The GLM Procedure

Class Level Information		
Class	**Levels**	**Values**
Borough	5	1 2 3 4 5

Number of Observations Read	77
Number of Observations Used	77

The GLM Procedure

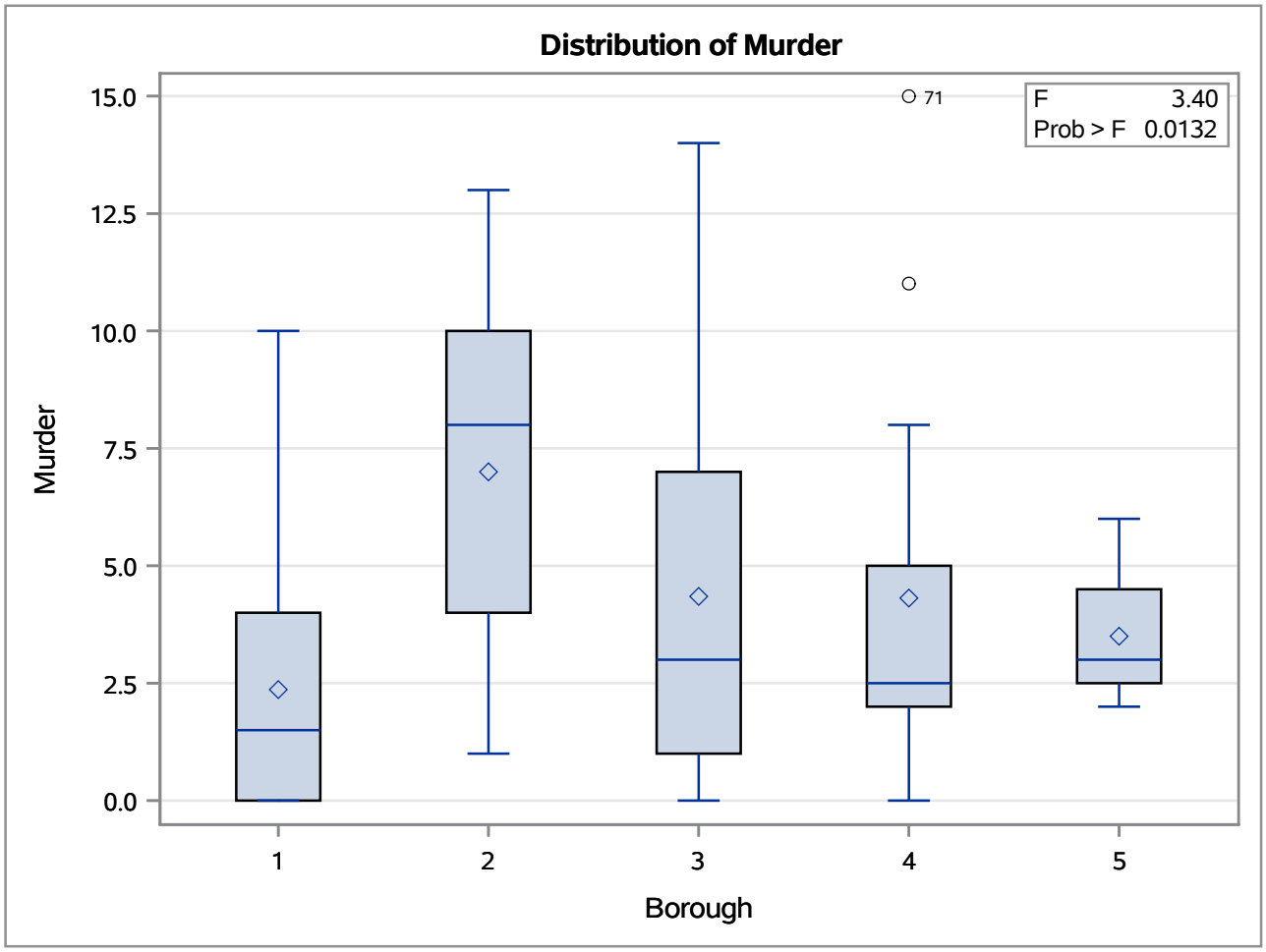
Dependent Variable: Murder

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	170.682771	42.670693	3.40	0.0132
Error	72	902.745800	12.538136		
Corrected Total	76	1073.428571			

R-Square	Coeff Var	Root MSE	Murder Mean
0.159007	85.47056	3.540923	4.142857

Source	DF	Type I SS	Mean Square	F Value	Pr > F
Borough	4	170.6827710	42.6706928	3.40	0.0132

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Borough	4	170.6827710	42.6706928	3.40	0.0132



The GLM Procedure

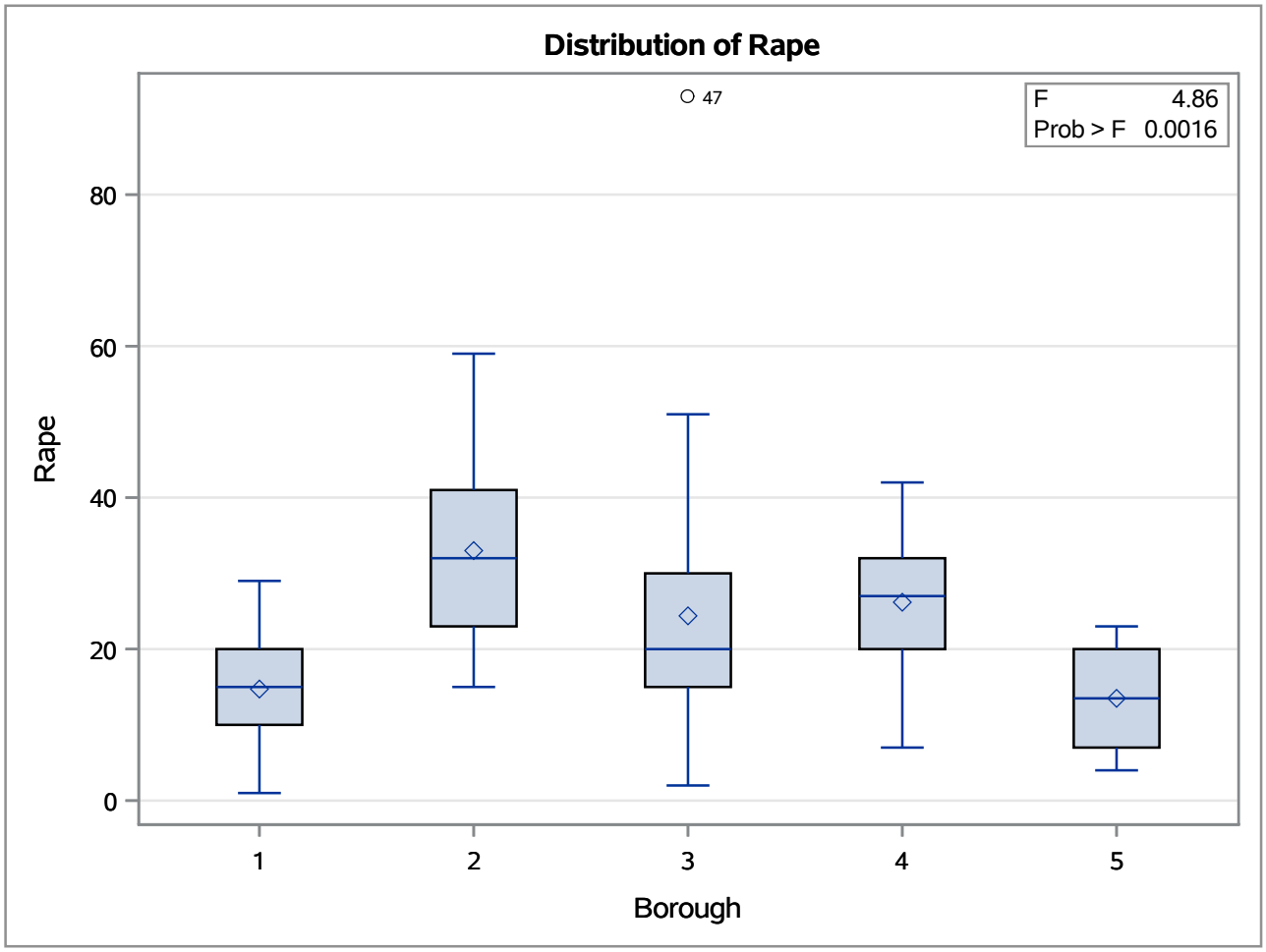
Dependent Variable: Rape

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	3269.96736	817.49184	4.86	0.0016
Error	72	12117.27940	168.29555		
Corrected Total	76	15387.24675			

R-Square	Coeff Var	Root MSE	Rape Mean
0.212512	56.95049	12.97288	22.77922

Source	DF	Type I SS	Mean Square	F Value	Pr > F
Borough	4	3269.967356	817.491839	4.86	0.0016

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Borough	4	3269.967356	817.491839	4.86	0.0016



The GLM Procedure

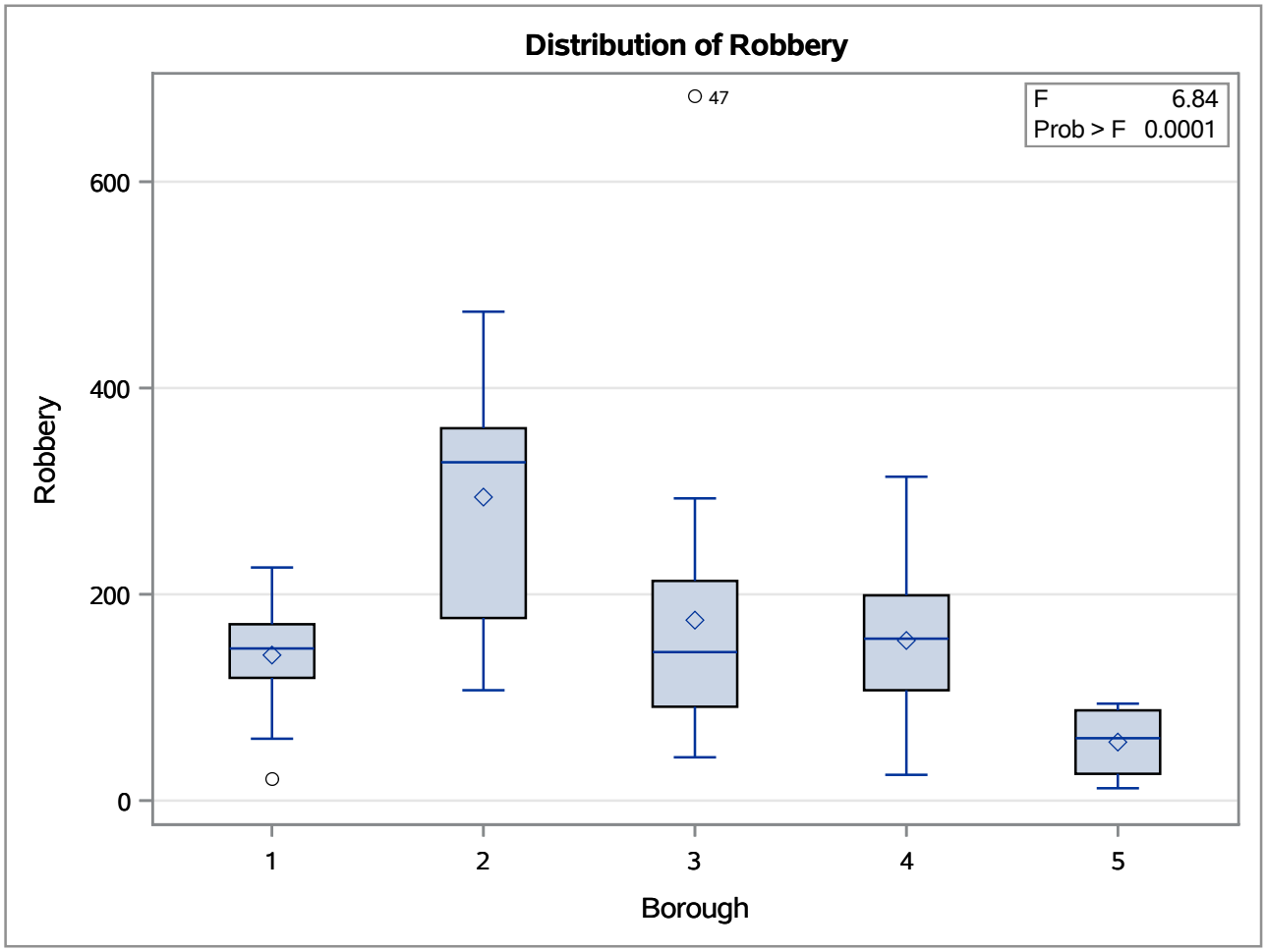
Dependent Variable: Robbery

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	257973.0435	64493.2609	6.84	0.0001
Error	72	679324.7747	9435.0663		
Corrected Total	76	937297.8182			

R-Square	Coeff Var	Root MSE	Robbery Mean
0.275231	55.94120	97.13427	173.6364

Source	DF	Type I SS	Mean Square	F Value	Pr > F
Borough	4	257973.0435	64493.2609	6.84	0.0001

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Borough	4	257973.0435	64493.2609	6.84	0.0001



The GLM Procedure

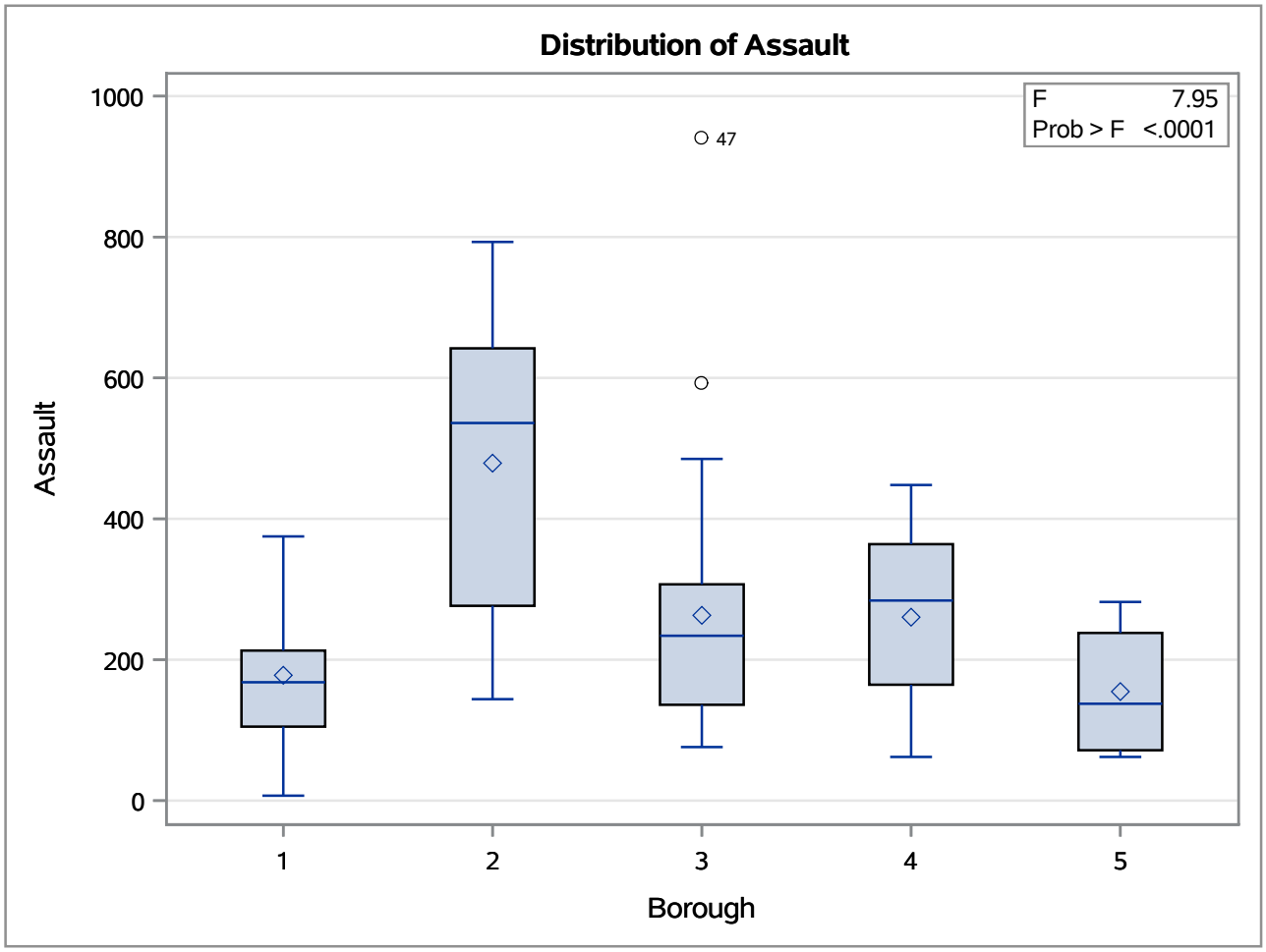
Dependent Variable: Assault

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	765365.136	191341.284	7.95	<.0001
Error	72	1733250.318	24072.921		
Corrected Total	76	2498615.455			

R-Square	Coeff Var	Root MSE	Assault Mean
0.306316	58.28892	155.1545	266.1818

Source	DF	Type I SS	Mean Square	F Value	Pr > F
Borough	4	765365.1364	191341.2841	7.95	<.0001

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Borough	4	765365.1364	191341.2841	7.95	<.0001



The GLM Procedure

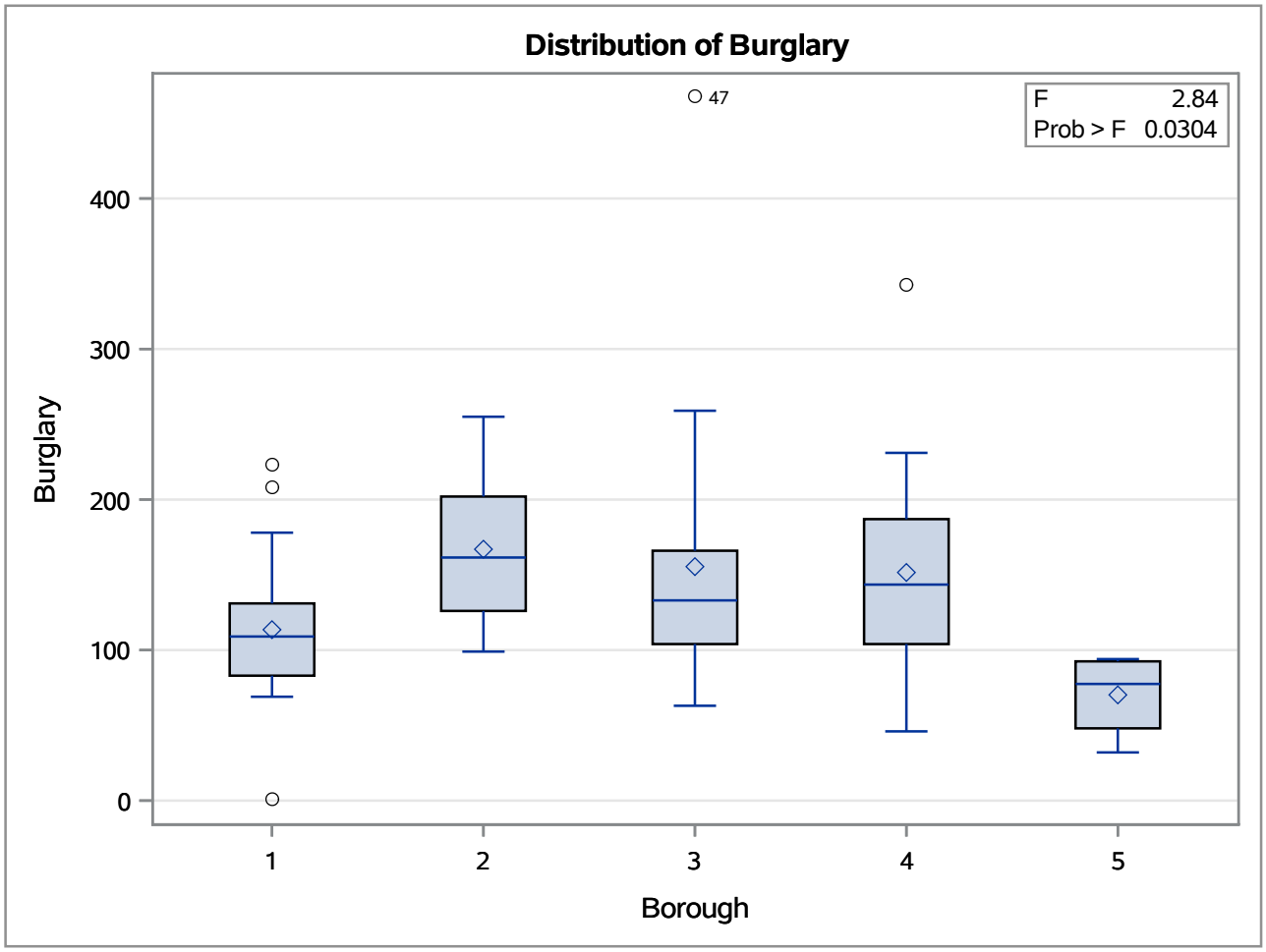
Dependent Variable: Burglary

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	51223.0889	12805.7722	2.84	0.0304
Error	72	324963.7942	4513.3860		
Corrected Total	76	376186.8831			

R-Square	Coeff Var	Root MSE	Burglary Mean
0.136164	47.97361	67.18174	140.0390

Source	DF	Type I SS	Mean Square	F Value	Pr > F
Borough	4	51223.08890	12805.77222	2.84	0.0304

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Borough	4	51223.08890	12805.77222	2.84	0.0304



The GLM Procedure

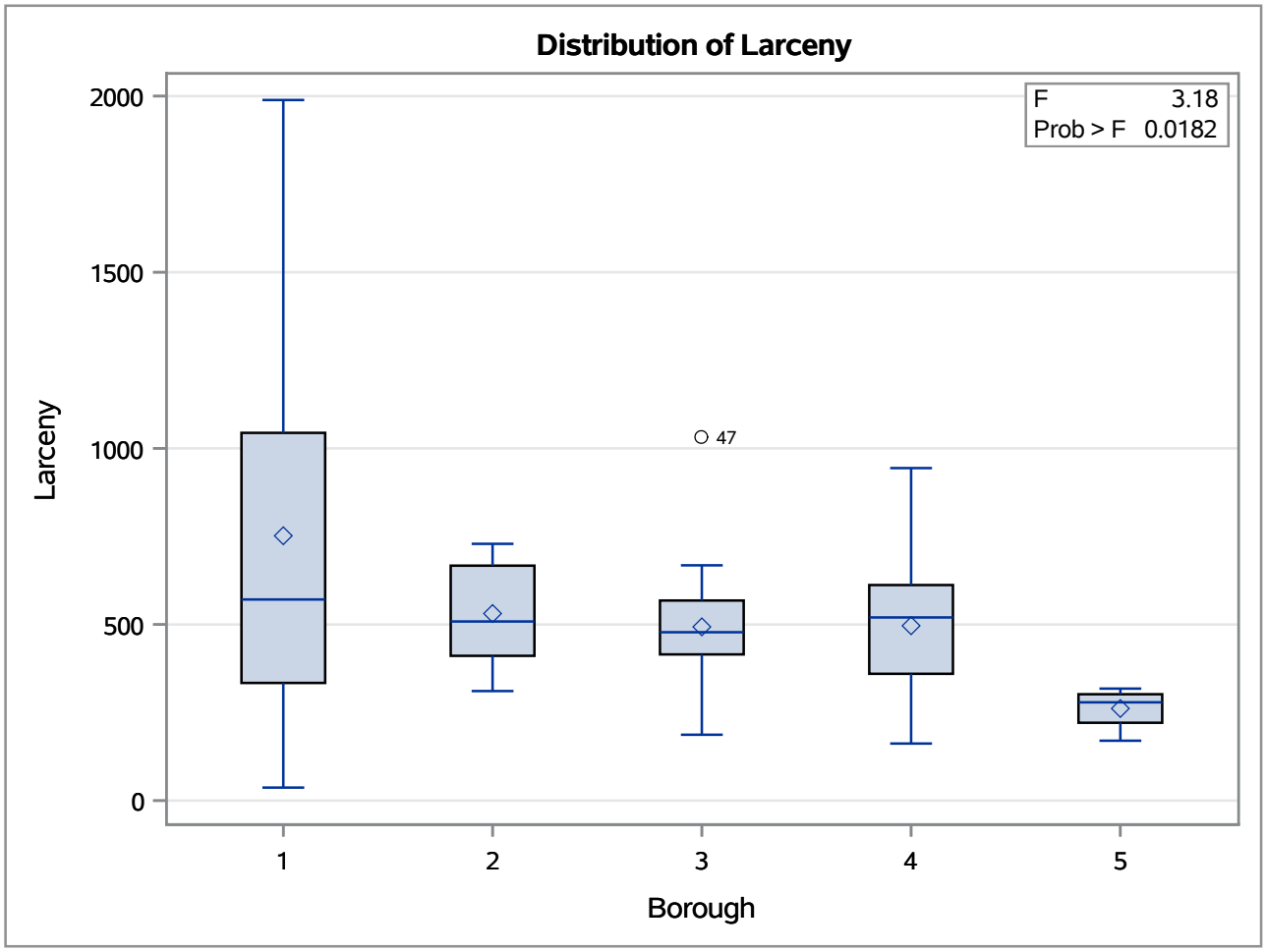
Dependent Variable: Larceny

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	1343548.529	335887.132	3.18	0.0182
Error	72	7596320.354	105504.449		
Corrected Total	76	8939868.883			

R-Square	Coeff Var	Root MSE	Larceny Mean
0.150287	57.82958	324.8145	561.6753

Source	DF	Type I SS	Mean Square	F Value	Pr > F
Borough	4	1343548.529	335887.132	3.18	0.0182

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Borough	4	1343548.529	335887.132	3.18	0.0182



The GLM Procedure

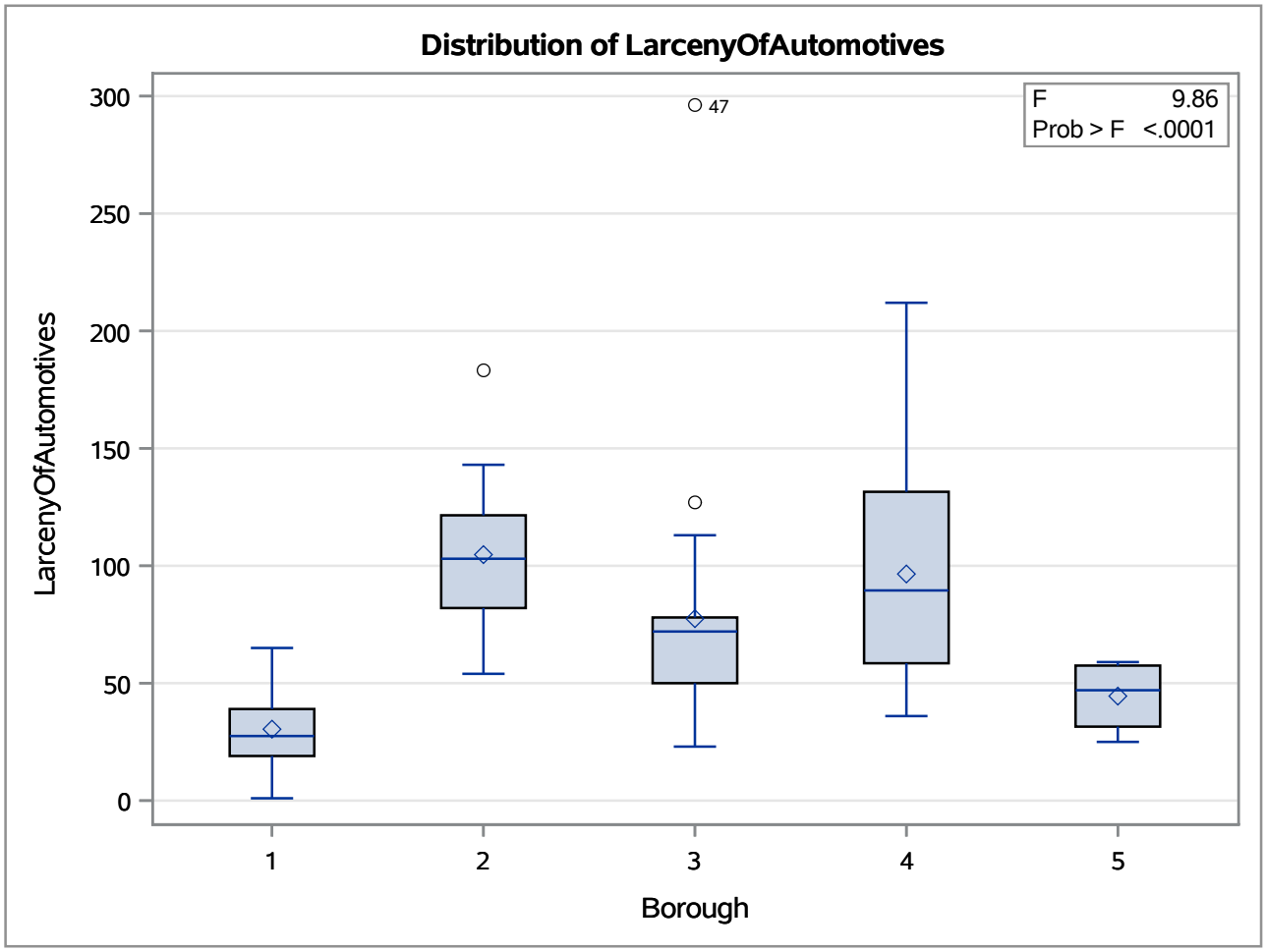
Dependent Variable: LarcenyOfAutomotives

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	64076.9135	16019.2284	9.86	<.0001
Error	72	116958.3073	1624.4209		
Corrected Total	76	181035.2208			

R-Square	Coeff Var	Root MSE	LarcenyOfAutomotives Mean
0.353947	57.15315	40.30411	70.51948

Source	DF	Type I SS	Mean Square	F Value	Pr > F
Borough	4	64076.91347	16019.22837	9.86	<.0001

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Borough	4	64076.91347	16019.22837	9.86	<.0001



The GLM Procedure
Multivariate Analysis of Variance

E = Error SSCP Matrix							
	Murder	Rape	Robbery	Assault	Burglary	Larceny	LarcenyOfAutomotives
Murder	902.7458004	1476.1138834	13432.870553	24335.352273	5088.8456028	-9387.58251	3931.4011858
Rape	1476.1138834	12117.279397	72470.686759	116617.82955	38728.172184	89645.590415	26639.650198
Robbery	13432.870553	72470.686759	679324.7747	987226.43182	339941.34387	649770.23617	187895.91008
Assault	24335.352273	116617.82955	987226.43182	1733250.3182	463710.96591	630278.06818	280551.31818
Burglary	5088.8456028	38728.172184	339941.34387	463710.96591	324963.79422	913135.17243	121838.3083
Larceny	-9387.58251	89645.590415	649770.23617	630278.06818	913135.17243	7596320.3544	295261.72036
LarcenyOfAutomotives	3931.4011858	26639.650198	187895.91008	280551.31818	121838.3083	295261.72036	116958.30731

Partial Correlation Coefficients from the Error SSCP Matrix / Prob > |r|							
DF = 72	**Murder**	**Rape**	**Robbery**	**Assault**	**Burglary**	**Larceny**	**LarcenyOfAutomotives**
Murder	1.000000	0.446308 <.0001	0.542435 <.0001	0.615211 <.0001	0.297111 0.0107	-0.113362 0.3396	0.382604 0.0008
Rape	0.446308 <.0001	1.000000	0.798769 <.0001	0.804696 <.0001	0.617173 <.0001	0.295478 0.0112	0.707637 <.0001
Robbery	0.542435 <.0001	0.798769 <.0001	1.000000	0.909803 <.0001	0.723515 <.0001	0.286035 0.0142	0.666597 <.0001
Assault	0.615211 <.0001	0.804696 <.0001	0.909803 <.0001	1.000000	0.617873 <.0001	0.173700 0.1416	0.623112 <.0001
Burglary	0.297111 0.0107	0.617173 <.0001	0.723515 <.0001	0.617873 <.0001	1.000000	0.581187 <.0001	0.624958 <.0001
Larceny	-0.113362 0.3396	0.295478 0.0112	0.286035 0.0142	0.173700 0.1416	0.581187 <.0001	1.000000	0.313249 0.0070
LarcenyOfAutomotives	0.382604 0.0008	0.707637 <.0001	0.666597 <.0001	0.623112 <.0001	0.624958 <.0001	0.313249 0.0070	1.000000

The GLM Procedure
Multivariate Analysis of Variance

H = Type III SSCP Matrix for Borough							
	Murder	Rape	Robbery	Assault	Burglary	Larceny	LarcenyOfAutomotives
Murder	170.68277103	706.31468803	5666.1294466	11007.647727	2244.7258258	-8222.846062	2913.8845285
Rape	706.31468803	3269.967356	23943.131423	45440.261364	11789.490154	-32405.1099	13944.180971
Robbery	5666.1294466	23943.131423	257973.04348	424939.65909	87698.747036	-23005.32708	82996.635375
Assault	11007.647727	45440.261364	424939.65909	765365.13636	149213.48864	-302693.5227	173987.40909
Burglary	2244.7258258	11789.490154	87698.747036	149213.48864	51223.088898	-73231.1984	48971.133258
Larceny	-8222.846062	-32405.1099	-23005.32708	-302693.5227	-73231.1984	1343548.5287	-187279.7333
LarcenyOfAutomotives	2913.8845285	13944.180971	82996.635375	173987.40909	48971.133258	-187279.7333	64076.913467

Characteristic Roots and Vectors of: E Inverse * H, where H = Type III SSCP Matrix for Borough E = Error SSCP Matrix								
Characteristic Root	Percent	Characteristic Vector V'EV=1						
		Murder	Rape	Robbery	Assault	Burglary	Larceny	LarcenyOfAutomotives
1.11782385	61.58	-0.00174557	0.00240128	-0.00165395	0.00038556	0.00117878	-0.00028753	0.00250180
0.53671882	29.57	-0.00496758	-0.00649170	0.00110841	0.00069559	-0.00122631	0.00004589	0.00071145
0.11729934	6.46	-0.00199948	0.00303265	0.00175204	-0.00129528	0.00143969	-0.00010127	-0.00048393
0.04326397	2.38	-0.00270920	-0.00006493	-0.00035794	0.00003415	-0.00121880	0.00033465	0.00253732
0.00000000	0.00	0.00375888	-0.00901371	-0.00166568	0.00116272	0.00183677	0.00009067	-0.00034778
0.00000000	0.00	0.04293203	0.00391430	-0.00005837	-0.00059650	-0.00026352	0.00013655	-0.00050837
0.00000000	0.00	-0.00815285	0.01238077	-0.00134170	0.00062494	0.00036911	0.00004922	-0.00242080

MANOVA Test Criteria and F Approximations for the Hypothesis of No Overall Borough Effect H = Type III SSCP Matrix for Borough E = Error SSCP Matrix S=4 M=1 N=32					
Statistic	Value	F Value	Num DF	Den DF	Pr > F
Wilks' Lambda	0.26360401	3.83	28	239.39	<.0001
Pillai's Trace	1.02353458	3.39	28	276	<.0001
Hotelling-Lawley Trace	1.81510597	4.20	28	155.5	<.0001
Roy's Greatest Root	1.11782385	11.02	7	69	<.0001
NOTE: F Statistic for Roy's Greatest Root is an upper bound.					

The GLM Procedure
Multivariate Analysis of Variance

E = Error SSCP Matrix							
	Murder	**Rape**	**Robbery**	**Assault**	**Burglary**	**Larceny**	**LarcenyOfAutomotives**
Murder	902.7458004	1476.1138834	13432.870553	24335.352273	5088.8456028	-9387.58251	3931.4011858
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Assault	24335.352273	116617.82955	987226.43182	1733250.3182	463710.96591	630278.06818	280551.31818
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Larceny	-9387.58251	89645.590415	649770.23617	630278.06818	913135.17243	7596320.3544	295261.72036
LarcenyOfAutomotives	3931.4011858	26639.650198	187895.91008	280551.31818	121838.3083	295261.72036	116958.30731

Partial Correlation Coefficients from the Error SSCP Matrix / Prob > |r|							
DF = 72	**Murder**	**Rape**	**Robbery**	**Assault**	**Burglary**	**Larceny**	**LarcenyOfAutomotives**
Murder	1.000000	0.446308 <.0001	0.542435 <.0001	0.615211 <.0001	0.297111 0.0107	-0.113362 0.3396	0.382604 0.0008
Rape	0.446308 <.0001	1.000000	0.798769 <.0001	0.804696 <.0001	0.617173 <.0001	0.295478 0.0112	0.707637 <.0001
Robbery	0.542435 <.0001	0.798769 <.0001	1.000000	0.909803 <.0001	0.723515 <.0001	0.286035 0.0142	0.666597 <.0001
Assault	0.615211 <.0001	0.804696 <.0001	0.909803 <.0001	1.000000	0.617873 <.0001	0.173700 0.1416	0.623112 <.0001
Burglary	0.297111 0.0107	0.617173 <.0001	0.723515 <.0001	0.617873 <.0001	1.000000	0.581187 <.0001	0.624958 <.0001
Larceny	-0.113362 0.3396	0.295478 0.0112	0.286035 0.0142	0.173700 0.1416	0.581187 <.0001	1.000000	0.313249 0.0070
LarcenyOfAutomotives	0.382604 0.0008	0.707637 <.0001	0.666597 <.0001	0.623112 <.0001	0.624958 <.0001	0.313249 0.0070	1.000000

The GLM Procedure
Multivariate Analysis of Variance

H = Type III SSCP Matrix for Borough							
	Murder	Rape	Robbery	Assault	Burglary	Larceny	LarcenyOfAutomotives
Murder	170.68277103	706.31468803	5666.1294466	11007.647727	2244.7258258	-8222.846062	2913.8845285
Rape	706.31468803	3269.967356	23943.131423	45440.261364	11789.490154	-32405.1099	13944.180971
Robbery	5666.1294466	23943.131423	257973.04348	424939.65909	87698.747036	-23005.32708	82996.635375
Assault	11007.647727	45440.261364	424939.65909	765365.13636	149213.48864	-302693.5227	173987.40909
Burglary	2244.7258258	11789.490154	87698.747036	149213.48864	51223.088898	-73231.1984	48971.133258
Larceny	-8222.846062	-32405.1099	-23005.32708	-302693.5227	-73231.1984	1343548.5287	-187279.7333
LarcenyOfAutomotives	2913.8845285	13944.180971	82996.635375	173987.40909	48971.133258	-187279.7333	64076.913467

Characteristic Roots and Vectors of: E Inverse * H, where H = Type III SSCP Matrix for Borough E = Error SSCP Matrix								
Characteristic Root	Percent	Characteristic Vector V'EV=1						
		Murder	Rape	Robbery	Assault	Burglary	Larceny	LarcenyOfAutomotives
1.11782385	61.58	-0.00174557	0.00240128	-0.00165395	0.00038556	0.00117878	-0.00028753	0.00250180
0.53671882	29.57	-0.00496758	-0.00649170	0.00110841	0.00069559	-0.00122631	0.00004589	0.00071145
0.11729934	6.46	-0.00199948	0.00303265	0.00175204	-0.00129528	0.00143969	-0.00010127	-0.00048393
0.04326397	2.38	-0.00270920	-0.00006493	-0.00035794	0.00003415	-0.00121880	0.00033465	0.00253732
0.00000000	0.00	0.00375888	-0.00901371	-0.00166568	0.00116272	0.00183677	0.00009067	-0.00034778
0.00000000	0.00	0.04293203	0.00391430	-0.00005837	-0.00059650	-0.00026352	0.00013655	-0.00050837
0.00000000	0.00	-0.00815285	0.01238077	-0.00134170	0.00062494	0.00036911	0.00004922	-0.00242080

MANOVA Test Criteria and F Approximations for the Hypothesis of No Overall Borough Effect H = Type III SSCP Matrix for Borough E = Error SSCP Matrix S=4 M=1 N=32					
Statistic	Value	F Value	Num DF	Den DF	Pr > F
Wilks' Lambda	0.26360401	3.83	28	239.39	<.0001
Pillai's Trace	1.02353458	3.39	28	276	<.0001
Hotelling-Lawley Trace	1.81510597	4.20	28	155.5	<.0001
Roy's Greatest Root	1.11782385	11.02	7	69	<.0001
NOTE: F Statistic for Roy's Greatest Root is an upper bound.					

The GLM Procedure
Multivariate Analysis of Variance

H = Contrast SSCP Matrix for Brooklyn vs. Queens							
	Murder	**Rape**	**Robbery**	**Assault**	**Burglary**	**Larceny**	**LarcenyOfAutomotives**
Murder	0.0117753623	-0.598731884	6.5688405797	0.875	1.2907608696	-1.023550725	-6.34057971
Rape	-0.598731884	30.443213489	-334.0002787	-44.49038462	-65.63022575	52.043617614	322.39409142
Robbery	6.5688405797	-334.0002787	3664.4024526	488.11538462	720.04598662	-570.983835	-3537.068004
Assault	0.875	-44.49038462	488.11538462	65.019230769	95.913461538	-76.05769231	-471.1538462
Burglary	1.2907608696	-65.63022575	720.04598662	95.913461538	141.48724916	-112.1969064	-695.0250836
Larceny	-1.023550725	52.043617614	-570.983835	-76.05769231	-112.1969064	88.970178372	551.14269788
LarcenyOfAutomotives	-6.34057971	322.39409142	-3537.068004	-471.1538462	-695.0250836	551.14269788	3414.1583055

Characteristic Roots and Vectors of: E Inverse * H, where H = Contrast SSCP Matrix for Brooklyn vs. Queens E = Error SSCP Matrix								
Characteristic Root	**Percent**	**Characteristic Vector V'EV=1**						
		Murder	**Rape**	**Robbery**	**Assault**	**Burglary**	**Larceny**	**LarcenyOfAutomotives**
0.11088168	100.00	-0.00126354	0.00155681	-0.00222172	0.00067593	-0.00018735	0.00001197	0.00330101
0.00000000	0.00	0.03327085	0.00001689	-0.00002410	0.00000733	-0.00000203	0.00000013	0.00003581
0.00000000	0.00	0.01105747	-0.00212488	0.00007179	0.00022469	-0.00164556	0.00048597	-0.00008688
0.00000000	0.00	0.00499505	-0.00256831	-0.00123552	0.00017198	0.00265663	0.00000031	-0.00046370
0.00000000	0.00	-0.01650814	0.00995593	0.00035825	-0.00011333	0.00009767	0.00000040	-0.00059546
0.00000000	0.00	-0.01625592	-0.00558816	-0.00164288	0.00196404	0.00014819	0.00000061	-0.00090343
0.00000000	0.00	-0.01304918	-0.01277022	0.00156341	0.00004916	-0.00044578	-0.00000184	0.00271767

MANOVA Test Criteria and Exact F Statistics for the Hypothesis of No Overall Brooklyn vs. Queens Effect H = Contrast SSCP Matrix for Brooklyn vs. Queens E = Error SSCP Matrix S=1 M=2.5 N=32					
Statistic	**Value**	**F Value**	**Num DF**	**Den DF**	**Pr > F**
Wilks' Lambda	0.90018588	1.05	7	66	0.4086
Pillai's Trace	0.09981412	1.05	7	66	0.4086
Hotelling-Lawley Trace	0.11088168	1.05	7	66	0.4086
Roy's Greatest Root	0.11088168	1.05	7	66	0.4086

The GLM Procedure
Multivariate Analysis of Variance

H = Contrast SSCP Matrix for Bronx vs. the other 4 Boroughs							
	Murder	**Rape**	**Robbery**	**Assault**	**Burglary**	**Larceny**	**LarcenyOfAutomotives**
Murder	104.68476637	413.22186683	5041.2035317	8234.0438088	1376.5842401	941.85649289	1321.4717435
Rape	413.22186683	1631.1094455	19899.127702	32502.216629	5433.7868754	3717.7873322	5216.2414813
Robbery	5041.2035317	19899.127702	242764.38616	396518.92218	66290.842247	45356.076562	63636.842793
Assault	8234.0438088	32502.216629	396518.92218	647653.71121	108276.06855	74082.293854	103941.16169
Burglary	1376.5842401	5433.7868754	66290.842247	108276.06855	18101.814007	12385.229003	17377.095435
Larceny	941.85649289	3717.7873322	45356.076562	74082.293854	12385.229003	8473.951693	11889.377843
LarcenyOfAutomotives	1321.4717435	5216.2414813	63636.842793	103941.16169	17377.095435	11889.377843	16681.39147

Characteristic Roots and Vectors of: E Inverse * H, where H = Contrast SSCP Matrix for Bronx vs. the other 4 Boroughs E = Error SSCP Matrix								
Characteristic Root	**Percent**	**Characteristic Vector V'EV=1**						
		Murder	**Rape**	**Robbery**	**Assault**	**Burglary**	**Larceny**	**LarcenyOfAutomotives**
0.52734679	100.00	-0.00520467	-0.00618865	0.00113779	0.00063024	-0.00111140	0.00003480	0.00083549
0.00000000	0.00	0.01142808	-0.00164664	-0.00007744	0.00019905	-0.00157497	0.00048485	-0.00004017
0.00000000	0.00	-0.00284562	-0.00550134	-0.00050550	0.00000927	-0.00051549	-0.00000419	0.00435630
0.00000000	0.00	0.00316585	-0.00410175	-0.00122281	0.00050305	0.00245956	0.00000000	0.00000000
0.00000000	0.00	-0.01479015	-0.00324353	-0.00257719	0.00192867	0.00000000	0.00000000	0.00000000
0.00000000	0.00	-0.02077015	0.01240242	-0.00058530	0.00000000	0.00000000	0.00000000	0.00000000
0.00000000	0.00	0.03371738	0.00738386	-0.00130542	0.00000000	0.00000000	0.00000000	0.00000000

MANOVA Test Criteria and Exact F Statistics for the Hypothesis of No Overall Bronx vs. the other 4 Boroughs Effect H = Contrast SSCP Matrix for Bronx vs. the other 4 Boroughs E = Error SSCP Matrix S=1 M=2.5 N=32					
Statistic	**Value**	**F Value**	**Num DF**	**Den DF**	**Pr > F**
Wilks' Lambda	0.65473016	4.97	7	66	0.0001
Pillai's Trace	0.34526984	4.97	7	66	0.0001
Hotelling-Lawley Trace	0.52734679	4.97	7	66	0.0001
Roy's Greatest Root	0.52734679	4.97	7	66	0.0001

The GLM Procedure

Dependent Variable: Murder

Contrast	DF	Contrast SS	Mean Square	F Value	Pr > F
Brooklyn vs. Queens	1	0.0117754	0.0117754	0.00	0.9756
Bronx vs. the other 4 Boroughs	1	104.6847664	104.6847664	8.35	0.0051

The GLM Procedure

Dependent Variable: Rape

Contrast	DF	Contrast SS	Mean Square	F Value	Pr > F
Brooklyn vs. Queens	1	30.443213	30.443213	0.18	0.6719
Bronx vs. the other 4 Boroughs	1	1631.109446	1631.109446	9.69	0.0027

The GLM Procedure

Dependent Variable: Robbery

Contrast	DF	Contrast SS	Mean Square	F Value	Pr > F
Brooklyn vs. Queens	1	3664.4025	3664.4025	0.39	0.5351
Bronx vs. the other 4 Boroughs	1	242764.3862	242764.3862	25.73	<.0001

The GLM Procedure

Dependent Variable: Assault

Contrast	DF	Contrast SS	Mean Square	F Value	Pr > F
Brooklyn vs. Queens	1	65.0192	65.0192	0.00	0.9587
Bronx vs. the other 4 Boroughs	1	647653.7112	647653.7112	26.90	<.0001

The GLM Procedure

Dependent Variable: Burglary

Contrast	DF	Contrast SS	Mean Square	F Value	Pr > F
Brooklyn vs. Queens	1	141.48725	141.48725	0.03	0.8600
Bronx vs. the other 4 Boroughs	1	18101.81401	18101.81401	4.01	0.0490

The GLM Procedure

Dependent Variable: Larceny

Contrast	DF	Contrast SS	Mean Square	F Value	Pr > F
Brooklyn vs. Queens	1	88.970178	88.970178	0.00	0.9769
Bronx vs. the other 4 Boroughs	1	8473.951693	8473.951693	0.08	0.7777

The GLM Procedure

Dependent Variable: LarcenyOfAutomotives

Contrast	DF	Contrast SS	Mean Square	F Value	Pr > F
Brooklyn vs. Queens	1	3414.15831	3414.15831	2.10	0.1515
Bronx vs. the other 4 Boroughs	1	16681.39147	16681.39147	10.27	0.0020