

Your temporary usage period for IBM SPSS Statistics will expire in 3499 days.

```
* =====.
* One Proportion Z Test - SPSS Syntax.
* OnlineInternetCafe.com workflow.
*
* Folder:
* D:\low kda score priority basis posts\first post\One Proportion Z Test
*
* Main example:
* Variable: higher
* Success value: yes
* H0: p = .80
* H1: p > .80
*
* Expected result:
* n = 649, x = 580, p-hat = .893683
* z = 5.966522, right-tailed p < .001
* Decision: Reject H0.
* =====.
```

```
SET UNICODE=ON.
SET DECIMAL=DOT.
SET PRINTBACK=ON.
```

```
* -----.
* 1. Create SPSS output folder.
* -----.
HOST COMMAND=['cmd /c if not exist "D:\low kda score priority basis posts\first post\One Proportion Z Test\SPSS" mkdir "D:\low kda score priority basis posts\first post\One Proportion Z Test\SPSS"'].

```

Host

```
[DataSet0]
```

```
* -----.
* 2. Import comma-separated student-por.csv.
* -----.
GET DATA
  /TYPE=TXT
```

```
/FILE='D:\low kda score priority basis posts\first post\One Proportion Z Test\student-por.csv'  
/ENCODING='UTF8'  
/DELCASE=LINE  
/DELIMITERS=" , "  
/QUALIFIER=' "'  
/ARRANGEMENT=DELIMITED  
/FIRSTCASE=2  
/DATATYPEMIN PERCENTAGE=95.0  
/IMPORTCASE=ALL  
/VARIABLES=  
  school A40  
  sex A20  
  age F8.0  
  address A20  
  famsize A20  
  Pstatus A20  
  Medu F8.0  
  Fedu F8.0  
  Mjob A40  
  Fjob A40  
  reason A40  
  guardian A40  
  traveltime F8.0  
  studytime F8.0  
  failures F8.0  
  schoolsup A40  
  famsup A40  
  paid A40  
  activities A40  
  nursery A40  
  higher A40  
  internet A40  
  romantic A40  
  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.
CACHE.
EXECUTE.

DATASET NAME OnePropData WINDOW=FRONT.

* -----.
* 3. Create binary success variable.
* success = 1 means higher = yes.
* success = 0 means higher is no or another non-success response.
* -----.
STRING higher_clean (A40).
COMPUTE higher_clean = LCASE(RTRIM(LTRIM(higher))).

>Error # 4023 in column 24.  Text: LCASE
>An expression contains a string of characters followed by a left parenthesis,
>indicating that the string of characters is a function or vector name, but th
e
>characters do not match any existing function or vector.  Check the spelling.
>Execution of this command stops.
COMPUTE success = (higher_clean = "yes").
EXECUTE.

VARIABLE LABELS
    success "Success indicator for one-proportion z test: higher = yes"
    higher_clean "Cleaned higher education response".

VALUE LABELS success
    0 "No or other response"
    1 "Yes: wants higher education".

FORMATS success (F1.0).

* -----.
* 4. Basic frequency checks.
* Expected:
* success = 1 count 580, 89.4%.
* success = 0 count 69, 10.6%.
* -----.
FREQUENCIES VARIABLES=higher higher_clean success
/ORDER=ANALYSIS.

```

Frequencies

[OnePropData]

Statistics

		higher	Cleaned higher education response	Success indicator for one-proportion z test: higher = yes
N	Valid	649	649	649
	Missing	0	0	0

Frequency Table

higher

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	69	10.6	10.6	10.6
	yes	580	89.4	89.4	100.0
Total		649	100.0	100.0	

Cleaned higher education response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		649	100.0	100.0	100.0

Success indicator for one-proportion z test: higher = yes

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No or other response	649	100.0	100.0	100.0

* Optional descriptive check for numeric success variable.

DESCRIPTIVES VARIABLES=success

/STATISTICS=MEAN STDDEV MIN MAX.

Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Success indicator for one-proportion z test: higher = yes	649	0	0	.00	.000
Valid N (listwise)	649				

```

* -----
* 5. Aggregate x and n, then calculate the one-proportion z test manually.
* Formula:
*  $z = (p_{\hat{}} - p_0) / \text{SQRT}[p_0(1 - p_0) / n]$ 
* -----
AGGREGATE
  /OUTFILE=* MODE=ADDVARIABLES
  /BREAK=
  /n_valid = N(success)
  /x_success = SUM(success).

COMPUTE p0 = .80.
COMPUTE alpha = .05.
COMPUTE failure_count = n_valid - x_success.
COMPUTE p_hat = x_success / n_valid.
COMPUTE se_h0 = SQRT((p0 * (1 - p0)) / n_valid).
COMPUTE z_stat = (p_hat - p0) / se_h0.

* P-values for one-sided and two-sided alternatives.
COMPUTE p_value_right_tailed = 1 - CDF.NORMAL(z_stat, 0, 1).
COMPUTE p_value_left_tailed = CDF.NORMAL(z_stat, 0, 1).
COMPUTE p_value_two_sided = 2 * (1 - CDF.NORMAL(ABS(z_stat), 0, 1)).

* 95% Wald confidence interval for observed proportion.
COMPUTE zcrit_95 = IDF.NORMAL(1 - alpha / 2, 0, 1).
COMPUTE se_observed = SQRT((p_hat * (1 - p_hat)) / n_valid).
COMPUTE wald_95_lower = MAX(0, p_hat - zcrit_95 * se_observed).
COMPUTE wald_95_upper = MIN(1, p_hat + zcrit_95 * se_observed).

* 95% Wilson confidence interval.
COMPUTE wilson_den = 1 + ((zcrit_95 * zcrit_95) / n_valid).
COMPUTE wilson_center = (p_hat + ((zcrit_95 * zcrit_95) / (2 * n_valid))) / wilson_den.
COMPUTE wilson_half = (zcrit_95 / wilson_den) *

```

```

    Sqrt(((p_hat * (1 - p_hat)) / n_valid) + ((zcrit_95 * zcrit_95) / (4 * n_val
id * n_valid))).
    COMPUTE wilson_95_lower = MAX(0, wilson_center - wilson_half).
    COMPUTE wilson_95_upper = MIN(1, wilson_center + wilson_half).

```

```

* Large-sample condition check.
    COMPUTE n_times_p0 = n_valid * p0.
    COMPUTE n_times_1_minus_p0 = n_valid * (1 - p0).

```

```
EXECUTE.
```

VARIABLE LABELS

```

    n_valid "Valid sample size n"
    x_success "Success count x"
    failure_count "Failure count"
    p0 "Hypothesized null proportion p0"
    p_hat "Observed sample proportion p-hat"
    se_h0 "Standard error under H0"
    z_stat "One-proportion z statistic"
    p_value_right_tailed "Right-tailed p-value for H1: p > p0"
    p_value_left_tailed "Left-tailed p-value for H1: p < p0"
    p_value_two_sided "Two-sided p-value for H1: p not equal to p0"
    wald_95_lower "Wald 95% CI lower bound"
    wald_95_upper "Wald 95% CI upper bound"
    wilson_95_lower "Wilson 95% CI lower bound"
    wilson_95_upper "Wilson 95% CI upper bound"
    n_times_p0 "Large-sample check: n times p0"
    n_times_1_minus_p0 "Large-sample check: n times 1 minus p0".

```

FORMATS

```

    n_valid x_success failure_count (F8.0)
    p0 p_hat se_h0 z_stat p_value_right_tailed p_value_left_tailed p_value_two_s
ided
    wald_95_lower wald_95_upper wilson_95_lower wilson_95_upper
    n_times_p0 n_times_1_minus_p0 (F12.6).

```

```

* -----
* 6. Display final one-proportion z test result table.
* The output appears once because TEMPORARY SELECT IF prints only the first ca
se.
* -----

```

```
TEMPORARY.
```

```
SELECT IF ($CASENUM = 1).  
LIST VARIABLES=  
  n_valid  
  x_success  
  failure_count  
  p_hat  
  p0  
  se_h0  
  z_stat  
  p_value_right_tailed  
  p_value_two_sided  
  wald_95_lower  
  wald_95_upper  
  wilson_95_lower  
  wilson_95_upper  
  n_times_p0  
  n_times_1_minus_p0  
/CASES=FROM 1 TO 1.
```

List

The variables are listed in the following order:

```
LINE 1: n_valid x_success failure_count p_hat p0 se_h0 z_stat p_value_right_  
tailed p_value_two_sided wald_95_lower
```

```
LINE 2: wald_95_upper wilson_95_lower wilson_95_upper n_times_p0 n_times_1_m  
inus_p0
```

```

      n_valid:      649      0      649      .000000      .800000      .01570
1  -50.950957      1.000000      .000000      .000000
wald_95_uppe:      .000000      .000000      .005884      519.200000      129.800000

```

Number of cases read: 1 Number of cases listed: 1

```

* -----
* 7. Optional binomial test for reference.
* This is an exact/binomial reference, while the main article result is the ma
nual z test above.
* -----

```

```

NPAR TESTS
  /BINOMIAL (.80)=success
  /MISSING ANALYSIS.

```

NPar Tests

Binomial Test

		Category	N	Observed Prop.	Test Prop.
Success indicator for one-proportion z test: higher = yes	Group 1	No or other response	649	1.0	.8
	Total		649	1.0	

Binomial Test

		Exact Sig. (1-tailed)
Success indicator for one-proportion z test: higher = yes	Group 1	.000
	Total	

```

* -----
* 8. Descriptive group context used in the blog post.
* These are not the main one-proportion z test; they are supporting descriptiv
e summaries.
* -----

```

```

CROSSTABS
  /TABLES=school BY success

```

```

/FORMAT=AVALUE TABLES
/CELLS=COUNT ROW
/COUNT ROUND CELL.

```

Crosstabs

Case Processing Summary

	Valid		Cases Missing		Total	
	N	Percent	N	Percent	N	Percent
school * Success indicator for one-proportion z test: higher = yes	649	100.0%	0	0.0%	649	100.0%

school * Success indicator for one-proportion z test: higher = yes Crosstabulation

		Success indicator for one-proportion z test: higher = yes		Total
		No or other response		
school	GP	Count	423	423
		% within school	100.0%	100.0%
	MS	Count	226	226
		% within school	100.0%	100.0%
Total		Count	649	649
		% within school	100.0%	100.0%

CROSSTABS

```

/TABLES=sex BY success
/FORMAT=AVALUE TABLES
/CELLS=COUNT ROW
/COUNT ROUND CELL.

```

Crosstabs

Case Processing Summary

	Valid		Cases Missing		Total	
	N	Percent	N	Percent	N	Percent
sex * Success indicator for one-proportion z test: higher = yes	649	100.0%	0	0.0%	649	100.0%

sex * Success indicator for one-proportion z test: higher = yes Crosstabulation

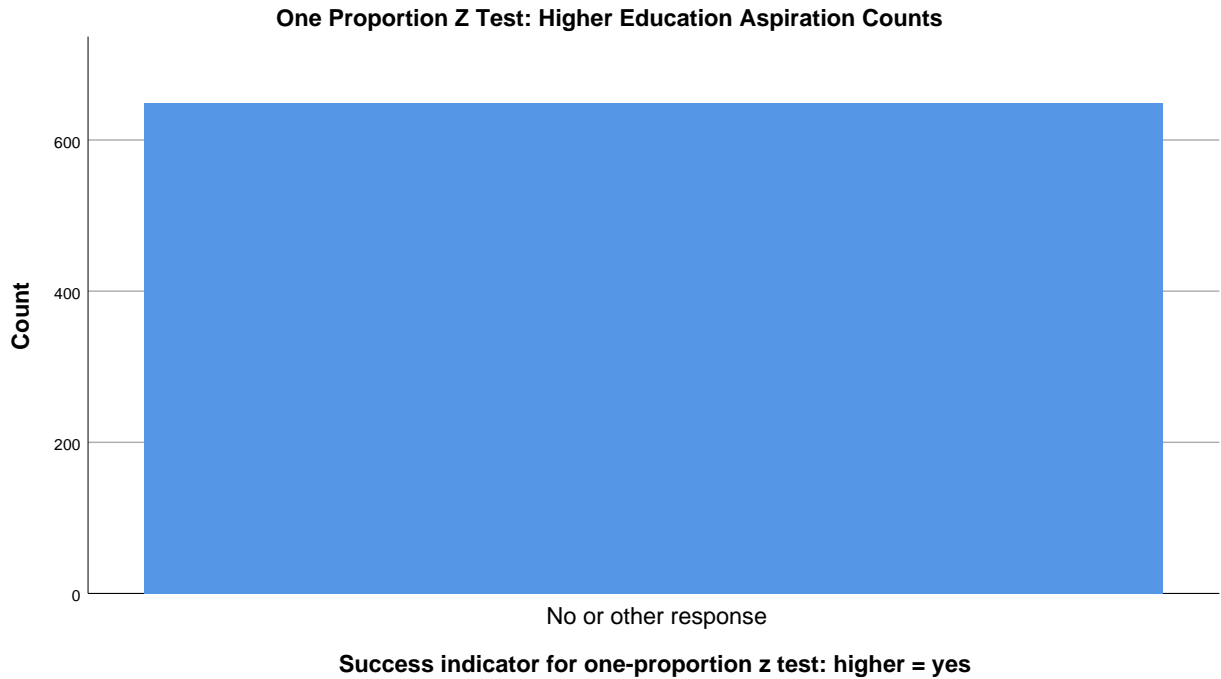
		Success indicator for one-proportion z test: higher = yes		Total
		No or other response		
sex	F	Count	383	383
		% within sex	100.0%	100.0%
	M	Count	266	266
		% within sex	100.0%	100.0%
Total		Count	649	649
		% within sex	100.0%	100.0%

* -----
 * 9. Simple SPSS bar chart for success and failure counts.
 * -----

GRAPH

```
/BAR(SIMPLE)=COUNT BY success
/TITLE='One Proportion Z Test: Higher Education Aspiration Counts'.
```

Graph



```
* -----
* 10. Export SPSS output to PDF.
* -----
OUTPUT EXPORT
  /CONTENTS EXPORT=VISIBLE LAYERS=PRINTSETTING MODELVIEWS=PRINTSETTING
  /PDF DOCUMENTFILE='D:\low kda score priority basis posts\first post\One Prop
ortion Z Test\SPSS\One-Proportion-Z-Test-SPSS-output.pdf'.
```

Output Export

Export Summary

Viewer	Document1
Document File	D:\low kda score priority basis posts\first post\One Proportion Z Test\SPSS\One-Proportion-Z-Test-SPSS-output.pdf

```
* -----
* 11. Save working SPSS file.
* -----
SAVE OUTFILE='D:\low kda score priority basis posts\first post\One Proportion
Z Test\SPSS\One-Proportion-Z-Test-SPSS-working-file.sav'
  /COMPRESSED.
```

EXECUTE.

```
* =====.
* END OF ONE PROPORTION Z TEST SPSS SYNTAX.
* =====.
* =====.
* One Proportion Z Test - SPSS Syntax FIXED.
* OnlineInternetCafe.com workflow.
*
* WHY THIS FIXED VERSION:
* The previous syntax used LCASE(), but your SPSS version did not recognize
* LCASE as a valid string function. Because of that, higher_clean became blank
* and success was coded as 0 for every case.
*
* This fixed version avoids LCASE() completely and uses direct matching:
* success = 1 if higher = "yes"
* success = 0 if higher = "no"
*
* Folder:
* D:\low kda score priority basis posts\first post\One Proportion Z Test
*
* Expected final result:
* n = 649
* x = 580
* p-hat = .893683
* z = 5.966522
* right-tailed p < .001
* Decision: Reject H0.
* =====.
```

```
SET UNICODE=ON.
SET DECIMAL=DOT.
SET PRINTBACK=ON.
```

```
* -----.
* 1. Create SPSS output folder.
* -----.
HOST COMMAND=['cmd /c if not exist "D:\low kda score priority basis posts\first post\One Proportion Z Test\SPSS" mkdir "D:\low kda score priority basis posts\first post\One Proportion Z Test\SPSS"'].
```

Host

[OnePropData] D:\low kda score priority basis posts\first post\One Proportion Z Test\SPSS\One-Proportion-Z-Test-SPSS-working-file.sav

```
* -----.  
* 2. Import comma-separated student-por.csv.  
* -----.  
GET DATA  
  /TYPE=TXT  
  /FILE='D:\low kda score priority basis posts\first post\One Proportion Z Test\student-por.csv'  
  /ENCODING='UTF8'  
  /DELCASE=LINE  
  /DELIMITERS=" , "  
  /QUALIFIER=' "'  
  /ARRANGEMENT=DELIMITED  
  /FIRSTCASE=2  
  /DATATYPEMIN PERCENTAGE=95.0  
  /IMPORTCASE=ALL  
  /VARIABLES=  
    school A40  
    sex A20  
    age F8.0  
    address A20  
    famsize A20  
    Pstatus A20  
    Medu F8.0  
    Fedu F8.0  
    Mjob A40  
    Fjob A40  
    reason A40  
    guardian A40  
    traveltime F8.0  
    studytime F8.0  
    failures F8.0  
    schoolsup A40  
    famsup A40  
    paid A40  
    activities A40  
    nursery A40
```

```
higher A40
internet A40
romantic A40
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.
```

```
CACHE.
EXECUTE.
```

```
DATASET NAME OnePropData WINDOW=FRONT.
```

Dataset Name

Warnings

The active dataset will replace the existing dataset named
OnePropData.

```
* -----
* 3. Create binary success variable safely.
* IMPORTANT:
* The dataset already uses lowercase yes/no values.
* Therefore, we avoid LCASE() and directly match "yes".
* -----
```

```
STRING higher_clean (A40).
COMPUTE higher_clean = RTRIM(LTRIM(higher)).
COMPUTE success = 0.
IF (higher_clean = "yes") success = 1.
IF (higher_clean = "no") success = 0.
EXECUTE.
```

```
VARIABLE LABELS
```

```
    success "Success indicator for one-proportion z test: higher = yes"
    higher_clean "Cleaned higher education response".
```

```
VALUE LABELS success
```

0 "No or other response"
 1 "Yes: wants higher education".

FORMATS success (F1.0).

```
* -----
* 4. Basic frequency checks.
* Correct expected result:
* success = 1 count 580, 89.4%.
* success = 0 count 69, 10.6%.
* -----
```

```
FREQUENCIES VARIABLES=higher higher_clean success
/ORDER=ANALYSIS.
```

Frequencies

Statistics

		higher	Cleaned higher education response	Success indicator for one-proportion z test: higher = yes
N	Valid	649	649	649
	Missing	0	0	0

Frequency Table

higher

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	69	10.6	10.6	10.6
	yes	580	89.4	89.4	100.0
	Total	649	100.0	100.0	

Cleaned higher education response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	69	10.6	10.6	10.6
	yes	580	89.4	89.4	100.0
	Total	649	100.0	100.0	

Success indicator for one-proportion z test: higher = yes

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No or other response	69	10.6	10.6	10.6
	Yes: wants higher education	580	89.4	89.4	100.0
	Total	649	100.0	100.0	

```
DESCRIPTIVES VARIABLES=success
  /STATISTICS=MEAN STDDEV MIN MAX.
```

Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Success indicator for one-proportion z test: higher = yes	649	0	1	.89	.308
Valid N (listwise)	649				

```
* -----
* 5. Aggregate x and n, then calculate the one-proportion z test manually.
* Formula:
*  $z = (p\_hat - p_0) / \text{SQRT}[p_0(1 - p_0) / n]$ 
* -----
```

```
AGGREGATE
```

```
  /OUTFILE=* MODE=ADDVARIABLES
  /BREAK=
  /n_valid = N(success)
  /x_success = SUM(success).
```

```
COMPUTE p0 = .80.
COMPUTE alpha = .05.
COMPUTE failure_count = n_valid - x_success.
COMPUTE p_hat = x_success / n_valid.
COMPUTE se_h0 = SQRT((p0 * (1 - p0)) / n_valid).
COMPUTE z_stat = (p_hat - p0) / se_h0.
```

```
* P-values for one-sided and two-sided alternatives.
COMPUTE p_value_right_tailed = 1 - CDF.NORMAL(z_stat, 0, 1).
COMPUTE p_value_left_tailed = CDF.NORMAL(z_stat, 0, 1).
```

```

COMPUTE p_value_two_sided = 2 * (1 - CDF.NORMAL(ABS(z_stat), 0, 1)).

* 95% Wald confidence interval for observed proportion.
COMPUTE zcrit_95 = IDF.NORMAL(1 - alpha / 2, 0, 1).
COMPUTE se_observed = SQRT((p_hat * (1 - p_hat)) / n_valid).
COMPUTE wald_95_lower = MAX(0, p_hat - zcrit_95 * se_observed).
COMPUTE wald_95_upper = MIN(1, p_hat + zcrit_95 * se_observed).

* 95% Wilson confidence interval.
COMPUTE wilson_den = 1 + ((zcrit_95 * zcrit_95) / n_valid).
COMPUTE wilson_center = (p_hat + ((zcrit_95 * zcrit_95) / (2 * n_valid))) / wilson_den.
COMPUTE wilson_half = (zcrit_95 / wilson_den) *
  SQRT(((p_hat * (1 - p_hat)) / n_valid) + ((zcrit_95 * zcrit_95) / (4 * n_valid * n_valid))).
COMPUTE wilson_95_lower = MAX(0, wilson_center - wilson_half).
COMPUTE wilson_95_upper = MIN(1, wilson_center + wilson_half).

* Large-sample condition check.
COMPUTE n_times_p0 = n_valid * p0.
COMPUTE n_times_1_minus_p0 = n_valid * (1 - p0).

EXECUTE.

VARIABLE LABELS
  n_valid "Valid sample size n"
  x_success "Success count x"
  failure_count "Failure count"
  p0 "Hypothesized null proportion p0"
  p_hat "Observed sample proportion p-hat"
  se_h0 "Standard error under H0"
  z_stat "One-proportion z statistic"
  p_value_right_tailed "Right-tailed p-value for H1: p > p0"
  p_value_left_tailed "Left-tailed p-value for H1: p < p0"
  p_value_two_sided "Two-sided p-value for H1: p not equal to p0"
  wald_95_lower "Wald 95% CI lower bound"
  wald_95_upper "Wald 95% CI upper bound"
  wilson_95_lower "Wilson 95% CI lower bound"
  wilson_95_upper "Wilson 95% CI upper bound"
  n_times_p0 "Large-sample check: n times p0"
  n_times_1_minus_p0 "Large-sample check: n times 1 minus p0".

```

FORMATS

```
n_valid x_success failure_count (F8.0)
p0 p_hat se_h0 z_stat p_value_right_tailed p_value_left_tailed p_value_two_s
ided
wald_95_lower wald_95_upper wilson_95_lower wilson_95_upper
n_times_p0 n_times_1_minus_p0 (F12.6).
```

```
* -----
* 6. Display final one-proportion z test result table.
* Correct expected row:
* n_valid = 649
* x_success = 580
* failure_count = 69
* p_hat = .893683
* p0 = .800000
* se_h0 = .015701
* z_stat = 5.966522
* right-tailed p-value close to 0, report p < .001.
* -----
```

TEMPORARY.

```
SELECT IF ($CASENUM = 1).
```

```
LIST VARIABLES=
```

```
n_valid
x_success
failure_count
p_hat
p0
se_h0
z_stat
p_value_right_tailed
p_value_two_sided
wald_95_lower
wald_95_upper
wilson_95_lower
wilson_95_upper
n_times_p0
n_times_1_minus_p0
/CASES=FROM 1 TO 1.
```

List

The variables are listed in the following order:

LINE 1: n_valid x_success failure_count p_hat p0 se_h0 z_stat p_value_right_
tailed p_value_two_sided wald_95_lower

LINE 2: wald_95_upper wilson_95_lower wilson_95_upper n_times_p0 n_times_1_m
inus_p0

```

      n_valid:      649      580      69      .893683      .800000      .01570
1      5.966522      .000000      .000000      .869968
wald_95_uppe:      .917397      .867608      .915124      519.200000      129.800000

```

Number of cases read: 1 Number of cases listed: 1

```

* -----
* 7. Optional binomial test for reference.
* This is exact/binomial reference; the blog article's main result is the z te
st.
* -----

```

NPAR TESTS

```

  /BINOMIAL (.80)=success
  /MISSING ANALYSIS.

```

NPar Tests

Binomial Test

		Category	N	Observed Prop.	Test Prop.
Success indicator for one-proportion z test: higher = yes	Group 1	Yes: wants higher education	580	.9	.8
	Group 2	No or other response	69	.1	
	Total		649	1.0	

Binomial Test

		Exact Sig. (1-tailed)
Success indicator for one-proportion z test: higher = yes	Group 1	.000
	Group 2	
	Total	

```

* -----
* 8. Descriptive group context used in the blog post.

```

* These are supporting descriptive summaries, not the main z test.
 * -----.

```
CROSSTABS
  /TABLES=school BY success
  /FORMAT=AVALUE TABLES
  /CELLS=COUNT ROW
  /COUNT ROUND CELL.
```

Crosstabs

Case Processing Summary

	Valid		Cases Missing		Total	
	N	Percent	N	Percent	N	Percent
school * Success indicator for one-proportion z test: higher = yes	649	100.0%	0	0.0%	649	100.0%

school * Success indicator for one-proportion z test: higher = yes Crosstabulation

		Success indicator for one-proportion z test: higher = yes		Total
		No or other response	Yes: wants higher education	
school	GP	Count	32	391
		% within school	7.6%	92.4%
MS	Count	37	189	226
		% within school	16.4%	83.6%
Total	Count	69	580	649
		% within school	10.6%	89.4%

```
CROSSTABS
  /TABLES=sex BY success
  /FORMAT=AVALUE TABLES
  /CELLS=COUNT ROW
  /COUNT ROUND CELL.
```

Crosstabs

Case Processing Summary

	Valid		Cases Missing		Total	
	N	Percent	N	Percent	N	Percent
sex * Success indicator for one-proportion z test: higher = yes	649	100.0%	0	0.0%	649	100.0%

sex * Success indicator for one-proportion z test: higher = yes Crosstabulation

		Success indicator for one-proportion z test: higher = yes			
		No or other response	Yes: wants higher education	Total	
sex	F	Count	35	348	383
		% within sex	9.1%	90.9%	100.0%
	M	Count	34	232	266
		% within sex	12.8%	87.2%	100.0%
Total		Count	69	580	649
		% within sex	10.6%	89.4%	100.0%

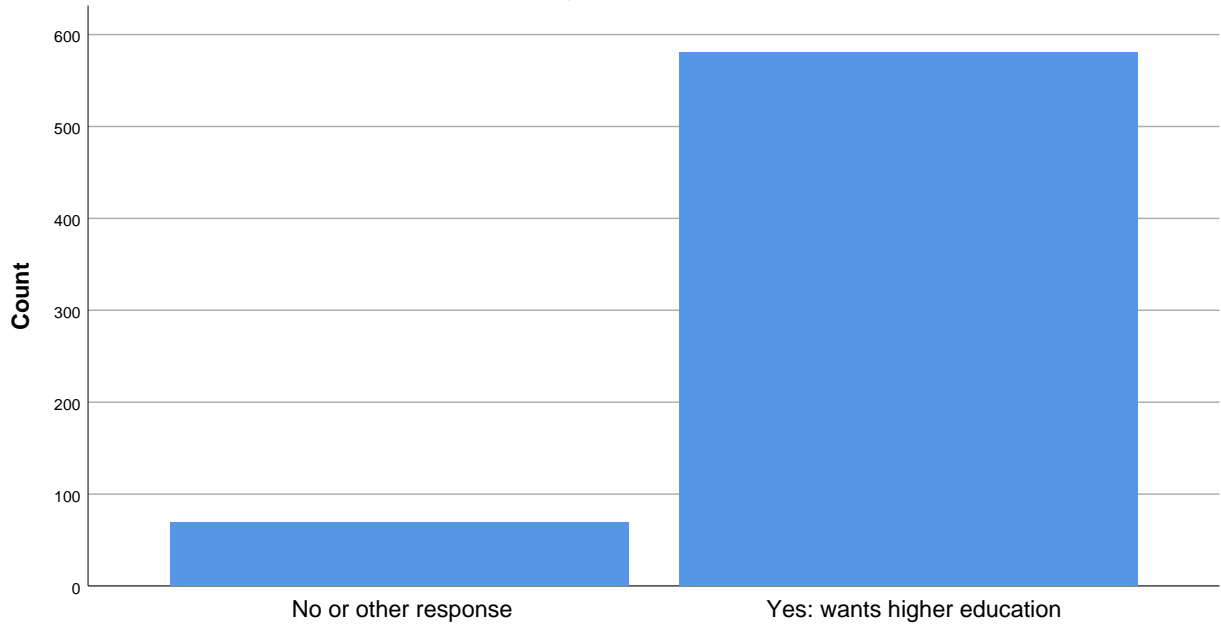
* -----
 * 9. Simple SPSS bar chart for success and failure counts.
 * -----

GRAPH

```
/BAR(SIMPLE)=COUNT BY success
/TITLE='One Proportion Z Test: Higher Education Aspiration Counts'.
```

Graph

One Proportion Z Test: Higher Education Aspiration Counts



Success indicator for one-proportion z test: higher = yes

* -----
* 10. Export SPSS output to PDF.
* -----

OUTPUT EXPORT

/CONTENTS EXPORT=VISIBLE LAYERS=PRINTSETTING MODELVIEWS=PRINTSETTING