

```
47 0 OUTPUT ACTIVATE ChiSquareforSurveyDataOutput.  
47 0 M> OUTPUT ACTIVATE ChiSquareforSurveyDataOutput.  
48 0 TITLE 'Chi Square for Survey Data'.  
48 0 M> TITLE 'Chi Square for Survey Data'.
```

Chi Square for Survey Data

```
49 0
49 0 M>
50 0 GET DATA
50 0 M> GET DATA
51 0 /TYPE=TXT /FILE='D:\DATA ANALYSIS\M Survey and Likert Scale Analysis
\Chi Square for Survey Data\dataset.csv' /ENCODING='UT
F8' /DELCASE=LINE /DELIMITERS=', ' /QUALIFIER='''
51 0 M> /TYPE=TXT /FILE='D:\DATA ANALYSIS\M Survey and Likert Scale Analy
sis\Chi Square for Survey Data\dataset.csv' /ENCODING=
'UTF8' /DELCASE=LINE /DELIMITERS=', ' /QUALIFIER='''
52 0 /ARRANGEMENT=DELIMITED /FIRSTCASE=2
52 0 M> /ARRANGEMENT=DELIMITED /FIRSTCASE=2
53 0 /VARIABLES=
53 0 M> /VARIABLES=
54 0 school A8 sex A8 age F8.0 address A8 famsize A8 Pstatus A8 Medu F8.0
Fedu F8.0
54 0 M> school A8 sex A8 age F8.0 address A8 famsize A8 Pstatus A8 Medu F
8.0 Fedu F8.0
55 0 Mjob A16 Fjob A16 reason A16 guardian A16 traveltime F8.0 studytime
F8.0 failures F8.0
55 0 M> Mjob A16 Fjob A16 reason A16 guardian A16 traveltime F8.0 studyti
me F8.0 failures F8.0
56 0 schoolsup A8 famsup A8 paid A8 activities A8 nursery A8 higher A8 in
ternet A8 romantic A8
56 0 M> schoolsup A8 famsup A8 paid A8 activities A8 nursery A8 higher A8
internet A8 romantic A8
57 0 famrel F8.0 freetime F8.0 goout F8.0 Dalc F8.0 Walc F8.0 health F8.0
absences F8.0 G1 F8.0 G2 F8.0 G3 F8.0.
57 0 M> famrel F8.0 freetime F8.0 goout F8.0 Dalc F8.0 Walc F8.0 health F
8.0 absences F8.0 G1 F8.0 G2 F8.0 G3 F8.0.
58 0 DATASET NAME ChiSquareforSurveyDataData.
58 0 M> DATASET NAME ChiSquareforSurveyDataData.
59 0 COMPUTE subject_id=$CASENUM.
59 0 M> COMPUTE subject_id=$CASENUM.
60 0 COMPUTE Dalc_R=6-Dalc.
60 0 M> COMPUTE Dalc_R=6-Dalc.
61 0 COMPUTE Walc_R=6-Walc.
61 0 M> COMPUTE Walc_R=6-Walc.
```

Chi Square for Survey Data

```
62 0 COMPUTE scale_score=MEAN.6(famrel,freetime,goout,Dalc_R,Walc_R,health
).
62 0 M> COMPUTE scale_score=MEAN.6(famrel,freetime,goout,Dalc_R,Walc_R,hea
lth).
63 0 RECODE sex ('F'=1) ('M'=2) INTO sex_code.
63 0 M> RECODE sex ('F'=1) ('M'=2) INTO sex_code.
64 0 RECODE school ('GP'=1) ('MS'=2) INTO school_code.
64 0 M> RECODE school ('GP'=1) ('MS'=2) INTO school_code.
65 0 RECODE higher internet ('no'=0) ('yes'=1) INTO higher_code internet_c
ode.
65 0 M> RECODE higher internet ('no'=0) ('yes'=1) INTO higher_code interne
t_code.
66 0 EXECUTE.
66 0 M> EXECUTE.
67 0
67 0 M>
68 0 * BEGIN METHOD-SPECIFIC SPSS WORKFLOW.
68 0 M> * BEGIN METHOD-SPECIFIC SPSS WORKFLOW.
69 0 TITLE 'Chi Square for Survey Data'.
69 0 M> TITLE 'Chi Square for Survey Data'.
```

Chi Square for Survey Data

```
70 0 SUBTITLE 'Sex by higher-education intention independence analysis'.  
70 0 M> SUBTITLE 'Sex by higher-education intention independence analysis'
```

.

Chi Square for Survey Data
Sex by higher-education intention independence analysis

```

71  0  CROSSTABS /TABLES=sex BY higher /FORMAT=AVALUE TABLES
71  0 M> CROSSTABS /TABLES=sex BY higher /FORMAT=AVALUE TABLES
72  0  /STATISTICS=CHISQ PHI /CELLS=COUNT EXPECTED ROW COLUMN RESID SRESID
/COUNT ROUND CELL.
72  0 M> /STATISTICS=CHISQ PHI /CELLS=COUNT EXPECTED ROW COLUMN RESID SRESID
ID /COUNT ROUND CELL.

```

Crosstabs

Notes

Output Created		18-JUL-2026 13:20:29
Comments		
Input	Data	D:\DATA ANALYSIS\ISM Survey and Likert Scale Analysis\Chi Square for Survey Data\dataset.csv
	Active Dataset	ChiSquareforSurveyDataD ata
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	649
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table.
Syntax		CROSSTABS /TABLES=sex BY higher /FORMAT=AVALUE TABLES /STATISTICS=CHISQ PHI /CELLS=COUNT EXPECTED ROW COLUMN RESID SRESID /COUNT ROUND CELL.
Resources	Processor Time	00:00:00.06
	Elapsed Time	00:00:00.16

Chi Square for Survey Data
Sex by higher-education intention independence analysis

Notes

Dimensions Requested	2
Cells Available	524245

[ChiSquareforSurveyDataData]

Case Processing Summary

	Valid		Cases Missing		Total	
	N	Percent	N	Percent	N	Percent
sex * higher	649	100.0%	0	0.0%	649	100.0%

sex * higher Crosstabulation

			higher		
			no	yes	Total
sex	F	Count	35	348	383
		Expected Count	40.7	342.3	383.0
		% within sex	9.1%	90.9%	100.0%
		% within higher	50.7%	60.0%	59.0%
		Residual	-5.7	5.7	
		Standardized Residual	-.9	.3	
	M	Count	34	232	266
		Expected Count	28.3	237.7	266.0
		% within sex	12.8%	87.2%	100.0%
		% within higher	49.3%	40.0%	41.0%
		Residual	5.7	-5.7	
		Standardized Residual	1.1	-.4	
Total	Count	69	580	649	
	Expected Count	69.0	580.0	649.0	
	% within sex	10.6%	89.4%	100.0%	
	% within higher	100.0%	100.0%	100.0%	

Chi Square for Survey Data
Sex by higher-education intention independence analysis

Chi-Square Tests

	Value	df	Asymptotic Significance (2- sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)
Pearson Chi-Square	2.193 ^a	1	.139		
Continuity Correction ^b	1.827	1	.177		
Likelihood Ratio	2.163	1	.141		
Fisher's Exact Test				.155	.089
N of Valid Cases	649				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 28.28.

b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	-.058	.139
	Cramer's V	.058	.139
N of Valid Cases		649	

73 0 ECHO 'Pearson chi-square, expected counts, standardized residuals, and Cramers V are reported together'.

73 0 M> ECHO 'Pearson chi-square, expected counts, standardized residuals, and Cramers V are reported together'.

Pearson chi-square, expected counts, standardized residuals, and Cramers V are reported together

74 0 * END METHOD-SPECIFIC SPSS WORKFLOW.

74 0 M> * END METHOD-SPECIFIC SPSS WORKFLOW.

75 0

75 0 M>

76 0 SAVE OUTFILE='D:\DATA ANALYSIS\M Survey and Likert Scale Analysis\Chi Square for Survey Data\SPSS_Output\sav\chi-square-for-survey-data_spss_ready_data.sav' /COMPRESSED.

76 0 M> SAVE OUTFILE='D:\DATA ANALYSIS\M Survey and Likert Scale Analysis\Chi Square for Survey Data\SPSS_Output\sav\chi-square-for-survey-data_spss_ready_data.sav' /COMPRESSED.

77 0

Chi Square for Survey Data
Sex by higher-education intention independence analysis

```

77  0 M>
78  0 ECHO '=====
====='.
78  0 M> ECHO '=====
====='.
=====
79  0 ECHO 'CHI SQUARE FOR SURVEY DATA'.
79  0 M> ECHO 'CHI SQUARE FOR SURVEY DATA'.
CHI SQUARE FOR SURVEY DATA
80  0 ECHO 'Method type: hypothesis_test'.
80  0 M> ECHO 'Method type: hypothesis_test'.
Method type: hypothesis_test
81  0 ECHO 'Design: Pearson independence test for respondent sex and intent
ion to pursue higher education.'.
81  0 M> ECHO 'Design: Pearson independence test for respondent sex and int
ention to pursue higher education.'.
Design: Pearson independence test for respondent sex and intention to pursue h
igher education.
82  0 ECHO 'Inference scope: H0: sex and higher-education intention are ind
ependent in the surveyed sample.'.
82  0 M> ECHO 'Inference scope: H0: sex and higher-education intention are
independent in the surveyed sample.'.
Inference scope: H0: sex and higher-education intention are independent in the
surveyed sample.
83  0 ECHO 'Formula:  $X^2 = \sum((O-E)^2/E)$ ;  $V = \sqrt{X^2/(n \cdot \min(r-1, c-1))}$ '.
83  0 M> ECHO 'Formula:  $X^2 = \sum((O-E)^2/E)$ ;  $V = \sqrt{X^2/(n \cdot \min(r-1, c-1))}$ '.
Formula:  $X^2 = \sum((O-E)^2/E)$ ;  $V = \sqrt{X^2/(n \cdot \min(r-1, c-1))}$ .
84  0 ECHO 'Variables: sex, higher'.
84  0 M> ECHO 'Variables: sex, higher'.
Variables: sex, higher
85  0 ECHO 'Rows analyzed: 649'.
85  0 M> ECHO 'Rows analyzed: 649'.
Rows analyzed: 649
86  0 ECHO 'chi_square = 2.1933257482450594'.
86  0 M> ECHO 'chi_square = 2.1933257482450594'.
chi_square = 2.1933257482450594
87  0 ECHO 'cramers_v = 0.0581338679898854'.
87  0 M> ECHO 'cramers_v = 0.0581338679898854'.
cramers_v = 0.0581338679898854

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Chi Square for Survey Data
Sex by higher-education intention independence analysis

```

88 0 ECHO 'df = 1'.
88 0 M> ECHO 'df = 1'.
df = 1
89 0 ECHO 'minimum_expected_count = 28.280431432973806'.
89 0 M> ECHO 'minimum_expected_count = 28.280431432973806'.
minimum_expected_count = 28.280431432973806
90 0 ECHO 'n_cases = 649'.
90 0 M> ECHO 'n_cases = 649'.
n_cases = 649
91 0 ECHO 'p_value = 0.13860974494854456'.
91 0 M> ECHO 'p_value = 0.13860974494854456'.
p_value = 0.13860974494854456
92 0 ECHO 'Cross-check status: pass'.
92 0 M> ECHO 'Cross-check status: pass'.
Cross-check status: pass
93 0 ECHO '=====
====='.
93 0 M> ECHO '=====
====='.
=====
94 0
94 0 M>
95 0 OUTPUT SAVE OUTFILE='D:\DATA ANALYSIS\M Survey and Likert Scale Analysis\Chi Square for Survey Data\SPSS_Output\spv\chi-square-for-survey-data_spss_output.spv'.
95 0 M> OUTPUT SAVE OUTFILE='D:\DATA ANALYSIS\M Survey and Likert Scale Analysis\Chi Square for Survey Data\SPSS_Output\spv\chi-square-for-survey-data_spss_output.spv'.
96 0 OUTPUT EXPORT /CONTENTS EXPORT=ALL LAYERS=PRINTSETTING MODELVIEWS=PRINTSETTING
96 0 M> OUTPUT EXPORT /CONTENTS EXPORT=ALL LAYERS=PRINTSETTING MODELVIEWS=PRINTSETTING

```