

## Traceis™ Data Exploration Studio Hypothesis tests

### 1 Select the statistics step

In this example the body fat dataset is used. To perform a hypothesis test, first select the statistics step.

### 2 Select the hypothesis test tab

### 3 Select the variable to assess

For continuous values, the mean will be assessed. For categorical values, the proportion of observations with a specific value will be assessed. This value will be requested when a categorical variable is selected. In this example, percent body fat was selected and since it is a continuous variable no value was requested.

The screenshot shows the Traceis Data Exploration Studio 2007 beta 1 interface. The sidebar on the left has four steps: 1. Definition, 2. Preparation, 3. Implementation, and 4. Deployment. Step 3, Implementation, is selected, and within it, the 'Statistics' sub-step is highlighted. The main panel has tabs for 'Descriptive', 'Confidence intervals', 'Hypothesis tests', 'Chi square', 'ANOVA', and 'Comparative'. The 'Hypothesis tests' tab is active. In this tab, the 'Select variable to assess:' dropdown is set to 'Percent body fat'. The 'Number of groups:' section has 'One group' selected. The 'Define group 1:' section has 'All observations' selected. The 'Alpha' is set to 0.1. The 'Null hypothesis:' section shows 'Mean (Percent body fat) = 19'. The 'Alternative hypothesis:' section shows 'Mean (Percent body fat) > 19'. A 'Display' button is at the bottom of the hypothesis test configuration. At the bottom of the window, a table of data is displayed with columns: Density, Percent body fat, Age(years), Weight(lbs), Height(inches), Neck(cm), Chest(cm), Abdomen(cm), Hip(cm), Thigh(cm), Knee(cm), Ankle(cm), and Biceps(cm). The table contains 14 rows of data.

	Density	Percent body fat	Age(years)	Weight(lbs)	Height(inches)	Neck(cm)	Chest(cm)	Abdomen(cm)	Hip(cm)	Thigh(cm)	Knee(cm)	Ankle(cm)	Biceps(cm)
1.034	28.7	24	164.25	71.25	34.4	37.3	100	101.9	63.2	42.2	24	32.2	
1.0333	29	34	195.75	71	38.9	101.9	96.4	105.2	64.8	40.8	23.1	36.2	
1.0263	32.3	41	247.25	73.5	42.1	117	115.6	116.1	71.2	43.3	26.3	37.3	
1.0101	40.1	49	191.75	65	36.4	116.5	113.1	113.8	61.9	36.3	21.9	32	
1.0438	24.2	40	202.25	70	36.5	106.5	100.9	106.2	63.5	39.9	22.6	35.1	
1.0346	28.4	50	196.75	68.25	42.1	105.6	98.8	104.8	66	41.5	24.7	33.2	
1.0202	35.2	48	363.15	72.25	51.2	136.2	148.1	147.7	87.3	49.1	29.6	45	
1.0256	32.6	50	203	67	40.2	114.8	108.1	102.5	61.3	41.1	24.7	34.1	
1.0217	34.5	45	262.75	68.75	43.2	120.3	126.2	125.6	72.5	39.6	26.6	36.4	
1.0279	31.6	48	217	70	37.3	113.3	111.2	114.1	67.7	40.9	25	36.7	
1.0269	32	41	212	71.5	41.5	106.6	104.3	106	65	40.2	23	35.8	
1.0473	22.6	54	198	72	39.9	107.6	100	99.6	57.2	38	22	35.9	
1.0356	26	62	201.25	69.5	40.5	111.5	104.2	105.8	61.8	39.8	22.7	37.7	
1.028	31.5	54	202.5	70.75	40.5	115.4	105.3	97	59.1	38	22.5	31.6	
1.043	24.6	61	179.75	65.75	38.4	104.8	98.3	99.6	60.6	37.7	22.9	34.5	

# MAKING SENSE OF DATA

## 1 Define number of groups

One or two groups of observations can be assessed. In this example, a single group was selected.

## 2 Define group content

## 3 Specify alpha

## 4 Describe null and alternative hypothesis

## 5 Display hypothesis results

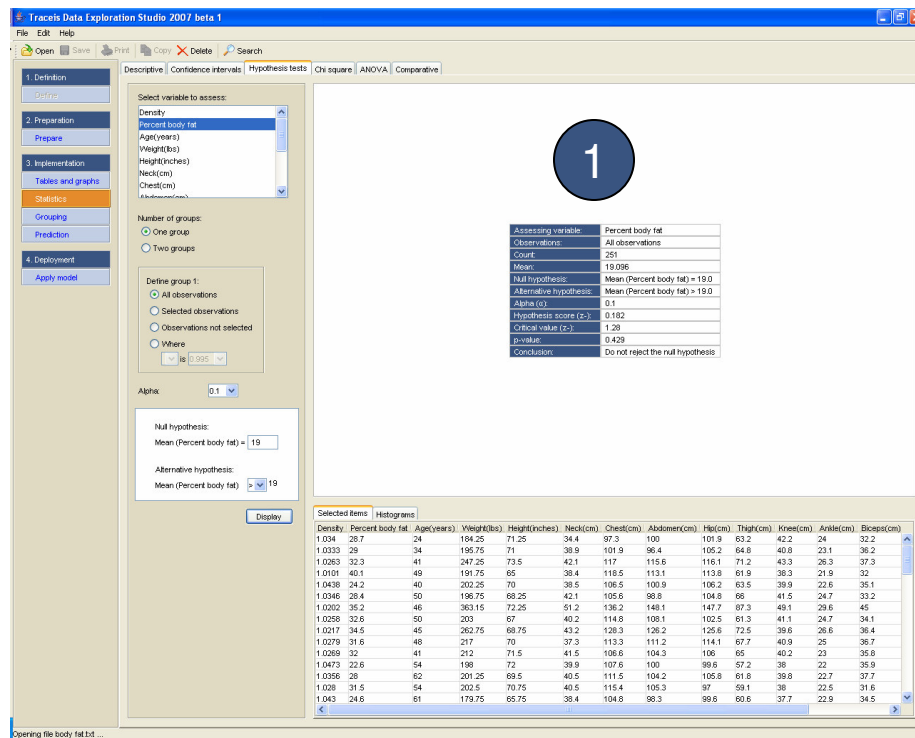
The screenshot displays the 'Hypothesis tests' tab in the Tracets Data Exploration Studio 2007 beta 1 software. The interface includes a sidebar with navigation options: 1. Definition, 2. Preparation, 3. Implementation, 4. Deployment, and 5. Apply model. The main window shows the configuration for a hypothesis test on the variable 'Percent body fat'. The 'Number of groups' is set to 'One group'. The 'Define group 1' section has 'All observations' selected. The 'Alpha' level is set to 0.1. The 'Null hypothesis' is 'Mean (Percent body fat) = 19' and the 'Alternative hypothesis' is 'Mean (Percent body fat) > 19'. The 'Display' button is visible. At the bottom, a table of data is shown with columns for various body measurements and a row of values.

Density	Percent body fat	Age(years)	Weight(lbs)	Height(inches)	Neck(cm)	Chest(cm)	Abdomen(cm)	Hip(cm)	Thigh(cm)	Knee(cm)	Ankle(cm)	Biceps(cm)
1.024	28.7	24	184.25	71.25	34.4	97.3	100	101.9	63.2	42.2	24	32.2
1.033	29	34	195.75	71	38.9	101.9	96.4	105.2	64.8	40.8	23.1	36.2
1.0263	32.3	41	247.25	73.5	42.1	117	115.6	116.1	71.2	43.3	26.3	37.3
1.0101	40.1	49	191.75	65	38.4	118.5	113.1	113.8	61.9	38.3	21.9	32
1.0438	24.2	40	202.25	70	38.5	108.5	100.9	108.2	63.5	39.9	22.6	35.1
1.0346	28.4	50	196.75	68.25	42.1	105.6	98.8	104.8	66	41.5	24.7	33.2
1.0202	35.2	46	363.15	72.25	51.2	136.2	148.1	147.7	87.3	49.1	29.6	45
1.0259	32.6	50	203	67	40.2	114.8	108.1	102.5	61.3	41.1	24.7	34.1
1.0217	34.5	45	262.75	68.75	43.2	120.3	126.2	125.6	72.5	39.6	26.6	36.4
1.0279	31.6	48	217	70	37.3	113.3	111.2	114.1	67.7	40.9	25	36.7
1.0269	32	41	212	71.5	41.5	108.6	104.3	106	65	40.2	23	35.8
1.0473	22.6	54	180	72	39.9	107.6	100	96.6	57.2	38	22	35.9
1.0266	28	62	201.25	69.5	40.5	111.5	104.2	105.8	61.8	39.8	22.7	37.7
1.028	31.5	54	202.5	70.75	40.5	115.4	105.3	97	59.1	38	22.5	31.6
1.043	24.6	61	179.75	65.75	38.4	104.8	98.3	99.6	60.6	37.7	22.9	34.5

# MAKING SENSE OF DATA

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## View hypothesis results

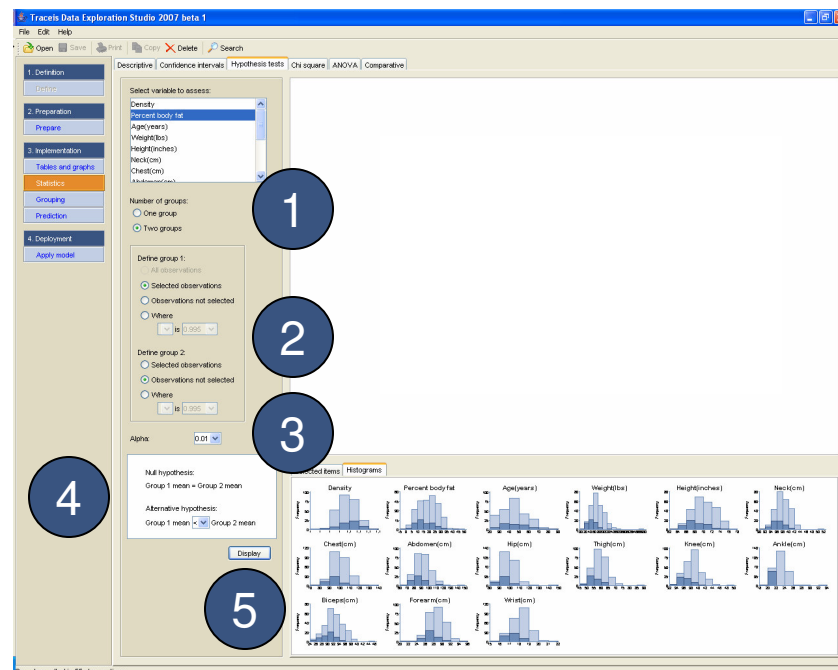


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# MAKING SENSE OF DATA

- 1 Define number of groups
- 2 Define content of the two groups
- 3 Specify alpha
- 4 Describe null and alternative hypothesis
- 5 Display results

One or two groups of observations can be assessed. In this example two groups were selected.



# MAKING SENSE OF DATA

## 1 View hypothesis results

The results of the hypothesis are shown.

