

You can get SPSS tools in this website at <https://www.ibm.com/spss>.

- 1) Open the data you want to process in SPSS (For example, we import the table " Influencing factor information statistics table " directly) ;

	Classification	Brand awareness	Location	Uniqueness	Size	变量	变量	变量	变量	变量	变量	变量	变量	变量	变量
1	1	7.8	5	1	2										
2	1	7.6	1	1	1										
3	1	6.3	5	1	2										
4	1	6.2	3	1	1										
5	1	7.0	2	1	3										
6	1	7.5	1	1	2										
7	1	6.6	4	1	1										
8	1	5.3	5	2	1										
9	1	5.7	3	1	2										
10	1	6.6	1	2	1										
11	2	5.8	2	1	1										
12	2	7.2	1	1	1										
13	2	6.1	3	1	1										
14	2	6.3	3	2	1										
15	2	5.5	1	1	2										
16	2	5.2	1	1	2										
17	2	4.4	5	1	2										
18	2	4.2	5	1	3										
19	2	7.2	1	1	1										
20	2	5.6	3	1	1										
21	2	4.9	1	3	1										
22	2	7.1	1	1	1										
23	2	6.4	1	2	1										
24	2	4.4	1	3	1										
25	2	4.2	3	1	1										
26	2	3.9	3	1	1										
27	2	3.6	4	1	2										
28	2	3.7	4	1	2										

- 2) Execute on the menu bar: “Analyze→ Classify→ Discriminant” ;

The 'Analyze' menu is open, showing the following options:

- 描述统计 (Descriptive Statistics)
- 比较平均值 (Compare Means)
- 一般线性模型 (General Linear Model)
- 广义线性模型 (Generalized Linear Model)
- 混合模型 (Mixed Models)
- 相关 (Correlation)
- 回归 (Regression)
- 非线性 (Nonlinear)
- 分类 (Classification)
- 降维 (Dimensionality Reduction)
- 聚类 (Clustering)
- 非参数检验 (Nonparametric Tests)
- 时间序列预测 (Time Series Forecasting)
- 生存分析 (Survival Analysis)
- 多重响应 (Multiple Response)
- 缺失值分析 (Missing Value Analysis)
- 多重插补 (Multiple Imputation)
- 复杂抽样 (Complex Sampling)
- 模型 (Models)
- 质量检验 (Quality Control)
- 空间和时间建模 (Spatial and Temporal Modeling)
- 直方图 (Histogram)

The 'Classify' submenu is open, showing the following options:

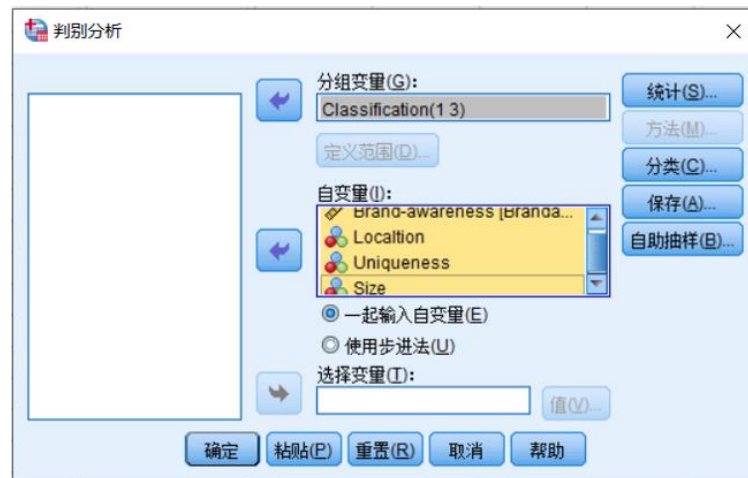
- 二元判别 (Binary Discriminant)
- 长均值聚类 (Long Mean Clustering)
- 系统聚类 (Hierarchical Clustering)
- 聚类轮廓 (Cluster Profile)
- 判别式 (Discriminant Function)
- 最近邻元素 (Nearest Neighbor)
- ROC 曲线 (ROC Curve)
- ROC 分析 (ROC Analysis)

The 'Discriminant' dialog box is open, showing the following options:

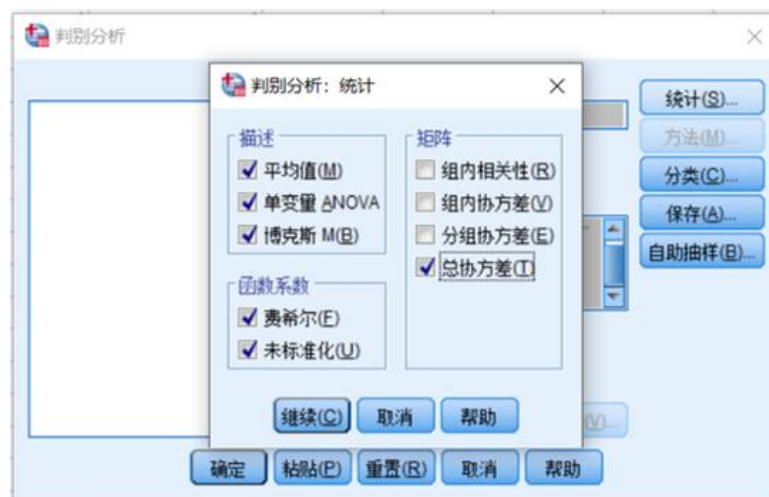
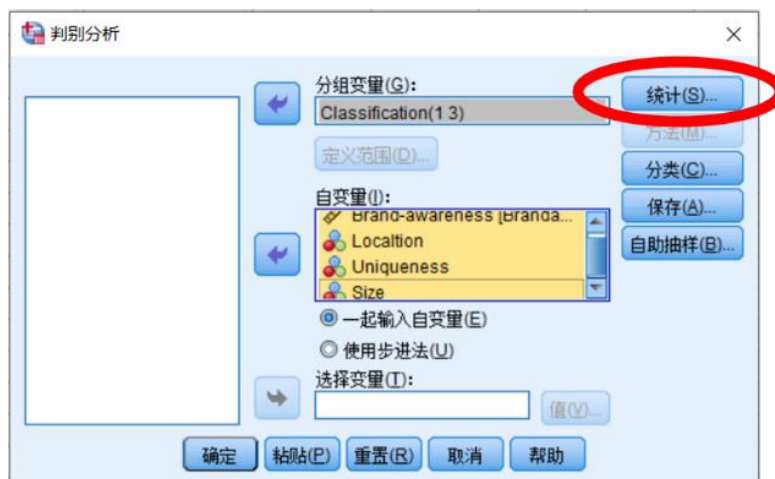
- Classification (selected)
- Cluster
- Regression
- Other

- 3) Opens the “Discriminant” dialog box;
- 4) In this dialog box, place “Classification” in the “Grouping variables” box and

define its range as “1-3”, and place “Brand awareness”, “Spatial location”, “Uniqueness” and “Relative size” in the “Independent variables” box;

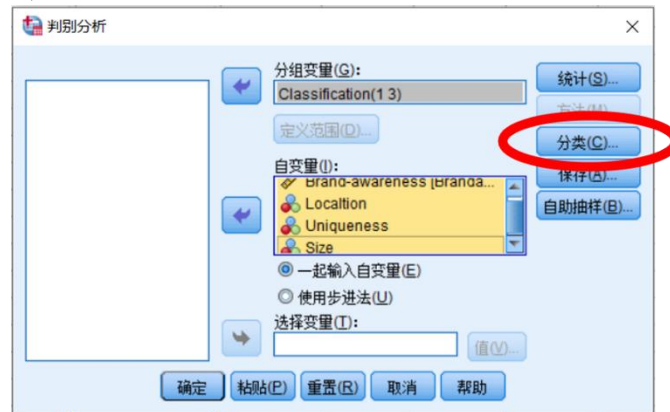


5) Click on the “Statistics” button and select the desired option in the pop-up window;

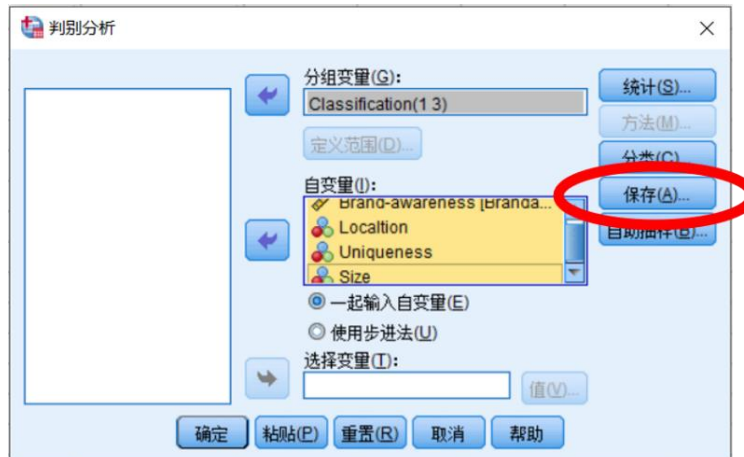


6) Click on the “Category” button and select the desired option in the pop-up

window;



7) Click on the “Save” button and select the desired option in the pop-up window;



8) Click “OK”, and get the output document;

IBM SPSS Statistics 查看器

文件(F) 编辑(E) 数据(D) 转换(T) 格式(O) 分析(A) 视图(V) 实用程序(U) 扩展(E) 窗口(W) 帮助(H)

输出 1 [文档1] - IBM SPSS Statistics 查看器

输出 1

	3	3	742	4	953	1.968	2	.047	7.994
40	3	3	698	4	845	2.205	2	.155	5.593
42	3	3	740	4	933	1.975	2	.067	7.243
43	3	3	397	4	962	4.069	2	.038	10.525
44	3	3	923	4	976	.912	2	.024	8.365
45	3	3	149	4	1.000	6.761	2	.000	26.598
46	3	3	088	4	928	8.092	2	.072	13.206
47	3	3	498	4	997	3.371	2	.003	14.896
48	3	3	881	4	912	1.184	2	.088	5.853
49	3	3	921	4	979	.926	2	.021	8.611
50	3	3	578	4	862	2.882	2	.138	6.546
51	3	3	850	4	942	1.366	2	.058	6.931

对于原始数据，平方马氏距离基于典型函数。
对于进行了交叉验证的数据，平方马氏距离基于预测值。

b. 仅针对分析中的个案进行交叉验证。在交叉验证中，每个个案都由那些从该个案以外的所有个案派生的函数进行分类。

交叉验证^{a,c}

		预测组成员信息			
Classification		1	2	3	总计
原始	计数	8	2	0	10
	1	0	15	3	18
	2	0	0	23	23
	%	80.0	20.0	.0	100.0
交叉验证 ^b	计数	7	3	0	10
	1	3	11	4	18
	2	0	1	22	23
	%	70.0	30.0	.0	100.0
交叉验证 ^b	计数	16.7	61.1	22.2	100.0
	1	0	4.3	95.7	100.0
	2	0	4.3	95.7	100.0
	%	0	4.3	95.7	100.0

a. 正确地 90.2% 个原始已分组的个案进行了分类。
b. 仅针对分析中的个案进行交叉验证。在交叉验证中，每个个案都由那些从该个案以外的所有个案派生的函数进行分类。

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