

| | |
|-------------------|---|
| العنوان: | التحليل الكمي باستخدام الحاسب الآلي |
| المصدر: | جسر التنمية |
| الناشر: | المعهد العربي للتخطيط |
| المؤلف الرئيسي: | حامد، جمال |
| المجلد/العدد: | مج2, ع20 |
| محكمة: | نعم |
| التاريخ الميلادي: | 2003 |
| الشهر: | أغسطس |
| الصفحات: | 4 - 16 |
| رقم MD: | 72871 |
| نوع المحتوى: | بحوث ومقالات |
| قواعد المعلومات: | EcoLink |
| مواضيع: | الوسط الحسابي، تكنولوجيا المعلومات، الحاسبات الإلكترونية، التحليل الكمي، التحليل الاقتصادي، الإحصاء الرياضي، الاستدلال الإحصائي، الاحتمالات، المتغيرات الحسابية |
| رابط: | http://search.mandumah.com/Record/72871 |

.

...

.

:

.

:

.1

.

:

.

()

.

.

| | | | |
|-----------------------|----------|---------------|-----|
| | | | |
| N1/Total | N1/Total | N1 | A 1 |
| (N1/Total)+(N2/Total) | N2/Total | N2 | B 1 |
| | 100% | Total=(N1+N2) | |

: 1

)

.(10,6 6,7,8,5,7,6,9

:

:1

| | | | |
|------|------|----|----|
| | | | |
| %10 | %10 | 1 | 5 |
| %50 | %40 | 4 | 6 |
| %70 | %20 | 2 | 7 |
| %80 | %10 | 1 | 8 |
| %90 | %10 | 1 | 9 |
| %100 | %10 | 1 | 10 |
| | %100 | 10 | |

$$. \%10 = 1/10 = 5$$

$$. \%40 = 4/10 = 6$$

$$= 6$$

+ (5)

(6)

$$\%50 = \%40 + \%10 =$$

-
-
-

: 2

:()

:2

| | | | |
|--------|--------|------|--|
| | | | |
| %51.61 | %51.61 | 996 | |
| %100 | %48.39 | 934 | |
| | %100 | 1930 | |

: . 2

:

$$\frac{\sum X}{N} =$$

: 1

: 5

| | |
|---|------|
| | |
| 4561 | 1995 |
| 4711 | 1996 |
| 4946 | 1997 |
| 5180 | 1998 |
| 5293 | 1999 |
| 24691 | |
| $\frac{\sum X}{N} = \frac{24691}{5} = 4938.2$ | |

:

$$W \quad \frac{\sum WX}{W} =$$

: 2

24

:

"

•
•
•
•

SPSS

| | | | | | | | | |
|------------|-----|----|----|----|----|----|----|--|
| | | | | | | | | |
| 3.2 | 311 | 41 | 48 | 42 | 58 | 59 | 63 | |
| 3.0 | 380 | 44 | 49 | 47 | 78 | 79 | 83 | |

) () () (41,48,42,58,59,63)
(44,49,47,78,79,83)

$$\bar{x} = \frac{(41 \cdot 6) + (48 \cdot 5) + (42 \cdot 4) + (58 \cdot 3) + (59 \cdot 2) + (63 \cdot 1)}{311} = 3.2 : .1$$

$$\bar{x} = \frac{(44 \cdot 6) + (49 \cdot 5) + (47 \cdot 4) + (78 \cdot 3) + (79 \cdot 2) + (83 \cdot 1)}{380} = 3.0 : .2$$

3.2 :
(=3)
3.0

X X1 Ho: X=X1 .1

.Ha : X#X1

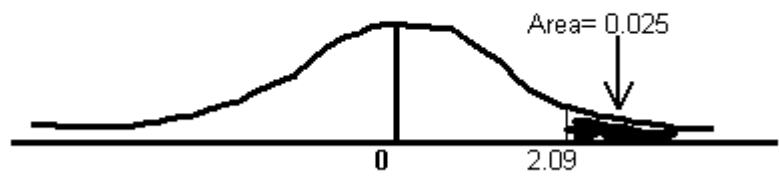
$$\begin{aligned}
 & H_0: X = X_1 && .2 \\
 & H_a: X < X_1 && H_a: X > X_1
 \end{aligned}$$

.
 :
 :
 .
 .
 .

:
 Z
 .Z
 .2
 .t
 .
 : (t) . 1

: t
 v
 t
 .
 .
 .v > 2
 v/v - 2
 .
 .

t
 2.09
 0.025
 (1 20)



t - 1

t : . 2

: *

Uo .Ho:U#Uo
Ha:U=Uo

: t *

$$T' = \frac{\bar{x} - Uo}{\sigma / \sqrt{n}}$$

.(n) t-Student t *

:

-
-

:

(2)

:

| | | <u>المتغير المستقل</u> | |
|------------------------|------------------------|--|--|
| | | Nominal or Ordinal | Interval or Ratio data |
| Interval or Ratio data | Nominal or Ordinal | Gross-Tabulation Chi-Squar | Discriminat Analysis F-Ratio |
| | Interval or Ratio data | Analysis of Variance F-Ratio <hr/> Paired t-Test Value of t | Regression Analysis R-Squar / F-Ratio <hr/> Correlation Analysis Probability of r |

-2

:

Paired t-test •

. One-way-Anova •

: .1

.() Paired t-Test

:

. •

. •

- t) •

.(•

:

80
80

15

80

:

| | | |
|----|----|----|
| | | |
| 79 | 75 | 1 |
| 80 | 78 | 2 |
| 85 | 81 | 3 |
| 79 | 79 | 4 |
| 82 | 77 | 5 |
| 85 | 82 | 6 |
| 84 | 80 | 7 |
| 91 | 90 | 8 |
| 79 | 70 | 9 |
| 83 | 83 | 10 |
| 79 | 70 | 11 |
| 79 | 72 | 12 |
| 80 | 71 | 13 |
| 81 | 75 | 14 |
| 84 | 80 | 15 |

$$H_0: \mu_2 = \mu_1$$

$$H_A: \mu_2 > \mu_1$$

(H0) %5

SPSS

| Variable | Obs | Mean | Std. Err. | Std. Dev. | [95% Conf. Interval] |
|----------|-----|--------|-----------|-----------|-----------------------|
| After | 15 | 82 | .8783101 | 3.40168 | [80.11621 , 83.88379] |
| Before | 15 | 77.533 | 1.433832 | 5.553206 | [74.45807 , 80.6086] |
| diff | 15 | 4.4666 | .7920237 | 3.067495 | [2.767945 , 6.165389] |

Ho: mean(After - Before) = mean(diff) = 0

Ha: mean(diff) < 0

Ha: mean(diff) = 0

Ha: mean(diff) > 0

t = 5.6396

t = 5.6396

t = 5.6396

P < t = 1.0000

P > t = 0.0001

P > t = 0.0000

$$T' = \frac{(\bar{x}_1 - \bar{x}_2) - (\mu_1 - \mu_2)}{\sqrt{\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}}} : t$$

. 0.05 n (t)

(1.75)

(5.6396)

T

:

%5

"

"

:

.2

(x%)

$$\bar{X}_1 = \bar{X}_2 = \bar{X}_3 = \bar{X}_4 :$$

(% 5 :)

Variance (between groups)/Variance (with groups)

$$j \quad Ms_between_group = \sum_j^m n_j \times \frac{(\bar{x}_j - \bar{x})^2}{j-1} :$$

$$Ms_with_group = \sum_{j=1}^m \sum_{i=1}^{n_i} (y_{ji} - \bar{y}_j)^2 :$$

F

)

F

.(

: 20

| () | | |
|-----|---|----|
| 150 | 1 | 1 |
| 230 | 2 | 2 |
| 270 | 3 | 3 |
| 350 | 4 | 4 |
| 170 | 1 | 5 |
| 240 | 2 | 6 |
| 260 | 3 | 7 |
| 380 | 4 | 8 |
| 130 | 1 | 9 |
| 250 | 2 | 10 |
| 270 | 3 | 11 |
| 400 | 4 | 12 |
| 140 | 1 | 13 |
| 200 | 2 | 14 |
| 300 | 3 | 15 |
| 450 | 4 | 16 |
| 450 | 4 | 17 |
| 190 | 2 | 18 |
| 310 | 3 | 19 |
| 330 | 4 | 20 |

. : 4 :3 :2 :1

SPSS

| Education | Summary of Income | | |
|-----------|-------------------|-----------|-------|
| Level | Mean | Std. Dev. | Freq. |
| 1 | 147.5 | 17.078251 | 4 |
| 2 | 222 | 25.884358 | 5 |
| 3 | 282 | 21.679483 | 5 |
| 4 | 393.3 | 50.066622 | 6 |
| Total | 273.5 | 97.671576 | 20 |

| Source | Analysis of Variance | | | F | Prob > F |
|----------------|----------------------|----|------------|-------|----------|
| | SS | df | MS | | |
| Between groups | 163286.667 | 3 | 54428.8889 | 48.47 | 0.0000 |
| Within groups | 17968.3333 | 16 | 1123.02083 | | |
| Total | 181255.00 | 19 | 9539.73684 | | |

$$(3.23) \quad 54428.8/1123.0=48.47 \quad F$$

$$4-20 \quad n-j \quad j=4 \quad) \%5 \quad (16=$$

.

:

$$\frac{SS_{BetweenTheGroupe}}{SS_{Total}} =$$

$$\frac{163286}{181255} = 0.90 =$$

. %10

%90

| | |
|-----|-------|
| . | . .1 |
| . | . .2 |
| . | . .3 |
| . | . .4 |
| . | . .5 |
| " " | .6 |
| | .1994 |

1. SPSS Basic Ver.10, User Guide, 2000
2. Neter, John . Applied Statistics Third Edition, Allyn and Bacon, Inc., 1988
3. Alreck, Pamela. The Survey Research Handbook, Guidelines and Strategies for Conducting a Survey, IRWIN Professional Publishing,1995