

# التكليف التاسع

إعداد الباحث

شليويح الديحاني



## الاتحادار الخطي المتعدد

Chapter  
01

تسمية المتغيرات

Untitled1 [DataSet0] - IBM SPSS Statistics Data Editor (Trial Mode)\*

File Edit View Data Transform Analyze Graphs Utilities Extensions Window Help

Search application

|    | Name | Type    | Width | Decimals | Label | Values | Missing | Columns | Align  | Measure | Role  |
|----|------|---------|-------|----------|-------|--------|---------|---------|--------|---------|-------|
| 1  | y    | Numeric | 8     | 0        |       | None   | None    | 8       | Center | Scale   | Input |
| 2  | x1   | Numeric | 8     | 0        |       | None   | None    | 8       | Center | Scale   | Input |
| 3  | x2   | Numeric | 8     | 0        |       | None   | None    | 8       | Center | Scale   | Input |
| 4  | x3   | Numeric | 8     | 0        |       | None   | None    | 8       | Center | Scale   | Input |
| 5  |      |         |       |          |       |        |         |         |        |         |       |
| 6  |      |         |       |          |       |        |         |         |        |         |       |
| 7  |      |         |       |          |       |        |         |         |        |         |       |
| 8  |      |         |       |          |       |        |         |         |        |         |       |
| 9  |      |         |       |          |       |        |         |         |        |         |       |
| 10 |      |         |       |          |       |        |         |         |        |         |       |
| 11 |      |         |       |          |       |        |         |         |        |         |       |
| 12 |      |         |       |          |       |        |         |         |        |         |       |
| 13 |      |         |       |          |       |        |         |         |        |         |       |
| 14 |      |         |       |          |       |        |         |         |        |         |       |
| 15 |      |         |       |          |       |        |         |         |        |         |       |
| 16 |      |         |       |          |       |        |         |         |        |         |       |
| 17 |      |         |       |          |       |        |         |         |        |         |       |
| 18 |      |         |       |          |       |        |         |         |        |         |       |
| 19 |      |         |       |          |       |        |         |         |        |         |       |
| 20 |      |         |       |          |       |        |         |         |        |         |       |
| 21 |      |         |       |          |       |        |         |         |        |         |       |
| 22 |      |         |       |          |       |        |         |         |        |         |       |
| 23 |      |         |       |          |       |        |         |         |        |         |       |
| 24 |      |         |       |          |       |        |         |         |        |         |       |
| 25 |      |         |       |          |       |        |         |         |        |         |       |
| 26 |      |         |       |          |       |        |         |         |        |         |       |
| 27 |      |         |       |          |       |        |         |         |        |         |       |
| 28 |      |         |       |          |       |        |         |         |        |         |       |
| 29 |      |         |       |          |       |        |         |         |        |         |       |
| 30 |      |         |       |          |       |        |         |         |        |         |       |
| 31 |      |         |       |          |       |        |         |         |        |         |       |

Overview Data View Variable View

Chapter  
02

تعبئة البيانات

Untitled1 [DataSet0] - IBM SPSS Statistics Data Editor (Trial Mode)\*

|     | y   | x1 | x2   | x3 | var | var | var | var | var | var | var | var | var | var | var | var |
|-----|-----|----|------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1   | 40  | 9  | 400  | 10 |     |     |     |     |     |     |     |     |     |     |     |     |
| 2   | 45  | 8  | 500  | 14 |     |     |     |     |     |     |     |     |     |     |     |     |
| 3   | 50  | 9  | 600  | 12 |     |     |     |     |     |     |     |     |     |     |     |     |
| 4   | 55  | 8  | 700  | 13 |     |     |     |     |     |     |     |     |     |     |     |     |
| 5   | 60  | 7  | 800  | 11 |     |     |     |     |     |     |     |     |     |     |     |     |
| 6   | 70  | 6  | 900  | 15 |     |     |     |     |     |     |     |     |     |     |     |     |
| 7   | 65  | 6  | 1000 | 16 |     |     |     |     |     |     |     |     |     |     |     |     |
| 8   | 65  | 8  | 1100 | 17 |     |     |     |     |     |     |     |     |     |     |     |     |
| 9   | 75  | 5  | 1200 | 22 |     |     |     |     |     |     |     |     |     |     |     |     |
| 10  | 75  | 5  | 1300 | 19 |     |     |     |     |     |     |     |     |     |     |     |     |
| 11  | 80  | 5  | 1400 | 20 |     |     |     |     |     |     |     |     |     |     |     |     |
| 12  | 100 | 3  | 1500 | 23 |     |     |     |     |     |     |     |     |     |     |     |     |
| 13  | 90  | 4  | 1600 | 18 |     |     |     |     |     |     |     |     |     |     |     |     |
| 14  | 95  | 3  | 1700 | 24 |     |     |     |     |     |     |     |     |     |     |     |     |
| 15  | 85  | 4  | 1800 | 21 |     |     |     |     |     |     |     |     |     |     |     |     |
| 16  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |
| 17  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |
| 18  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |
| 19  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |
| 20  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |
| 21  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |
| 22  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |
| 23  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |
| 24  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |
| 25  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |
| 26  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |
| 27  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |
| 28  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |
| 29  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |
| ... |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |     |

Overview Data View Variable View

## Chapter 03

# Regression

Untitled1 [DataSet0] - IBM SPSS Statistics Data Editor (Trial Mode)\*

File Edit View Data Transform Analyze Graphs Utilities Extensions Window Help

Power Analysis  
Meta Analysis  
Reports  
Descriptive Statistics  
Bayesian Statistics  
Tables  
Compare Means and Proportions  
General Linear Model  
Generalized Linear Models  
Mixed Models  
Correlate  
Regression  
Loglinear  
Neural Networks  
Classify  
Dimension Reduction  
Scale  
Nonparametric Tests  
Forecasting  
Survival  
Multiple Response  
Missing Value Analysis...  
Multiple Imputation  
Complex Samples  
Simulation...  
Quality Control  
Spatial and Temporal Modeling...  
Direct Marketing

Automatic Linear Modeling...  
Linear...  
Linear OLS Alternatives  
Curve Estimation...  
Partial Least Squares...  
Binary Logistic...  
Multinomial Logistic...  
Ordinal...  
Probit...  
Nonlinear...  
Weight Estimation...  
2-Stage Least Squares...  
Quantile...  
Optimal Scaling (CATREG)...  
Kernel Ridge...

|     | y   | x1 | x2   |
|-----|-----|----|------|
| 1   | 40  | 9  | 400  |
| 2   | 45  | 8  | 500  |
| 3   | 50  | 9  | 600  |
| 4   | 55  | 8  | 700  |
| 5   | 60  | 7  | 800  |
| 6   | 70  | 6  | 900  |
| 7   | 65  | 6  | 1000 |
| 8   | 65  | 8  | 1100 |
| 9   | 75  | 5  | 1200 |
| 10  | 75  | 5  | 1300 |
| 11  | 80  | 5  | 1400 |
| 12  | 100 | 3  | 1500 |
| 13  | 90  | 4  | 1600 |
| 14  | 95  | 3  | 1700 |
| 15  | 85  | 4  | 1800 |
| 16  |     |    |      |
| 17  |     |    |      |
| 18  |     |    |      |
| 19  |     |    |      |
| 20  |     |    |      |
| 21  |     |    |      |
| 22  |     |    |      |
| 23  |     |    |      |
| 24  |     |    |      |
| 25  |     |    |      |
| 26  |     |    |      |
| 27  |     |    |      |
| 28  |     |    |      |
| 29  |     |    |      |
| ... |     |    |      |

Overview Data View Variable View

Chapter  
04

نقل المتغيرات

Untitled1 [DataSet0] - IBM SPSS Statistics Data Editor (Trial Mode)\*

File Edit View Data Transform Analyze Graphs Utilities Extensions Window Help

Search application

|     | y   | x1 | x2   | x3 | var | var | var | var | var | var | var | var | var | var |
|-----|-----|----|------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1   | 40  | 9  | 400  | 10 |     |     |     |     |     |     |     |     |     |     |
| 2   | 45  | 8  | 500  | 14 |     |     |     |     |     |     |     |     |     |     |
| 3   | 50  | 9  | 600  | 12 |     |     |     |     |     |     |     |     |     |     |
| 4   | 55  | 8  | 700  | 13 |     |     |     |     |     |     |     |     |     |     |
| 5   | 60  | 7  | 800  | 11 |     |     |     |     |     |     |     |     |     |     |
| 6   | 70  | 6  | 900  | 15 |     |     |     |     |     |     |     |     |     |     |
| 7   | 65  | 6  | 1000 | 16 |     |     |     |     |     |     |     |     |     |     |
| 8   | 65  | 8  | 1100 | 17 |     |     |     |     |     |     |     |     |     |     |
| 9   | 75  | 5  | 1200 | 22 |     |     |     |     |     |     |     |     |     |     |
| 10  | 75  | 5  | 1300 | 19 |     |     |     |     |     |     |     |     |     |     |
| 11  | 80  | 5  | 1400 | 20 |     |     |     |     |     |     |     |     |     |     |
| 12  | 100 | 3  | 1500 | 23 |     |     |     |     |     |     |     |     |     |     |
| 13  | 90  | 4  | 1600 | 18 |     |     |     |     |     |     |     |     |     |     |
| 14  | 95  | 3  | 1700 | 24 |     |     |     |     |     |     |     |     |     |     |
| 15  | 85  | 4  | 1800 | 21 |     |     |     |     |     |     |     |     |     |     |
| 16  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |
| 17  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |
| 18  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |
| 19  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |
| 20  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |
| 21  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |
| 22  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |
| 23  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |
| 24  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |
| 25  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |
| 26  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |
| 27  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |
| 28  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |
| 29  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |
| ... |     |    |      |    |     |     |     |     |     |     |     |     |     |     |

Linear Regression

Dependent:

Block 1 of 1

Previous Next

Block 1 of 1

Method: Enter

Selection Variable:

Case Labels:

WLS Weight:

OK Paste Reset Cancel Help

Statistics... Plots... Save... Options... Style... Bootstrap...

Overview Data View Variable View

Chapter  
05

نقل المتغيرات

Untitled1 [DataSet0] - IBM SPSS Statistics Data Editor (Trial Mode)\*

File Edit View Data Transform Analyze Graphs Utilities Extensions Window Help

Search application

|     | y   | x1 | x2   | x3 | var | var | var | var | var | var | var | var | var | var |
|-----|-----|----|------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1   | 40  | 9  | 400  | 10 |     |     |     |     |     |     |     |     |     |     |
| 2   | 45  | 8  | 500  | 14 |     |     |     |     |     |     |     |     |     |     |
| 3   | 50  | 9  | 600  | 12 |     |     |     |     |     |     |     |     |     |     |
| 4   | 55  | 8  | 700  | 13 |     |     |     |     |     |     |     |     |     |     |
| 5   | 60  | 7  | 800  | 11 |     |     |     |     |     |     |     |     |     |     |
| 6   | 70  | 6  | 900  | 15 |     |     |     |     |     |     |     |     |     |     |
| 7   | 65  | 6  | 1000 | 16 |     |     |     |     |     |     |     |     |     |     |
| 8   | 65  | 8  | 1100 | 17 |     |     |     |     |     |     |     |     |     |     |
| 9   | 75  | 5  | 1200 | 22 |     |     |     |     |     |     |     |     |     |     |
| 10  | 75  | 5  | 1300 | 19 |     |     |     |     |     |     |     |     |     |     |
| 11  | 80  | 5  | 1400 | 20 |     |     |     |     |     |     |     |     |     |     |
| 12  | 100 | 3  | 1500 | 23 |     |     |     |     |     |     |     |     |     |     |
| 13  | 90  | 4  | 1600 | 18 |     |     |     |     |     |     |     |     |     |     |
| 14  | 95  | 3  | 1700 | 24 |     |     |     |     |     |     |     |     |     |     |
| 15  | 85  | 4  | 1800 | 21 |     |     |     |     |     |     |     |     |     |     |
| 16  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |
| 17  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |
| 18  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |
| 19  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |
| 20  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |
| 21  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |
| 22  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |
| 23  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |
| 24  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |
| 25  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |
| 26  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |
| 27  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |
| 28  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |
| 29  |     |    |      |    |     |     |     |     |     |     |     |     |     |     |
| ... |     |    |      |    |     |     |     |     |     |     |     |     |     |     |

Linear Regression

Dependent: y

Block 1 of 1

Previous Next

Block 1 of 1

x1 x2 x3

Method: Enter

Selection Variable: Rule...

Case Labels:

WLS Weight:

OK Paste Reset Cancel Help

Overview Data View Variable View

Chapter  
06

# Statistics

Untitled1 [DataSet0] - IBM SPSS Statistics Data Editor (Trial Mode)\*

File Edit View Data Transform Analyze Graphs Utilities Extensions Window Help

Search application

|    | y   | x1 | x2   | x3 | var | var | var | var | var | var | var | var | var | var | var |
|----|-----|----|------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1  | 40  | 9  | 400  | 10 |     |     |     |     |     |     |     |     |     |     |     |
| 2  | 45  | 8  | 500  | 14 |     |     |     |     |     |     |     |     |     |     |     |
| 3  | 50  | 9  | 600  | 12 |     |     |     |     |     |     |     |     |     |     |     |
| 4  | 55  | 8  | 700  | 13 |     |     |     |     |     |     |     |     |     |     |     |
| 5  | 60  | 7  | 800  | 11 |     |     |     |     |     |     |     |     |     |     |     |
| 6  | 70  | 6  | 900  | 15 |     |     |     |     |     |     |     |     |     |     |     |
| 7  | 65  | 6  | 1000 | 16 |     |     |     |     |     |     |     |     |     |     |     |
| 8  | 65  | 8  | 1100 | 17 |     |     |     |     |     |     |     |     |     |     |     |
| 9  | 75  | 5  | 1200 | 22 |     |     |     |     |     |     |     |     |     |     |     |
| 10 | 75  | 5  | 1300 | 19 |     |     |     |     |     |     |     |     |     |     |     |
| 11 | 80  | 5  | 1400 | 20 |     |     |     |     |     |     |     |     |     |     |     |
| 12 | 100 | 3  | 1500 | 23 |     |     |     |     |     |     |     |     |     |     |     |
| 13 | 90  | 4  | 1600 | 18 |     |     |     |     |     |     |     |     |     |     |     |
| 14 | 95  | 3  | 1700 | 24 |     |     |     |     |     |     |     |     |     |     |     |
| 15 | 85  | 4  | 1800 | 21 |     |     |     |     |     |     |     |     |     |     |     |
| 16 |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |
| 17 |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |
| 18 |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |
| 19 |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |
| 20 |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |
| 21 |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |
| 22 |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |
| 23 |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |
| 24 |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |
| 25 |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |
| 26 |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |
| 27 |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |
| 28 |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |
| 29 |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |
| -- |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |

Linear Regression

Dependent: y

Block 1 of 1

Linear Regression: Statistics

Regression Coefficient...  
☒ Estimates  
☐ Confidence intervals  
 Level(%): 95  
☐ Covariance matrix

☒ Model fit  
☐ R squared change  
☐ Descriptives  
☐ Part and partial correlations  
☒ Collinearity diagnostics  
☐ Selection criteria

Residuals  
☐ PRESS  
☐ Durrbin-Watson  
☐ Casewise diagnostics  
☒ Outliers outside: 3 standard deviations  
☒ All cases

Continue Cancel Help

Overview Data View Variable View

Chapter  
07

# Collinearity diagnostics

Untitled1 [DataSet0] - IBM SPSS Statistics Data Editor (Trial Mode)\*

File Edit View Data Transform Analyze Graphs Utilities Extensions Window Help

Search application

|    | y   | x1 | x2   | x3 | var | var | var | var | var | var | var | var | var | var | var |
|----|-----|----|------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1  | 40  | 9  | 400  | 10 |     |     |     |     |     |     |     |     |     |     |     |
| 2  | 45  | 8  | 500  | 14 |     |     |     |     |     |     |     |     |     |     |     |
| 3  | 50  | 9  | 600  | 12 |     |     |     |     |     |     |     |     |     |     |     |
| 4  | 55  | 8  | 700  | 13 |     |     |     |     |     |     |     |     |     |     |     |
| 5  | 60  | 7  | 800  | 11 |     |     |     |     |     |     |     |     |     |     |     |
| 6  | 70  | 6  | 900  | 15 |     |     |     |     |     |     |     |     |     |     |     |
| 7  | 65  | 6  | 1000 | 16 |     |     |     |     |     |     |     |     |     |     |     |
| 8  | 65  | 8  | 1100 | 17 |     |     |     |     |     |     |     |     |     |     |     |
| 9  | 75  | 5  | 1200 | 22 |     |     |     |     |     |     |     |     |     |     |     |
| 10 | 75  | 5  | 1300 | 19 |     |     |     |     |     |     |     |     |     |     |     |
| 11 | 80  | 5  | 1400 | 20 |     |     |     |     |     |     |     |     |     |     |     |
| 12 | 100 | 3  | 1500 | 23 |     |     |     |     |     |     |     |     |     |     |     |
| 13 | 90  | 4  | 1600 | 18 |     |     |     |     |     |     |     |     |     |     |     |
| 14 | 95  | 3  | 1700 | 24 |     |     |     |     |     |     |     |     |     |     |     |
| 15 | 85  | 4  | 1800 | 21 |     |     |     |     |     |     |     |     |     |     |     |
| 16 |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |
| 17 |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |
| 18 |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |
| 19 |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |
| 20 |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |
| 21 |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |
| 22 |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |
| 23 |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |
| 24 |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |
| 25 |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |
| 26 |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |
| 27 |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |
| 28 |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |
| 29 |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |
| -- |     |    |      |    |     |     |     |     |     |     |     |     |     |     |     |

Linear Regression

Dependent: y

Block 1 of 1

Linear Regression: Statistics

Regression Coefficients

- ☒ Estimates
- ☐ Confidence intervals
- Level(%): 95
- ☐ Covariance matrix

Model fit

- ☒ R squared change
- ☐ Descriptives
- ☐ Part and partial correlations
- ☒ Collinearity diagnostics
- ☐ Selection criteria

Residuals

- ☐ PRESS
- ☐ Durbin-Watson
- ☐ Casewise diagnostics
- ☒ Outliers outside: 3 standard deviations
- ☐ All cases

Continue Cancel Help

Overview Data View Variable View

# Chapter 08

## النتائج

Output2 [Document2] - IBM SPSS Statistics Viewer\*

File Edit View Data Transform Insert Format Analyze Graphs Utilities Extensions Window Help

Search application

Output

- Regression
  - Title
  - Notes
  - Variables Entered/Removed<sup>a</sup>
  - Model Summary
  - ANOVA
  - Coefficients
  - Collinearity Diagnostics

**Variables Entered/Removed<sup>a</sup>**

| Model | Variables Entered       | Variables Removed | Method |
|-------|-------------------------|-------------------|--------|
| 1     | x3, x2, x1 <sup>b</sup> | .                 | Enter  |

a. Dependent Variable: y  
b. All requested variables entered.

**Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .975 <sup>a</sup> | .951     | .938              | 4.528                      |

a. Predictors: (Constant), x3, x2, x1

**ANOVA<sup>a</sup>**

| Model |            | Sum of Squares | df | Mean Square | F      | Sig.               |
|-------|------------|----------------|----|-------------|--------|--------------------|
| 1     | Regression | 4374.508       | 3  | 1458.169    | 71.133 | <.001 <sup>b</sup> |
|       | Residual   | 225.492        | 11 | 20.499      |        |                    |
|       | Total      | 4600.000       | 14 |             |        |                    |

a. Dependent Variable: y  
b. Predictors: (Constant), x3, x2, x1

**Coefficients<sup>a</sup>**

| Model |            | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. | Collinearity Statistics |       |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|-------------------------|-------|
|       |            | B                           | Std. Error | Beta                      |        |      | Tolerance               | VIF   |
| 1     | (Constant) | 79.106                      | 19.782     |                           | 3.999  | .002 |                         |       |
|       | x1         | -4.928                      | 1.611      | -.563                     | -3.059 | .011 | .132                    | 7.597 |
|       | x2         | .016                        | .007       | .392                      | 2.146  | .055 | .133                    | 7.501 |
|       | x3         | .175                        | .637       | .043                      | .275   | .789 | .181                    | 5.537 |

a. Dependent Variable: y

Chapter  
08

النتائج

Collinearity Diagnostics<sup>a</sup>

| Model | Dimension | Eigenvalue | Condition Index | Variance Proportions |     |     |     |
|-------|-----------|------------|-----------------|----------------------|-----|-----|-----|
|       |           |            |                 | (Constant)           | x1  | x2  | x3  |
| 1     | 1         | 3.732      | 1.000           | .00                  | .00 | .00 | .00 |
|       | 2         | .256       | 3.819           | .00                  | .03 | .02 | .00 |
|       | 3         | .010       | 19.624          | .00                  | .04 | .74 | .64 |
|       | 4         | .002       | 38.750          | 1.00                 | .93 | .23 | .36 |

a. Dependent Variable: y

## المصادر

برنامج SPSS الإحصائي من شركة IBM.



مجموعة جامعة  
الجميع الذكية  
للتعليم القابضة

MIDOCEAN  
UNIVERSITY

شكراً لكم

