

Cochran's Q Test

Cochran's Q Test

Import and test-specific preparation

Dataset Name

Notes

Output Created		16-JUL-2026 14:41:20
Comments		
Input	Data	D:\DATA ANALYSIS\ Chi Square and Categorical Data Tests\Cochrans Q Test\dataset.csv
	Filter	<none>
	Weight	<none>
	Split File	<none>
Syntax		DATASET NAME CochransQTestData.
Resources	Processor Time	00:00:00.03
	Elapsed Time	00:00:00.04

Warnings

The active dataset will replace the existing dataset named
CochransQTestData.

school into school_n

Old Value	New Value	Value	Label
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GP	1	GP
MS	2	MS

reason into reason_n

Old Value	New Value	Value	Label
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course	1	course
home	2	home
other	3	other
reputation	4	reputation

guardian into guardian_n

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Old Value	New Value	Value Label
father	1	father
mother	2	mother
other	3	other

Cochran Q test

Cochran Q test
Four related binary responses measured on every student

NPar Tests

Notes

Output Created		16-JUL-2026 14:41:21
Comments		
Input	Data	D:\DATA ANALYSIS\ Chi Square and Categorical Data Tests\Cochrans Q Test\dataset.csv
	Active Dataset	CochransQTestData
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	649
Syntax		NPARTESTS /COCHRAN=schoolsup_bin famsup_bin paid_bin activities_bin.
Resources	Processor Time	00:00:00.03
	Elapsed Time	00:00:00.01
	Number of Cases Allowed ^a	449389

a. Based on availability of workspace memory.

[CochransQTestData]

Cochran Test

Frequencies

	Value	
	0	1
School support: 0 no, 1 yes	581	68
Family support: 0 no, 1 yes	251	398
Paid classes: 0 no, 1 yes	610	39
Activities: 0 no, 1 yes	334	315

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Test Statistics

N	649
Cochran's Q	639.247 ^a
df	3
Asymp. Sig.	.000

a. 1 is treated as a success.

Frequencies

Notes

Output Created		16-JUL-2026 14:41:21
Comments		
Input	Data	D:\DATA ANALYSIS\I Chi Square and Categorical Data Tests\Cochrans Q Test\dataset.csv
	Active Dataset	CochransQTestData
	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 are based on all cases with valid data.
Syntax		FREQUENCIES VARIABLES=schoolsup_b in famsup_bin paid_bin activities_bin /BARCHART FREQ /ORDER=ANALYSIS.
Resources	Processor Time	00:00:01.53
	Elapsed Time	00:00:01.29

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Statistics

		School support: 0 no, 1 yes	Family support: 0 no, 1 yes	Paid classes: 0 no, 1 yes	Activities: 0 no, 1 yes
N	Valid	649	649	649	649
	Missing	0	0	0	0

Frequency Table

School support: 0 no, 1 yes

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No / fail	581	89.5	89.5	89.5
	Yes / pass	68	10.5	10.5	100.0
	Total	649	100.0	100.0	

Family support: 0 no, 1 yes

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No / fail	251	38.7	38.7	38.7
	Yes / pass	398	61.3	61.3	100.0
	Total	649	100.0	100.0	

Paid classes: 0 no, 1 yes

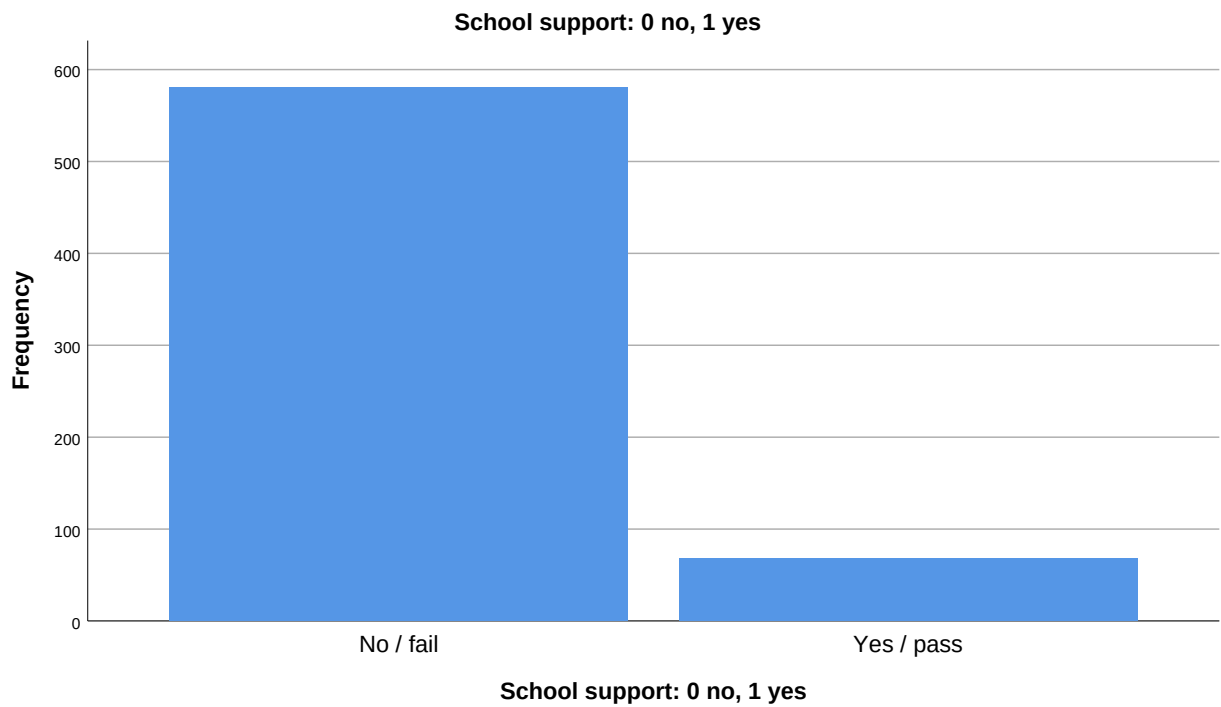
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No / fail	610	94.0	94.0	94.0
	Yes / pass	39	6.0	6.0	100.0
	Total	649	100.0	100.0	

Cochran Q test
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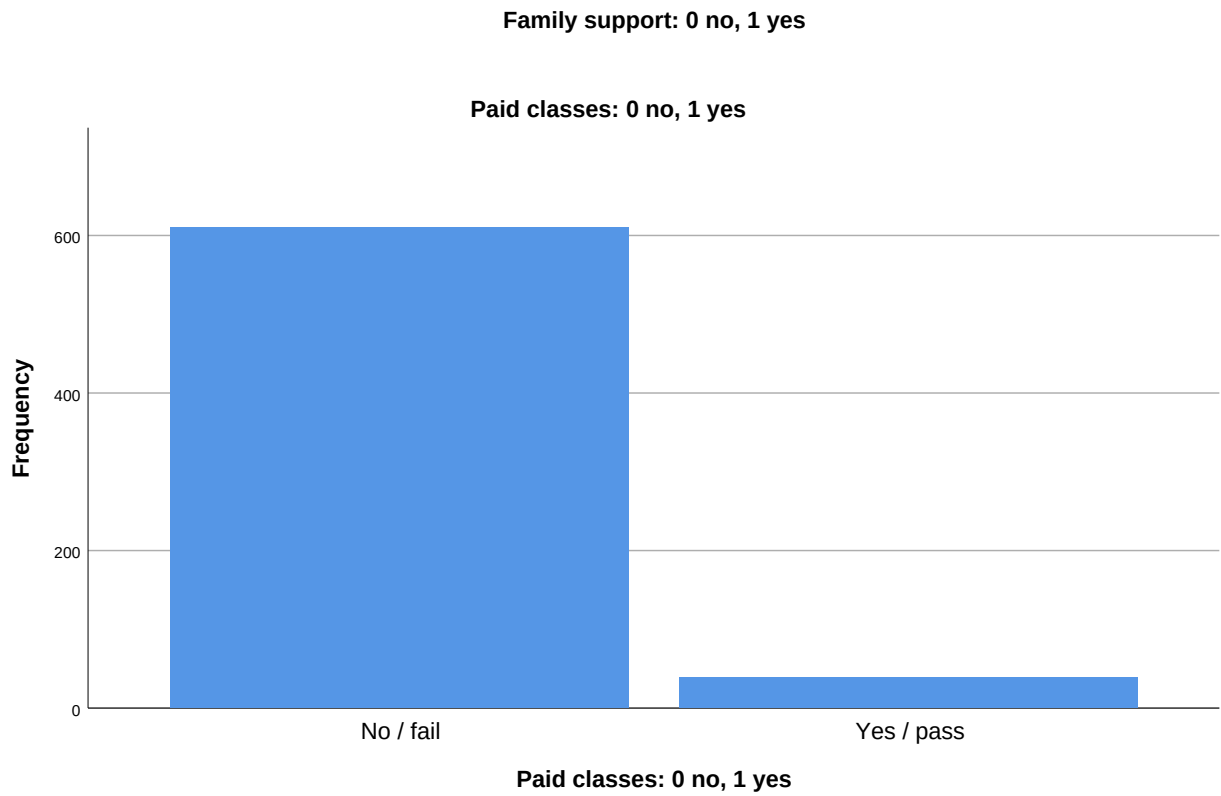
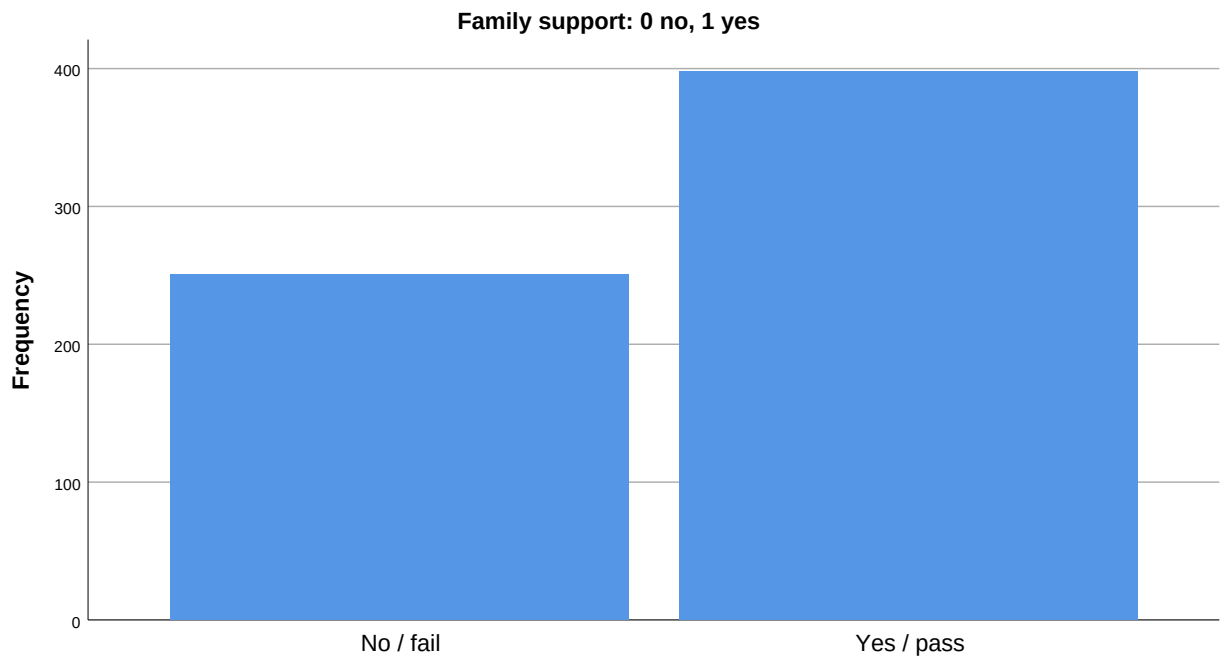
Activities: 0 no, 1 yes

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No / fail	334	51.5	51.5	51.5
	Yes / pass	315	48.5	48.5	100.0
	Total	649	100.0	100.0	

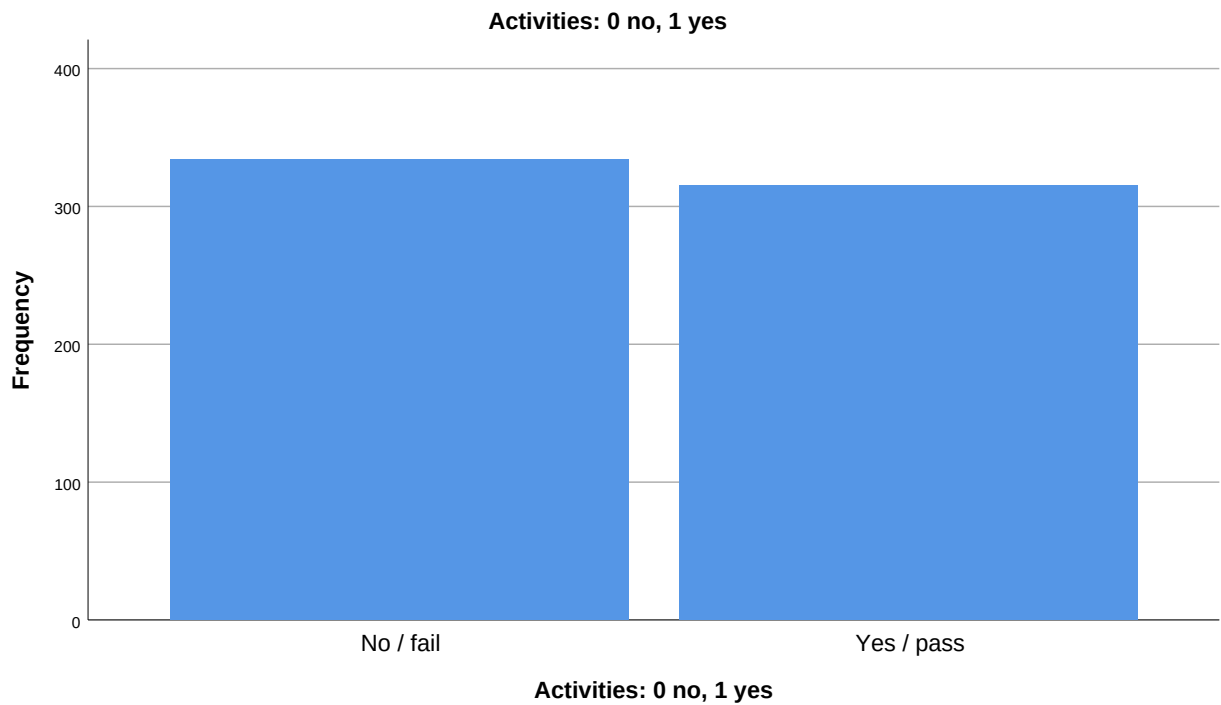
Bar Chart



Cochran Q test
Four related binary responses measured on every student



Cochran Q test
Four related binary responses measured on every student



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COCHRAN'S Q TEST
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Formula: Q = (k-1)[k sum_j C_j^2 - T^2] / [kT - sum_i R_i^2]
Variables: schoolsup, famsup, paid, activities
cochrans_q = 639.2472160356348
degrees_of_freedom = 3
p_value = 3.1237986523292055e-138
subjects = 649
Cross-check status: pass
=====
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```