

# التكليف الثامن

## مهارات بحثية



### التكليف الثامن

المطلوب : باستخدام برنامج SPSS  
أولاً: إيجاد معامل الارتباط بين كل من درجة الطالب في الرياضيات والاحصاء أو بمعنى آخر اختبر الفرضية التي تقول " بأنه لا يوجد ارتباط بين علامة الرياضيات وعلامة الإحصاء"  
ثانياً: إيجاد مصفوفة معاملات الارتباط بين كل زوجين من المتغيرات التالية (رياضيات ، واحصاء، واقتصاد ، ومحاسبة)  
ثالثاً: قم بعرض المتغيرين بيانياً ( الحالة الاجتماعية والجنس) باستخدام العرض البياني المناسب (يمكن الرجوع للمحاضرة السادسة).



|    | الجنس | اجتماعية | الساعات | رياضيات | احصاء | اقتصاد | محاسبة |
|----|-------|----------|---------|---------|-------|--------|--------|
| 1  | انثى  | متزوج    | 4       | 70      | 80    | 75     | 73     |
| 2  | ذكر   | اعزب     | 2       | 65      | 70    | 60     | 55     |
| 3  | ذكر   | اعزب     | 2       | 70      | 77    | 50     | 66     |
| 4  | ذكر   | متزوج    | 4       | 80      | 85    | 75     | 70     |
| 5  | ذكر   | اعزب     | 3       | 75      | 80    | 85     | 81     |
| 6  | انثى  | اعزب     | 6       | 85      | 85    | 90     | 85     |
| 7  | انثى  | متزوج    | 7       | 90      | 92    | 95     | 98     |
| 8  | ذكر   | متزوج    | 8       | 95      | 95    | 90     | 94     |
| 9  | ذكر   | اعزب     | 5       | 80      | 85    | 90     | 92     |
| 10 | انثى  | اعزب     | 4       | 75      | 77    | 80     | 85     |
| 11 |       |          |         |         |       |        |        |

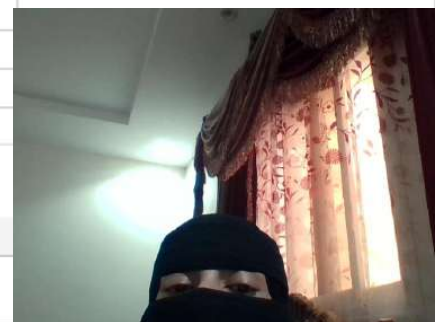




|    | Name   | Type    | Width | Decimals | Label             | Values        | Missing | Columns | Align | Measure | Role  |
|----|--------|---------|-------|----------|-------------------|---------------|---------|---------|-------|---------|-------|
| 1  | gender | Numeric | 8     | 0        | الجنس             | ...{1, ذكر}   | None    | 8       | Right | Nominal | Input |
| 2  | social | Numeric | 8     | 0        | الحالة الاجتماعية | ...{1, متزوج} | None    | 8       | Right | Nominal | Input |
| 3  | hours  | Numeric | 8     | 2        |                   | None          | None    | 8       | Right | Scale   | Input |
| 4  | math   | Numeric | 8     | 2        |                   | None          | None    | 8       | Right | Scale   | Input |
| 5  | stat   | Numeric | 8     | 2        |                   | None          | None    | 8       | Right | Scale   | Input |
| 6  | econ   | Numeric | 8     | 2        |                   | None          | None    | 8       | Right | Scale   | Input |
| 7  | acc    | Numeric | 8     | 2        |                   | None          | None    | 8       | Right | Scale   | Input |
| 8  |        |         |       |          |                   |               |         |         |       |         |       |
| 9  |        |         |       |          |                   |               |         |         |       |         |       |
| 10 |        |         |       |          |                   |               |         |         |       |         |       |
| 11 |        |         |       |          |                   |               |         |         |       |         |       |
| 12 |        |         |       |          |                   |               |         |         |       |         |       |
| 13 |        |         |       |          |                   |               |         |         |       |         |       |
| 14 |        |         |       |          |                   |               |         |         |       |         |       |
| 15 |        |         |       |          |                   |               |         |         |       |         |       |
| 16 |        |         |       |          |                   |               |         |         |       |         |       |
| 17 |        |         |       |          |                   |               |         |         |       |         |       |
| 18 |        |         |       |          |                   |               |         |         |       |         |       |
| 19 |        |         |       |          |                   |               |         |         |       |         |       |
| 20 |        |         |       |          |                   |               |         |         |       |         |       |
| 21 |        |         |       |          |                   |               |         |         |       |         |       |
| 22 |        |         |       |          |                   |               |         |         |       |         |       |

Data View Variable View

IBM SPSS Statistics Processor is ready





Visible: 7 of 7 Variables

|    | gender | social | hours | math  | stat  | econ  | acc   | var | var | var | var | var | var | var | var |
|----|--------|--------|-------|-------|-------|-------|-------|-----|-----|-----|-----|-----|-----|-----|-----|
| 1  | 2      | 1      | 4.00  | 70.00 | 80.00 | 75.00 | 73.00 |     |     |     |     |     |     |     |     |
| 2  | 1      | 2      | 2.00  | 65.00 | 70.00 | 60.00 | 55.00 |     |     |     |     |     |     |     |     |
| 3  | 1      | 2      | 2.00  | 70.00 | 77.00 | 50.00 | 66.00 |     |     |     |     |     |     |     |     |
| 4  | 1      | 1      | 4.00  | 80.00 | 85.00 | 75.00 | 70.00 |     |     |     |     |     |     |     |     |
| 5  | 1      | 2      | 3.00  | 75.00 | 80.00 | 85.00 | 81.00 |     |     |     |     |     |     |     |     |
| 6  | 2      | 2      | 6.00  | 85.00 | 85.00 | 90.00 | 85.00 |     |     |     |     |     |     |     |     |
| 7  | 2      | 1      | 7.00  | 90.00 | 92.00 | 95.00 | 98.00 |     |     |     |     |     |     |     |     |
| 8  | 1      | 1      | 8.00  | 95.00 | 95.00 | 90.00 | 94.00 |     |     |     |     |     |     |     |     |
| 9  | 1      | 2      | 5.00  | 80.00 | 85.00 | 90.00 | 92.00 |     |     |     |     |     |     |     |     |
| 10 | 2      | 2      | 4.00  | 75.00 | 77.00 | 80.00 | 85.00 |     |     |     |     |     |     |     |     |
| 11 |        |        |       |       |       |       |       |     |     |     |     |     |     |     |     |
| 12 |        |        |       |       |       |       |       |     |     |     |     |     |     |     |     |
| 13 |        |        |       |       |       |       |       |     |     |     |     |     |     |     |     |
| 14 |        |        |       |       |       |       |       |     |     |     |     |     |     |     |     |
| 15 |        |        |       |       |       |       |       |     |     |     |     |     |     |     |     |
| 16 |        |        |       |       |       |       |       |     |     |     |     |     |     |     |     |
| 17 |        |        |       |       |       |       |       |     |     |     |     |     |     |     |     |
| 18 |        |        |       |       |       |       |       |     |     |     |     |     |     |     |     |
| 19 |        |        |       |       |       |       |       |     |     |     |     |     |     |     |     |
| 20 |        |        |       |       |       |       |       |     |     |     |     |     |     |     |     |
| 21 |        |        |       |       |       |       |       |     |     |     |     |     |     |     |     |

Data View Variable View

IBM SPSS Statistics Processor is ready



ك

Visible: 7 of 7 Variables

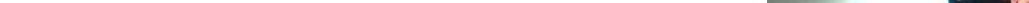
| econ  | acc   | var | var | var | var | var | var | var | var |
|-------|-------|-----|-----|-----|-----|-----|-----|-----|-----|
| 75.00 | 73.00 |     |     |     |     |     |     |     |     |
| 60.00 | 55.00 |     |     |     |     |     |     |     |     |
| 50.00 | 66.00 |     |     |     |     |     |     |     |     |
| 75.00 | 70.00 |     |     |     |     |     |     |     |     |
| 85.00 | 81.00 |     |     |     |     |     |     |     |     |
| 90.00 | 85.00 |     |     |     |     |     |     |     |     |

12 Bivariate...

12.3 Partial...

8 Distances...

+ Canonical Correlation



IBM SPSS Statistics Processor is ready 





10 : gender

أث

Visible: 7 of 7 Variables

|    | gender | social | hours |
|----|--------|--------|-------|
| 1  | أث     | مت     | 4.0   |
| 2  | ذك     | أع     | 2.0   |
| 3  | ذك     | أع     | 2.0   |
| 4  | ذك     | مت     | 4.0   |
| 5  | ذك     | أع     | 3.0   |
| 6  | أث     | أع     | 6.0   |
| 7  | أث     | مت     | 7.0   |
| 8  | ذك     | مت     | 8.0   |
| 9  | ذك     | أع     | 5.0   |
| 10 | أث     | أع     | 4.0   |
| 11 |        |        |       |
| 12 |        |        |       |
| 13 |        |        |       |
| 14 |        |        |       |
| 15 |        |        |       |
| 16 |        |        |       |
| 17 |        |        |       |
| 18 |        |        |       |
| 19 |        |        |       |
| 20 |        |        |       |
| 21 |        |        |       |

### Bivariate Correlations

- hours
- econ
- acc

#### Variables:

- math
- stat

Options...

Style...

Bootstrap...

Confidence interval...

#### Correlation Coefficients

☒ Pearson ☐ Kendall's tau-b ☐ Spearman

#### Test of Significance

☒ Two-tailed ☐ One-tailed

☒ Flag significant correlations ☐ Show only the lower triangle ☒ Show diagonal

OK

Paste

Reset

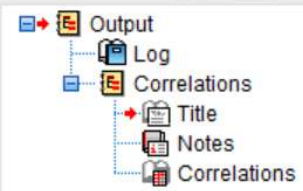
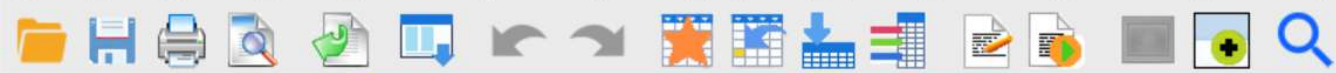
Cancel

Help

Data View Variable View

IBM SPSS Statistics Processor is ready





```
CORRELATIONS
/VARIABLES=math stat
/PRINT=TWOTAIL NOSIG FULL
/MISSING=PAIRWISE.
```

➔ **Correlations**

**Correlations**

|      |                     | math   | stat   |
|------|---------------------|--------|--------|
| math | Pearson Correlation | 1      | .959** |
|      | Sig. (2-tailed)     |        | <.001  |
|      | N                   | 10     | 10     |
| stat | Pearson Correlation | .959** | 1      |
|      | Sig. (2-tailed)     | <.001  |        |
|      | N                   | 10     | 10     |

\*\* . Correlation is significant at the 0.01 level (2-tailed).



أظهرت نتائج معامل بيرسون وجود علاقة ارتباط قوية وذات دلالة إحصائية بين درجات الرياضيات والإحصاء حيث بلغت قيمة ارتباط معامل الارتباط (٠,٩٥٣) عند مستوى الدلالة ٠,٠١.

بناء على ذلك يتم رفض الفرضية الصفرية التي تنص على عدم وجود ارتباط بين المتغيرين ونقبل الفرضية البديلة وجود علاقة ارتباط بين درجات الرياضيات والإحصاء والتي تشير إلى ارتباط معنوي بينهما.



Visible: 7 of 7 Variables

| econ  | acc   | var | var | var | var | var | var | var | var |
|-------|-------|-----|-----|-----|-----|-----|-----|-----|-----|
| 75.00 | 73.00 |     |     |     |     |     |     |     |     |
| 60.00 | 55.00 |     |     |     |     |     |     |     |     |
| 50.00 | 66.00 |     |     |     |     |     |     |     |     |
| 75.00 | 70.00 |     |     |     |     |     |     |     |     |
| 85.00 | 81.00 |     |     |     |     |     |     |     |     |
| 90.00 | 85.00 |     |     |     |     |     |     |     |     |

12

Bivariate...

12.5

Partial...

6

Distances...

+

Canonical Correlation

Simulation...

IBM SPSS Statistics Processor is ready 





10 : gender

أث

Visible: 7 of 7 Variables

|    | gender | social | hours |
|----|--------|--------|-------|
| 1  | أث     | مت     | 4.0   |
| 2  | ذك     | أع     | 2.0   |
| 3  | ذك     | أع     | 2.0   |
| 4  | ذك     | مت     | 4.0   |
| 5  | ذك     | أع     | 3.0   |
| 6  | أث     | أع     | 6.0   |
| 7  | أث     | مت     | 7.0   |
| 8  | ذك     | مت     | 8.0   |
| 9  | ذك     | أع     | 5.0   |
| 10 | أث     | أع     | 4.0   |
| 11 |        |        |       |
| 12 |        |        |       |
| 13 |        |        |       |
| 14 |        |        |       |
| 15 |        |        |       |
| 16 |        |        |       |
| 17 |        |        |       |
| 18 |        |        |       |
| 19 |        |        |       |
| 20 |        |        |       |
| 21 |        |        |       |

### Bivariate Correlations

hours

#### Variables:

math  
stat  
econ  
acc

Options...

Style...

Bootstrap...

Confidence interval...

#### Correlation Coefficients

☒ Pearson ☐ Kendall's tau-b ☐ Spearman

#### Test of Significance

☒ Two-tailed ☐ One-tailed

☒ Flag significant correlations ☐ Show only the lower triangle ☒ Show diagonal

OK

Paste

Reset

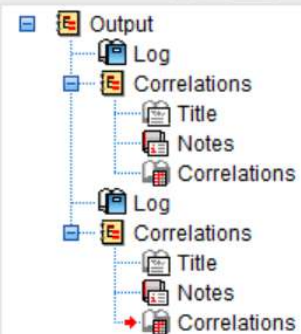
Cancel

Help

Data View Variable View

IBM SPSS Statistics Processor is ready





```

CORRELATIONS
/VARIABLES=math stat econ acc
/PRINT=TWOTAIL NOSIG FULL
/MISSING=PAIRWISE.
    
```

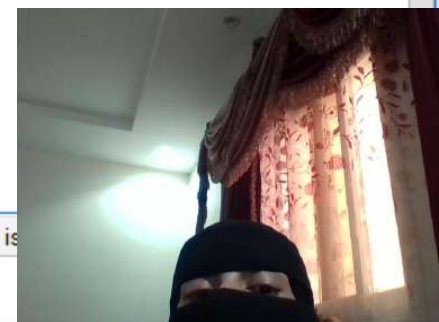
## Correlations

### Correlations

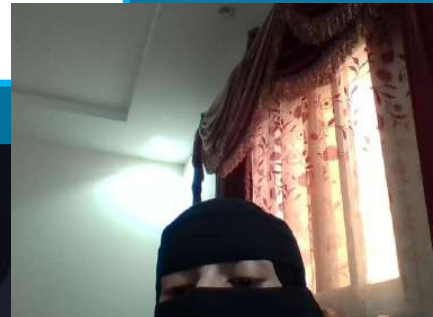
|      |                     | math   | stat   | econ   | acc    |
|------|---------------------|--------|--------|--------|--------|
| math | Pearson Correlation | 1      | .959** | .780** | .833** |
|      | Sig. (2-tailed)     |        | <.001  | .008   | .003   |
|      | N                   | 10     | 10     | 10     | 10     |
| stat | Pearson Correlation | .959** | 1      | .746*  | .811** |
|      | Sig. (2-tailed)     | <.001  |        | .013   | .004   |
|      | N                   | 10     | 10     | 10     | 10     |
| econ | Pearson Correlation | .780** | .746*  | 1      | .890** |
|      | Sig. (2-tailed)     | .008   | .013   |        | <.001  |
|      | N                   | 10     | 10     | 10     | 10     |
| acc  | Pearson Correlation | .833** | .811** | .890** | 1      |
|      | Sig. (2-tailed)     | .003   | .004   | <.001  |        |
|      | N                   | 10     | 10     | 10     | 10     |

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).



أظهرت مصفوفة معاملات الارتباط بيرسون وجود علاقات ارتباط متفاوتة بين المتغيرات الأربعة (الرياضيات، الإحصاء، الاقتصاد، المحاسبة) وتبين أن جميع معاملات الارتباط ذات دلالة إحصائية عند مستوى الدلالة (٠,٠٥) أو (٠,٠١) وتشير النتائج إلى أن أداء الطلاب في أحد هذه المقررات يرتبط بشكل إيجابي وواضح بأدائهم في المقررات الأخرى، مما يدل على وجود علاقة مترابطة بين هذه المهارات الأكاديمية .



|    | gender | social | hours | acc   | var   | var   | var   | var | var | var | var | var | var |
|----|--------|--------|-------|-------|-------|-------|-------|-----|-----|-----|-----|-----|-----|
| 1  | 2      | 1      | 4.00  |       |       |       |       |     |     |     |     |     |     |
| 2  | 1      | 2      | 2.00  |       |       |       |       |     |     |     |     |     |     |
| 3  | 1      | 2      | 2.00  |       |       |       |       |     |     |     |     |     |     |
| 4  | 1      | 1      | 4.00  | 80.00 | 85.00 | 75.00 | 70.00 |     |     |     |     |     |     |
| 5  | 1      | 2      | 3.00  | 75.00 | 80.00 | 85.00 | 81.00 |     |     |     |     |     |     |
| 6  | 2      | 2      | 6.00  | 85.00 | 85.00 | 90.00 | 85.00 |     |     |     |     |     |     |
| 7  | 2      | 1      | 7.00  | 90.00 | 92.00 | 95.00 | 98.00 |     |     |     |     |     |     |
| 8  | 1      | 1      | 8.00  | 95.00 | 95.00 | 90.00 | 94.00 |     |     |     |     |     |     |
| 9  | 1      | 2      | 5.00  | 80.00 | 85.00 | 90.00 | 92.00 |     |     |     |     |     |     |
| 10 | 2      | 2      | 4.00  | 75.00 | 77.00 | 80.00 | 85.00 |     |     |     |     |     |     |
| 11 |        |        |       |       |       |       |       |     |     |     |     |     |     |
| 12 |        |        |       |       |       |       |       |     |     |     |     |     |     |
| 13 |        |        |       |       |       |       |       |     |     |     |     |     |     |
| 14 |        |        |       |       |       |       |       |     |     |     |     |     |     |
| 15 |        |        |       |       |       |       |       |     |     |     |     |     |     |
| 16 |        |        |       |       |       |       |       |     |     |     |     |     |     |
| 17 |        |        |       |       |       |       |       |     |     |     |     |     |     |
| 18 |        |        |       |       |       |       |       |     |     |     |     |     |     |
| 19 |        |        |       |       |       |       |       |     |     |     |     |     |     |
| 20 |        |        |       |       |       |       |       |     |     |     |     |     |     |
| 21 |        |        |       |       |       |       |       |     |     |     |     |     |     |



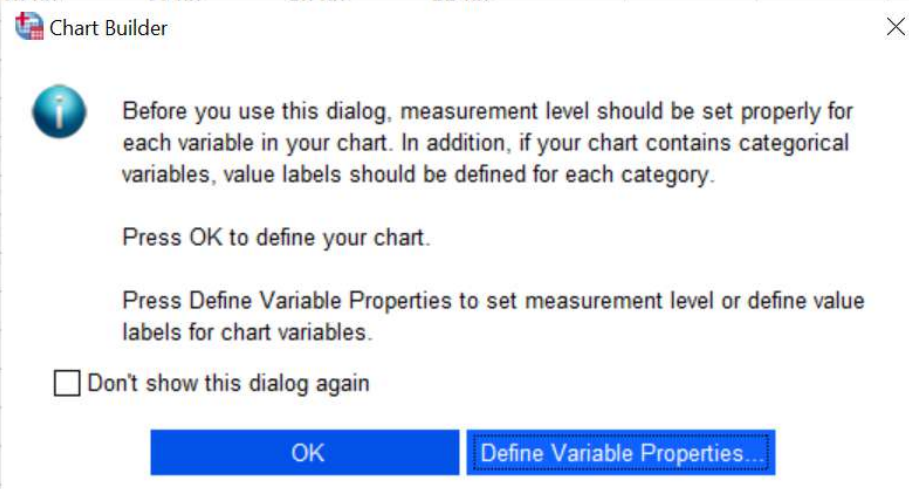


10 : social

2

Visible: 7 of 7 Variables

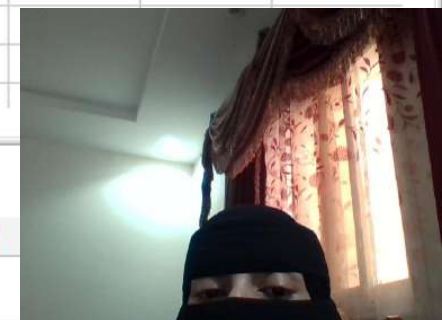
|    | gender | social | hours | math  | stat  | econ  | acc   | var | var | var | var | var | var | var | var |
|----|--------|--------|-------|-------|-------|-------|-------|-----|-----|-----|-----|-----|-----|-----|-----|
| 1  | أث     | 1      | 4.00  | 70.00 | 80.00 | 75.00 | 73.00 |     |     |     |     |     |     |     |     |
| 2  | ذك     | 2      | 2.00  | 65.00 | 70.00 | 60.00 | 55.00 |     |     |     |     |     |     |     |     |
| 3  | ذك     | 2      | 2.00  | 70.00 | 77.00 | 50.00 | 66.00 |     |     |     |     |     |     |     |     |
| 4  | ذك     | 1      | 4.00  |       |       |       |       |     |     |     |     |     |     |     |     |
| 5  | ذك     | 2      | 3.00  |       |       |       |       |     |     |     |     |     |     |     |     |
| 6  | أث     | 2      | 6.00  |       |       |       |       |     |     |     |     |     |     |     |     |
| 7  | أث     | 1      | 7.00  |       |       |       |       |     |     |     |     |     |     |     |     |
| 8  | ذك     | 1      | 8.00  |       |       |       |       |     |     |     |     |     |     |     |     |
| 9  | ذك     | 2      | 5.00  |       |       |       |       |     |     |     |     |     |     |     |     |
| 10 | أث     | 2      | 4.00  |       |       |       |       |     |     |     |     |     |     |     |     |
| 11 |        |        |       |       |       |       |       |     |     |     |     |     |     |     |     |
| 12 |        |        |       |       |       |       |       |     |     |     |     |     |     |     |     |
| 13 |        |        |       |       |       |       |       |     |     |     |     |     |     |     |     |
| 14 |        |        |       |       |       |       |       |     |     |     |     |     |     |     |     |
| 15 |        |        |       |       |       |       |       |     |     |     |     |     |     |     |     |
| 16 |        |        |       |       |       |       |       |     |     |     |     |     |     |     |     |
| 17 |        |        |       |       |       |       |       |     |     |     |     |     |     |     |     |
| 18 |        |        |       |       |       |       |       |     |     |     |     |     |     |     |     |
| 19 |        |        |       |       |       |       |       |     |     |     |     |     |     |     |     |
| 20 |        |        |       |       |       |       |       |     |     |     |     |     |     |     |     |
| 21 |        |        |       |       |       |       |       |     |     |     |     |     |     |     |     |



Data View Variable View

Chart Builder...

IBM SPSS Statistics Processor is ready





|    | gender |
|----|--------|
| 1  | 2      |
| 2  | 1      |
| 3  | 1      |
| 4  | 1      |
| 5  | 1      |
| 6  | 2      |
| 7  | 2      |
| 8  | 1      |
| 9  | 1      |
| 10 | 2      |
| 11 |        |
| 12 |        |
| 13 |        |
| 14 |        |
| 15 |        |
| 16 |        |
| 17 |        |
| 18 |        |
| 19 |        |
| 20 |        |
| 21 |        |

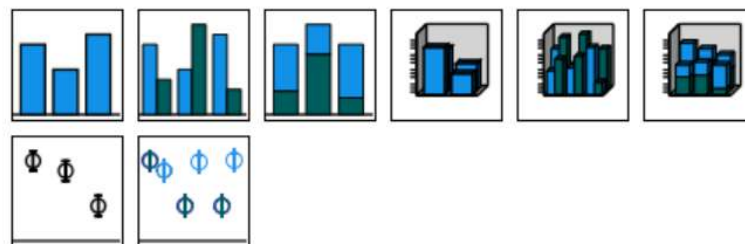
Variables:

- [gender] الجنس
- ...social حالة الاجتماعية
- hours
- math
- stat
- econ
- acc
- ذكر
- أنثى

Gallery Basic Elements Groups/Point ID Titles/Footnotes

Choose from:

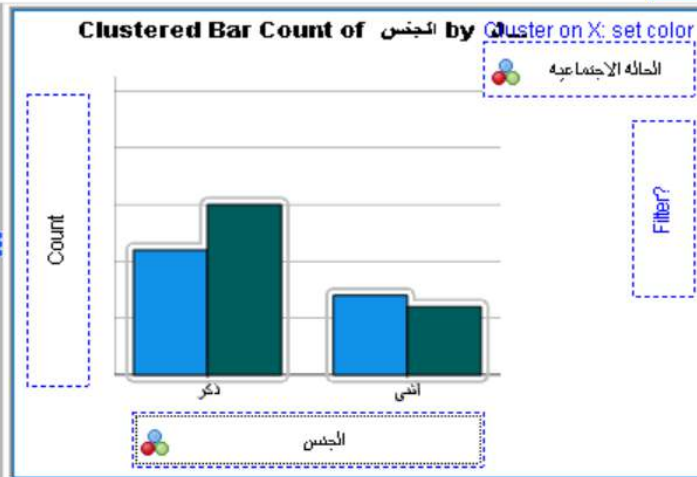
- Favorites
- Bar
- Line
- Area
- Pie/Polar
- Scatter/Dot
- Histogram
- High-Low
- Boxplot
- Dual Axes



Clustered Bar

OK Paste Reset Cancel Help

Chart preview uses example data



Element Properties Chart Appearance Options

Edit Properties of:

Bar1

X-Axis1 (Bar1)

Y-Axis1 (Bar1)

Statistics

Variable:

Statistic:

Count

Set Parameters...

☐ Display error bars

Error Bars Represent

☒ Confidence intervals

Level (%): 95

☐ Standard error

Multiplier: 2

☐ Standard deviation

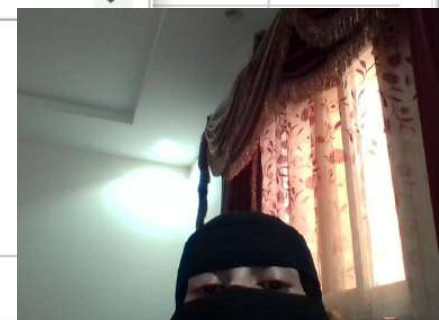
Multiplier: 2

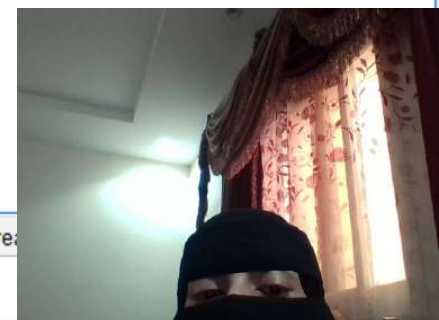
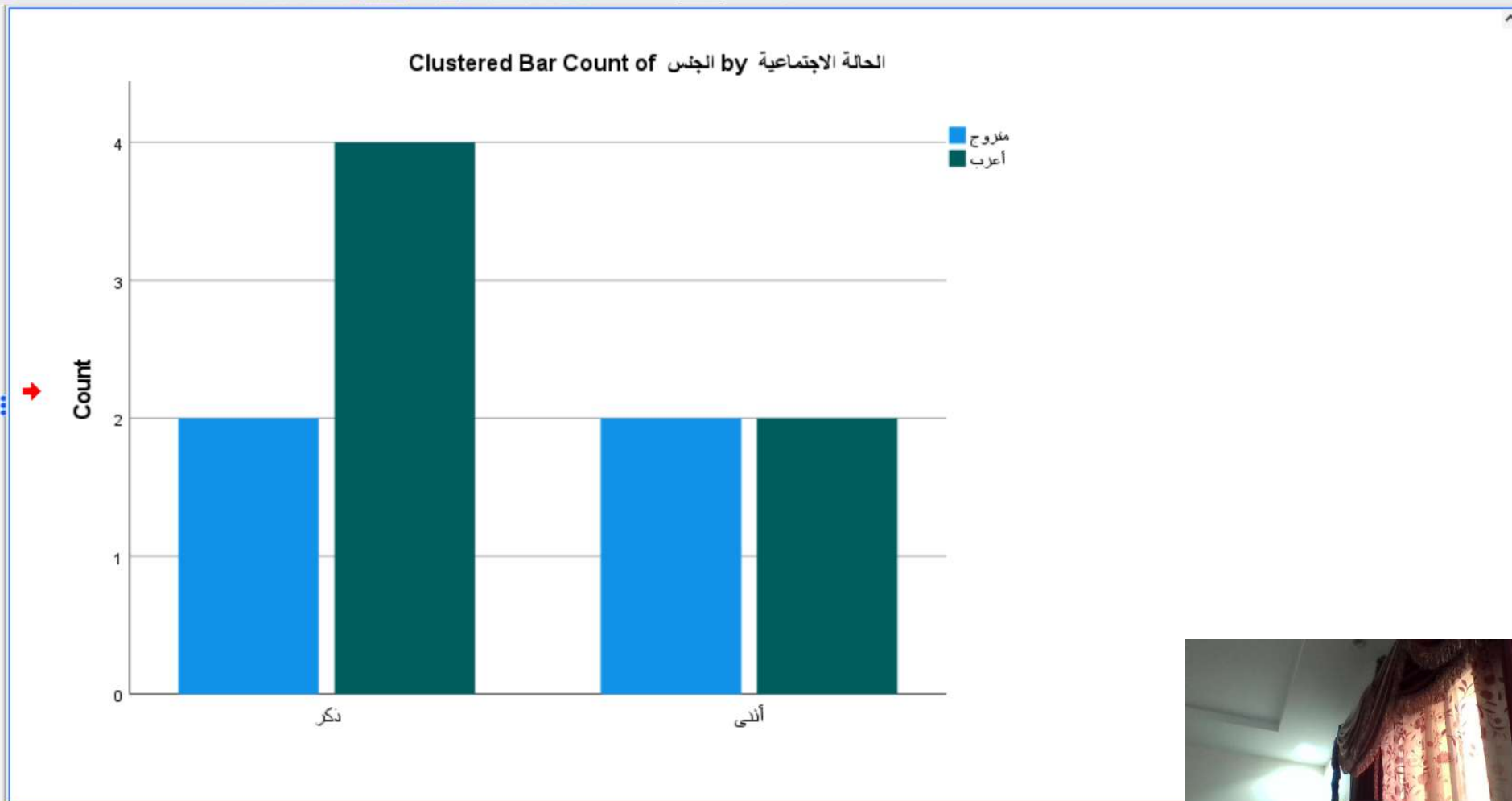
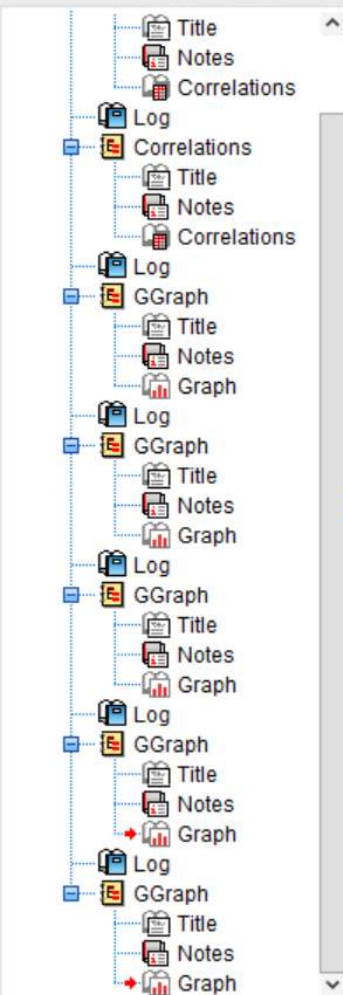
Bar Style:

Bar

Visible: 7 of 7 Variables

var var





يظهر الرسم أن توزيع الحالة الاجتماعية يختلف بين الذكور والإناث، حيث ترتفع نسبة الذكور في فئة المتزوجين، بينما ترتفع نسبة الإناث في فئة غير المتزوجات.





**Thank You**

