proc IML

Group: 1=A, 2=P

Hotelling's T^2 two-sample test

n1	n2	d
50	50	3

ybar1	s1		
-13.018	53.145996	38.635441	22.724894
-11.026	38.635441	56.590943	20.108339
-5.778	22.724894	20.108339	64.733588

ybar2	s2		
-1.612	9.5672	5.2724245	4.4584571
-2.202	5.2724245	9.8181592	7.7817837
-2.626	4.4584571	7.7817837	14.213392

T^2:

t2	t2_df1	t2_df2
107.78774	3	98

F:

f	f_df1	f_df2
35.195997	3	96

pval
1.998E-15

	maxroot
The max eigenvalue of E^{-1} H:	1.0998749

Coefficients:

a
-0.3468270071
-0.0622951353
0.0615772669

The GLM Procedure

Class Level Information		
Class	Levels	Values
group	2	A P

Number of Observations Read	100
Number of Observations Used	100

The GLM Procedure

Dependent Variable: dif1

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	3252.420900	3252.420900	103.72	<.0001
Error	98	3072.946600	31.356598		
Corrected Total	99	6325.367500			

R-Square	Coeff Var	Root MSE	dif1 Mean
0.514187	-76.55087	5.599696	-7.315000

Source	DF	Type I SS	Mean Square	F Value	Pr > F
group	1	3252.420900	3252.420900	103.72	<.0001

Source	DF	Type III SS	Mean Square	F Value	Pr > F
group	1	3252.420900	3252.420900	103.72	<.0001

The GLM Procedure

Dependent Variable: dif4

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	1946.574400	1946.574400	58.62	<.0001
Error	98	3254.046000	33.204551		
Corrected Total	99	5200.620400			

R-Square	Coeff Var	Root MSE	dif4 Mean
0.374297	-87.12336	5.762339	-6.614000

Source	DF	Type I SS	Mean Square	F Value	Pr > F
group	1	1946.574400	1946.574400	58.62	<.0001

Source	DF	Type III SS	Mean Square	F Value	Pr > F
group	1	1946.574400	1946.574400	58.62	<.0001

The GLM Procedure

Dependent Variable: dif6

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	248.377600	248.377600	6.29	0.0138
Error	98	3868.402000	39.473490		
Corrected Total	99	4116.779600			

R-Square	Coeff Var	Root MSE	dif6 Mean
0.060333	-149.5191	6.282793	-4.202000

Source	DF	Type I SS	Mean Square	F Value	Pr > F
group	1	248.3776000	248.3776000	6.29	0.0138

Source	DF	Type III SS	Mean Square	F Value	Pr > F
group	1	248.3776000	248.3776000	6.29	0.0138

The GLM Procedure
Multivariate Analysis of Variance

Characteristic Roots and Vectors of: E Inverse * H, where H = Type III SSCP Matrix for group E = Error SSCP Matrix				
Characteristic Root	Percent	Characteristic Vector V'EV=1		
		dif1	dif4	dif6
1.09987489	100.00	0.01687272	0.00303058	-0.00299566
0.00000000	0.00	-0.01843166	0.02377528	0.00013910
0.00000000	0.00	-0.00162781	-0.00413578	0.01746857

MANOVA Test Criteria and Exact F Statistics for the Hypothesis of No Overall group Effect H = Type III SSCP Matrix for group E = Error SSCP Matrix S=1 M=0.5 N=47					
Statistic	Value	F Value	Num DF	Den DF	Pr > F
Wilks' Lambda	0.47621885	35.20	3	96	<.0001
Pillai's Trace	0.52378115	35.20	3	96	<.0001
Hotelling-Lawley Trace	1.09987489	35.20	3	96	<.0001
Roy's Greatest Root	1.09987489	35.20	3	96	<.0001

The TTEST Procedure

Variable: ay

group	N	Mean	Std Dev	Std Err	Minimum	Maximum
A	50	-4.8461	2.7208	0.3848	-10.2203	1.1238
P	50	-0.5346	1.1048	0.1562	-2.6627	1.7289
Diff (1-2)		-4.3115	2.0764	0.4153		

group	Method	Mean	95% CL Mean		Std Dev	95% CL Std Dev	
A		-4.8461	-5.6193	-4.0728	2.7208	2.2727	3.3904
P		-0.5346	-0.8485	-0.2206	1.1048	0.9229	1.3767
Diff (1-2)	Pooled	-4.3115	-5.1356	-3.4874	2.0764	1.8220	2.4141
Diff (1-2)	Satterthwaite	-4.3115	-5.1410	-3.4821			

Method	Variances	DF	t Value	Pr > |t|
Pooled	Equal	98	-10.38	<.0001
Satterthwaite	Unequal	64.73	-10.38	<.0001

Equality of Variances				
Method	Num DF	Den DF	F Value	Pr > F
Folded F	49	49	6.07	<.0001