ANTH 102: Humans are cultural animals

LECTURE #23: Environment, race; sex, hope, and death

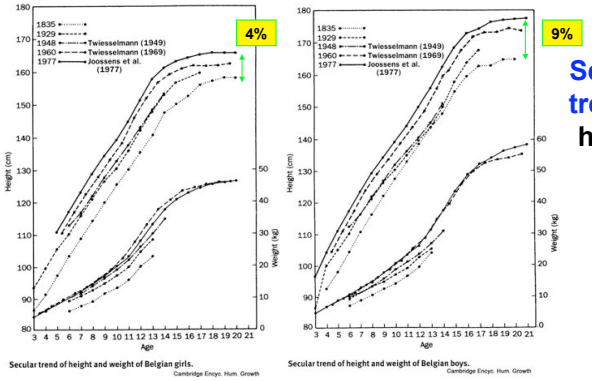
Course website: http://weber.ucsd.edu/~jmoore/courses

Environment, race; sex, hope, and death

Huh?

Basic message here: morphological and physiological ("biological") traits can vary with SES/culture in ways best understood via perspective of life history strategies.

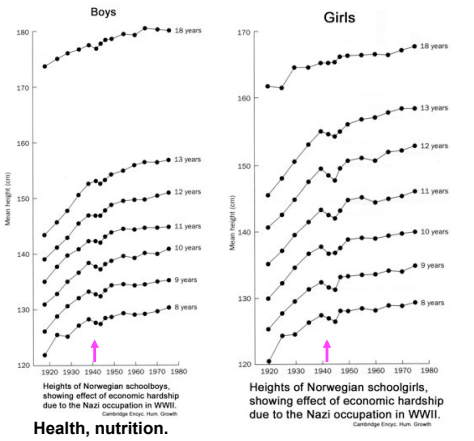
Several examples straightforward & 'innocuous', but last connected with race and SES in significant ways.



Secular trend in height

Health, nutrition.

Why might boys show greater effect? (clue?: evolution of our long period of immaturity)

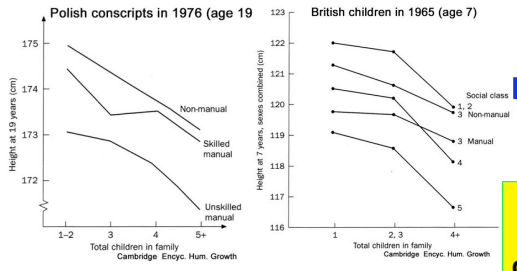


Secular trend in height

Biological growth & development modulated by social, economic environment.

Health, nutrition.

Sensitive to 'ecological' changes. Dip in height-for-age due to economic (and other) hardships in Oslo under Nazi occupation.



Differences in height

Biological growth & development modulated by social, economic environment.

Health, nutrition.

Sensitive to 'ecological' differences. Class (SES) and family size influence height in two very different populations.

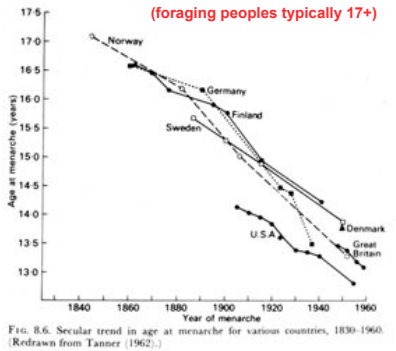


FIG. 8.6. Secular trend in age at menarche for various countries, 1830–1960. (Redrawn from Tanner (1962).)

Secular trend in menarche

Get taller if more food, fewer diseases - simple.

Why earlier menarche?

Functional: early reproduction pays.

Mechanism: However, menarche linked to skeletal maturation, so ?side effect of rapid growth.

Understanding mechanism influences interpretation of function.

How might society be influenced by changing pattern of maturation? Is that 'biological'? 'genetic'? 'cultural'?

Morphological variation not especially controversial.

Secular trends in height, weight (increasing with better conditions) and age at menarche (decreasing with better conditions) interesting and tricky to nail down mechanism (and so understand functionally), but no big deal.

SES-based variation is more problematic, to the degree that height & weight* independently influence other aspects of lives. IE, being small not a problem per se, but if a class of people biased by society to being small, and social institutions favor (to any degree) large people, *it ain't fair*.

Start with some film clips.

*** menarche coming up**

Hierarchy is the norm in social mammals, and it's better to be on top.

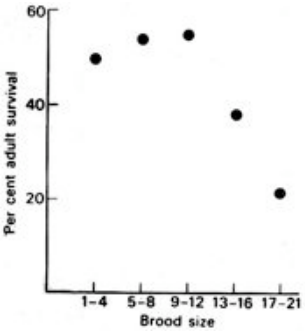
Unequal Causes: Is inequality making us sick?

Biology can be primed during development in ways that can have biological consequences many years later.

Unequal Causes: Is inequality making us sick?

WITH THOSE IN MIND:

Life history theory and reproductive effort/strategies

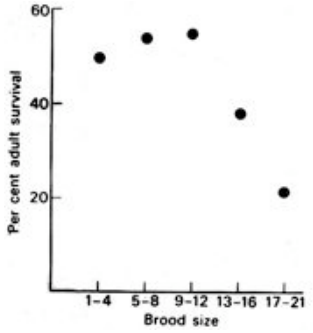


IN GENERAL, beyond some base level individuals must 'choose' between reproducing *now* and *being able* to reproduce in the future - *TRADEOFF*.

Lecture 8: great tits, Wynne-Edwards, Lack...

WITH THOSE IN MIND:

Life history theory and reproductive effort/strategies

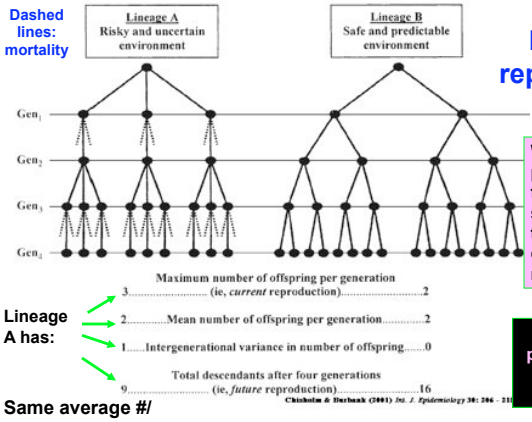


IN GENERAL, beyond some base level individuals must 'choose' between reproducing *now* and *being able* to reproduce in the future - *TRADEOFF*.

Lecture 8: great tits, Wynne-Edwards, Lack...

In particular, reproducing lots, soon, with low investment *versus* few, later, with high investment.

Dashed lines: mortality



Late/low reproduction can pay

With predictability of future, B can scale back (and take longer) but do best in long run.

Lineage A has:

For us, predictability ≈ control.

Same average #/ gen, but greater *variance*

When times unpredictably bad for A (Gen 1, 3) most important is *avoid lineage extinction* - if average 2/3 die, chance individual could lose 3/3 ... So have *more*, if can.

Psychosocial acceleration theory

Bad family conditions "predict" future ecological uncertainty.

- Lack of parental support
- Harsh parental control
- Absent/intermittent father presence
- Marital strife
- Untrustworthiness of family/friends

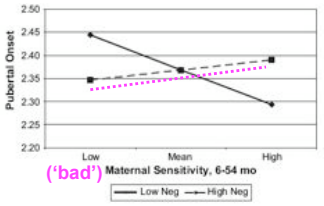
etc.

1. Who in our society lacks control?
2. What does that do to daily behavior (logistically and emotionally)?

Under such conditions,

- Mature sooner,
- Accelerate sexual activity, and
- Don't avoid unstable pair bonds.

Psychosocial acceleration theory



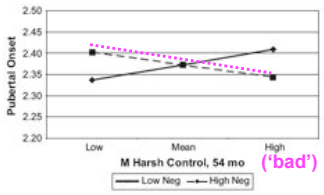


Figure 1. Relation of mother sensitivity at 54 months and girl's pubertal onset as a function of infant negative emotionality. Pubertal onset scored 1-5 reflecting annual increments from <9½ to >12½ years.

Figure 2. Relation of mother harsh control at 54 months and girl's pubertal onset as a function of infant negative emotionality. Pubertal onset scored 1-5 reflecting annual increments <9½ to >12½ years.

Belsky et al. (2007) *Child Development* 78: 1302 - 1321

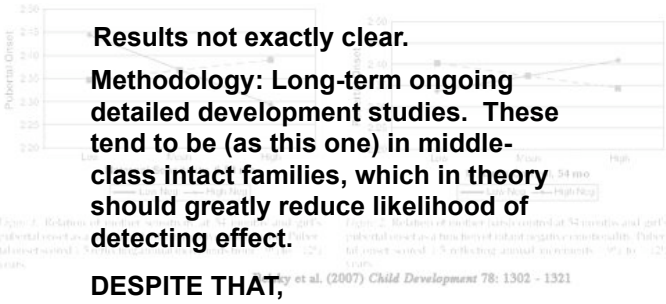
Low Neg (solid)/High Neg (dashed): at 15 months, Strange Situation test (separation); Low Neg not bothered; High Neg immediate severe distress.

IF CHILD NEGATIVE,

INSENSITIVE mothers --> earlier puberty,

HARSH mother --> earlier puberty.

Psychosocial acceleration theory



Belsky et al. (2007) *Child Development* 78: 1302 - 1321

Results not exactly clear.

Methodology: Long-term ongoing detailed development studies. These tend to be (as this one) in middle-class intact families, which in theory should greatly reduce likelihood of detecting effect.

DESPITE THAT,

Bulk of data support "unstable/low quality" home from age 0 to ≈ 7 --> earlier puberty in girls; effect on boys harder to measure and seems less. Alternatives to psychosocial acceleration theory exist, but have less empirical support.