

Name: Effanga, Bassey Effanga

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COMPUTER SCIENCE

Group A

C.I	f	m.d-class x	fx	$ x - \bar{x} ^2$	$f x - \bar{x} ^2$
1-5	0	5	0	219.9289	0
6-10	7	8	56	96.6289	676.4023
11-15	10	13	130	23.3289	233.289
16-20	2	18	36	0.0289	0.0578
21-25	1	23	23	26.7289	26.7289
26-30	5	28	140	103.4289	517.1445
31-35	4	33	132	230.1289	920.5156
	29		517		2374.1381

$$\text{Mean of A } (\bar{x}) = \frac{\sum fx}{\sum f} = \frac{517}{29} = 17.83$$

Since it was restricted to age group less than 40, it is a sample of the total population of those with yellow fever.

$$\text{S.D. of Group A} = \sqrt{\frac{\sum f|x - \bar{x}|^2}{\sum f - 1}} = \sqrt{\frac{2374.1381}{29 - 1}} = \sqrt{\frac{2374.1381}{28}} = 9.208\%$$

$$\text{Co-efficient of Variation} = \frac{\text{Standard deviation}}{\text{Mean}} \times 100\%$$

$$= \frac{9.208}{17.83} \times 100\%$$

$$= 51.64\%$$

Group B

C.I	f	x	fx	$ x - \bar{x} ^2$	$f x - \bar{x} ^2$
1-5	2	3	6	293.8824	587.7649
6-10	4	8	32	147.4524	589.8098
11-15	7	13	91	51.0224	357.0571
16-20	20	18	360	4.5924	91.84898
21-25	16	23	368	8.1624	130.5992
26-30	10	28	280	61.7324	617.3244
31-35	4	33	132	165.3024	616.2098
	63		1269		2990.644

$$\text{Mean of Group B } (\bar{x}) = \frac{\sum fx}{\sum f} = \frac{1269}{63} = 20.143$$

$$S.D = \sqrt{\frac{\sum f|x - \bar{x}|^2}{\sum f - 1}} = \sqrt{\frac{2990.644}{63 - 1}} = \sqrt{\frac{2990.644}{62}} = 6.945$$

$$\begin{aligned} \text{Co-efficient of Variation} &= \frac{S.D}{\text{Mean}} \times 100 \\ &= \frac{6.945}{20.143} \times 100 \\ &= 34.48\% \end{aligned}$$

The group with the ~~low~~ lower C.V is less variable, so therefore Group B has less variable and more uniform