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Licenciatura:

En Enfermería

Materia:

Bioestadística

Nombre del trabajo:

Ejercicios

Ensayo del tema:

"Medidas de tendencia central"

Frontera Comalapa, Chiapas a 16 de octubre del 2020

Ejercicio 1

10, 8, 6, 4, 9, 7, 10, 9, 6

10 + 8 + 6 + 4 + 9 + 7 + 10 + 9 + 6 = 69 ÷ 9 = 7.6

4, 6, 6, 7, 8, 9, 9, 10, 10

4, 6, 6, 7, 8, 9, 9, 10, 10

$\bar{x} = 7.6$

Me = 8

Mo = 6, 9, 10

Ejercicio 2

9, 3, 8, 8, 9, 8, 9, 18

9 + 3 + 8 + 8 + 9 + 8 + 9 + 18 = 72 ÷ 8 = 9

3, 8, 8, 8, 9, 9, 9, 18.

8 + 9 = 17 ÷ 2 = 8.5

3, 8, 8, 8, 9 9 9, 18

$\bar{x} = 9$

Me = 8.5

M_o = 8, 9

Ejercicio 3

X	f	F	x * f
44	1	1	44
45	4	5	180
49	1	6	49
53	1	7	53
54	1	8	54
55	2	10	110
56	1	11	56
57	1	12	57
Total	12		603

$\bar{x} = \frac{\Sigma x f}{n} = \frac{603}{12}$

$\bar{x}$ = 50.25 retardo

Me = 49 retardo

$\frac{n}{2} = \frac{12}{2} = 6$

M_o = 49 retardo

X = 50.25

f = 49

F = 49

Ejercicio 4

Edades	x	f	F	x·f
1 - 3	2	2	2	4
4 - 6	5	4	6	20
7 - 9	8	13	19	104
10 - 12	11	25	44	275
13 - 15	14	12	56	168
16 - 18	17	9	65	153
19 - 21	20	5	70	100
Total		70		824

$\bar{x} = \frac{\Sigma x f}{n}$

$\bar{x} = \frac{824}{70} = 11.7714$

Media $\bar{x} = 11.7714$

Posición $\frac{n}{2} = \frac{70}{2} = 35$

$L_1 = 10 \quad f_1 = 13 \quad n = 70 \quad f_1 = 25 \quad A_1 = L_2 - L_1 = 2$

$Me = 10 + \frac{35 - 19}{25} \cdot 2$

$mc = 10 + \frac{16}{25} \cdot 2$

$mc = 10 + 1.28$

$Me = 11.28$

Mo f mayor

$Mo = 10 + \frac{12}{12+3} \cdot 2$

$Mo = 10 + \frac{24}{25}$

$Mo = 10 + 0.96 = 10.96$

Act. 2 Ejercicio: 1

$\bar{x} = \frac{\Sigma x_i}{n} = \frac{2, 2, 4, 4, 5, 5, 6}{7} = 28$

$n = 7 \quad = \frac{28}{7} = 4$

$\bar{x} = 4$

$a^2 = \frac{(\Sigma (x_i - \bar{x})^2}{n}$

$a^2 = (2-4)^2 + (2-4)^2 + (4-4)^2 + (4-4)^2 + (5-4)^2 + (5-4)^2 + (6-4)^2$

$a^2 = \frac{(-2)^2 + (-2)^2 + (0)^2 + (0)^2 + (1)^2 + (1)^2 + (2)^2}{7}$

$a^2 = \frac{4+4+0+0+1+1+4}{7}$

$a^2 = \frac{94}{7}$

$a^2 = 13.42$ Varianza

Desviación estandar

$a = \sqrt{13.42}$

$a = 3.66$

Ejercicio 2

Edad x	f	x·f	(x−x̄)²	f(x−x̄)²
21	1	21	1.69	1.69
22	4	88	0.09	0.36
23	3	69	0.49	1.47
24	1	24	2.89	2.89
25	1	21	7.29	7.29
Total	10	223		13.7

$\bar{x} = \frac{\Sigma x \cdot f}{n}$

$\bar{x} = \frac{223}{10} = 22.3$

$\bar{x} = 22.3$

$(21 - 22.3)^2 = 1.69$
$(22 - 22.3)^2 = 0.09$
$(23 - 22.3)^2 = 0.49$
$(24 - 22.3)^2 = 0.89$
$(25 - 22.3)^2 = 7.29$

$V^2 = \frac{13.7}{10}$

$V^2 = 1.372$
$V = \sqrt{1.37}$
$V = 1.17$
$\bar{x} = 22.3$
$V^2 = 1.37$
$V = 1.17$

Desviación estandar promedio

$Cv = \frac{1.17}{22.3} = 0.051$

$0.05 = 5\%$

Ejercicio 3

Numero de sueño	x	f	x·f	(x−x̄)²	f(x−x̄)²
2-6	4	1	4	67.24	67.24
6-10	8	4	32	17.64	70.56
10-14	12	10	120	0.04	6.4
14-18	16	3	48	14.44	43.32
18-22	20	2	40	60.84	121.68
Total		20	244		303.2

$\bar{x} = \frac{\Sigma x \cdot f}{n}$

$\bar{x} = \frac{244}{20} = 12.2$

$\bar{x} = 12.2$

$(4 - 12.2)^2 = 67.24$
$(8 - 12.2)^2 = 17.64$
$(12 - 12.2)^2 = 0.04$
$(10 - 12.2)^2 = 14.44$
$(20 - 12.2)^2 = 60.84$

$V^2 = \frac{303.2}{20}$

$V^2 = 15.16$
$V = \sqrt{15.16}$
$V = 3.89$
$\bar{x} = 12.2$
$V^2 = 15.16$
$V = 3.89$

Desviación estandar p.

$Cv = \frac{V}{\bar{x}} \cdot 100$

$Cv = \frac{3.89}{12.2} = 0.3$

$0.3 = 3\%$