# APPENDIX

Illustration showing how $X^2$ test was applied for testing the null hypothesis.

## TABLE

| | Legitimate | Illegitimate | Unknown | Total |
|---|---|---|---|---|
| Delinquent. | 135 (142) | 10 (5) | 5 (3) | 150 |
| Non-delinquent. | 149 (142) | 0 (5) | 1 (3) | 150 |
| Total | 284 | 10 | 6 | 300 |

N.B. Figures in brackets represent expected frequencies ($f_e$)

Figures in cells outside bracket represent obtained frequencies ($f_o$)

$$X^2 = 2 \frac{(f_o - f_e)^2}{f_e}$$

$$X^2 = 2 \frac{(7)^2}{142} + \frac{(5)^2}{5} + \frac{(2)^2}{3}$$

$$= 2 \left(\frac{49}{142} + \frac{5}{1} + \frac{4}{3}\right)$$

$$= 2 \ ( 35 + 5 + 1.33 )$$

$$= 2 \times 6.68$$

$$= 13.36$$

$X^2 = 13.36$ P .01

Illustration showing how t test was applied to study the differences in mean scores of both the groups.

T A B L E

| | NON-DEL. | DEL. | MEAN-DIFFERENCE. |
|---|---|---|---|
| Mean | 142.8 | 116.8 | 26. |
| SD(6) | 17.24 | 10.92 | |

$$6M_1 = \frac{6}{N} = 1.405 \qquad 6M_2 = \frac{6}{N} = 0.89$$

$$6D = \frac{}{6M_1^2 + 6M_2^2}$$

$$= \frac{}{1.405^2 + .89^2}$$

$$= 1.663$$

$$t = \frac{\text{Diff}}{6D} = \frac{26.}{1.663}$$

$$t = 15.64$$