Two-Sample Z Test for Proportions

Dataset Name

Notes

Output Created		16-JUL-2026 14:43:38
Comments		
Input	Data	D:\DATA ANALYSIS\I Chi Square and Categorical Data Tests\Z Test for Proportions\dataset.csv
	Filter	<none>
	Weight	<none>
	Split File	<none>
Syntax		DATASET NAME ZTestforProportionsData.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.00

Warnings

The active dataset will replace the existing dataset named ZTestforProportionsData.

```
school into school_n
Old Value  New Value  Value Label

GP                 1  GP
MS                 2  MS


reason into reason_n
Old Value         New Value  Value Label

course                   1  course
home                     2  home
other                    3  other
reputation               4  reputation


guardian into guardian_n
```

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

```
>Warning # 2004 on line 11038.  Command name: SUBTITLE
>The subtitle given exceeds 60 characters in length.  The first 60 characters
>will be used.
```

Two-sample z test for proportions
Male versus female final-pass proportions; pooled-null z is

Crosstabs

Notes

Output Created		16-JUL-2026 14:43:39
Comments		
Input	Data	D:\DATA ANALYSIS\I Chi Square and Categorical Data Tests\Z Test for Proportions\dataset.csv
	Active Dataset	ZTestforProportionsData
	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_bin BY pass3 /FORMAT=AVALUE TABLES /STATISTICS=CHISQ RISK PHI /CELLS=COUNT ROW COLUMN EXPECTED /COUNT ROUND CELL.
Resources	Processor Time	00:00:00.03
	Elapsed Time	00:00:00.02
	Dimensions Requested	2
	Cells Available	524245

[ZTestforProportionsData]

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Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Sex: 0 female, 1 male * G3 pass status at 10	649	100.0%	0	0.0%	649	100.0%

Sex: 0 female, 1 male * G3 pass status at 10 Crosstabulation

			G3 pass status at 10		
			No / fail	Yes / pass	Total
Sex: 0 female, 1 male	Female	Count	50	333	383
		Expected Count	59.0	324.0	383.0
		% within Sex: 0 female, 1 male	13.1%	86.9%	100.0%
		% within G3 pass status at 10	50.0%	60.7%	59.0%
	Male	Count	50	216	266
		Expected Count	41.0	225.0	266.0
		% within Sex: 0 female, 1 male	18.8%	81.2%	100.0%
		% within G3 pass status at 10	50.0%	39.3%	41.0%
Total		Count	100	549	649
		Expected Count	100.0	549.0	649.0
		% within Sex: 0 female, 1 male	15.4%	84.6%	100.0%
		% within G3 pass status at 10	100.0%	100.0%	100.0%

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Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	3.971[a]	1	.046		
Continuity Correction[b]	3.543	1	.060		
Likelihood Ratio	3.918	1	.048		
Fisher's Exact Test				.060	.030
Linear-by-Linear Association	3.965	1	.046		
N of Valid Cases	649				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 40.99.

b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	-.078	.046
	Cramer's V	.078	.046
N of Valid Cases		649	

Risk Estimate

	Value	95% Confidence Interval	
		Lower	Upper
Odds Ratio for Sex: 0 female, 1 male (Female / Male)	.649	.423	.995
For cohort G3 pass status at 10 = No / fail	.695	.485	.995
For cohort G3 pass status at 10 = Yes / pass	1.071	.999	1.148
N of Valid Cases	649		

Graph

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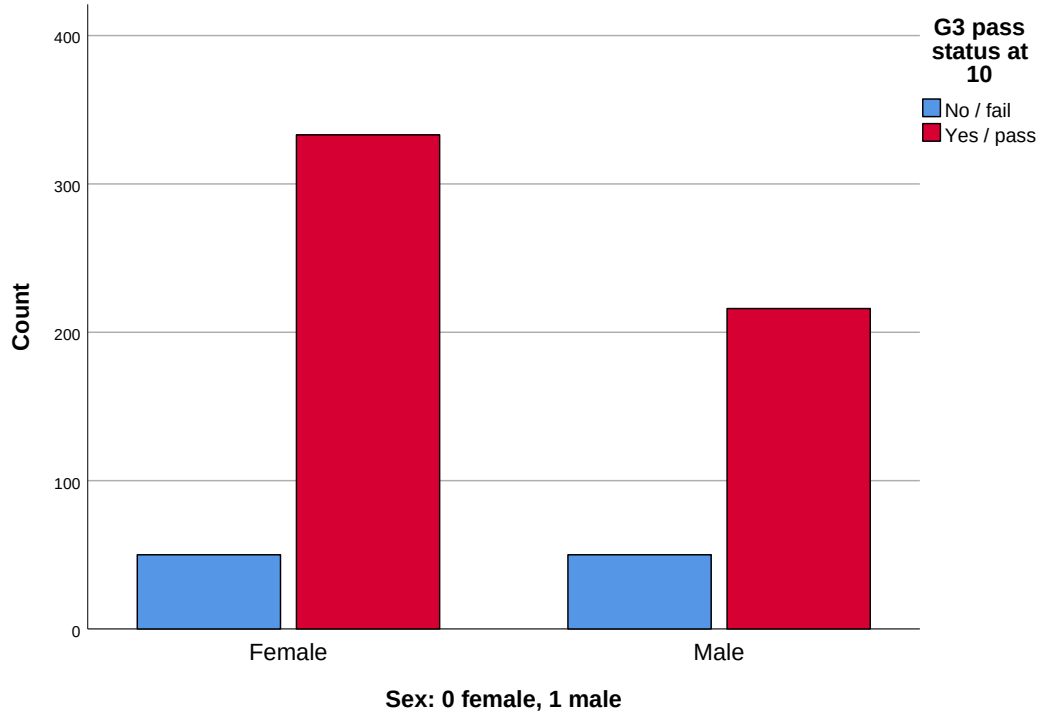
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	649
Syntax		GRAPH /BAR(GROUPED) =COUNT BY sex_bin BY pass3.
Resources	Processor Time	00:00:00.58
	Elapsed Time	00:00:00.46



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```
================================================================================
======
TWO-SAMPLE Z TEST FOR PROPORTIONS
================================================================================
======
Formula: z = (p_1-p_2)/sqrt[p_pool(1-p_pool)(1/n_1+1/n_2)]
Variables: sex, G3 >= 10
difference = -0.05742162193996747
female_proportion = 0.8694516971279374
male_proportion = 0.8120300751879699
p_value = 0.04628932237899876
pooled_standard_error = 0.028815331389075306
unpooled_standard_error = 0.02949886508675137
z_statistic = -1.9927454994231857
Cross-check status: pass
================================================================================
======
```