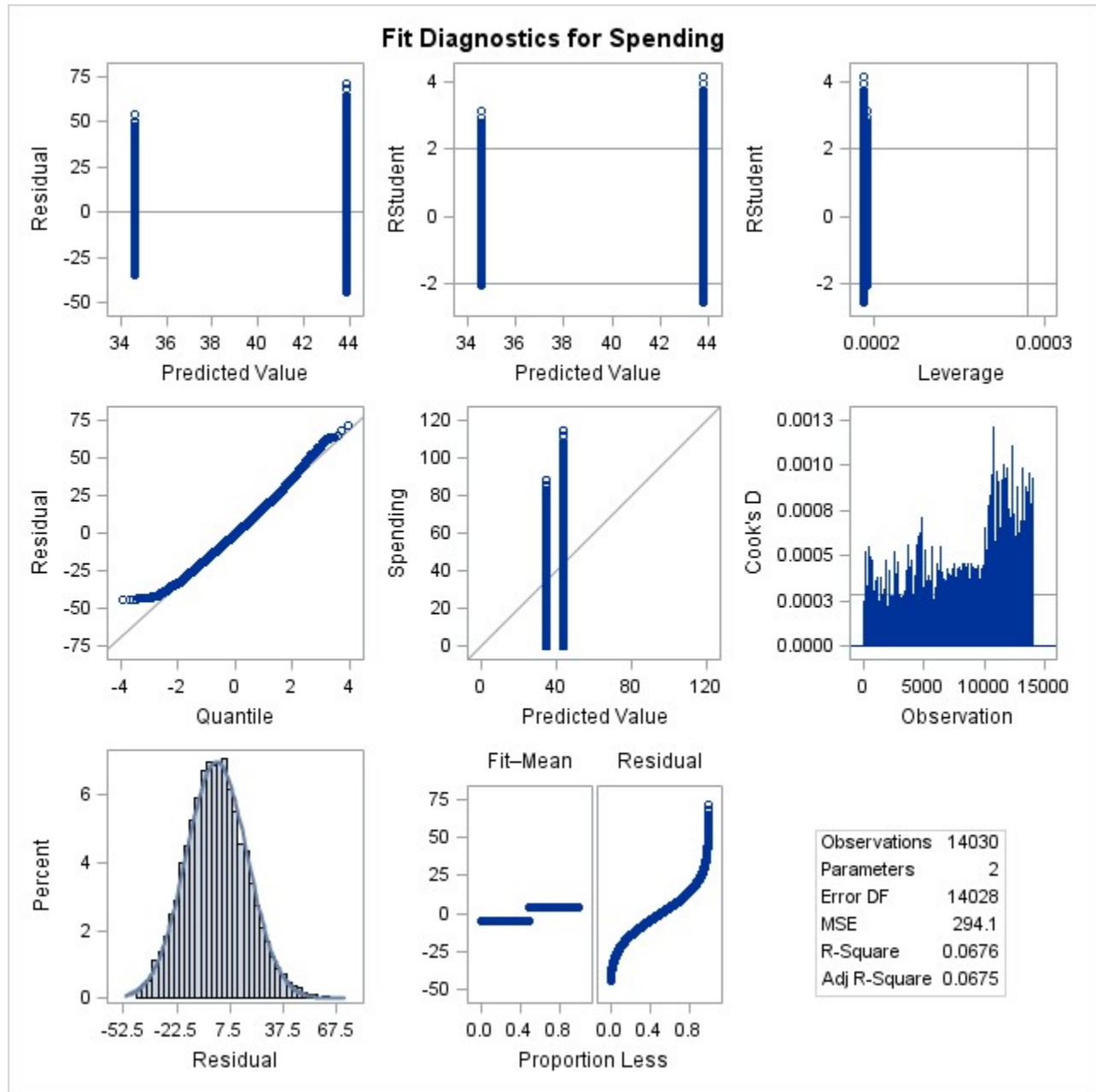
Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	298882	298882	1016.27	<.0001
Error	14028	4125586	294.09650		
Corrected Total	14029	4424468			

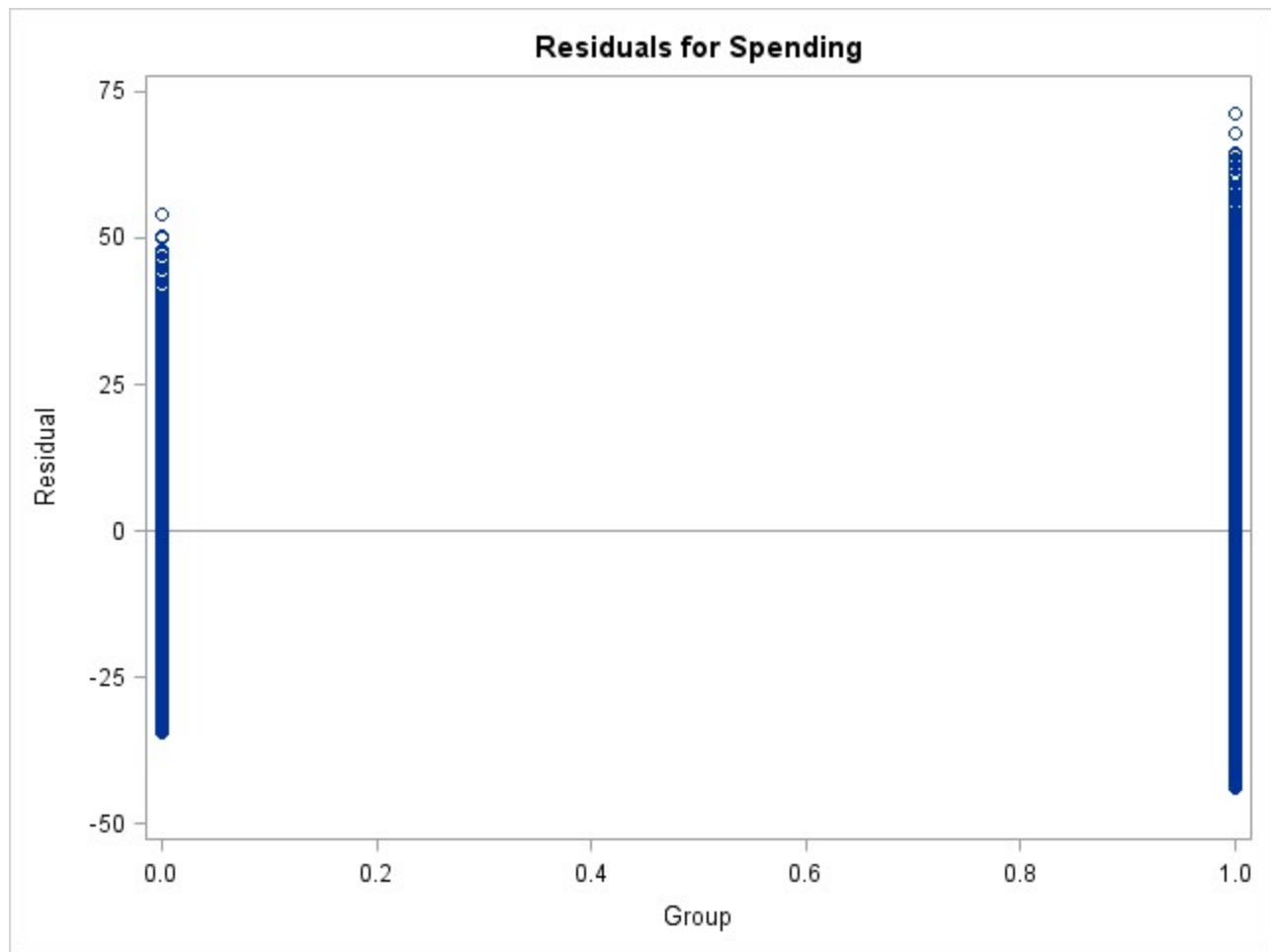
Root MSE	17.14924	R-Square	0.0676
Dependent Mean	39.24094	Adj R-Sq	0.0675
Coeff Var	43.70242		

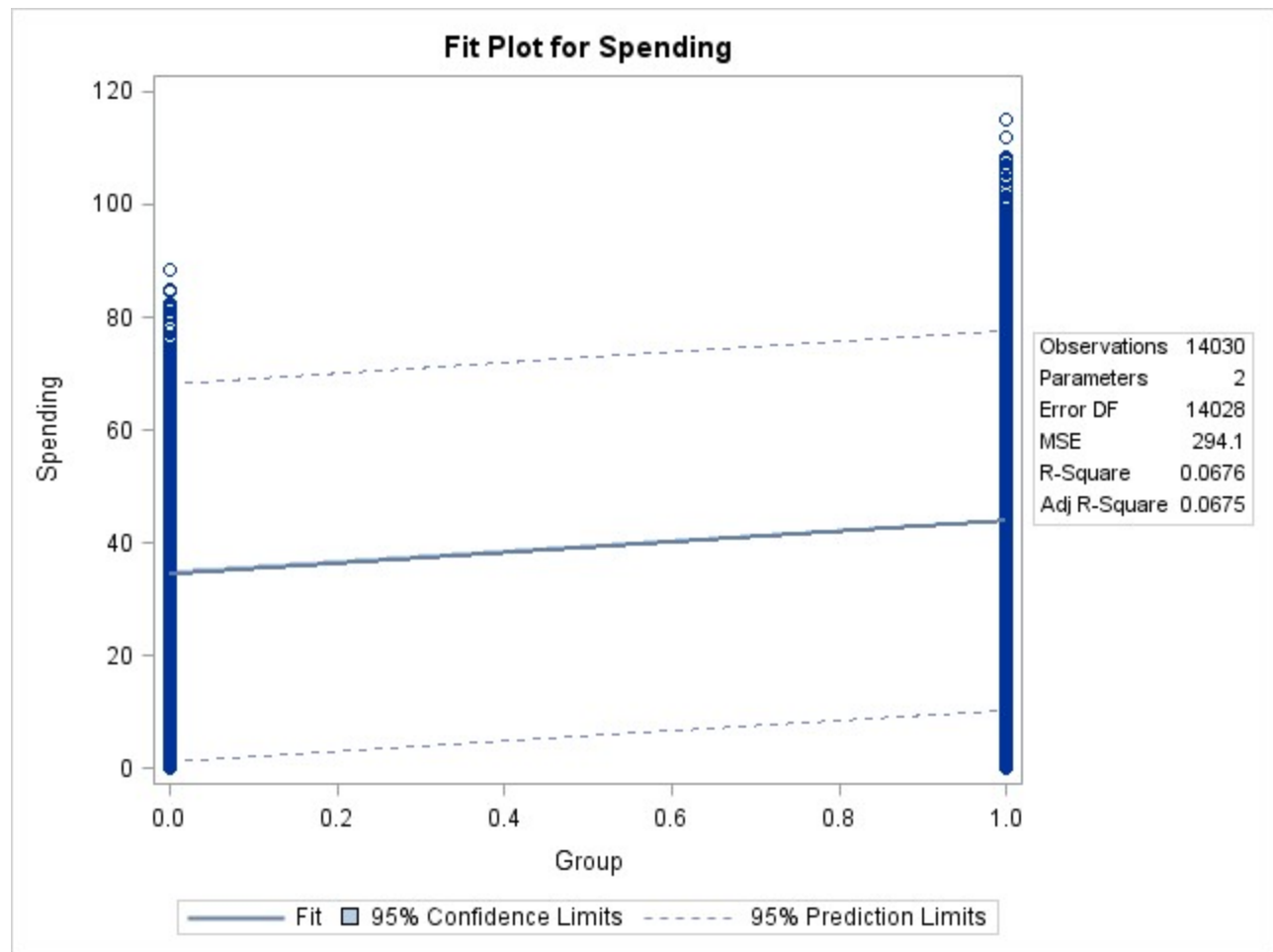
Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	Intercept	1	34.57979	0.20577	168.05	<.0001
Group	Group	1	9.23150	0.28958	31.88	<.0001

Regression - Analysis of Spending based on Group

The REG Procedure
Model: MODEL1
Dependent Variable: Spending Spending







Regression - Analysis of Spending based on Group, Period and (Group*Period)

The REG Procedure
 Model: MODEL1
 Dependent Variable: Spending Spending

Number of Observations Read	14030
Number of Observations Used	14030

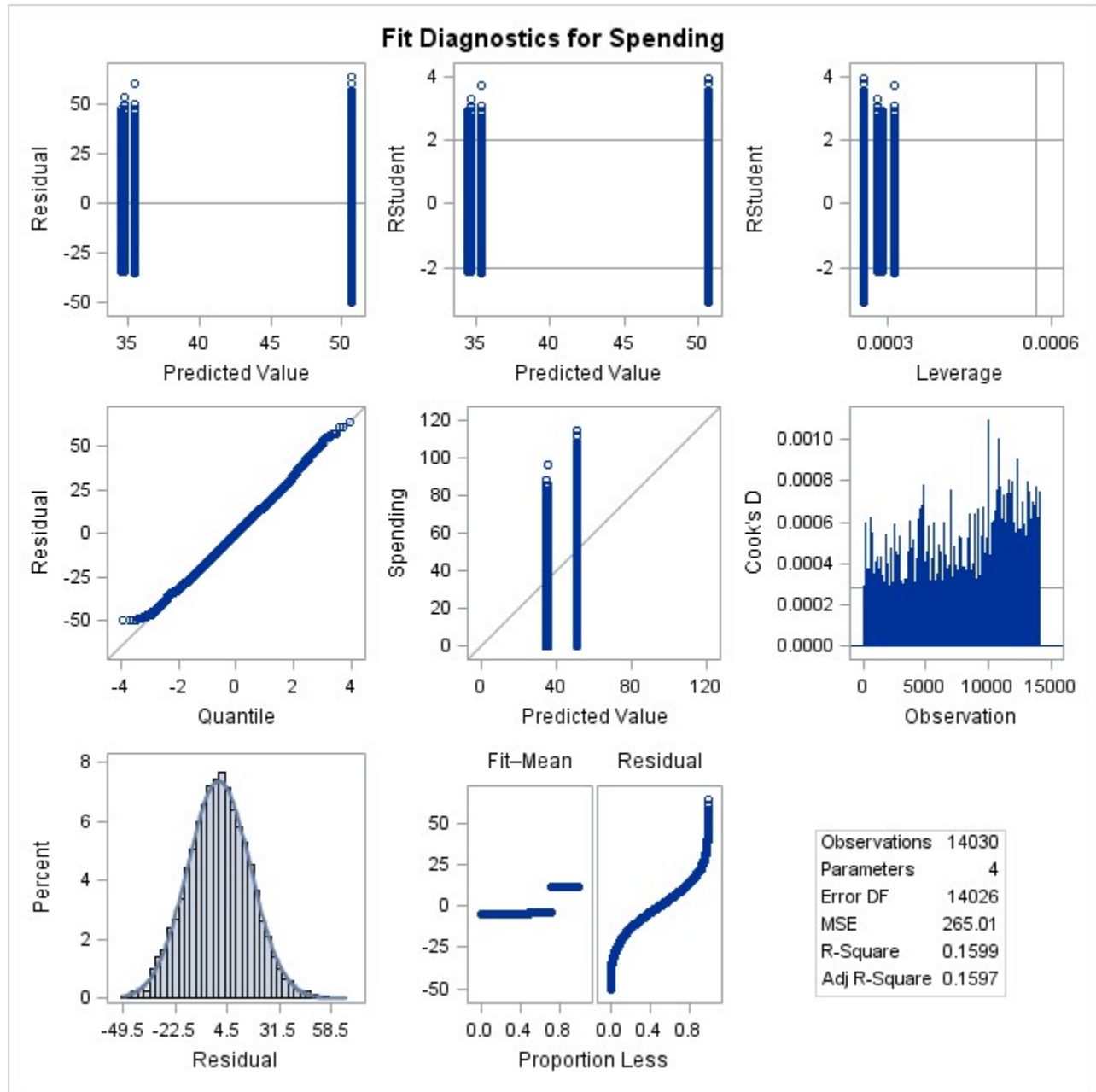
Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	707437	235812	889.82	<.0001
Error	14026	3717031	265.01008		
Corrected Total	14029	4424468			

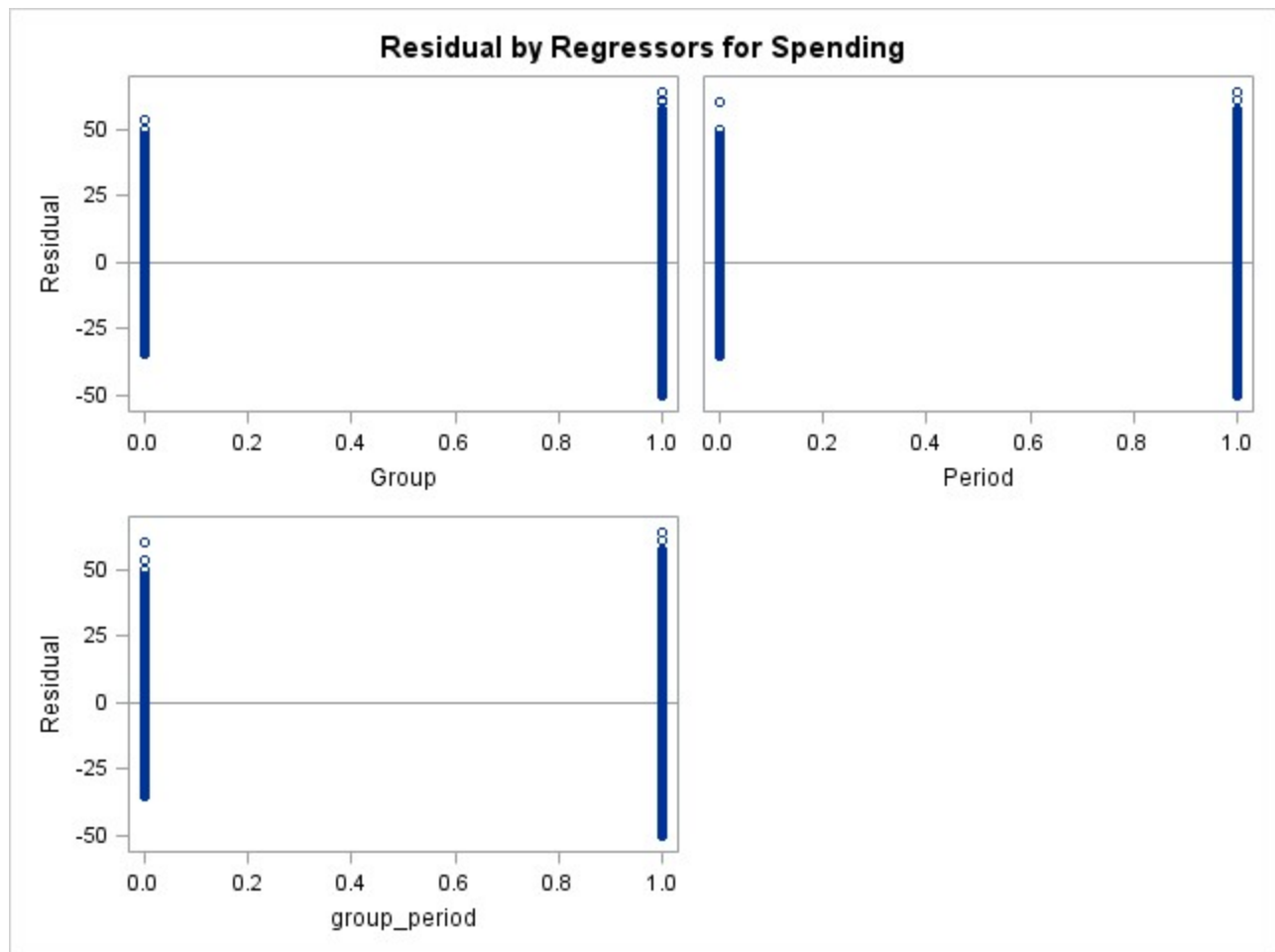
Root MSE	16.27913	R-Square	0.1599
Dependent Mean	39.24094	Adj R-Sq	0.1597
Coeff Var	41.48507		

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	Intercept	1	34.43763	0.27841	123.69	<.0001
Group	Group	1	0.96299	0.40103	2.40	0.0163
Period	Period	1	0.27996	0.39070	0.72	0.4737
group_period		1	14.98553	0.55123	27.19	<.0001

Regression - Analysis of Spending based on Group, Period and (Group*Period)

The REG Procedure
 Model: MODEL1
 Dependent Variable: Spending Spending





Regression - Analysis of Spending based on (Group*Period)

The REG Procedure
 Model: MODEL1
 Dependent Variable: Spending Spending

Number of Observations Read	14030
Number of Observations Used	14030

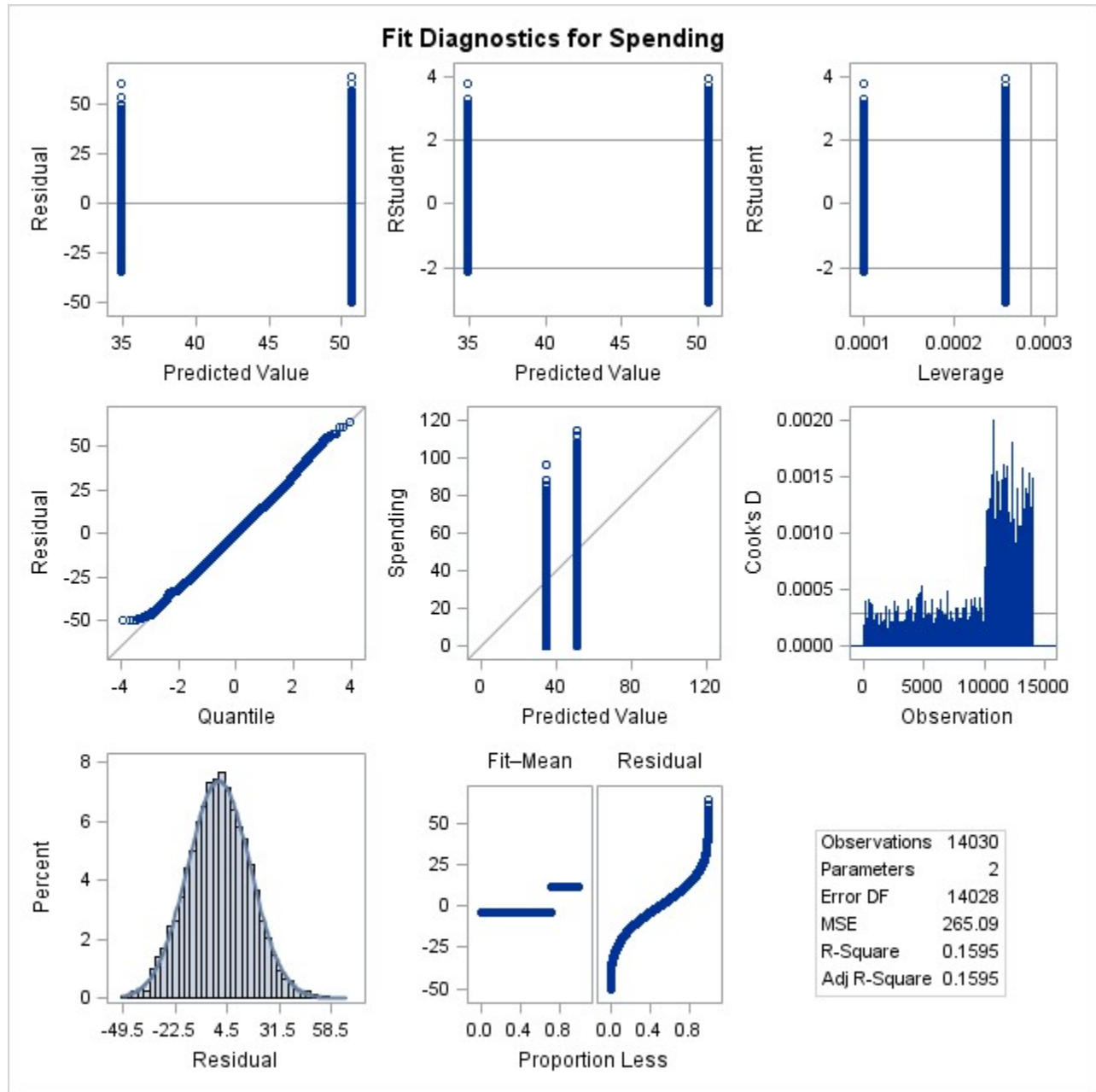
Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	705831	705831	2662.64	<.0001
Error	14028	3718637	265.08679		
Corrected Total	14029	4424468			

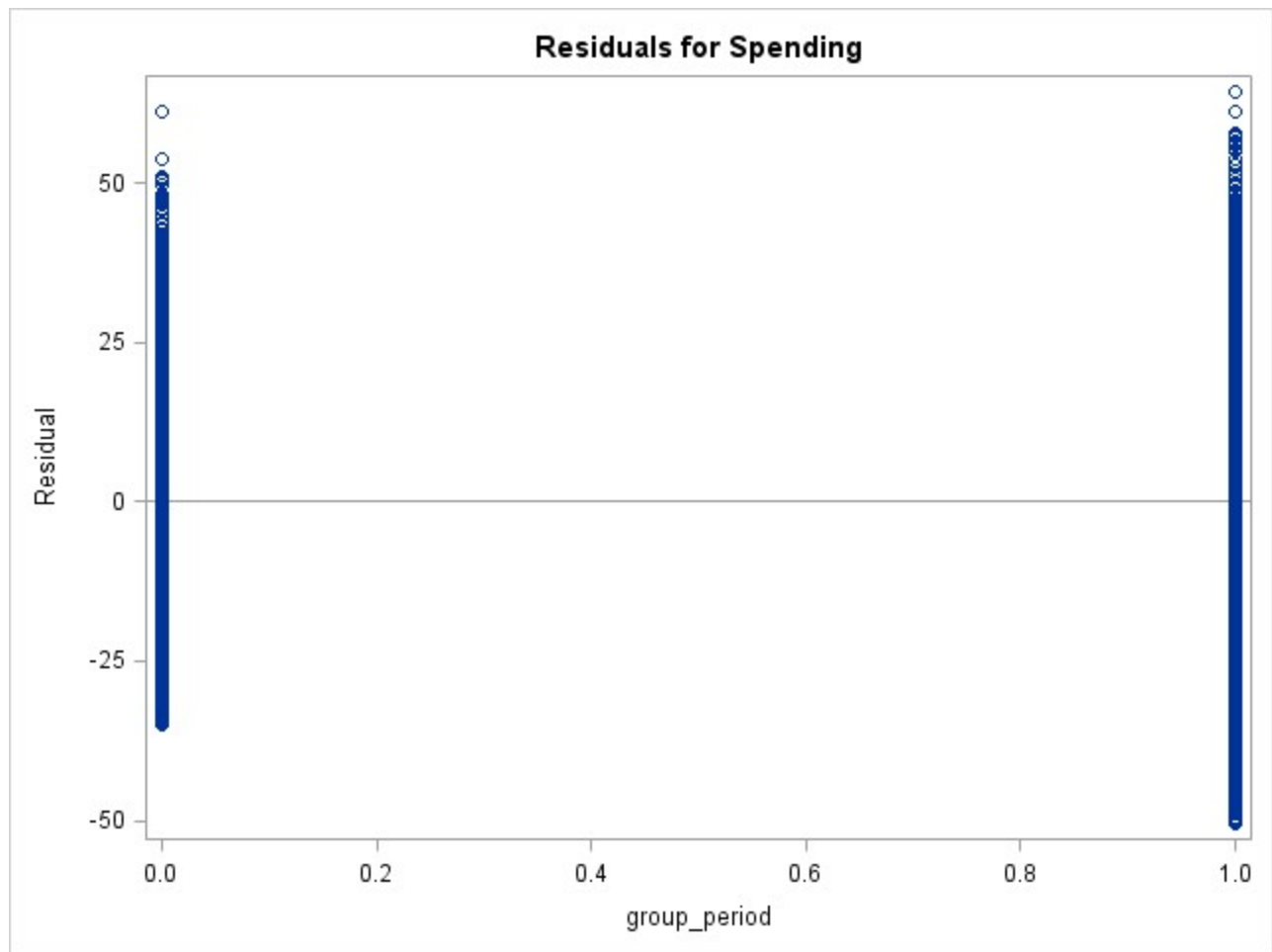
Root MSE	16.28149	R-Square	0.1595
Dependent Mean	39.24094	Adj R-Sq	0.1595
Coeff Var	41.49107		

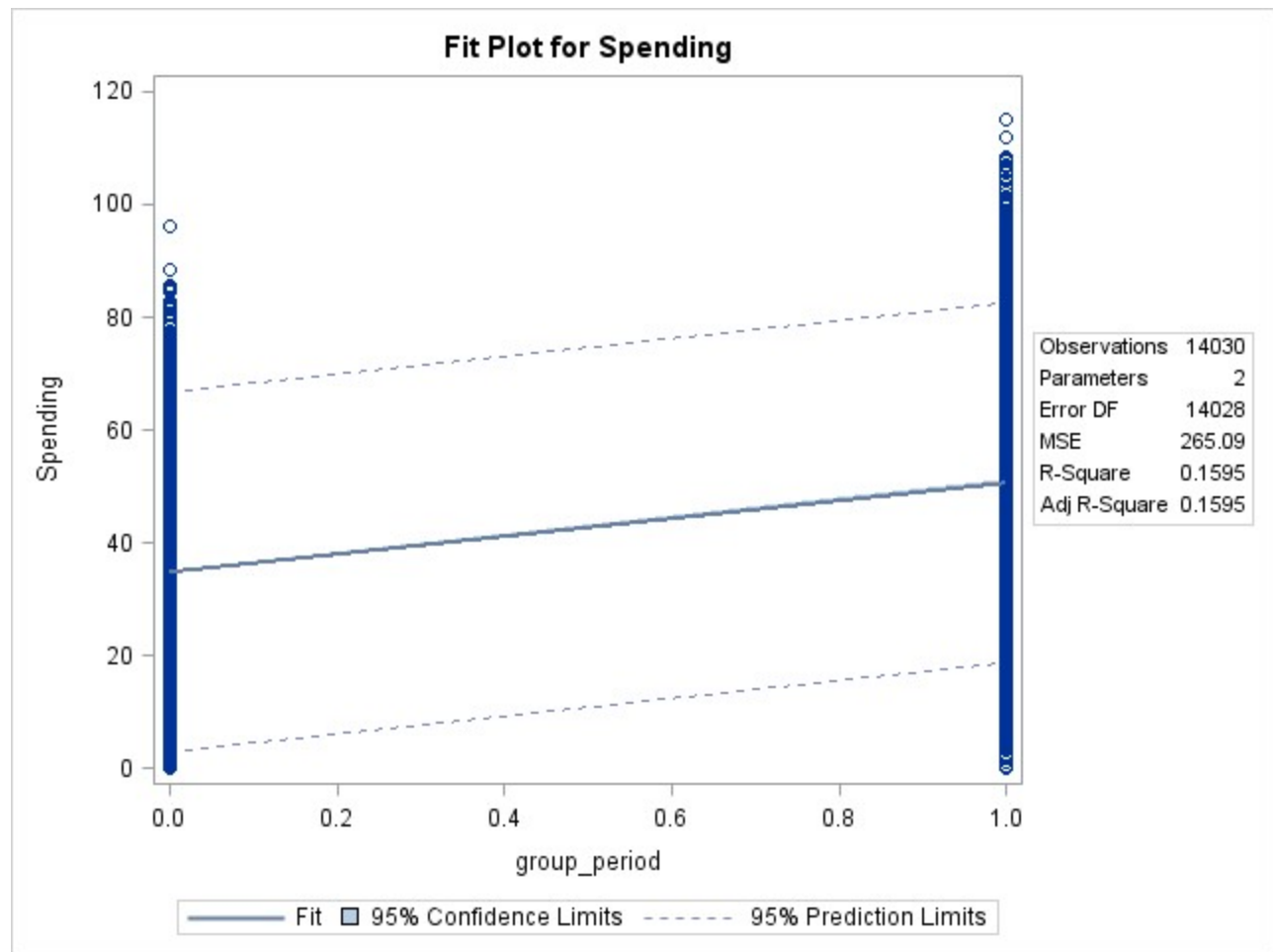
Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	Intercept	1	34.83762	0.16179	215.33	<.0001
group_period		1	15.82849	0.30675	51.60	<.0001

Regression - Analysis of Spending based on (Group*Period)

The REG Procedure
 Model: MODEL1
 Dependent Variable: Spending Spending







Regression - Analysis of log(Spending) based on Group, Period and (Group*Period)

The REG Procedure
 Model: MODEL1
 Dependent Variable: log_spending

Number of Observations Read	14030
Number of Observations Used	14030

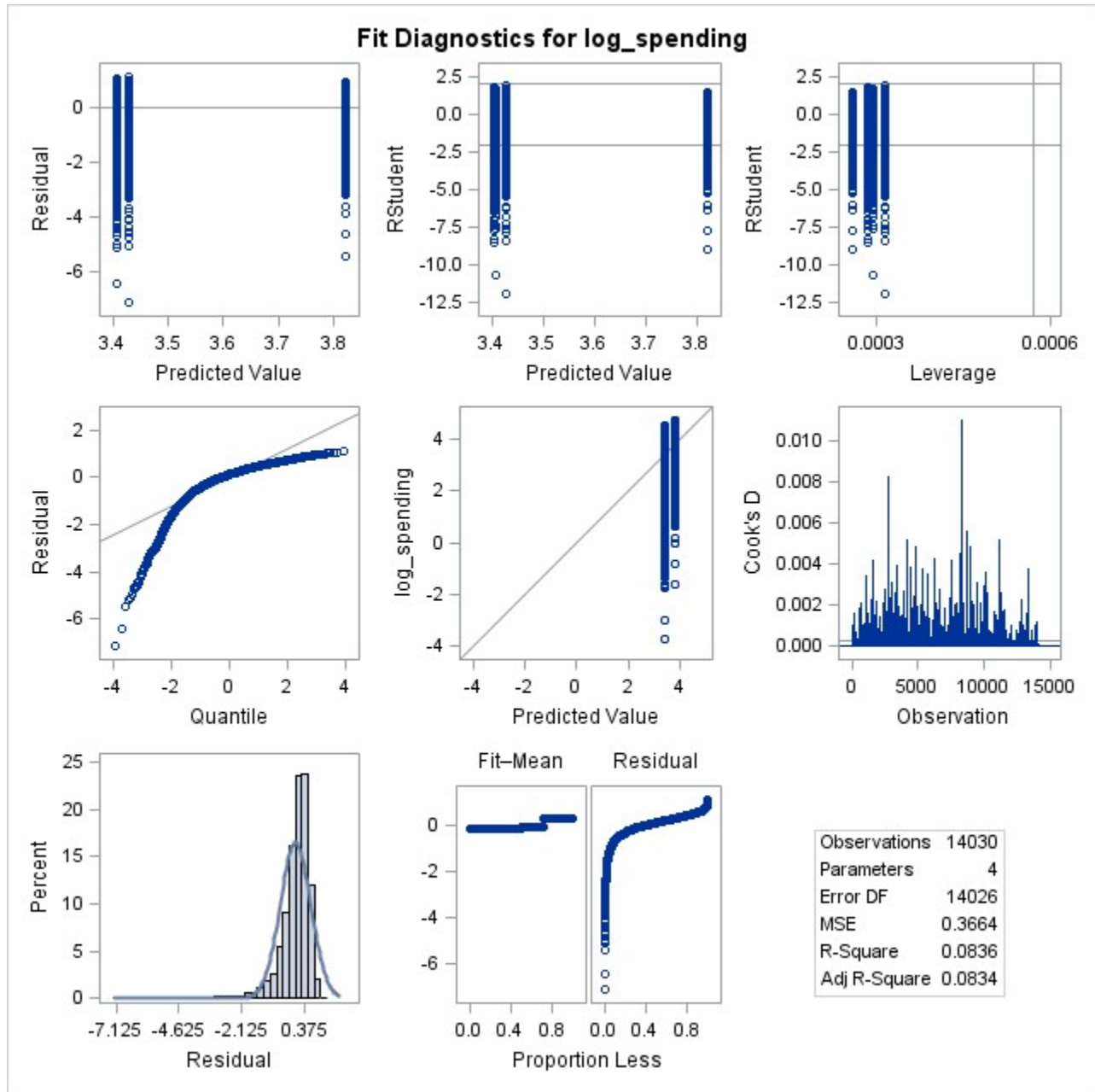
Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	468.75921	156.25307	426.45	<.0001
Error	14026	5139.19347	0.36640		
Corrected Total	14029	5607.95268			

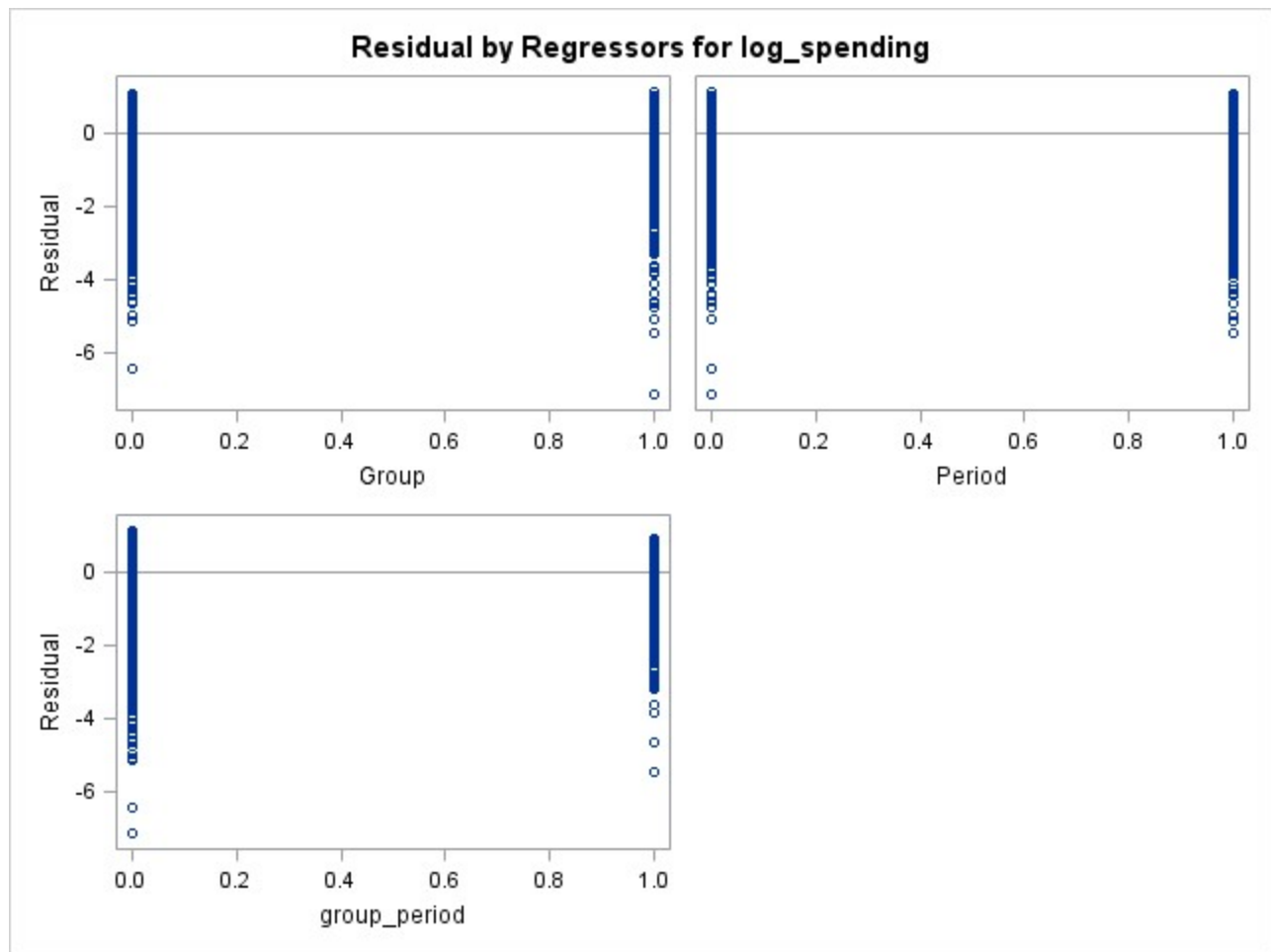
Root MSE	0.60531	R-Square	0.0836
Dependent Mean	3.52709	Adj R-Sq	0.0834
Coeff Var	17.16185		

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	Intercept	1	3.40753	0.01035	329.16	<.0001
Group	Group	1	0.02149	0.01491	1.44	0.1495
Period	Period	1	-0.00155	0.01453	-0.11	0.9152
group_period		1	0.39370	0.02050	19.21	<.0001

Regression - Analysis of log(Spending) based on Group, Period and (Group*Period)

The REG Procedure
Model: MODEL1
Dependent Variable: log_spending





Checking if distribution is skewed for spending

The UNIVARIATE Procedure
Variable: Spending (Spending)

Moments			
N	14030	Sum Weights	14030
Mean	39.2409412	Sum Observations	550550.404
Std Deviation	17.7589454	Variance	315.380142
Skewness	0.39970826	Kurtosis	0.23975314
Uncorrected SS	26028584	Corrected SS	4424468.01
Coeff Variation	45.2561658	Std Error Mean	0.14992993

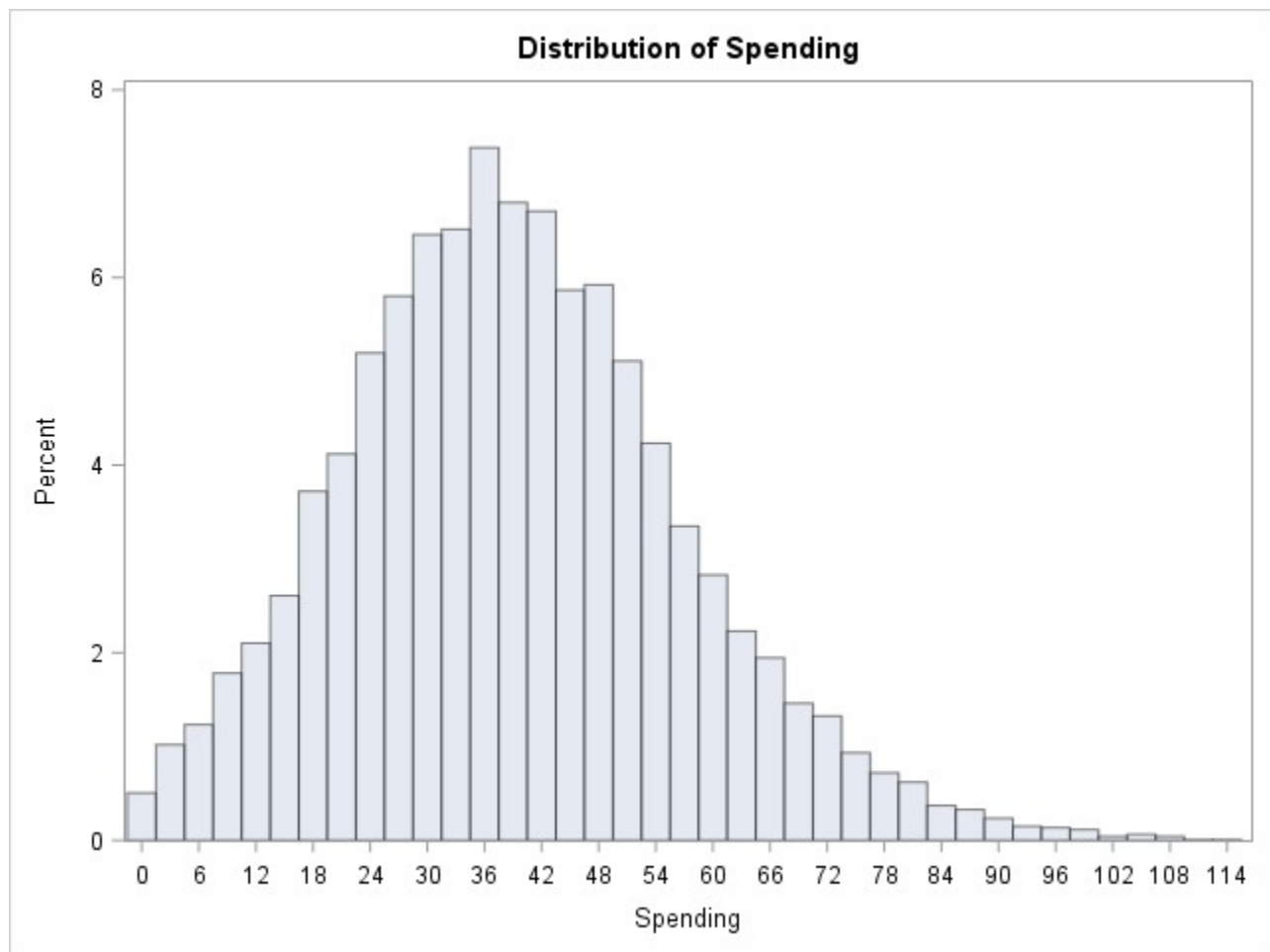
Basic Statistical Measures			
Location		Variability	
Mean	39.24094	Std Deviation	17.75895
Median	38.22936	Variance	315.38014
Mode	.	Range	114.92316
		Interquartile Range	23.09515

Tests for Location: Mu0=0				
Test	Statistic		p Value	
Student's t	t	261.7285	Pr > t 	<.0001
Sign	M	7015	Pr >= M 	<.0001
Signed Rank	S	49213733	Pr >= S 	<.0001

Quantiles (Definition 5)	
Level	Quantile
100% Max	114.9474471
99%	86.4066417
95%	70.8637511
90%	62.4832820
75% Q3	50.1820518
50% Median	38.2293627
25% Q1	27.0869063
10%	17.2143003
5%	11.1127359

1%	2.9430575
0% Min	0.0242832

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
0.0242832	8298	107.859	13091
0.0488402	2795	107.972	11893
0.1742395	4210	108.348	11658
0.1907286	8633	111.782	12253
0.1993972	11106	114.947	10758

Checking if distribution is skewed for spending**The UNIVARIATE Procedure**

Checking if distribution is skewed for log(spending)

The UNIVARIATE Procedure
Variable: log_spending

Moments			
N	14030	Sum Weights	14030
Mean	3.52708941	Sum Observations	49485.0644
Std Deviation	0.63224996	Variance	0.39974002
Skewness	-2.320942	Kurtosis	10.5859165
Uncorrected SS	180146.199	Corrected SS	5607.95268
Coeff Variation	17.925544	Std Error Mean	0.00533777

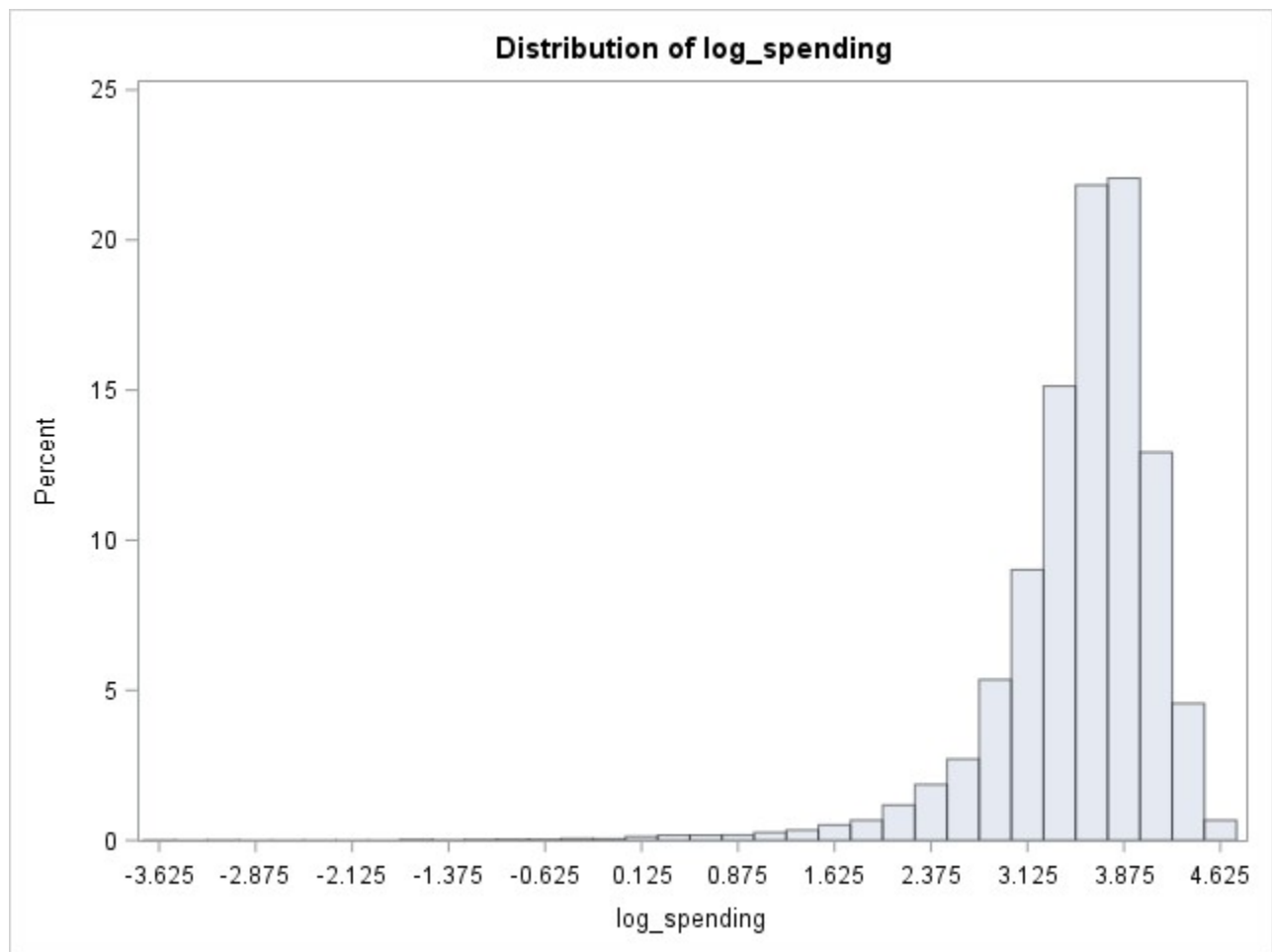
Basic Statistical Measures			
Location		Variability	
Mean	3.527089	Std Deviation	0.63225
Median	3.643604	Variance	0.39974
Mode	.	Range	8.46245
		Interquartile Range	0.61661

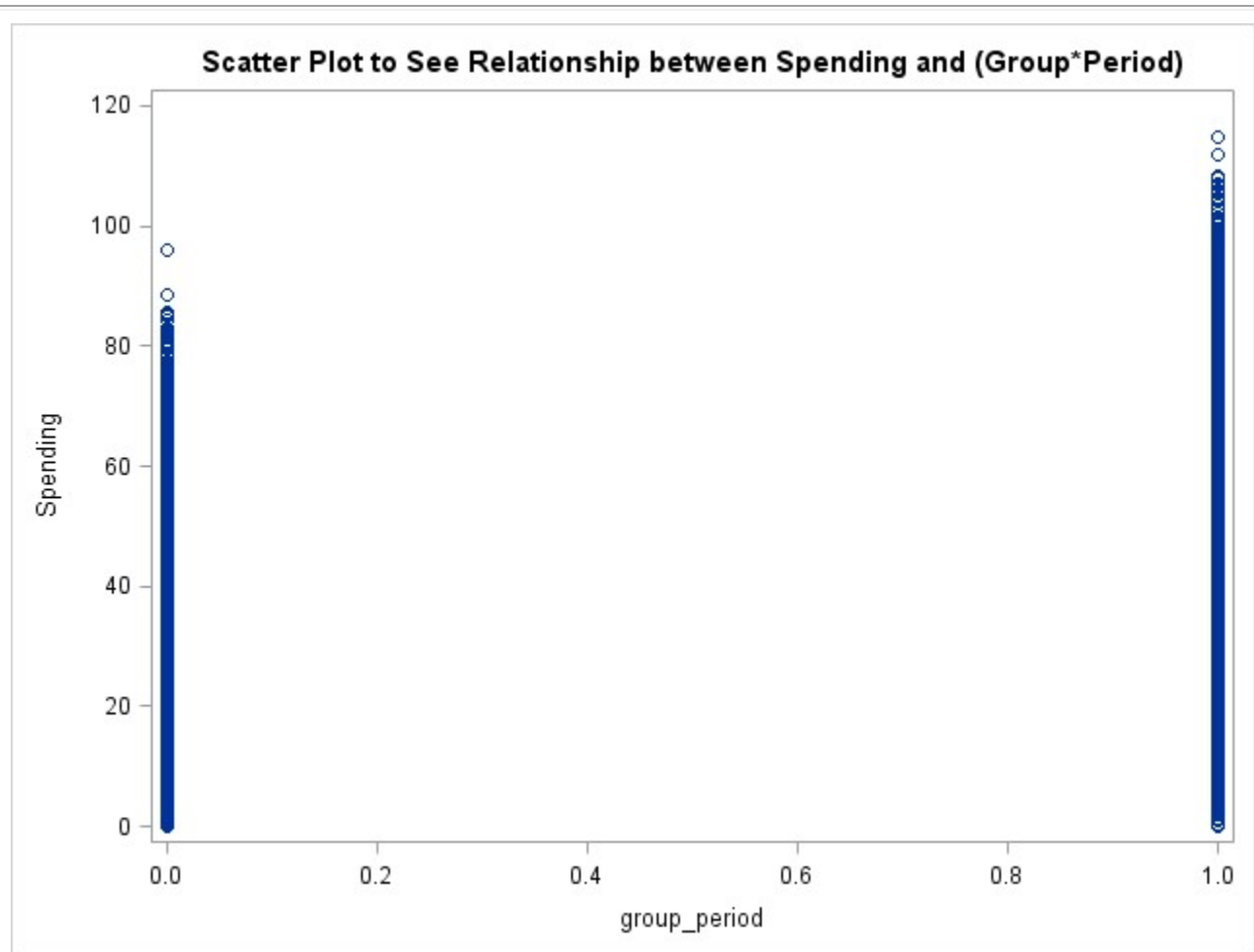
Tests for Location: Mu0=0				
Test	Statistic		p Value	
Student's t	t	660.7794	Pr > t 	<.0001
Sign	M	6978	Pr >= M 	<.0001
Signed Rank	S	49200662	Pr >= S 	<.0001

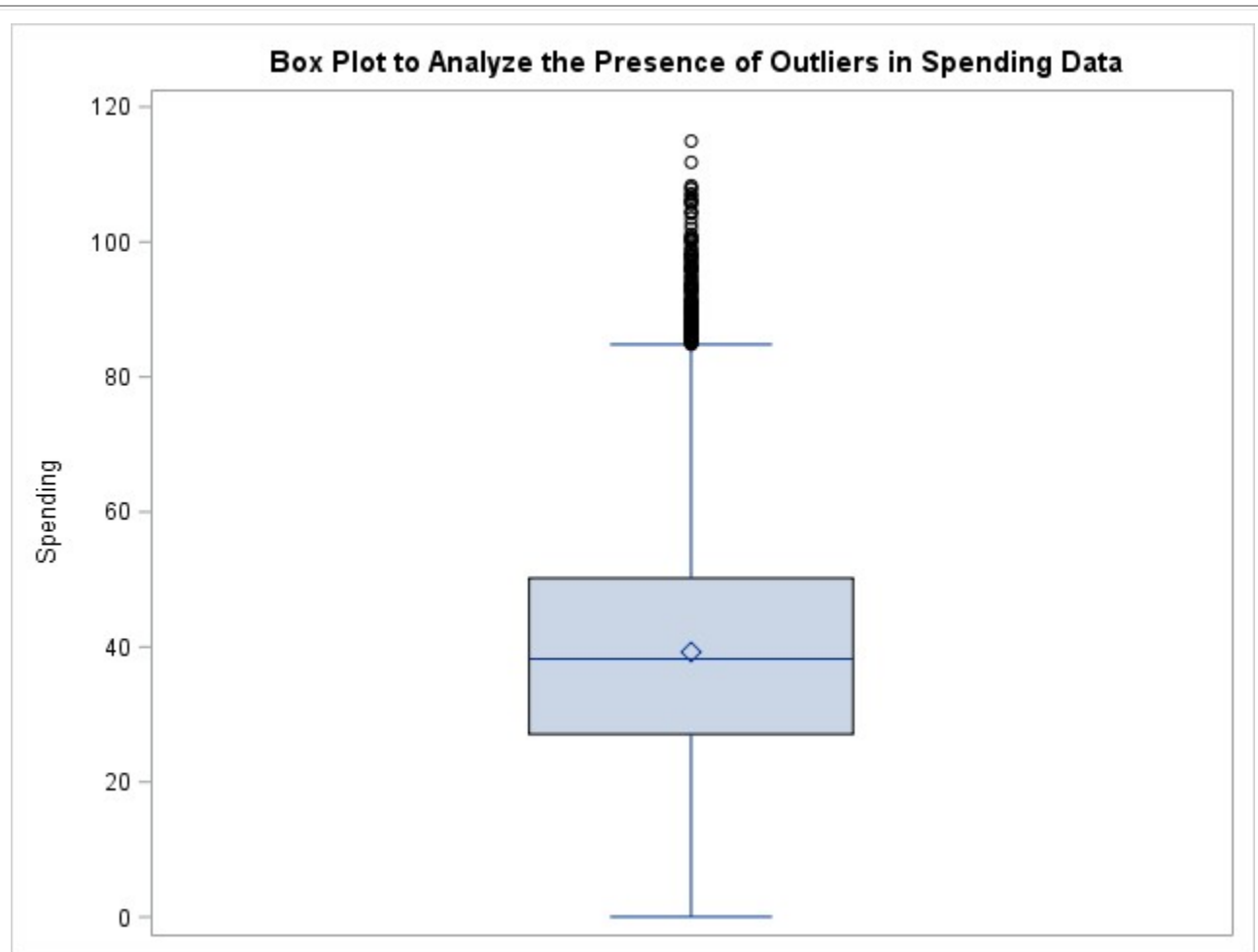
Quantiles (Definition 5)	
Level	Quantile
100% Max	4.74448
99%	4.45906
95%	4.26076
90%	4.13490
75% Q3	3.91566
50% Median	3.64360
25% Q1	3.29905
10%	2.84574
5%	2.40809

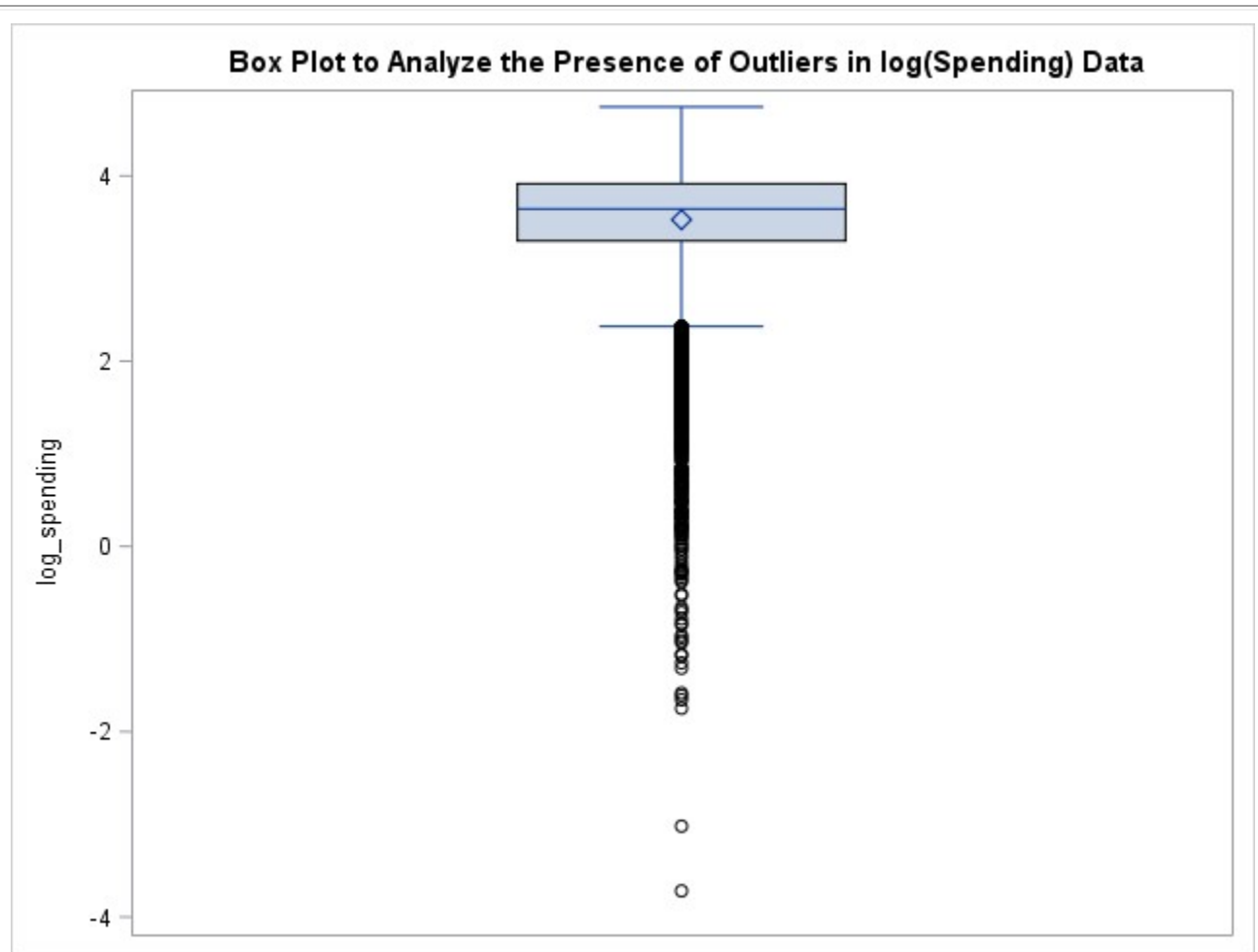
1%	1.07945
0% Min	-3.71797

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
-3.71797	8298	4.68082	13091
-3.01920	2795	4.68187	11893
-1.74732	4210	4.68534	11658
-1.65690	8633	4.71655	12253
-1.61246	11106	4.74448	10758

Checking if distribution is skewed for log(spending)**The UNIVARIATE Procedure**







Regression - Analysis of log(Spending) based on (Group*Period)

The REG Procedure
 Model: MODEL1
 Dependent Variable: log_spending

Number of Observations Read	14030
Number of Observations Used	14030

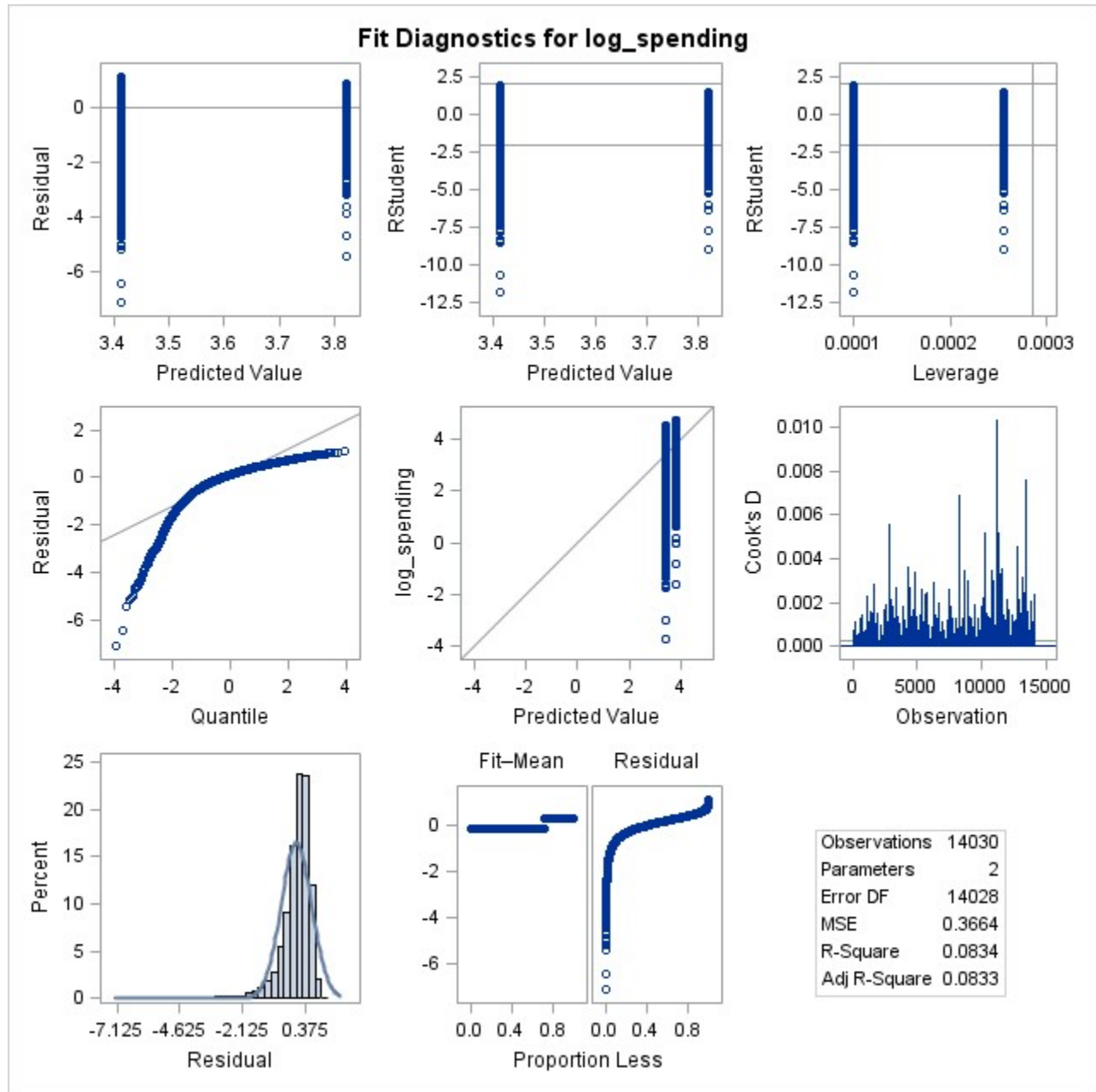
Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	467.67210	467.67210	1276.29	<.0001
Error	14028	5140.28058	0.36643		
Corrected Total	14029	5607.95268			

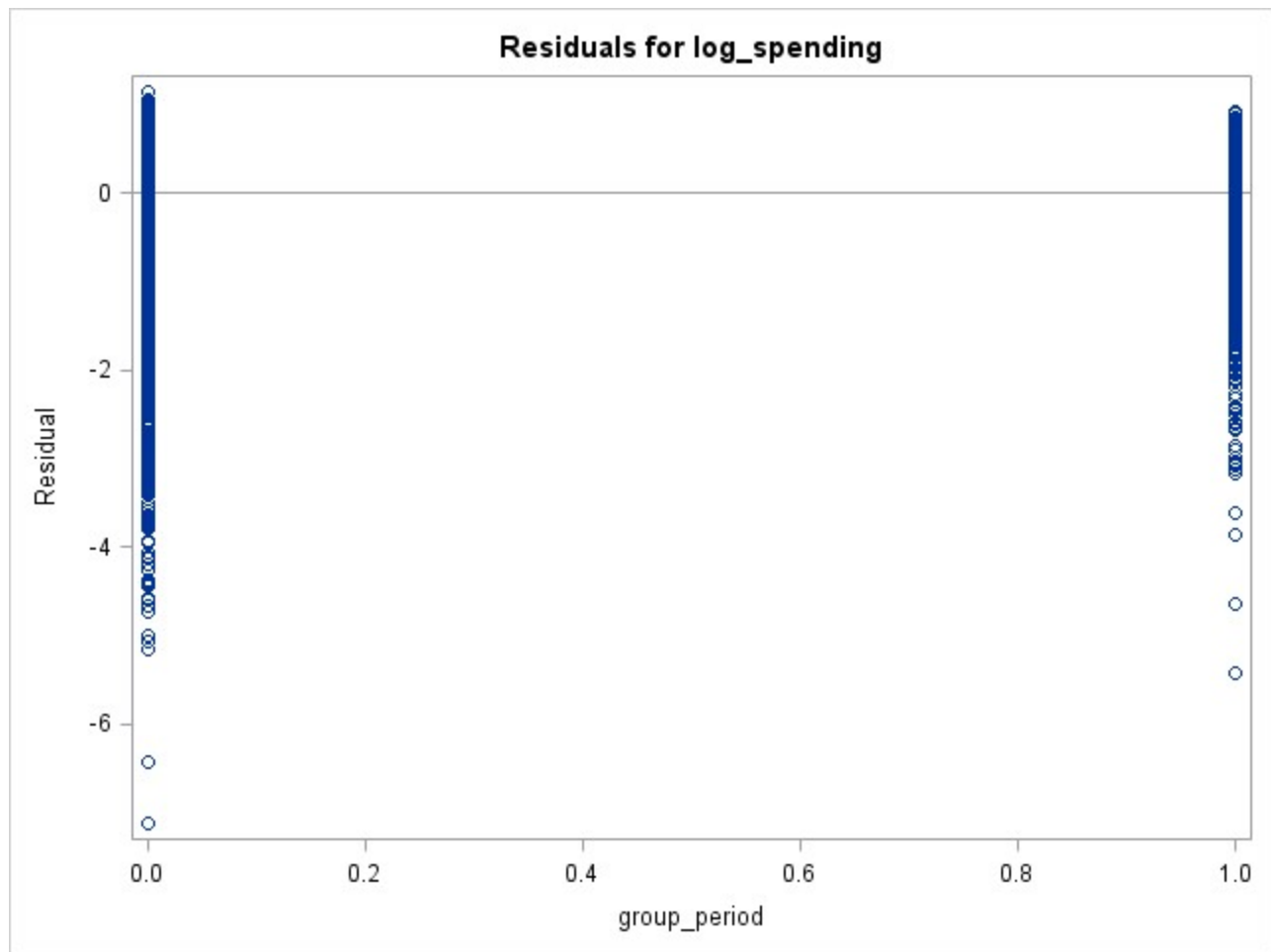
Root MSE	0.60533	R-Square	0.0834
Dependent Mean	3.52709	Adj R-Sq	0.0833
Coeff Var	17.16244		

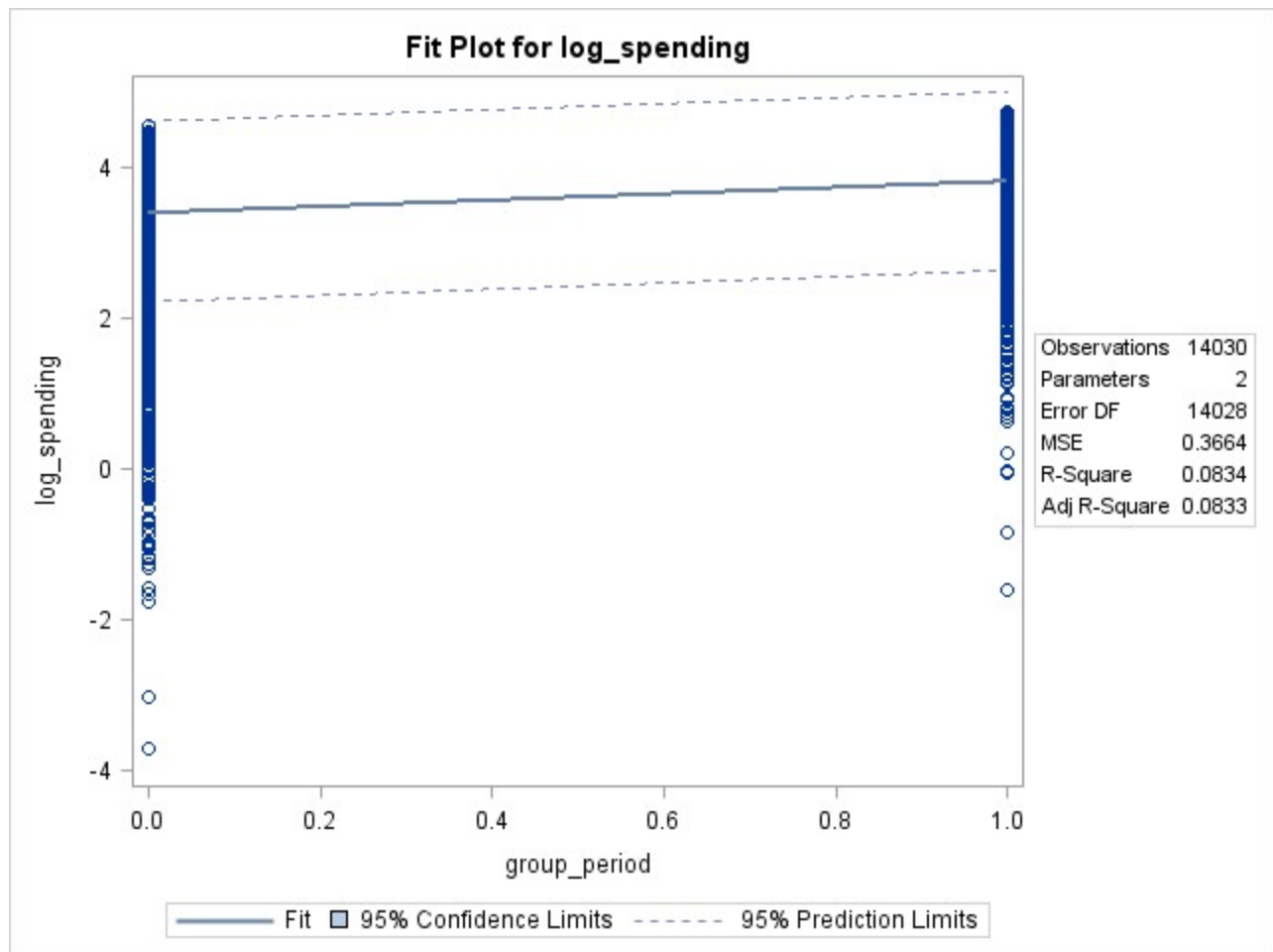
Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	3.41374	0.00602	567.51	<.0001
group_period	1	0.40744	0.01140	35.73	<.0001

Regression - Analysis of log(Spending) based on (Group*Period)

The REG Procedure
Model: MODEL1
Dependent Variable: log_spending







Regression - Analysis of log(Spending) based on Group

The REG Procedure
 Model: MODEL1
 Dependent Variable: log_spending

Number of Observations Read	14030
Number of Observations Used	14030

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	199.22927	199.22927	516.72	<.0001
Error	14028	5408.72341	0.38557		
Corrected Total	14029	5607.95268			

Root MSE	0.62094	R-Square	0.0355
Dependent Mean	3.52709	Adj R-Sq	0.0355
Coeff Var	17.60488		

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	Intercept	1	3.40675	0.00745	457.25	<.0001
Group	Group	1	0.23834	0.01049	22.73	<.0001

Regression - Analysis of log(Spending) based on Group

The REG Procedure
Model: MODEL1
Dependent Variable: log_spending

