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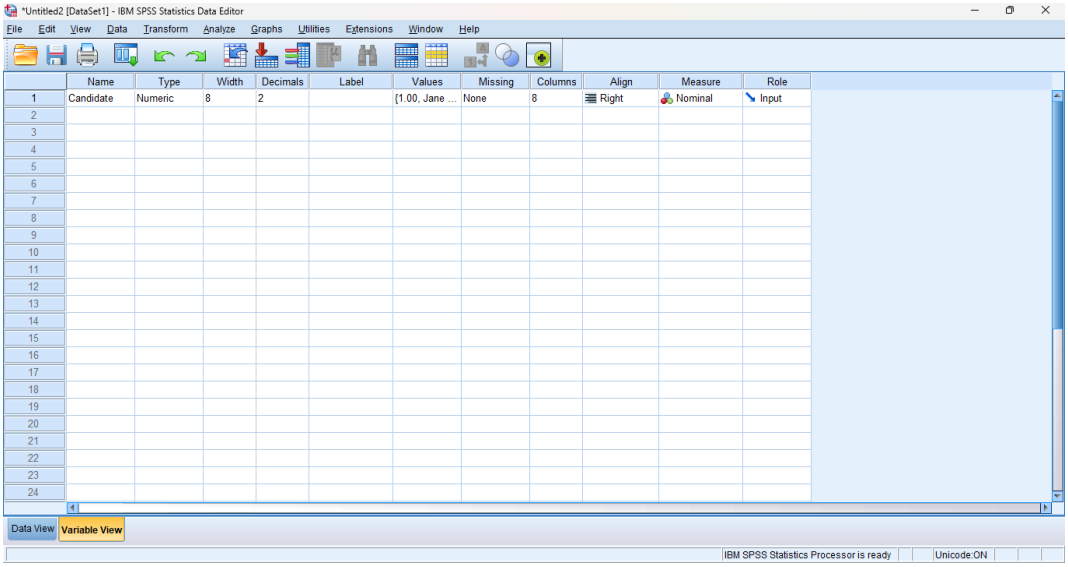
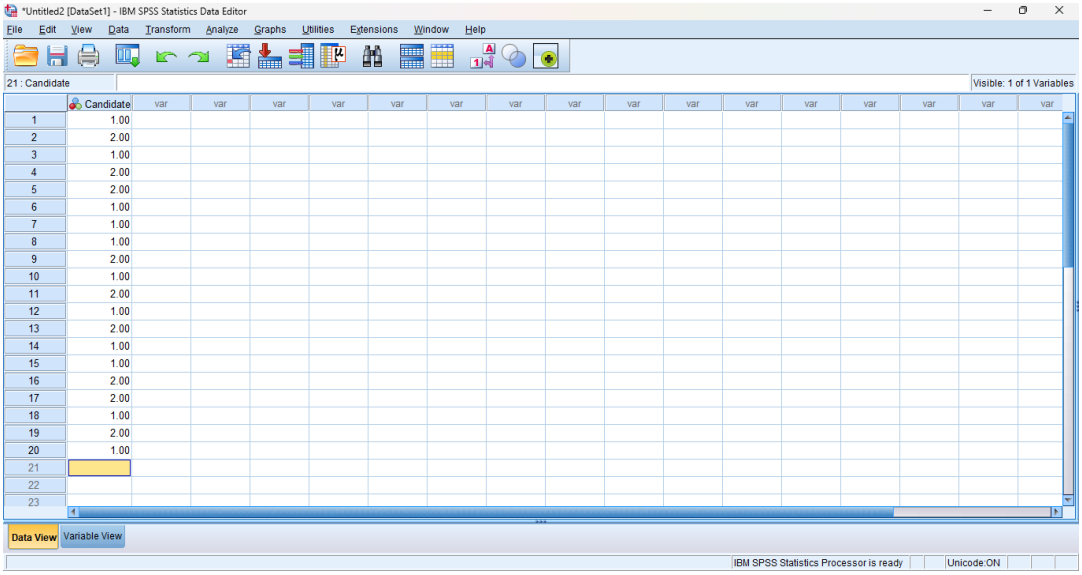
EDG500 Educational Research and Statis

Professor Bennett Schephens

April 15, 2023

Chapter 16





NPar Tests

[DataSet1]
Chi-Square Test
Frequencies

Candidate

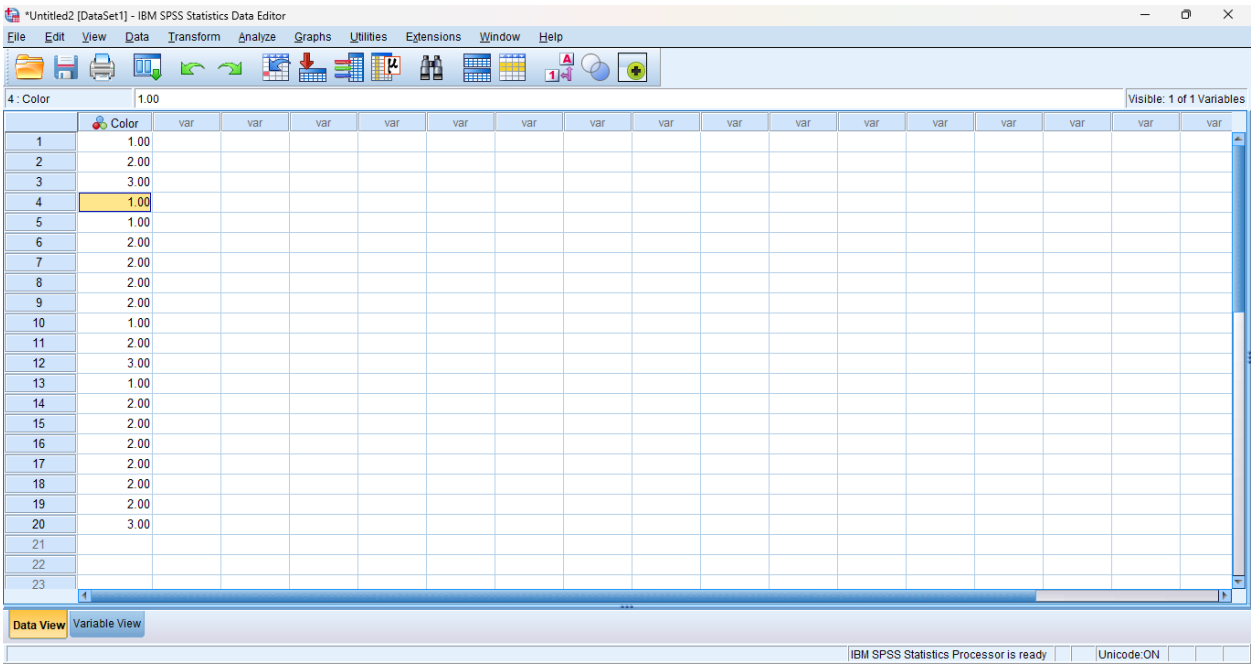
	Observed N	Expected N	Residual
Jane Smith	11	10.0	1.0
John Doe	9	10.0	-1.0
Total	20		

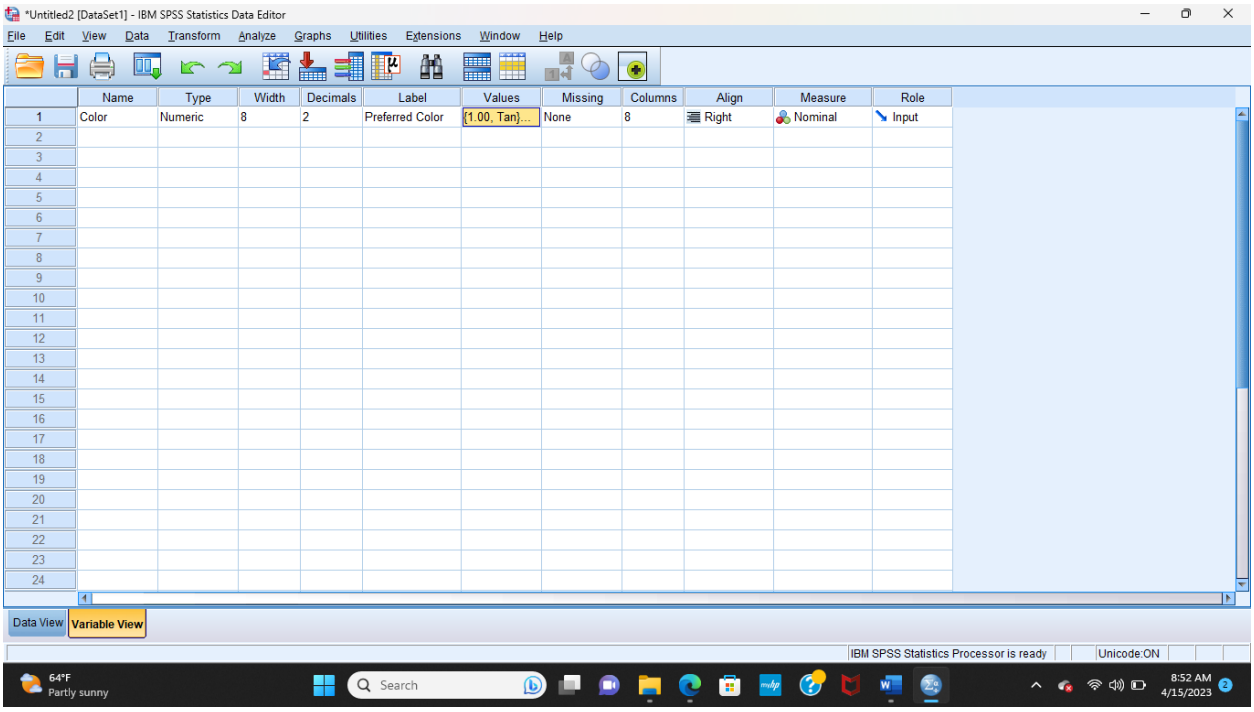
Test Statistics

	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.

Exercise Chapter16





NPar Tests

Chi-Square Test

Frequencies

Preferred Color

	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		

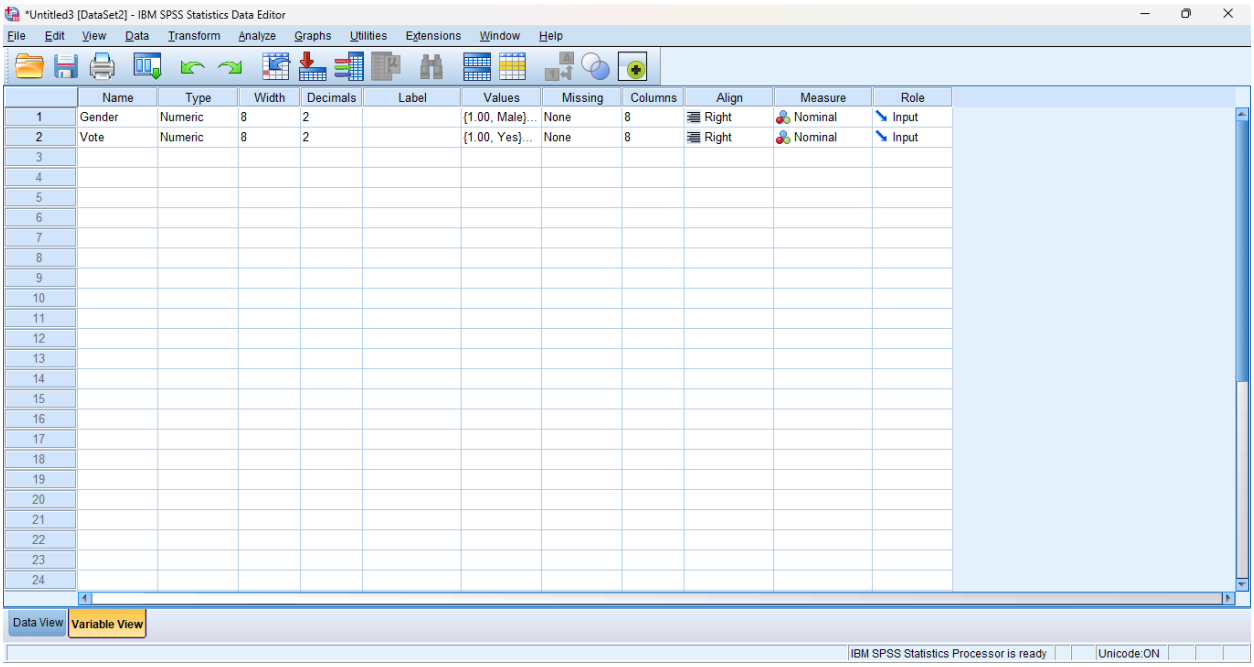
Test Statistics

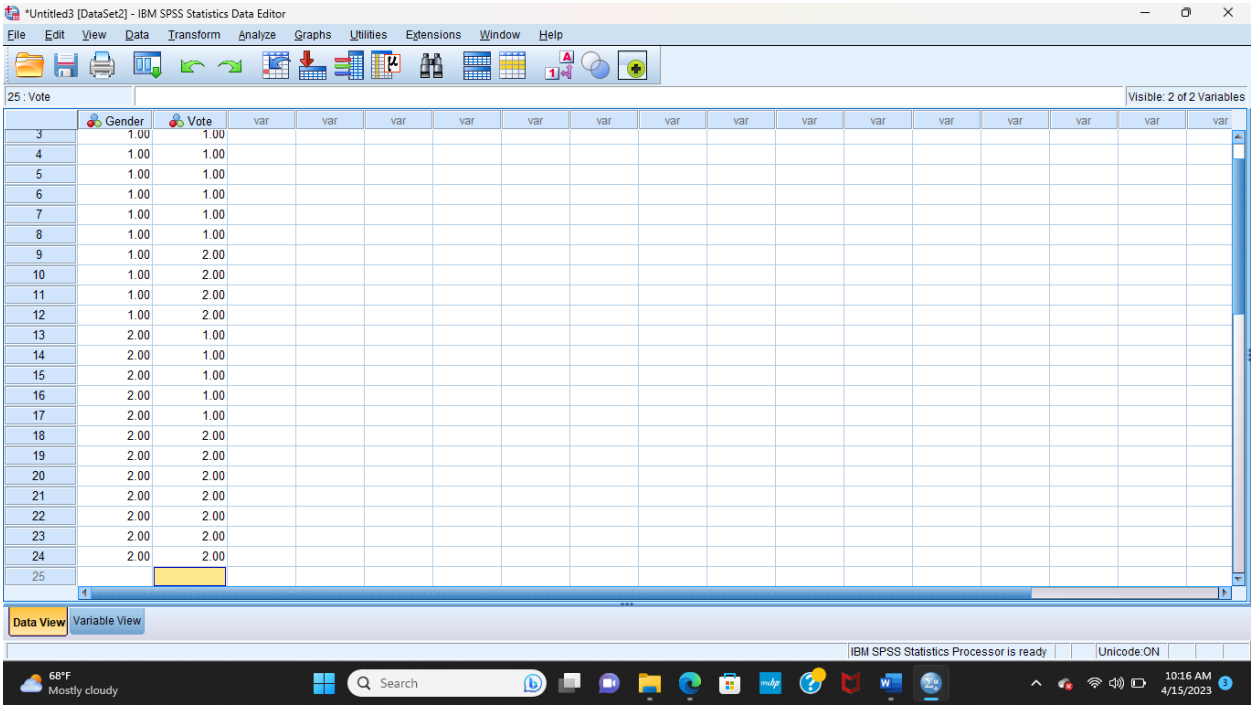
	Preferred Color
Chi-Square	6.700[a]
df	2
Asymp. Sig.	.035

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

a. What is the observed value *n* for Tan? -it is 5.
b. What is the observed value *n* for Blue? -it is 12.
c. What us the observed value *n* for Brown? -it is 3.
d. What is the value of chi-square?-it is 6.700
e. What is the associated probability?-it is .035
f. Are the observed values significantly different at the .05 level from the expected values of 6.7 for each color? – it is significant different at the .05 level.
g. Write a statement of the results of the significance test. – Color Blue (*n=12*) was favored over color Tan (*n=5*) and color Bronwn (*n=3*) in the survey. However, the differences were significantly different at the .05 level (X2=.200, *df*=2). Thus, the election is to not too close to call.

Chapter 17






```
NPAR TESTS
  /CHISQUARE=Color
  /EXPECTED=EQUAL
  /MISSING ANALYSIS.
```

NPar Tests

Notes

Output Created		15-APR-2023 08:53:47
Comments		
Input	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	20
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each test are based on all cases with valid data for the variable(s) used in that test.
Syntax		NPAR TESTS /CHISQUARE=Color /EXPECTED=EQUAL /MISSING ANALYSIS.
Resources	Processor Time	00:00:00.03
	Elapsed Time	00:00:00.03
	Number of Cases Allowed[a]	393216

a. Based on availability of workspace memory.

Chi-Square Test

Frequencies

Preferred Color

	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

	Preferred Color
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.

```
NEW FILE.
DATASET NAME DataSet2 WINDOW=FRONT.
CROSSTABS
  /TABLES=Gender BY Vote
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ
  /CELLS=COUNT ROW
  /COUNT ROUND CELL.
```

Crosstabs

[DataSet2]

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

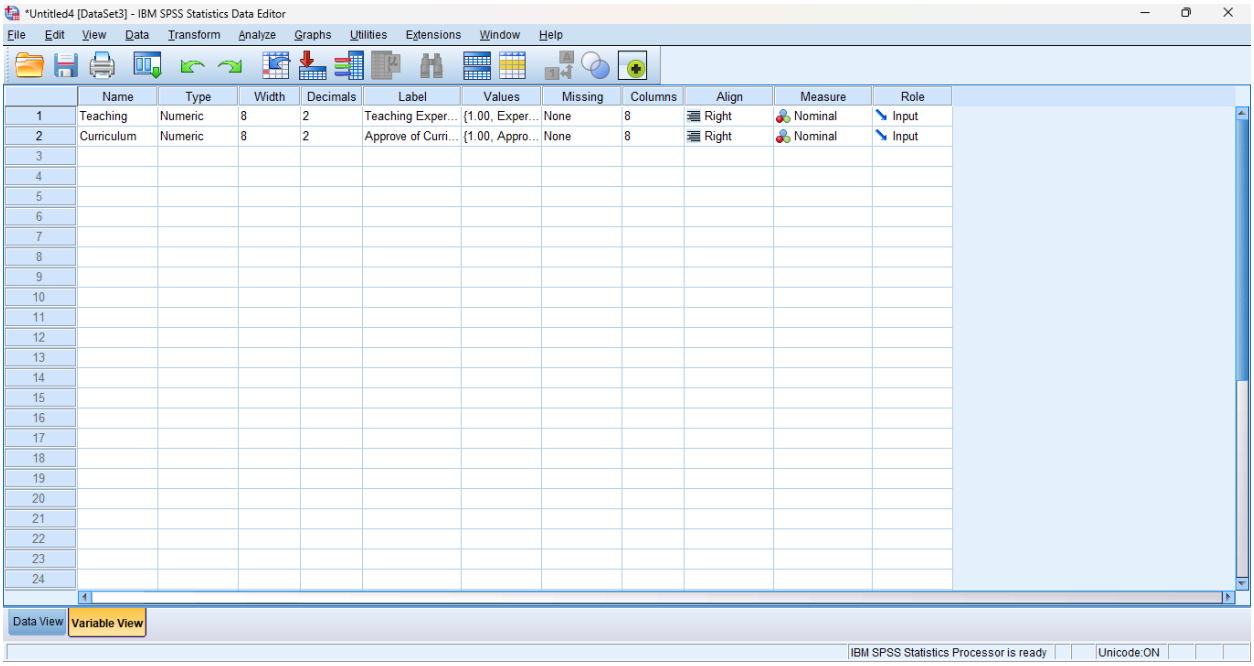
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.510[a]	1	.219		
Continuity Correction[b]	.671	1	.413		
Likelihood Ratio	1.527	1	.217		
Fisher's Exact Test				.414	.207
Linear-by-Linear Association	1.448	1	.229		
N of Valid Cases	24				

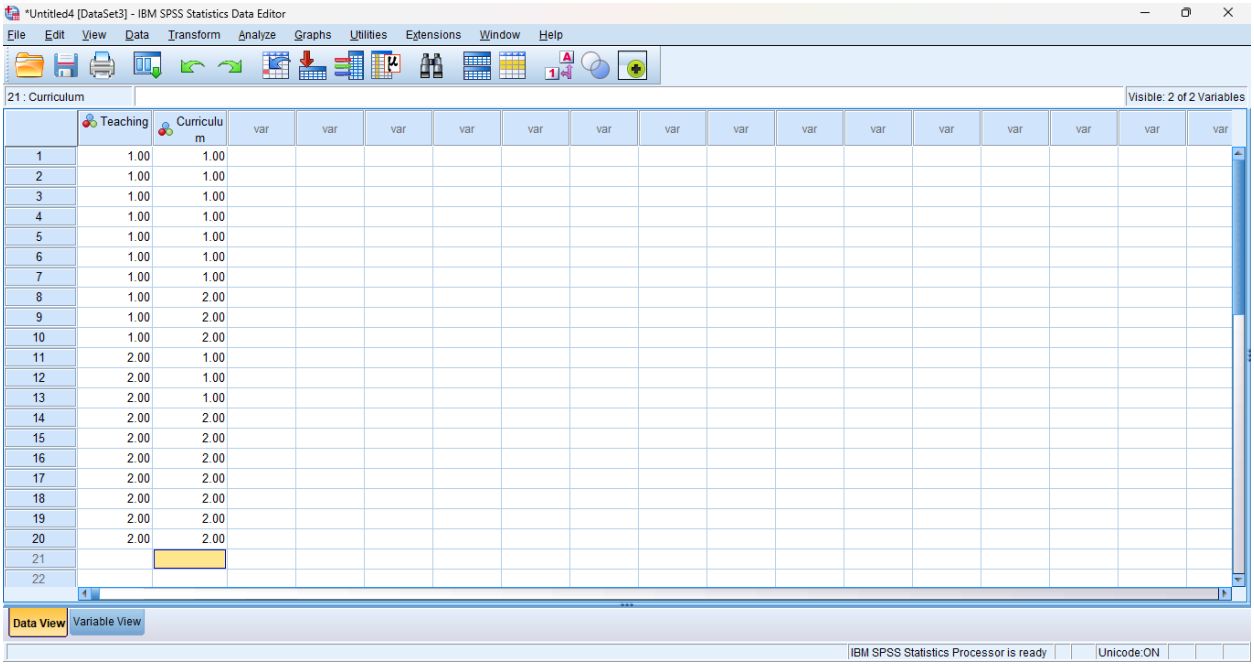
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.50.

b. Computed only for a 2x2 table

```
DATASET ACTIVATE DataSet2.
DATASET CLOSE DataSet1.
```

Exercise Chapter 17





```
CROSSTABS
  /TABLES=Teaching BY Curriculum
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ
  /CELLS=COUNT ROW
  /COUNT ROUND CELL.
```

Crosstabs

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Teaching Experience * Approve of Curriculum	20	100.0%	0	0.0%	20	100.0%

Teaching Experience * Approve of Curriculum Crosstabulation

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

Chi-Square Tests

	Value	df	Asymptotic Significance (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 Vali d 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. How many of the experienced teachers approved? 7
b. How many of the inexperienced teachers approved? 3
c. What is the value of chi-square? 3.200[a]
d. What is the associated probability? .074
e. Are the results statistically significant at the .05 level? Yes, statistically significant.
f. Write a statement of the results of the significance test. Experienced teachers are more likely to be approved than inexperienced teachers. The relationship between Experienced and Inexperienced teachers is statistically significant at the. 05 level (X2=3.200 [a], *df*=.074).