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Q7(a)

What is an anthropometric somatotype? Describe Heath and Carter's method of somatotyping

UPSC Civil Services Mains 2015 · Anthropology GS 1 · 20 marks · Ageing and senescence. Theories and observations

Ageing and senescence. Theories and observations-biological and chronological longevity. Human physique and somatotypes. Methodologies for growth studies.

Core demand of the question

- What is an anthropometric somatotype? Describe **Heath and Carter's** method of somatotyping
- Write about 250 words for 20 marks

Revision summary

Somatotype rates roundness, muscularity, and linearity.

Sheldon began with photos; **Heath and Carter** used anthropometry.

Skinfolds feed endomorphy; bone and girth feed mesomorphy; **ponderal index** feeds ectomorphy.

Scores are written as three numbers on a **somatochart**.

Use it for sport and growth, not for temperament.

Introduction

An anthropometric somatotype is a three-number rating of physique from body measurements. **Heath and Carter** made **Sheldon's** idea operational without photographs as the main tool.

Body

Somatotype as an idea

- **Sheldon** scored **endomorphism** (roundness), **mesomorphy** (musculo-skeletal robustness), and **ectomorphy** (linearity) from photos.
- The method was criticised as subjective and politically misused. Sport and growth studies still needed a body-shape index.

Heath-Carter method

- **Barbara Heath** and **J. E. L. Carter** published equations using **height, weight, skinfolds** (triceps, subscapular, supraspinale, medial calf), **biepicondylar humerus and femur**, and **flexed arm and calf girths** corrected for skinfold.
- Endomorphy comes mainly from the three skinfolds, adjusted for height.
- Mesomorphy uses bone breadths and corrected girths against height.
- Ectomorphy uses the **ponderal index** (height over cube root of weight).
- The result is written as **X-Y-Z**, for example 2-5-3, and plotted on a **somatochart**.

Use and critique

- Sports anthropology in India uses it to compare throwers, distance runners, and controls.
- It is a phenotype now, not a temperament. **Sheldon's** psychiatric claims are dropped.
- **Limits:** operator error on skinfolds, age and fat change, and the fact that a number is not a destiny.

Flow diagram

Sheldon photo types -> Heath Carter measures

Heath Carter measures -> Endomorphy folds

Heath Carter measures -> Mesomorphy bone girth

Heath Carter measures -> Ectomorphy ponderal

Conclusion

Heath-Carter somatotype is a measured endomorphy-mesomorphy-ectomorphy triad. It replaced photo-guessing with girth, bone, fold, and **ponderal index**, and it belongs in kinanthropometry, not in characterology.

Facts & figures

Sheldon

The Varieties of Human Physique; later criticised for linking type to crime and personality.

Heath and Carter

The Heath-Carter Somatotype Method, the IAAF and teaching standard.

Ponderal index

Height / cube root of mass, the ectomorphy engine.

Somatochart

A triangular plot of the three-component score.

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