



Estimated Exam Time : 1 hour 40 minutes

This is a practice certification paper for those interested in enrolling in the SPSS **SCert Advanced Skills** Program. The paper is designed to give potential **SCert** candidates an example of the sort of content they can expect to find in the actual practical exam paper itself. Bear in mind that candidates will be expected to complete a paper similar to this one in one sitting. Therefore, regularly saving of your work is essential. The pass mark is 112 (70%).

Cleaning up the data file

Load the accompanying data file `theme park.sav`. The file represents part of a fictional customer satisfaction survey. However, there appear to be some problems with data file that must be addressed before the analysis can begin. Imagine that you have been hired as a consultant analyst to fix these problems and carry out some key analyses.

Q1a. The first problem to address is the presence of a number of blank cases in the data file. *These are cases where the entire row has no data.* Find a quick way to delete the blank cases using *SPSS syntax* and re-save the data file. Now, open a *second viewer window* and find a way to paste the syntax into it. Save this new output file as `results.spo`. You can use the original viewer window for 'rough work'. 8 marks.

Q1b. A further problem is that the data set contains a number of duplicate cases. You must find an *efficient way to remove these permanently from the file* so that only unique occurrences of cases are left. Re-save the data file once the duplicates are removed. How many duplicate cases were there? Select the correct answer from the choices below. 10 marks.

None? 12? 15? 23? 34?

Number of duplicate cases:

Q1c. Although you should now have a 'clean' version of the file, unfortunately `theme park.sav` is only part of the entire data set. Read the file `theme park part 2.txt` into SPSS and use `theme park dictionary.sav` as a data dictionary file to apply the labels and missing values etc to the newly captured data.

Save the data file as `captured.sav`. 12 marks.

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Q1d. Now find an appropriate way to join `captured.sav` and the cleaned-up `theme park.sav` files together and save the resultant joined file as `complete.sav`. You should end up with same number of cases from both files. Now, copy the results of the `file info` command (as applied to `complete.sav`) into `results.spo`. 12 marks.

Q1e. You may have noticed that there appear to be three fields related to the date of the customer's visit (`day`, `month` and `years`). Use these fields to create a new date variable (called `'date'`). Which day of the week is the theme park always closed? 14 marks.

Day of the week when the theme park is closed:

Data Analysis and Transformation

In the spaces provided, correctly answer the following questions....

Q2a. How many respondents paid for their tickets at the kiosk from February 1st to April 15th (inclusive of those dates)? 10 marks.

Number of people:

Q2b. Note that the following variables all have a user-defined missing value equal to nine ('9'). 8 marks.

`staff1` How helpful were the staff?
`staff2` How polite were the staff?
`staff3` How professional were the staff?

Using the appropriate syntax commands, redefine the user missing value for all three variables so that is equal to zero ('0')? Paste correct syntax to complete this procedure into `results.spo`.

Q2c The following variables now all have the same user-defined missing values.

<code>crowded</code>	Crowded - rated 1 to 7
<code>atmspher</code>	Atmosphere - rated 1 to 7
<code>clean</code>	Cleanliness - rated 1 to 7
<code>noise</code>	Noise level - rated 1 to 7
<code>staff1</code>	How helpful were the staff?
<code>staff2</code>	How polite were the staff?
<code>staff3</code>	How professional were the staff?
<code>signpost</code>	How clearly sign posted was the park?
<code>comfort</code>	Cleanliness of restroom facilities
<code>catering</code>	Catering and refreshments at park

Taking into consideration the whole dataset, what is the overall mean number of times (to 2 decimal places) the user-defined missing value ('0') occurs in these 10 particular variables? 10 marks.

Overall mean number of times zero occurs:

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Q2d. Create a variable (call it 'avscore') recording the overall mean satisfaction for each case by recording the average score for each respondent's ratings on the following 10 variables.

crowded	Crowded - rated 1 to 7
atmspher	Atmosphere - rated 1 to 7
clean	Cleanliness - rated 1 to 7
noise	Noise level - rated 1 to 7
staff1	How helpful were the staff?
staff2	How polite were the staff?
staff3	How professional were the staff?
signpost	How clearly sign posted was the park?
comfort	Cleanliness of restroom facilities
catering	Catering and refreshments at park

Important Note: The mean score should be computed for each case. Valid values only should be used in the computation. In other words, if a case only has three valid (non-missing) scores then the overall mean should be based only on those scores, if it has ten valid values however, then the mean score should be based on all ten values.

What is the median (to one decimal place) of the newly computed variable 'avscore'? 10 marks.

Median of avscore:

Q2e. Create a new variable called 'scorecat' which correctly categorises the values in the variable 'avscore' as low, medium and high. Open a new (blank) viewer window and paste a frequency table of 'scorecat' into it. Save the viewer as results.spo. 10 marks.

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Further Analysis - Inferential Statistics

Q3a. Run a parametric independent samples t-test (ignoring the suitability of the data) to assess the likelihood that the two mean scores derived from the variable 'avscore' for those who were first time visitors and those who had visited the park before are equal in the population. Paste the output from the test procedure into `results.spo`.

Indicate below which of the following two statements is the most appropriate to description of the test results: 8 marks.

A. The test indicates that the two means **are** significantly different at the 95% level.

B. Working at the 95% confidence level, the test **does not** provide enough evidence to reject the null hypothesis that the two means are equal.

Most appropriate statement A or B:

Q3b. Looking at the same test and working at the 95% confidence level, is there evidence to suggest the variances for the two groups are significantly different. Again, indicate below which of the following two statements is the most appropriate to description of the test results: 8 marks.

A. The test indicates that the two **variance values** are significantly different at the 95% level.

B. Working at the 95% confidence level, the test does not provide enough evidence to reject the null hypothesis that the two **variance values** are equal.

Most appropriate statement A or B:

Q3c. Use crosstabs to compare **first time visitors** and **those who have visited before** in terms of the two main ticket purchase methods: 'Online/phone purchase' and 'Pay at kiosk'.

Also, generate the associated **Chi Square Continuity Correction test** to statistically compare all four groups of the crosstab. Paste the crosstab output into `results.spo` and indicate below which of the following two statements is the most appropriate description of the test results: 8 marks.

A. Working at the 95% confidence level, the Chi Square Continuity Correction test indicates that the row and column variables are related.

B. Working at the 95% confidence level, the Chi Square Continuity Correction test does not provide enough evidence to reject the null hypothesis that the two variables are independent of one and other.

Most appropriate statement A or B:

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Charting and Tabulating Data

Q4a. Reproduce the following graphs/tables (figure 1 to figure 4) via the relevant dialogs (or syntax if you prefer) and paste the results into `results.spo`. Remember to save your output at each stage.

How did you hear about the park?	Which of the park's entrances did you use?					
	Total	Gold Gate	Blue Gate	Green Gate	Orange Gate	Red Gate
My kids hassled me about it...	22%	24%	23%	21%	20%	19%
A friend told me about it	15%	16%	14%	17%	15%	17%
I saw a newspaper advert	8%	6%	8%	9%	7%	13%
I heard about it on the radio	2%	2%	4%	2%	0%	6%
I saw a billboard advertising it	0%	0%	0%	0%	2%	0%
I got a flyer advertising it...	1%	0%	1%	0%	2%	2%
I saw a glossy magazine advert	0%	0%	0%	0%	0%	0%
I saw fly poster	0%	1%	0%	0%	0%	0%
I picked up/was given a leaflet	1%	1%	1%	0%	0%	0%
I saw a TV advertisement	6%	6%	6%	4%	12%	0%
I saw a review	13%	13%	12%	14%	22%	13%
I saw it mentioned on the Web/internet	30%	31%	30%	31%	22%	31%
Total	57%	56%	57%	56%	58%	58%

Figure 1 12 marks.

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Mean		Which of the park's entrances did you use?	Is this your first visit?		
			No	Yes	Total
How helpful were the staff?	Red Gate	3.38	5.20	3.49	
	Gold Gate		5.60	5.60	
	Blue Gate	5.33	5.23	5.23	
	Green Gate	6.50	5.41	5.43	
	Orange Gate	7.00	5.71	5.74	
	Total	3.41	5.43	4.42	
How polite were the staff?	Red Gate	3.39	5.29	3.51	
	Gold Gate		5.47	5.47	
	Blue Gate	6.00	5.42	5.43	
	Green Gate	6.50	5.22	5.24	
	Orange Gate	7.00	5.71	5.74	
	Total	3.42	5.40	4.42	
How professional were the staff?	Red Gate	3.28	5.29	3.40	
	Gold Gate		5.57	5.57	
	Blue Gate	5.67	5.62	5.63	
	Green Gate	6.00	5.48	5.49	
	Orange Gate	7.00	5.68	5.72	
	Total	3.31	5.56	4.44	

Figure 2 10 marks.

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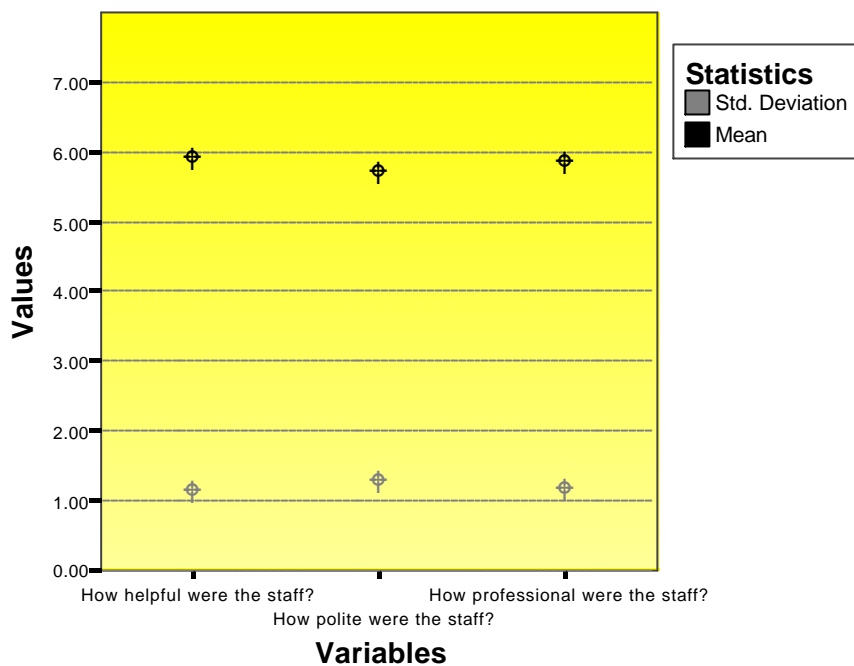


Figure 3 10 marks.

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● 栏目

分析报告 趋势方向 - 消费数据 - 产业预警 - 产业观察 - 市场资讯 - 管调营渠

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