

The SAS System

The CORR Procedure

3 Variables: I_CONSIDER_MYSELF_A_SPIRITUAL_PE PEOPLE_HAVE_A_DUTY_TO_RECYCLE BUY_SAME_PRODUCTS_THAT_CEBEBRITI

Simple Statistics						
Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
I_CONSIDER_MYSELF_A_SPIRITUAL_PE	24426	3.70409	1.26370	90476	1.00000	5.00000
PEOPLE_HAVE_A_DUTY_TO_RECYCLE	24321	4.03487	1.03564	98132	1.00000	5.00000
BUY_SAME_PRODUCTS_THAT_CEBEBRITI	24267	1.98912	1.07501	48270	1.00000	5.00000

Pearson Correlation Coefficients Prob > r under H0: Rho=0 Number of Observations				
	I_CONSIDER_MYSELF_A_SPIRITUAL_PE	PEOPLE_HAVE_A_DUTY_TO_RECYCLE	BUY_SAME_PRODUCTS_THAT_CEBEBRITI	
I_CONSIDER_MYSELF_A_SPIRITUAL_PE	1.00000 24426	0.14920 <.0001 23992	0.01650 0.0103 24192	
PEOPLE_HAVE_A_DUTY_TO_RECYCLE	0.14920 <.0001 23992	1.00000 24321	-0.04390 <.0001 23880	
BUY_SAME_PRODUCTS_THAT_CEBEBRITI	0.01650 0.0103 24192	-0.04390 <.0001 23880	1.00000 24267	

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The DISCRIM Procedure

Total Sample Size	23819	DF Total	23818
Variables	3	DF Within Classes	23816
Classes	3	DF Between Classes	2

Number of Observations Read	25439
Number of Observations Used	23819

Class Level Information					
environcar	Variable Name	Frequency	Weight	Proportion	Prior Probability
negative attitude towards environment with car	negative_attitude_towards_enviro	7292	7292	0.306142	0.333333
neutral attitude towards environment with car	neutral_attitude_towards_environ	9652	9652	0.405223	0.333333
positive attitude towards environmentwith car	positive_attitude_towards_enviro	6875	6875	0.288635	0.333333

Within Covariance Matrix Information		
environcar	Covariance Matrix Rank	Natural Log of the Determinant of the Covariance Matrix
negative att	3	0.87163
neutral atti	3	0.01032
positive att	3	0.02920
Pooled	3	0.44339

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The DISCRIM Procedure Test of Homogeneity of Within Covariance Matrices

Chi-Square	DF	Pr > ChiSq
3903.491975	12	<.0001

Since the Chi-Square value is significant at the 0.1 level, the within covariance matrices will be used in the discriminant function.
Reference: Morrison, D.F. (1976) Multivariate Statistical Methods p252.

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The DISCRIM Procedure

Generalized Squared Distance to environcar			
From environcar	negative attitude towards environment with car	neutral attitude towards environment with car	positive attitude towards environmentwith car
negative attitude towards environment with car	0.87163	0.32444	1.99595
neutral attitude towards environment with car	1.17203	0.01032	1.19564
positive attitude towards environmentwith car	1.91427	0.78550	0.02920

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The DISCRIM Procedure
 Classification Summary for Calibration Data: WORK.FANCY
 Resubstitution Summary using Quadratic Discriminant Function

Number of Observations and Percent Classified into environcar				
From environcar	negative attitude towards environment with car	neutral attitude towards environment with car	positive attitude towards environmentwith car	Total
negative attitude towards environment with car	3481 47.74	1514 20.76	2297 31.50	7292 100.00
neutral attitude towards environment with car	2418 25.05	3881 40.21	3353 34.74	9652 100.00
positive attitude towards environmentwith car	943 13.72	971 14.12	4961 72.16	6875 100.00
Total	6842 28.72	6366 26.73	10611 44.55	23819 100.00
Priors	0.33333	0.33333	0.33333	

Error Count Estimates for environcar				
	negative attitude towards environment with car	neutral attitude towards environment with car	positive attitude towards environmentwith car	Total
Rate	0.5226	0.5979	0.2784	0.4663
Priors	0.3333	0.3333	0.3333	

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The GLM Procedure

Class Level Information		
Class	Levels	Values
environcar	3	negative attitude towards environment with car neutral attitude towards environment with car positive attitude towards environmentwith car

Number of Observations Read	25439
Number of Observations Used	23819

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The GLM Procedure

Dependent Variable: I_CONSIDER_MYSELF_A_SPIRITUAL_PE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	601.07685	300.53843	190.99	<.0001
Error	23816	37476.82566	1.57360		
Corrected Total	23818	38077.90251			

R-Square	Coeff Var	Root MSE	I_CONSIDER_MYSELF_A_SPIRITUAL_PE Mean
0.015785	33.93062	1.254432	3.697049

Source	DF	Type I SS	Mean Square	F Value	Pr > F
environcar	2	601.0768515	300.5384257	190.99	<.0001

Source	DF	Type III SS	Mean Square	F Value	Pr > F
environcar	2	601.0768515	300.5384257	190.99	<.0001

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The GLM Procedure

Dependent Variable: PEOPLE_HAVE_A_DUTY_TO_RECYCLE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	3127.29637	1563.64819	1668.71	<.0001
Error	23816	22316.50186	0.93704		
Corrected Total	23818	25443.79823			

R-Square	Coeff Var	Root MSE	PEOPLE_HAVE_A_DUTY_TO_RECYCLE Mean
0.122910	24.00117	0.968007	4.033167

Source	DF	Type I SS	Mean Square	F Value	Pr > F
environcar	2	3127.296372	1563.648186	1668.71	<.0001

Source	DF	Type III SS	Mean Square	F Value	Pr > F
environcar	2	3127.296372	1563.648186	1668.71	<.0001

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The GLM Procedure

Dependent Variable: BUY_SAME_PRODUCTS_THAT_CEBEBRITI

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	1492.94928	746.47464	688.44	<.0001
Error	23816	25823.60969	1.08430		
Corrected Total	23818	27316.55897			

R-Square	Coeff Var	Root MSE	BUY_SAME_PRODUCTS_THAT_CEBEBRITI Mean
0.054654	52.46123	1.041296	1.984886

Source	DF	Type I SS	Mean Square	F Value	Pr > F
environcar	2	1492.949280	746.474640	688.44	<.0001

Source	DF	Type III SS	Mean Square	F Value	Pr > F
environcar	2	1492.949280	746.474640	688.44	<.0001

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Levene's Test for Homogeneity of I_CONSIDER_MYSELF_A_SPIRITUAL_PE Variance ANOVA of Squared Deviations from Group Means					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
environcar	2	1898.6	949.3	255.35	<.0001
Error	23816	88540.8	3.7177		

Levene's Test for Homogeneity of PEOPLE_HAVE_A_DUTY_TO_RECYCLE Variance ANOVA of Squared Deviations from Group Means					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
environcar	2	3980.4	1990.2	1117.51	<.0001
Error	23816	42414.3	1.7809		

Levene's Test for Homogeneity of BUY_SAME_PRODUCTS_THAT_CELBRITI Variance ANOVA of Squared Deviations from Group Means					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
environcar	2	2127.4	1063.7	524.23	<.0001
Error	23816	48323.5	2.0290		

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Distribution of I_CONSIDER_MYSELF_A_SPIRITUAL_PE by environcar

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Dunnett's t Tests for I_CONSIDER_MYSELF_A_SPIRITUAL_PE

Note: This test controls the Type I experimentwise error for comparisons of all treatments against a control.

Alpha	0.05
Error Degrees of Freedom	23816
Error Mean Square	1.573599
Critical Value of Dunnett's t	2.20921

Comparisons significant at the 0.05 level are indicated by ***.				
environcar Comparison	Difference Between Means	Simultaneous 95% Confidence Limits		
positive attitude towards environmentwith car - negative attitude towards environment with car	0.39283	0.34624	0.43942	***
neutral attitude towards environment with car - negative attitude towards environment with car	0.09275	0.04975	0.13575	***

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Distribution of PEOPLE_HAVE_A_DUTY_TO_RECYCLE by environcar

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The GLM Procedure

Dunnett's t Tests for PEOPLE_HAVE_A_DUTY_TO_RECYCLE

Note: This test controls the Type I experimentwise error for comparisons of all treatments against a control.

Alpha	0.05
Error Degrees of Freedom	23816
Error Mean Square	0.937038
Critical Value of Dunnett's t	2.20921

Comparisons significant at the 0.05 level are indicated by ***.				
environcar Comparison	Difference Between Means	Simultaneous 95% Confidence Limits		
positive attitude towards environmentwith car - negative attitude towards environment with car	0.87037	0.83443	0.90632	***
neutral attitude towards environment with car - negative attitude towards environment with car	0.14347	0.11029	0.17666	***

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Distribution of BUY_SAME_PRODUCTS_THAT_CEBRIT by environcar

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The GLM Procedure

Dunnett's t Tests for BUY_SAME_PRODUCTS_THAT_Celebrity

Note: This test controls the Type I experimentwise error for comparisons of all treatments against a control.

Alpha	0.05
Error Degrees of Freedom	23816
Error Mean Square	1.084297
Critical Value of Dunnett's t	2.20921

Comparisons significant at the 0.05 level are indicated by ***.				
environcar Comparison	Difference Between Means	Simultaneous 95% Confidence Limits		
positive attitude towards environmentwith car - negative attitude towards environment with car	0.60909	0.57042	0.64776	***
neutral attitude towards environment with car - negative attitude towards environment with car	0.47271	0.43702	0.50841	***

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The GLM Procedure Multivariate Analysis of Variance

E = Error SSCP Matrix

	I_CONSIDER_MYSELF_A_SPIRITUAL_PE	PEOPLE_HAVE_A_DUTY_TO_RECYCLE	BUY_SAME_PRODUCTS_THAT_CEBEBRITI
I_CONSIDER_MYSELF_A_SPIRITUAL_PE	37476.825663	3224.7001754	-235.2312071
PEOPLE_HAVE_A_DUTY_TO_RECYCLE	3224.7001754	22316.501857	-2763.439889
BUY_SAME_PRODUCTS_THAT_CEBEBRITI	-235.2312071	-2763.439889	25823.609685

Partial Correlation Coefficients from the Error SSCP Matrix / Prob > |r|

DF = 23816	I_CONSIDER_MYSELF_A_SPIRITUAL_PE	PEOPLE_HAVE_A_DUTY_TO_RECYCLE	BUY_SAME_PRODUCTS_THAT_CEBEBRITI
I_CONSIDER_MYSELF_A_SPIRITUAL_PE	1.000000	0.111505 <.0001	-0.007561 0.2433
PEOPLE_HAVE_A_DUTY_TO_RECYCLE	0.111505 <.0001	1.000000	-0.115114 <.0001
BUY_SAME_PRODUCTS_THAT_CEBEBRITI	-0.007561 0.2433	-0.115114 <.0001	1.000000

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The GLM Procedure Multivariate Analysis of Variance

H = Type III SSCP Matrix for environcar			
	I_CONSIDER_MYSELF_A_SPIRITUAL_PE	PEOPLE_HAVE_A_DUTY_TO_RECYCLE	BUY_SAME_PRODUCTS_THAT_CEBLEBRITI
I_CONSIDER_MYSELF_A_SPIRITUAL_PE	601.07685146	1366.6314506	747.168694
PEOPLE_HAVE_A_DUTY_TO_RECYCLE	1366.6314506	3127.2963717	1592.3799367
BUY_SAME_PRODUCTS_THAT_CEBLEBRITI	747.168694	1592.3799367	1492.9492804

Characteristic Roots and Vectors of: E Inverse * H, where H = Type III SSCP Matrix for environcar E = Error SSCP Matrix				
Characteristic Root	Percent	Characteristic Vector V'EV=1		
		I_CONSIDER_MYSELF_A_SPIRITUAL_PE	PEOPLE_HAVE_A_DUTY_TO_RECYCLE	BUY_SAME_PRODUCTS_THAT_CEBLEBRITI
0.20409366	91.44	0.00096625	0.00571920	0.00346821
0.01910503	8.56	-0.00030181	-0.00302331	0.00520288
0.00000000	0.00	0.00509854	-0.00203284	-0.00038342

MANOVA Test Criteria and F Approximations for the Hypothesis of No Overall environcar Effect H = Type III SSCP Matrix for environcar E = Error SSCP Matrix					
S=2 M=0 N=11906					
Statistic	Value	F Value	Num DF	Den DF	Pr > F
Wilks' Lambda	0.81493090	855.28	6	47628	<.0001
Pillai's Trace	0.18824669	824.82	6	47630	<.0001
Hotelling-Lawley Trace	0.22319869	885.86	6	31750	<.0001
Roy's Greatest Root	0.20409366	1620.16	3	23815	<.0001
NOTE: F Statistic for Roy's Greatest Root is an upper bound.					
NOTE: F Statistic for Wilks' Lambda is exact.					