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Q5(c)

Longitudinal method of studying growth.

UPSC Civil Services Mains 2015 · Anthropology GS 1 · 10 marks · Distinction between technique, method and methodology

(b) Distinction between technique, method and methodology

Core demand of the question

- Write a note on Longitudinal method of studying growth
- Keep the note to a 10-mark length of about 150 words

Revision summary

Longitudinal method repeats measures on the same children.

It reveals tempo and **peak height velocity**.

Tanner's Harpenden study is the classic.

Cross-sections are cheaper but mix early and late maturers.

Dropout and secular change are the main limits.

Introduction

A longitudinal growth study measures the same children again and again. It is the method that can see tempo, not only size.

Body**How it works**

- Height, weight, and skeletal age are taken at fixed intervals on one cohort.
- **Tanner** at Harpenden showed spurts, **peak height velocity**, and individual tempo that a one-time survey misses.
- Indian series, such as work associated with **ICMR** and university auxology units, used **mixed-longitudinal** designs when pure follow-up was costly.

Contrast and limit

- **Cross-sectional** studies are cheaper and map a population at one date. They smear early and late maturers together.
- Longitudinal work suffers dropout, secular change during the study, and ethics of repeated X-rays.
- The method is gold for velocity curves; it is poor as a quick census.

Flow diagram

Longitudinal -> Same child over time
Same child over time -> Velocity spurt
Cross-section -> Size at one date

Conclusion

Longitudinal growth study follows persons through time. **Tanner**-style velocity is its yield; cost and attrition are its price.

Facts & figures

Tanner

Built modern auxology on longitudinal stature and the growth chart.

Peak height velocity

The fastest adolescent increment, visible only if the same child is followed.

Mixed-longitudinal

Overlapping cohorts used when a full birth-to-adult panel is impossible.

Secular trend

Children get taller across decades, so a long study must not treat year-1 and year-15 as one biology.

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