

STATISTICS (SPSS FOR BEGINNER)

Chapter 10

Correlation

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- Correlation is a statistical technique that shows how strongly two variables are related to each other or the degree of association between the two.

- Bivariate correlation

A. Case 1

*correlation.sav

| | CORRUPTION | BEGINNER_LEVEL | SENIOR_LEVEL | IVESTIGATOR |
|----|------------|----------------|--------------|-------------|
| 1 | 3 | 17 | 27 | 5 |
| 2 | 1 | 11 | 32 | 4 |
| 3 | . | 20 | 37 | 4 |
| 4 | 1 | 18 | 35 | 5 |
| 5 | 5 | 21 | 29 | 8 |
| 6 | 9 | 24 | 39 | 11 |
| 7 | 2 | . | 36 | 5 |
| 8 | 1 | 16 | 32 | 4 |
| 9 | . | 11 | 37 | 5 |
| 10 | 2 | 7 | 39 | 6 |
| 11 | 1 | 18 | 27 | 4 |
| 12 | 3 | 15 | 38 | 3 |
| 13 | . | 9 | 32 | 5 |
| 14 | 1 | 19 | 31 | 6 |
| 15 | 1 | . | 30 | 5 |

How to:

1. Open correlation.sav
2. Choose Analyze
3. Choose Correlate
4. Choose Bivariate
5. Put beginner_level, senior_level, investigator and corruption to Variables box
6. Check Pearson box
7. Check Test of significance box
8. Check Flag significant correlations
9. Click Options
10. Follow tutorial

11. Click Continue
12. Click Ok

How to make decision (find the hypothesis):

- If probability (F number) > 0.025 , H_0 is accepted
- If probability (F number) < 0.025 , H_0 is not accepted

B. Case 2

*correlation_asg

| | THEFT | HOUSE | SHOP | SECURITY |
|----|-------|-------|------|----------|
| 1 | 3 | 60 | 8 | 4 |
| 2 | 2 | 45 | . | 3 |
| 3 | 1 | 30 | 5 | 2 |
| 4 | 2 | 50 | 7 | 3 |
| 5 | 1 | 35 | 4 | 2 |
| 6 | . | 25 | 3 | 2 |
| 7 | . | 20 | . | 1 |
| 8 | 4 | 75 | 14 | 5 |
| 9 | 1 | 30 | 4 | 2 |
| 10 | 1 | 20 | 4 | 2 |
| 11 | . | 25 | 3 | 1 |
| 12 | 1 | 35 | 5 | 3 |
| 13 | . | 25 | 3 | 2 |
| 14 | 2 | 45 | 7 | 4 |
| 15 | 3 | 50 | 11 | 4 |

How to:

1. Open correlation.sav
2. Choose Analyze
3. Choose Correlate
4. Choose Bivariate
5. Put house, shop, security and theft to the Variables box
6. Check Pearson box
7. Check Test of significance box
8. Check Flag significant correlations
9. Click Options
10. Follow tutorial
11. Click Continue
12. Click Ok

How to make decision (find the hypothesis):

- If probability (F number) > 0.025 , H_0 is accepted
- If probability (F number) < 0.025 , H_0 is not accepted

- Spearman and Kendall's Correlation

A. Case 1

*correlation2.sav

| | GPA | ENTRANCE_TEST | IQ |
|----|------|---------------|-----|
| 1 | 3.64 | 95 | 100 |
| 2 | 3.20 | 80 | 95 |
| 3 | 3.56 | 85 | 100 |
| 4 | 3.43 | 80 | 95 |
| 5 | 2.89 | 70 | 90 |
| 6 | 3.01 | 80 | 90 |
| 7 | 2.65 | 65 | 90 |
| 8 | 3.90 | 95 | 115 |
| 9 | 3.25 | 90 | 110 |
| 10 | 3.43 | 80 | 100 |
| 11 | 3.12 | 80 | 95 |
| 12 | 2.78 | 70 | 90 |
| 13 | 3.84 | 85 | 105 |
| 14 | 3.05 | 80 | 100 |
| 15 | 2.91 | 80 | 90 |

How to:




1. Open correlation2.sav
2. Choose Analyze
3. Choose Correlate
4. Choose Bivariate
5. Put GPA, entrance_test and IQ to the Variable box
6. Check Spearman and Kendalls box
7. Check Two-tailed box
8. Check flag significance correlation box
9. Click Options
10. Follow tutorial
11. Click continue
12. Click Ok

How to make decision (find the hypothesis):

- If probability (F number) > 0.025 , H_0 is accepted
- If probability (F number) < 0.025 , H_0 is not accepted

B. Case 2

*correlation2_asg.sav

| |  GPA |  LEVEL |  IQ |
|----|---|---|--|
| 1 | 3.64 | manager-level | 100 |
| 2 | 3.20 | staff-level | 95 |
| 3 | 3.56 | staff-level | 100 |
| 4 | 3.43 | manager-level | 95 |
| 5 | 2.89 | staff-level | 90 |
| 6 | 3.01 | staff-level | 90 |
| 7 | 2.65 | staff-level | 90 |
| 8 | 3.90 | manager-level | 115 |
| 9 | 3.25 | manager-level | 110 |
| 10 | 3.43 | staff-level | 100 |
| 11 | 3.12 | staff-level | 95 |
| 12 | 2.78 | staff-level | 90 |
| 13 | 3.84 | manager-level | 105 |
| 14 | 3.05 | staff-level | 100 |
| 15 | 2.91 | staff-level | 90 |

How to:

1. Open correlation2.sav
2. Choose Analyze
3. Choose Correlate
4. Choose Bivariate
5. Put GPA, level and IQ to the Variable box
6. Check Spearman and Kendalls box
7. Check Two-tailed box
8. Check flag significance correlation box
9. Click Options
10. Follow tutorial
11. Click continue
12. Click Ok

How to make decision (find the hypothesis):

- If probability (F number) > 0.025 , H_0 is accepted
- If probability (F number) < 0.025 , H_0 is not accepted