How can I test for equality of distribution in SPSS?

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To test for equality of distribution in SPSS, one can use the "Explore" function under the "Analyze" tab. This will generate descriptive statistics and histograms for the variables of interest. To compare the distributions, one can use the "Compare Means" option under the "Analyze" tab and select the appropriate statistical test, such as the t-test or ANOVA. Additionally, the "Nonparametric Tests" option can be used for non-normally distributed data. It is important to properly select and interpret the appropriate statistical test based on the research question and data characteristics.

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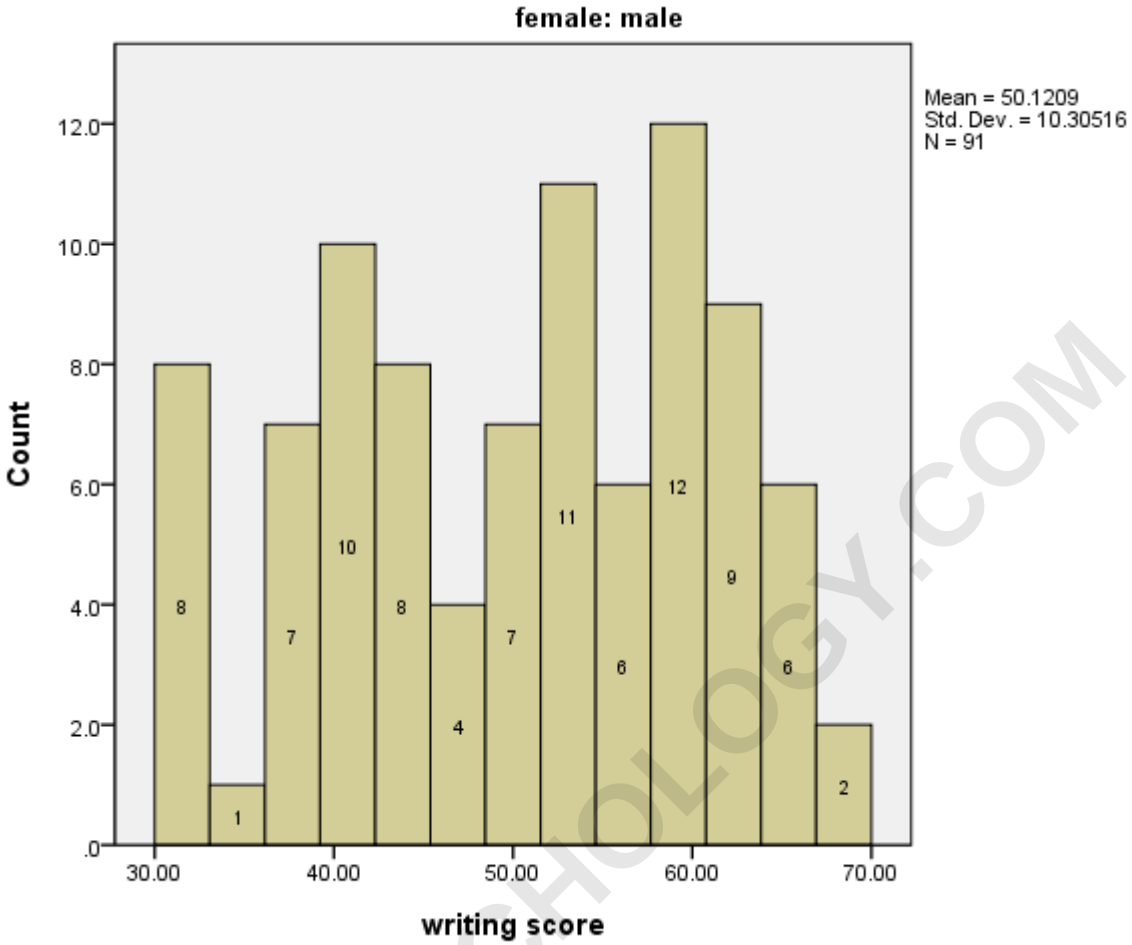
An alternative test to the classic t-test is the Kolmogorov-Smirnov test for equality of distributional functions. In a simple example, we'll see if the distribution of writing test scores across gender are equal using the hsb2 data set. We'll first do histograms of writing scores by gender.

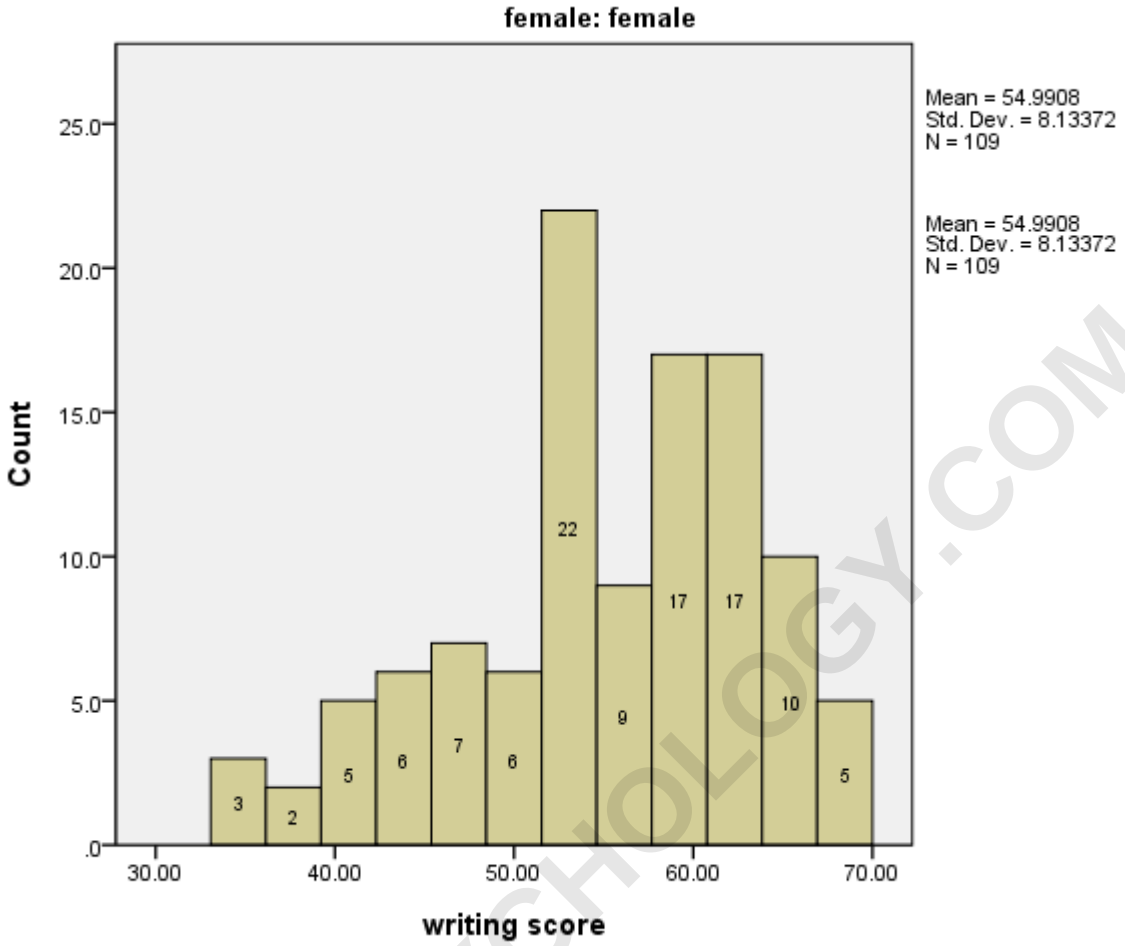
```
get file = 'c:/hsb2.sav'.

sort cases by female.
split file by female.

GGRAPH
/GRAPHDATASET NAME="iGraphDataset"
VARIABLES= write
/GRAPHSPEC SOURCE=INLINE
```

```
INLINETEMPLATE=.
BEGIN GPL
SOURCE: s=userSource( id( "iGraphDataset" ) )
DATA: Y_Var=col( source(s), name( "$count" ) )
DATA:write=col( source(s), name( "write" ) )
GUIDE: axis( dim( 1 ), label( "writing score" ) )
GUIDE: axis( dim( 2 ), label( "Count" ) )
ELEMENT: interval( position( summary.count(
bin.rect(write * 1, binCount( 13 ) ) ) ) )
END GPL.
```





split file off.

npar test

/k-s = write by female(1 0).

Frequencies

	female	N
writing score	male	91
	female	109
	Total	200

Test Statistics[a]

		writing score
Most Extreme Differences	Absolute	.247
	Positive	.000
	Negative	-.247
Kolmogorov-Smirnov Z		1.738
Asymp. Sig. (2-tailed)		.005

a. Grouping Variable: female

From the test (Kolmogorov-Smirnov Z = 1.738, p = .005), it is apparent that the writing scores do not have the same distributional function across gender.