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EDG500

4/12/2023

Chapter 16 Step by Step:

Chi-Square Test

Frequencies

Candidate

	Observed N	Expected N	Residual
Jane Smith	11	10.0	1.0
John Doe	9	10.0	-1.0
Total	20		

Test Statistics

	Candidate
Chi-Square	.200[a]
df	1
Asymp. Sig.	.655

a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 10.0.

Figure 16.8 Raw SPSS Statistics output for the data in Table 16.1 on page 168.

Chapter 16 Exercise:

Chi-Square Test

Frequencies

Colors

	Observed N	Expected N	Residual
Tan	5	6.7	-1.7
Blue	12	6.7	5.3
Brown	3	6.7	-3.7
Total	20		

Test Statistics

	Colors
Chi-Square	6.700[a]
df	2
Asymp. Sig.	.035

a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 6.7.

Figure 16.9 Raw SPSS Statistics output for the data in Table 16.2 on page 174.

a. 5

b. 12

c. 3

d. 6.70

e. .04

f. Yes

g. The preferred color Blue ($n = 12$) was favored over the colors Tan ($n = 5$) and Brown ($n = 3$). The difference was statistically significant at the .05 level ($X^2 = 6.70$, $df = 2$). Thus, the preferred color for the pants and skirts of their school uniforms is Blue.

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Chapter 17 Step by Step:

Crosstabs

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Gender * Vote	24	100.0%	0	0.0%	24	100.0%

Gender * Vote Crosstabulation

			Vote		
			Yes	No	Total
Gender	Male	Count	8	4	12
		% within Gender	66.7%	33.3%	100.0%
	Female	Count	5	7	12
		% within Gender	41.7%	58.3%	100.0%
Total		Count	13	11	24
		% within Gender	54.2%	45.8%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.510[a]	1	.219		
Continuity Correction[b]	.671	1	.413		
Likelihood Ratio	1.527	1	.217		
Fisher's Exact Test				.414	.207
Linear-by-Linear Association	1.448	1	.229		
N of Valid Cases	24				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.50.

b. Computed only for a 2x2 table

Figure 17.11. SPSS Statistics output for chi-square test of independence.

Chapter 17 Exercise:

Crosstabs

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Experience * Approval	20	100.0%	0	0.0%	20	100.0%

Experience * Approval Crosstabulation

			Approval		Total
			Approve	Disapprove	
Experience	Experienced	Count	7	3	10
		% within Experience	70.0%	30.0%	100.0%
	Inexperienced	Count	3	7	10
		% within Experience	30.0%	70.0%	100.0%
Total		Count	10	10	20
		% within Experience	50.0%	50.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	3.200[a]	1	.074		
Continuity Correction[b]	1.800	1	.180		
Likelihood Ratio	3.291	1	.070		
Fisher's Exact Test				.179	.089
Linear-by-Linear Association	3.040	1	.081		
N of Valid Cases	20				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.00.

b. Computed only for a 2x2 table

a. 7

b. 3

c. 3.20

d. .07

e. No

f. Experience teachers were more likely to approve a new mathematics curriculum than Inexperienced teachers, as shown in Table 17.3. However, the relationship between

experienced and inexperienced teachers was not statistically significant at the .05 level ($X^2 = 3.20$, $df = 1$). Thus, experienced and inexperienced are independent of each other.

Table 17.3

Cross Tabulations

	Approval		
	Approve	Disapprove	Total
Teaching Experience			
Experienced	7 (70.0%)	3 (30.0%)	10 (100%)
Inexperienced	3 (30.0%)	7 (70.0%)	10 (100%)
Total	10 (50.0%)	10 (50.0%)	20 (100%)